

U.S. DEPARTMENT OF COMMERCE
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NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION (NOAA)
+ + + + +
HYDROGRAPHIC SERVICES REVIEW PANEL
MEETING

+ + + + +
WEDNESDAY
MAY 23, 2012
+ + + + +

The Panel met in the Aleutian
Conference Room in the Hilton Anchorage, 500
West Third Avenue, Anchorage, Alaska, at 8:30
a.m., Matt Wellslager, HSRP Chair, presiding.
PANEL MEMBERS PRESENT:

MATT WELLSLAGER, Chair
SCOTT PERKINS, Vice Chair
RADM KEN BARBOR
LAWSON BRIGHAM, Ph.D.
JEFFREY CAROTHERS
CAPT. DEBORAH DEMPSEY
MICHELE DIONNE, Ph.D.

RADM EVELYN FIELDS
WILLIAM HANSON
DAVID JAY, Ph.D.
GARY JEFFRESS, Ph.D.
FRANK KUDRNA, Ph.D.
JOYCE MILLER

NON-VOTING MEMBERS PRESENT:

JULIANA BLACKWELL, NOAA/NGS Director

RICHARD EDWING, NOAA/CO-OPS Director

LARRY MAYER, Center for Coastal and Ocean
Mapping, University of New Hampshire

STAKEHOLDER PANEL 1: ALASKA REGIONAL NEEDS FOR
NOAA'S NAVIGATION SERVICES, PRODUCTS &
INFORMATION:

STEVE BOARDMAN, Chief, Civil Works Project
Management, U.S. Army Corps of
Engineers, Alaska District

CAPT. EDWARD PAGE, Marine Exchange of Alaska

WALT TAGUE, Crowley Tug & Towing

MARK SMITH, Vitus Marine

CAPT. DANA JENSEN, Alaska Marine Highway
System

STAKEHOLDER PANEL 2: ALASKA MULTI-MISSION
APPLICATIONS OF NOAA'S GEOSPATIAL, TIDES &
CURRENTS & HYDROGRAPHIC SERVICES:

MICHAEL O'HARE, Alaska Division of Homeland
Security and Emergency Management

COMMANDER JAMES HOUCK, Chief, Waterways
Management Division, U.S. Coast Guard,

District 17

AIMEE FISH, National Weather Service

TOM HEINRICHS, Director of GIS Network of
Alaska at University of Alaska Fairbanks
and Executive Committee for Statewide
Digital Mapping Initiative

MOLLY McCAMMON, Alaska Ocean Observing System

WILLIAM HAZELTON, Geomatics, University of
Alaska Anchorage

NOAA STAFF PRESENT:

CAPT. JOHN E. LOWELL, JR., Designated Federal
Official
HOLLY BAMFORD, Ph.D., NOAA/NOS Assistant
Administrator
LTJG MATT FORNEY, NOAA/OCS, Navigation Manager
of Alaska
CAPT. GERD GLANG, NOAA/NOS
KATHRYN D. SULLIVAN, Ph.D., Assistant
Secretary of Commerce for Environmental
Observation & Prediction, Deputy
Administrator and Acting Chief
Scientist, NOAA
KATHY WATSON, HSRP Program Coordinator

ALSO PRESENT:

CAROLE ANDERSON, ADS-B Technologies
LARRY BISCHOFF, Holland American Line
RON BRITTON, Alaska Peninsula National
Wildlife Refuge
BRET CHRISTENSEN, U.S. Fish & Wildlife Service
BILL CREGER, David Evans & Associates
JOEL CUSICK, National Park Service
JON DASLER, David Evans & Associates
ANNE DOLLARD, U.S. Army Corps of Engineers
SHANNON EARL, Fugro Consultants
KAS EBRAHIM, Fugro Consultants

PENNELOPE GOFORTH, SeaCat Explorations
STUART GREYDANUS, Port of Anchorage
CLIFTON HEBERT, Witt Associates
COLLEEN KEANE, Pacific Environment
TOM LAKOSH, Public Interest Advocate for Oil
Spill Prevention and Mitigation and
Renewable Energy

CAROL LOCKHART, Woolpert, Inc.
STEVE MILES, David Evans & Associates
BOB PAWLOWSKI, Office of State Senator Kevin
Meyer and University of Alaska Anchorage
(retired)
JIM PERKINS
JOEL REYNOLDS, Western Alaska Landscape

Conservation Cooperative
CAPT. MICHAEL TERMINEL, Edison Chouest
SCHAWNA THOMA, Office of Senator Mark Begich

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1 P-R-O-C-E-E-D-I-N-G-S

2 8:33 a.m.

3 CHAIR WELLSLAGER: Good morning,
4 everyone. Welcome to Day 2. A couple of
5 bookkeeping things that we need to discuss
6 before we get started. Will all public
7 attendees please sign in on the sheets in the
8 back of the room? We have sign-in sheets and
9 we like to have these done so we can keep a
10 running tabulation of those who come to these
11 meetings so we can see who's actually
12 attending.

13 We're going to have some breakout
14 sessions, stakeholder breakout sessions with
15 HSRP members tomorrow. And there are sign-up
16 sheets for those in the back as well. And
17 this is going to be something that I think
18 would be beneficial for all those attendees
19 other than the HSRP members to attend as well
20 if you're interested.

21 This is an idea that's new to us
22 and it was presented to me during a call with

1 the HSRP program coordinator, Kathy Watson.
2 We were trying to come up with a new paradigm,
3 and the paradigm was, you know, let's put the
4 rubber on the road and find out what the users
5 actually want from the Anchorage area and then
6 indirectly the nation.

7 So after she and I talked about
8 this awhile I presented the idea to the
9 Triooffice directors during a conference call
10 about the format of the meeting and we've
11 agreed to do this.

12 And the sessions are going to be
13 individual in meeting rooms downstairs and
14 there will be signs up for each of the
15 locations. They will be staffed with HSRP
16 members. The Triooffice directors will be in
17 their own separate room -- not their own
18 separate room, but the room that they're going
19 to be most associated with in the breakout
20 sessions which will be the Alaska Baseline
21 Data Collection & Requirements for NOAA's Nav
22 Data, Arctic Emerging Priorities, Alaska

1 Geospatial Framework, and Tides & Currents.
2 So we're pretty much covering the gamut right
3 there.

4 And these are going to be things
5 that we discuss for about 2 hours, come up
6 with recommendations, and then after lunch
7 present the recommendations to the HSRP panel
8 and with those make recommendations to the
9 NOAA administration.

10 All right. Getting back to today,
11 things that we've got on schedule. We will
12 first have Dr. Bamford address the panel on
13 some more navigation services in the emerging
14 Arctic. After Dr. Bamford's remarks we'll get
15 into the meat and potatoes of what we're here
16 to do today, and that's hear from some
17 stakeholder presentations.

18 We have two set up. The
19 stakeholder panels are at the front of the
20 room and each will speak for about 20 minutes.
21 We would like to hold the questions until
22 after the presentations unless you just have

1 a burning thing that you've got to get out,
2 and we can take maybe one or two. But we want
3 to get the panel discussions completed, then
4 have the questions and keep a flow going
5 through the whole thing.

6 Following a break in the afternoon
7 we'll have a panel discussion about what we
8 heard today, throw some ideas out, bicker a
9 little bit which is always healthy discussion
10 anyhow. You know, this is what I like, this
11 is what I didn't like, this is what we need to
12 have, that type of thing. Come up for some
13 recommendations for NOAA and then address the
14 agenda for Thursday. After that we'll have a
15 public comment period and we will adjourn.

16 The HSRP panel will have a
17 standing invitation to Dr. Brigham's house
18 tonight for karaoke and lasagna.

19 (Laughter.)

20 CHAIR WELLSLAGER: But he was
21 gracious enough to invite us out to his house
22 for a light meal and discussion. So we thank

1 you very much for that.

2 Okay. Any questions? Captain
3 Lowell, do you have anything you'd like to
4 say?

5 CAPT. LOWELL: I think you covered
6 everything.

7 CHAIR WELLSLAGER: Okay, very
8 good. Well, our first speaker today, Dr.
9 Bamford, is an organic chemist, a PhD in that.
10 So that's actually quite impressive. Having
11 a degree in biology, chemistry just killed me.
12 I never could get through all that.

13 She brings a significant
14 leadership and management expertise that was
15 first honed as an undergraduate studying
16 business management. So we've got the best of
17 both worlds right here.

18 As a director of NOAA's marine
19 debris program in the Office of Response and
20 Restoration Dr. Bamford brought national
21 recognition to issues related to marine debris
22 and to the program, accomplishments that were

1 recognized with a NOAA Administrator's Award
2 in 2008.

3 Through her work as Marine Debris
4 director and division chief Dr. Bamford has
5 served on a number of scientific and advisory
6 committees. She's presented at a number of
7 national and international meetings, academic
8 institutions as well as addressed through
9 national media outlets which include CNN,
10 NewsHour with Jim Lehrer, Good Morning
11 America, my favorite the Rolling Stone, People
12 and the Wall Street Journal. Please help me
13 welcome Dr. Bamford.

14 (Applause.)

15 DR. BAMFORD: So thank you, Matt,
16 very much. I'm very happy to be here today
17 and be again with the HSRP. I'm so sorry I
18 missed last night. I came down with a cold
19 and so that's why my voice is a little bit
20 raspy today. So I brought some drink up here
21 with me just so I don't lose my voice.

22 I had a very good time on Monday.

1 I got up here on Sunday and then Monday Dr.
2 Sullivan, myself and others had an opportunity
3 to tour around Homer and other places, and
4 keeping up with an ex-astronaut is very
5 tiresome. So I caught myself a little cold.

6 Anyway, all kidding aside I do
7 want to thank Dr. Sullivan for her leadership
8 in the navigation/observation portfolio for
9 NOAA and being at the HSRP here with us today.

10 I also want to recognize
11 Lieutenant Governor Treadwell, his
12 presentation yesterday as well as
13 Representative Joule. So we thank them very
14 much for attending the HSRP.

15 I'd also like to acknowledge Kathy
16 and others who put the agenda together, and
17 particularly the Port of Alaska yesterday in
18 going down there and actually meeting with
19 some of the captains. Frank and I were
20 talking about that yesterday, how important it
21 is for the panel members to really get out and
22 talk to the community and talk to people who

1 utilize the tools that we provide.

2 It's good to do that in a forum
3 here but actually getting out, speaking in the
4 margins, actually talking to the captains in
5 their comfort zone and hearing really what
6 they like and what they don't like. Hearing
7 from the captain of the Horizon Kodiak really
8 of how he relies so heavily on the realtime
9 tides and currents that we provide, the
10 National Weather Service information really
11 allowing him to get in and out safely.

12 But then also hearing from him
13 things that don't always work. He's very
14 concerned about the change of bathymetry, the
15 vintage charts in the area and just getting in
16 and out of ports safely. So it was really
17 good to have an opportunity to talk with him
18 and hearing from him what's important to him
19 in terms of tools for navigation but also what
20 he hopes to see comes out in the future.

21 I mean just hearing yesterday, I
22 think they said within 4 days if we can't get

1 goods into this port foods and goods can be
2 off the shelf. I mean, I live in Washington,
3 D.C. If there's a dusting within hours
4 there's no more bread and milk to be found
5 anywhere. So I am just so happy nobody from
6 D.C. lives in Alaska, you guys would be in big
7 trouble.

8 But as I said, I'm very pleased to
9 be back with the panel and I do want to
10 recognize the diversity of this panel. It's
11 so unique versus other FAC panels. And it's
12 not necessarily the technological expertise or
13 the leadership capabilities that you bring to
14 this panel, but it's really the makeup of the
15 panel.

16 You're not just people who
17 actually collect the data side by side with
18 NOAA, but you also utilize the information for
19 research and for doing your job. I mean,
20 Deborah Dempsey needs these products to, you
21 know, do her job safely. So I think that
22 brings a really unique aspect to the

1 recommendations that you can provide to the
2 Under Secretary of NOAA. So we thank you.

3 I'm also excited to hear that the
4 working groups are established since Norfolk.
5 And you guys are moving forward on some key
6 areas to really drill down and focus on areas
7 such as the Arctic as well as legislative
8 issues.

9 As you know, NOAA will be facing a
10 lot of challenges in the coming budget. In
11 2012 we saw some challenges and '13. And so
12 I'm not going to be here to talk about budget,
13 I don't want to make this a depressing
14 presentation, but I do know we'll be coming
15 into some challenges.

16 And that leads us to think very
17 strategically and innovative in how we produce
18 our products and how we work with our
19 partners. As Dr. Sullivan mentioned
20 yesterday, we're in the job of positioning
21 America and our coastal economies for the
22 future, and we have to do that with our

1 partners and we have to think outside the box
2 within our fiscal constraints to meet that
3 vision and to meet that mission.

4 Therefore, NOAA is really looking
5 to this panel to provide us recommendations,
6 and not necessarily 2012, 2013, but 2025.
7 Start to think beyond the next 2 to 3 years,
8 but what is it going to look like in 2035. I
9 mean, right now we're already seeing a lot of
10 challenges with sea ice melt and what that
11 brings to the coastal economy and the
12 ecosystem. But what's it going to look like
13 in 2035 is what really concerns me and we have
14 to be prepared to provide those tools by
15 forward thinking of what we need today to be
16 prepared for tomorrow.

17 As the Lieutenant Governor said
18 yesterday this region poses profound
19 challenges and benefits to our nation's
20 economy in the coming years due to ice
21 receding. But this also produces a number of
22 unexpected and expected challenges in terms of

1 change in ecosystem, change in coastal
2 erosion, sea level, tides and currents, all of
3 which is really going to affect the navigation
4 in and out of these ports safely.

5 NOAA envisions an Arctic area
6 that's using the best available information to
7 make the most educated decisions. And as Dr.
8 Sullivan mentioned yesterday we do have a NOAA
9 Arctic Vision Strategy that outlines a number
10 of different areas that we need to focus on.

11 So what I was going to do this
12 morning was talk about a couple of those that
13 are focused more on the navigation, what are
14 those gaps, and then what are some of the
15 things that our offices are doing in partner
16 to fill some of those gaps.

17 So the first one is vintage
18 hydrographic charting data. I have in my
19 notes here that NOAA's charting data in
20 certain areas of Alaska are vintage which is
21 pre-1970. I'd rather say pre-1900 in some
22 areas, pre-1800. You know, I think there's

1 areas we just haven't looked at in a very,
2 very long time or haven't been looked at at
3 all, and this is a problem. We're going to
4 have to really figure out how to fill that
5 gap.

6 For example, Kodiak, Alaska which
7 has 1,800 vintage charts up there. And this
8 area has seen a tremendous amount of growth in
9 terms of commercial and ecosystem and
10 recreational fishing along that coastline.
11 And they've seen some changes in their
12 bathymetry, which is concerning. So these are
13 areas we need to look at in terms of updating
14 our charts.

15 John, you can correct me if I'm
16 wrong, but I think Coast Survey identified
17 38,000 square nautical miles in the U.S.
18 Arctic as priority. I think it's going to
19 take about 25 years to actually survey all
20 that area. So we have a lot to do in a very
21 short time frame and how do we do that.

22 As we heard yesterday NOAA is

1 looking to really partner with folks up in the
2 region and others to kind of fill this gap.
3 And we heard from John yesterday that in the
4 summer of 2010 and `11 the Ship Fairweather
5 worked around the clock to provide Kotzebue
6 Sound updated charts. And these charts were
7 not only updated with bathymetry data but they
8 had tide data, shoreline data from satellite
9 imagery.

10 And this area is very interesting
11 because as you get into the sound, vessels had
12 to anchor about 14 miles offshore in the sound
13 because they were too large to actually safely
14 navigate into the coastal area. So they
15 actually had to bring other vessels out there
16 to get those goods. So with this new nautical
17 chart we're going to have better decisions to
18 be made to safely navigate in that area.

19 And this is the uniqueness of
20 Alaska, that we really need to keep in mind as
21 we provide recommendations for the Arctic.
22 This is so different and unique that we have

1 to be forward-thinking in how we come up with
2 recommendations to safely provide nautical
3 charts for safe navigation.

4 Second, I'd like to talk about the
5 collaborative sharing of oceanographic data
6 and products. There's really a need for
7 improved oceanographic, meteorological and
8 accurate elevations for the area of the Arctic
9 and for Alaska. As we heard about ERMA
10 yesterday, it's a great tool but it's only as
11 good as the products it's used to run that
12 tool. And if we don't have the data to input
13 into ERMA it's not as effective as it could
14 be.

15 Observations are sparse in Alaska
16 as I learned on Monday in our touring around
17 that there's not a lot out there. We had an
18 opportunity to hear from our partners, and for
19 instance, AOOS. We talked with them a little
20 bit and we heard about the wave buoy that was
21 deployed in Cook Inlet. And I want to mention
22 it's one and stress that it's one of its kind,

1 but it has provided a tremendous amount of
2 information for boaters, mariners to safely
3 navigate through Cook Inlet.

4 Another example I'd like to talk
5 about is the successful testing that CO-OPS is
6 doing up in Barrow, Alaska. As we saw
7 yesterday the tide gauge. They're also
8 working with their partners up there, an
9 Alaska-based contractor to leverage their
10 experience and their understanding in putting
11 out a tide gauge that's working now under the
12 ice. And it's been operating now for 2 years,
13 is that right, Rich?

14 MR. EDWING: It's out now, but it
15 was successful almost 2 years under the ice.

16 DR. BAMFORD: And 2 years under
17 the ice. And it's now gathering year-round
18 information that we didn't have in that area
19 before. CO-OPS and Coast Survey are also
20 partnering with the Alaska Energy Authority to
21 conduct a tidal current survey for this year
22 and build a hydrographic dynamic model for

1 Cook Inlet to assess the potential for
2 renewable energy coming to this region.

3 And I think yesterday there was
4 some discussion on how we need to partner
5 more, particularly with industry, and I think
6 we're moving in that direction.

7 And then NGS has also been
8 collecting gravity data, part of our GRAV-D
9 project to improve elevations. And I think
10 the increase is from a meter down to 2
11 centimeters. That's a dramatic change and
12 it's so critical in this area. We're going to
13 see shoreline changes on an annual scale, and
14 being able to provide that information is so
15 beneficial and critical to producing the best
16 nautical charts we can.

17 So these efforts are just some of
18 the efforts that NOAA is conducting. And this
19 is really, truly a partnership. We can't do
20 it alone. And that's something that we've
21 seen and we've heard on Monday in our tour of
22 talking with our partners of how important it

1 is to bring all capabilities to bear to
2 produce the best available science, to make
3 the most educated decisions.

4 These were just some of the issues
5 I wanted to bring here. I know there's a lot
6 more out there I did not mention. But I just,
7 in terms of starting off today as you go into
8 your breakout sessions, I just wanted to bring
9 up some high-level things that we are doing up
10 in the Arctic to start to fill some of those
11 gaps. But clearly there is a lot that needs
12 to be done. And we truly look forward to
13 hearing what the panel has to say and the
14 recommendations that come out of the panel in
15 the next couple of years to guide us in how we
16 operate and how we work in the Arctic. As we
17 move and position the U.S. for the future.
18 Thank you.

19 (Applause.)

20 CHAIR WELLSLAGER: Thank you, Dr.
21 Bamford. Are there any questions in the
22 audience that they would like to ask? Well,

1 thank you. Oh, I'm sorry. Jeff, yes.

2 MEMBER CAROTHERS: This is Jeff
3 Carothers. Yes, Dr. Bamford, just -- I know
4 NGS is flying GRAV-D in the lower 48. Is it
5 currently going on here now, or is it planned
6 for up here?

7 MS. BLACKWELL: Juliana Blackwell,
8 the director of National Geodetic Survey.
9 Jeff, we have completed over half of the area
10 of Alaska as far as the GRAV-D collection
11 goes. At this point in time there is another
12 small project that is planned to try to get
13 done in FY `12. We're doing a lot of
14 partnerships with other federal entities to
15 try to get platforms and things necessary to
16 be able to fly the airborne gravity.

17 We also plan on doing a little bit
18 of work down on the eastern side of Alaska
19 along the coast in FY `13, realizing there's
20 still some of the west coast and the Aleutians
21 that's going to be a little further out before
22 that data is collected. But I do have a

1 printed map just to show what's been covered
2 so I'd be happy to show that to you and others
3 during the break.

4 DR. BAMFORD: Thank you, Juliana.

5 CHAIR WELLSLAGER: Lawson?

6 MEMBER BRIGHAM: Maybe at the next
7 meeting we could have a brief on how the
8 Arctic strategy that you have in NOAA, how
9 you're doing with it in implementation or what
10 your success rate is for funding. It might be
11 nice to hear maybe at our next meeting.

12 DR. BAMFORD: That's a great idea
13 and we can do that. We can do that. Great.
14 Thank you, Matt.

15 CHAIR WELLSLAGER: One note. As
16 we do go through the panel discussions and
17 questions and answers, if you have a
18 discussion or if you have a question please
19 speak into the microphone, give us your name
20 and that'll make life much easier for the
21 court reporter.

22 All right. Well, we're fortunate

1 today to have as our first stakeholder panel
2 session a group addressing the Alaska regional
3 needs for NOAA's nav services, products and
4 information.

5 The first speaker, Steve Boardman,
6 is the chief, Engineer Division of the U.S.
7 Army Corps of Engineers, the Alaska district.
8 He'll be followed by Captain Edward Page, the
9 Marine Exchange of Alaska, Walt Tague --
10 Tague, I'm sorry -- with Crowley Tug & Towing,
11 Mark Smith with Vitus Marine and Captain Dana
12 Jensen with the Alaska Marine Highway System.
13 So, thank you very much for offering to be
14 here with us, and Mr. Boardman, if you're
15 ready to start, please.

16 MR. BOARDMAN: Thank you so much
17 for having me, giving me an opportunity to
18 make a presentation. I have a number of
19 slides here. I promise you I will not dwell
20 on these slides. I'll rip right through them.
21 Hopefully they'll be published and you can
22 read them at your leisure. But there's a

1 piece of information obviously I want to share
2 on each one of those.

3 A little small correction. I'm
4 not the chief of the engineering division.
5 I'm actually chief of project management,
6 civil works project management.

7 Just a little quick background. I
8 have almost 40 years with the Corps of
9 Engineers, 33 of them here. I've been in
10 regulatory, operations, navigation and since
11 1989 I've been building navigation projects
12 and erosion control projects, flood control
13 projects throughout the state. So I'm going
14 to focus my attentions on the items that are
15 with the navigation and let's see if I can get
16 this to work.

17 A little quick history. I'm sure
18 most of you are aware the Corps of Engineers
19 in the state of Alaska, we've been doing
20 projects since 1912. So far now we have built
21 49 harbors, 15 channels with a number of
22 projects under construction right now. I say

1 that because that just puts pressure then on
2 NOAA and others to generate navigation surveys
3 and whatever to approach those navigation
4 projects as they come online.

5 This morning it hit me that as I'm
6 in the shower that whoa, I forgot all about
7 erosion control which is a major event that's
8 occurring for us as well. And we have
9 multiple projects going on right now at
10 Shishmaref, Kivalina, Unalakleet, relocation,
11 assisting relocation of the community at
12 Newtok.

13 And we published a report not too
14 many days ago where we identified 26
15 communities both coastal and riverine that
16 have a severe and urgent need to deal with
17 erosion and another 69 that have a moderate
18 need. I say that because we do not have the
19 engineering data, coastal data or riverine
20 data for that matter to be able to calculate
21 waves and what the currents and the basic
22 conditions that we're protecting against. So

1 we need the assistance of all the agencies
2 here to generate that information.

3 Just real quick, over the last few
4 years we've built projects in Alaska, Douglas
5 down by Juneau, False Pass, St. Paul, Chignik,
6 just expanded Seward Harbor. Right now under
7 construction, brand new harbor at Akutan,
8 finishing up work at Douglas there in Juneau,
9 and in Alaska.

10 Projects that we have in plans and
11 specs right now: Haines, a second harbor at
12 Haines, a second harbor at Valdez, and a new
13 project to expand Port Lions.

14 Some of the other marine
15 activities that are going on. I mentioned
16 that we, and you folks are probably more aware
17 of it than I, the lack of engineering data.
18 So we've had some success with getting some
19 green light and some money out of Washington,
20 D.C. to do our Western Alaska Hindcast,
21 getting some data on what are the winds, the
22 waves, making a model that's predictive of

1 what will happen along the west coast under
2 certain conditions. As the ice and the
3 weather changes of course that model is going
4 to have to be dealt with.

5 We also have the Western Alaska
6 Storm-Induced Water Level Prediction Model.
7 Working with AOS and others I'm trying to
8 figure out what's going on in the various
9 sites that are out there.

10 We were asked four basic
11 questions. What are the uses and applications
12 the Corps of Engineers has for NOAA data?
13 Obviously we're in the business of navigation
14 and erosion control. So, we are building
15 things, we're operating them, we're
16 maintaining them. We need data to be able to
17 do that. We're planning new projects. We
18 need data to do that. This state -- you folks
19 are well aware of it -- is data-poor. So we
20 either have to generate it as part of our
21 planning process or going to our other
22 agencies to figure out if that data might

1 exist, whether it be wind, waves, hydrographic
2 conditions, topographic conditions.

3 So some of the things we need as I
4 already indicated, tidal data. Hydrographic
5 surveys. Tidal data, the first figure talked
6 about Kodiak Island. Kodiak as well as
7 Southeast is having an experience of glacial
8 rebound. Kodiak Island in particular, for
9 years we would go down and survey our small
10 boat harbors and say the depth of water is in
11 great shape.

12 The problem with glacial rebound
13 is the datum that you're measuring from is
14 going up at the same rate your bottom contours
15 are. So while we say it's 8 feet deep of
16 water or 10 feet deep of water, because it's
17 rebounded 2 to 3 feet it's actually 5 feet of
18 water.

19 So as part of the ARRA process we
20 were able to get some money and we did a
21 complete redoing of the datum on the Kodiak
22 Island archipelago and we're working right now

1 in southeast Alaska to try to do the datum.

2 So when we do our surveys we'll have current
3 and find out what the true depth of water is.

4 Some of the data gaps or issues.
5 I think that's a coordination issue. As we
6 generate information, make sure we integrate
7 it in with the greater body. Likewise as
8 other people generate, is it stored, is it
9 able to be retrieved by all of us.

10 So there's an element of
11 redundancy which is good and there's a certain
12 aspect that is bad. As we are kind of plowing
13 over the same area. Maybe we need to work
14 together so as we're working that takes some
15 of the pressure away from another agency. As
16 we're setting tide gauges or setting other
17 data.

18 Lack of wave and wind, I indicated
19 we've already generated some of that
20 information and they're publishing it as part
21 of various reports. But as we work together
22 we need to make sure that all of that is

1 collected and we understand who's doing what,
2 where and why. Lack of tidal datum and
3 hydrographics, those are obvious and I think
4 you folks have discussed that already.

5 Recommendations for improvement.

6 Increased user groups such as the Alaska
7 Interagency Hydrographic Survey Working Group
8 to be able to share data. Standardization of
9 data so that we can compare and match and
10 folks look at that and be able to interpret it
11 the same way.

12 I'm not an expert here and I don't
13 know if my expert is here, but collaboration
14 on S57 products. You folks probably
15 understand that more than I do, but mainly the
16 Corps still uses PDF files rather than a
17 universal system and we need to work on that.

18 I'm not going to go very hard on
19 this, but I just want to alert you because
20 this is where we're going to be needing data
21 tremendously in the next few years. Back in
22 2003 we started Alaska Regional Ports. Alaska

1 Regional Ports Study was to look at the entire
2 needs along the Alaska coast which you folks
3 are well aware is greater than the entire
4 lower 48 coastline. So we're trying to find
5 out what is the federal needs for improvement
6 in navigation.

7 We also as part of that identify
8 the harbors are part of a system rather than
9 individual projects. So we're trying to work
10 on a whole series of connections on whether
11 it's 500-mile increments, 1,000-mile
12 increments. So we've kind of broken the state
13 into five areas as we're trying to go through
14 this analysis, and trying to do a systemwide
15 identification of the needs that are out
16 there.

17 So we've had two statewide port
18 conferences, one in 2008, one in 2010. The
19 one in 2008, overwhelming majority of the
20 people needed greater collaboration between
21 agencies. And of course the fact that there's
22 no engineering data. We need to collect

1 engineering data.

2 The next report. Well, we then
3 got into a cost-sharing agreement. We looked
4 at trends analysis, hub analysis, the
5 tabulation of needs, policy recommendations
6 and where can you find building materials.

7 The second one in November `10
8 identified a list of navigational needs which
9 is what this document is. I don't know how
10 many pages it is anymore, 19 pages of zero
11 font it looks like.

12 (Laughter.)

13 MR. BOARDMAN: Identifying
14 anywhere from needing a port or harbor, a
15 deadman, piling, anything that will support
16 navigation. The one big challenge obviously
17 is do we even know what exists there. What is
18 the beach line? What is the approaches to it?
19 This is not necessarily Corps of Engineers-
20 centric, this is everybody. You know, who's
21 going to build these facilities as they become
22 necessary? This was the entire state of

1 Alaska and it's a monumental task to say the
2 least.

3 We also started to develop
4 criteria that if -- what are the needs and
5 what are the ports. What's the depth that we
6 need or information we need? What's the
7 moorage capacity? What are the infrastructure
8 that would be necessary if we were to build
9 marine improvements out there? Who are the
10 users?

11 And the congressional delegation
12 and the Governor decided let's put a more
13 focused, and that's the Arctic deep draft
14 ports. It originally was Arctic deep water.
15 We defined Arctic deep water meaning we
16 already know what the depth of water is. In
17 the case of -- and it's deep already. So
18 we're going to Arctic deep draft, meaning
19 we'll have to create that water by whatever
20 means, assuming we know what the existing
21 conditions are.

22 And so we had a planning

1 charrette. I'm just going to kind of fly
2 through some of these slides. We had of
3 course the State Government, the Federal
4 Government that were there. These are some of
5 the products. This is Ed Page's document.
6 You'll see him next trying to define what are
7 the Federal needs that are out there, mainly
8 oil and gas and exploration.

9 You can see on the right the
10 current state of hydrographic surveying. This
11 was published by NOAA as they made their
12 presentations.

13 State interests. Governor
14 Parnell's main interest is the exportation of
15 mineral wealth, whether it's oil, gas or
16 otherwise. We need ports to move that out and
17 where to put those ports.

18 Arctic geographic. Where is the
19 Arctic? The obvious is above the Arctic
20 Circle but that is not the case. The legal
21 definition takes you all the way down to the
22 Pribilofs. Well, we felt that was too big of

1 an apple. So the group at the time defined
2 Mekoryuk Island which is here -- the Aleutians
3 are down here -- as that's the starting point
4 and we'll work our way to the coast.

5 Define a vessel. Who's using
6 this? What size vessels are using this? That
7 kind of goes into the other one of what was
8 deep. Who was envisioning deep? We define it
9 as -35 feet. The state's now asking us to
10 look for places along the coast for 45 and 55
11 feet deep so they can compete with the
12 conditions and the folks who are moving
13 product around the world. Who are the other
14 ones? Obviously NOAA is doing hydrographic
15 surveying. Maybe they need a place to berth
16 every once in awhile for changing crews,
17 taking out provisions, whatever is necessary.

18 Life and safety, Coast Guard. I
19 saw a Coast Guard uniform here. Their mission
20 dealing with the opening of spill response.
21 Shell is hoping to drill. Others are hoping
22 to drill up there. What happens if there's a

1 spill? There is very little information or,
2 well, information and infrastructure out there
3 to support all that.

4 Where can you put a port? As I
5 say we're talking about 35, 45 feet. Those
6 who are doing hydrographic surveys know
7 there's not many of those places out there.
8 And generating it, digging it, we don't even
9 know what the contours are or what volumes
10 we're talking about.

11 Here's just some of the port sites
12 we're considering. I'm not going to go
13 through all of them, but there's at least 14.
14 I think Representative Joule talked about the
15 Northern Waters Task Force yesterday. The
16 vast majority of these were identified as part
17 of that process. We're tagging onto that. We
18 are now going through all of these.

19 We're using multi-criteria
20 decision analysis software, running what-ifs,
21 trying to figure out. But one of the biggest
22 things that's still missing is what is the

1 depth of water coming to those sites from the
2 approaches as well at the site. And so
3 someone, either we're going to have to
4 generate it as part of the study, we're going
5 to ask our friends from NOAA to generate it,
6 we're going to ask our friends from whomever
7 else to try to identify the information.

8 And again, this will be published
9 hopefully as part of the record. If you want
10 to see what's going on in these regional
11 ports, the data is being posted on our
12 website. And I'll defer questions till the
13 end.

14 CHAIR WELLSLAGER: Actually, we've
15 got about 10 minutes. If there's some
16 questions that would like to be asked right
17 now we can go ahead and do that. Larry.

18 MR. MAYER: It seems clear that
19 during this Alaska Regional Ports process you
20 had input from NOAA. But is there a formal
21 process for more regular consultation and
22 collaboration?

1 MR. BOARDMAN: We are working
2 right now. Again, the first rounds of these
3 multi-decision criteria. Our next step, and
4 I think it starts even next week is going to
5 the stakeholders. And so we'll be going to
6 the oil industry, the NOAA, the other agencies
7 and presenting what we have. Now, yes, more
8 and more stakeholder meetings are envisioned
9 before the end of this calendar year.

10 MR. MAYER: You look at NOAA as a
11 stakeholder. NOAA is also a partner that has
12 many of the same needs as you.

13 MR. BOARDMAN: Yes, I understand
14 that. I understand that. And yes, I mean
15 right now our partner from a financial
16 perspective is state of Alaska. The
17 stakeholders we're going to engage are
18 partners in the fact that yes, the data is
19 necessary for all. And that would be the
20 process that will be going on this summer is
21 pulling more of that out.

22 NOAA was a participant in all of

1 these statewide and planning charrette,
2 gathering information from it as well as Coast
3 Guard, Navy and other users. So, it's the
4 start of many years still to come. Because as
5 we identify a handful of projects for
6 consideration then the real work of
7 identifying the needs for that port will come
8 to pass. This is right now just to try to
9 take this group of 14, 16, 20, whatever it is
10 down to a more manageable number of sites.

11 CHAIR WELLSLAGER: Joyce?

12 MEMBER MILLER: Yes, Joyce Miller.
13 Yesterday we went out to the ships and heard
14 the concerns of the captain. And we asked
15 Matt yesterday what was going on. But since
16 it's Army Corps that's in charge of what's
17 going on at the Port of Anchorage right now in
18 terms of active projects can you tell us a bit
19 about what's happening with Anchorage?

20 MR. BOARDMAN: Well, let me try to
21 touch on that because Stuart's over there and
22 I'm not going to take away the Port of

1 Anchorage's responsibilities of the expansion
2 of the existing harbor.

3 Port of Anchorage of course is a
4 major project for us. I've been involved with
5 the port since at least 1981. The Corps has
6 been dredging at the Port of Anchorage when it
7 was an Army dock back in the fifties.

8 The Corps has multiple missions as
9 it relates to the Port of Anchorage.
10 Legislation back in 2006 I believe it was gave
11 us more authority. And it all kind of
12 dovetails into the physical structure of the
13 Port of Anchorage is the Port of Anchorage is
14 to deal with. And that includes the expansion
15 project that's going on right now. Now,
16 that's actually a mixture of MARAD and the
17 port and the muni. That whole relationship,
18 I'll let Stuart and the port answer that in
19 greater depth or not.

20 The Corps has the responsibility
21 of dredging at the existing port. It's the
22 only one that I'm aware of within the system

1 where we dredge up to the face of the dock.
2 And that started, again, when it was part of
3 the U.S. Army. So we dredged up to the face
4 of the dock. Everywhere else, the berthing
5 area, dredging is part of the port.

6 So the relationship is a much
7 closer one because if a user feels that the
8 depth of water at the port is not at a
9 sufficient depth they're going to knock on our
10 door as much as they knock on Stuart's door
11 because it's our responsibility to do the
12 dredging.

13 Now, legislation we received in
14 2006 gave us other directions. One is what we
15 quaintly call transitional dredging. As the
16 port expands we are to dredge in front of the
17 new phases down to -35 feet which is the
18 authorized depth of the harbor so that that
19 phase can be usable to any carrier that would
20 come.

21 So we've done that on the north
22 end. The existing structure that's there

1 we've dredged up to the face of that. Since
2 it's not being used yet by a carrier we have
3 it in a -- I'm not sure what term I want to
4 use, but it's in the maintenance mode but it's
5 not in the continuous maintenance mode as we
6 would at the existing structure where we
7 dredge constantly during the summer.

8 We dredge it twice a year, start
9 of the season, end of the season so that it
10 does not fill in substantially and then
11 consolidate because the fine-grained material,
12 if you let it consolidate it turns hard like
13 stone till you have to stir it up. So we've
14 dredged in front.

15 We had an authority -- well, we
16 have an authority that allows us to do the
17 construction dredging to assist in the
18 development of the project except the
19 terminology used in the law was "we may" and
20 Washington, D.C. said we're not going to. The
21 transitional dredging, the word was "we
22 shall." We couldn't get out of that. So

1 that's a poor way of putting it, but.

2 We also have an authority
3 obviously to maintain the existing -- is to
4 take the existing navigational channel leading
5 into the port or upper Cook Inlet in the Knik
6 Arm. We have one that's 1,000 meters by 100
7 meters wide and approximately, I'll convert it
8 to English, -38 feet channel out there between
9 Fire Island and the Port of Anchorage. This
10 law says take that channel and expand it
11 against the two range lines, the entire length
12 of the range lines, as it goes.

13 One of those range lines as it
14 travels north towards the two ports bisects a
15 shoal that's been growing since 1999. The
16 Corps is a bureaucratic organization. The
17 process is go expand the channel the full
18 length of these two range lines, deepen it to
19 -45 feet.

20 The Corps' answer is we'll do that
21 after we do what we call a decision document
22 to justify the engineering and the economics -

1 - or not the economics, the environmental.
2 We'll have to do economics too but there's no
3 rationale, it doesn't have to be a positive
4 B/C ratio, benefit to cost ratio. But we
5 haven't done that study yet, that decision
6 document because that has to be cost-shared
7 with some partner and no one yet is willing to
8 do that.

9 So, all of the users are
10 complaining about siltation outside our
11 channel. They're complaining about the shoal.
12 We recognize that. And we're working as best
13 we can with the port and Port MacKenzie to
14 provide a workaround the shoal by surveying it
15 in conjunction with NOAA periodically and then
16 we do spot areas to see what's the depth of
17 water so that it can be navigated around.
18 While we ultimately lead towards a solution,
19 a permanent solution of creating a
20 navigational channel that'll either be right
21 through the shoal or around the shoal or
22 however it's going to be as we determine those

1 conditions.

2 So our relationship with the port
3 is close. It's a -- I'm not sure if I want to
4 use the word "symbiotic" but the actual
5 physical construction is the port's. We are
6 doing a study for them on behalf of MARAD and
7 the muni to determine the conditions or what
8 happened in the construction, what happened in
9 the design, geotech that led to where they are
10 right now where they're kind of caught with an
11 unusable structure or a partially usable
12 structure. And then we'll provide that data
13 as soon as it's completed and that's hopefully
14 very soon. It's actually overdue. So they
15 make some decisions on where they're going to
16 go. And whether the Corps has a role in the
17 future is yet to be determined. Long answer.
18 I'm a politician, I'm sorry.

19 CHAIR WELLSLAGER: Well, that's
20 actually very good. Thank you. I'd like to
21 hold any other questions until afterwards so
22 we can move onto the next presenter. Captain

1 Page, if you could please.

2 CAPT. PAGE: I'm Ed Page from
3 Marine Exchange of Alaska as it says up on the
4 board there. I first came up to Alaska here
5 in 1973. After sailing on the ocean station
6 patrols off the North Atlantic I said this is
7 really lousy, Alaska has got to be better.
8 Obviously I was wrong on that one so I brought
9 a ship around from Boston to Seattle and onto
10 Alaska. And obviously I didn't graduate very
11 high in my class. Alaska was even worse as
12 far as harshness, whatever.

13 But I've been back and forth to
14 Alaska over various assignments in my 30 years
15 with Coast Guard and became very enamored,
16 fascinated and enamored with Alaska to the
17 point where I retired here about 11 years ago
18 and started the Marine Exchange of Alaska.

19 During my Coast Guard career I did
20 work several years with the Exxon Valdez oil
21 spill as chief of environmental protection
22 during that period. And then I think to put

1 me in the penalty box the Commandant of the
2 Coast Guard sent me to Los Angeles/Long Beach
3 to be the captain of the port and group
4 commander down there. He realized I was
5 having too much fun in Alaska kayaking and
6 hiking and what have you.

7 But when I went down there very
8 early on I was wowed by all the traffic and
9 activity. I said gee, this is amazing. So
10 where's the Vessel Traffic Service? Of course
11 there wasn't one. The Coast Guard didn't have
12 a Vessel Traffic Service back in 1993. And I
13 realized that information was critical as far
14 as enhancing maritime safety and what have
15 you.

16 So -- and the same issues existed
17 then as they do now, probably now it's even
18 worse and that's just the fiscally constrained
19 environment. The Coast Guard certainly did
20 not have money to build the Vessel Traffic
21 Service to man the traffic in L.A./Long Beach
22 even though it's one of the biggest ports in

1 the world. And we basically found the
2 workarround.

3 And we basically sat down with the
4 state of California. The Marine Exchange was
5 a non-profit organization that has existed
6 since 1900. The Marine Exchange is
7 essentially exchange maritime information.
8 I'll get into that here in a minute. And then
9 the Coast Guard. And together we put together
10 a Vessel Traffic Service through a partnership
11 and a shared commitment, shared interest and
12 obligation towards maritime safety and found
13 solutions we all contributed towards.

14 So, in my discussion in the next
15 couple of minutes I'm going to talk about the
16 Marine Exchange, how it works with the Coast
17 Guard and NOAA and others, and some of the
18 lessons learned over the last couple of years
19 as far as in a fiscally challenging
20 environment how do you prioritize and get
21 certain things done. You know, how do you
22 leverage resources with other agencies? How

1 do you work with partnerships. As Dr. Bamford
2 mentioned earlier about partnerships. And
3 then information. How do we get the
4 information we need to make informed
5 decisions, smart decisions and be more
6 efficient. So that's basically what I'm going
7 to talk about in the next couple of minutes.

8 The Marine Exchange is a non-
9 profit maritime organization established to
10 provide information and communication services
11 to aid safe, secure, efficient and
12 environmentally sound maritime operations.
13 That's basically the Coast Guard statement
14 too. The Coast Guard has the same mission, I
15 just took that and walked out the door and
16 continued on in that vein. And they go back
17 to the nineteen hundreds, basically exchange
18 maritime information.

19 They're honest brokers of maritime
20 information. Originally they used telescopes
21 and scanned the horizons before the
22 information crossed the bays if you will to

1 the shipping industry to facilitate trade.

2 And of course today we've moved forward into
3 radars and whatever.

4 In looking at starting the Marine
5 Exchange for Alaska I realized that the only
6 way we could pull off getting that type of
7 information was tapping into the new emerging
8 technologies that were coming online. Because
9 -- and we also needed that information.

10 Alaska is a state that's more
11 maritime in nature. Some of my colleagues
12 here that have worked in support of Marine
13 Exchange over the years who will be talking
14 after me who operate vessels can attest to the
15 fact that it's a very challenging environment,
16 a huge environment, ecologically sensitive
17 environment and one of the most diverse
18 maritime regions in the world for that matter.
19 Any kind of ship you can think of, oil
20 exploration, reduction, LNG ships, oil on
21 tankers, ferries, cruise ships, tugs and
22 barges, I'm missing some, but container ships

1 and trampers all are operating -- fishing
2 vessels of course are operating in this very
3 challenging environment.

4 One of the tools that we've been
5 using and relying very heavily on the last
6 couple of years basically is the cornerstone
7 if you will of the Marine Exchange operations
8 is the Automatic Identification System or it's
9 referred to as AIS. And this is something
10 that has been in the books and deliberated for
11 several years for our international maritime
12 organization, but it wasn't really until 9/11
13 and the interest of maritime security that
14 kind of pushed it as one more reason why we
15 should have this capability.

16 And so IMO adopted the treaty for
17 requiring larger commercial vessels to have
18 Automatic Identification System which is much
19 akin to or like transponders on aircraft.
20 Basically ships are, every couple of seconds
21 they're broadcasting out over VHF frequencies
22 their course, speed, destination, dimensions,

1 even their rudder angle in some cases, next
2 port of call, destination ETA. A tremendous
3 amount of information. Even draft for that
4 matter.

5 So this information is being
6 pumped out all the time by these vessels
7 sailing through Alaska waters. And
8 unfortunately because of fiscal constraints
9 the Coast Guard hasn't been able to build the
10 system to receive this information, process it
11 and disseminate it up in Alaska because the
12 challenges of the tyranny of distance and the
13 remoteness, what have you.

14 So they -- if you find enough
15 crazy folks like I've found walking the
16 streets. We have about 16 people that are
17 pretty adventurous and willing to go ahead and
18 build the system. And so that's what we've
19 been doing is we're building a Vessel Traffic
20 Service.

21 We use AIS and satellite tracking
22 and the users -- the system goes from Puget

1 Sound all through Alaska out to Adak, up to
2 Beaufort Sea, over to Kaktovik for that matter
3 and south to the Dixon entrance. And the
4 users are tanker companies and Marine Highway
5 System, cruise industry, container lines,
6 passenger vessel operators, ports and harbors,
7 oil spill response organizations, fishing
8 companies, pilot associations as well as
9 government agencies, NOAA, the state of
10 Alaska, all of -- the Department of
11 Environmental Conservation, Fish and Game,
12 Commerce, you name it, they're all using this
13 system and tapping into it.

14 And certainly, you know, part of
15 this is to kind of minimize -- a lot of it in
16 my mind anyway is to help save lives, help
17 save property, help protect the environment,
18 help increase efficiency. And in a state
19 where we've had a fair amount of incidents.
20 I'm sure we've all heard about the Selendang
21 Ayu and certainly the Exxon Valdez no doubt.

22 So why do we track vessels? It

1 provides a safety net. If someone's in
2 distress we can find a vessel nearby and it's
3 basically information to provide to the Coast
4 Guard Operations Center. They can see all
5 this information, they can make good
6 decisions.

7 Risk assessments, environmental
8 protection, to validate compliance, emergency
9 response, improve efficiency and maritime
10 security. I'd like to think back. If you
11 look at the Exxon Valdez incident or the Rena
12 or the Costa Concordia, in each of those cases
13 if somebody was watching, if they knew that
14 somebody was watching their movements at all
15 times kind of like you knew the police is out
16 on the highway with a speed gun that would
17 influence your behavior.

18 Most likely it would -- Hazelwood
19 would have stayed on the bridge where he was
20 supposed to be, he would have stayed within
21 the channel like he was supposed to be, but he
22 was actually beyond the Coast Guard's range of

1 the radar at the time. So he went below, he
2 went out of the channel and the rest is
3 history.

4 The Costa Concordia, I'm sure he
5 thought nobody was looking at him so he took
6 that very bold move with very bad consequences
7 obviously. And the Rena, what happened off
8 New Zealand recently. Again, a vessel that
9 went off course for quite some time. Nobody
10 was watching, no alarms went off and the rest
11 is history.

12 Of course the other important
13 thing about tracking is tracking your daughter
14 when she goes down the Yukon River on a canoe.
15 That's one of the more important things. And
16 my operation centers used to give me daily
17 updates of where my daughter was so there's
18 other ancillary benefits to this thing.

19 (Laughter.)

20 MR. BOARDMAN: There's a personal
21 side to this. It's not all business, some
22 personal aspects to this thing.

1 And this is our operations center.
2 We run a 24-hour operations center where all
3 this data is coming into, satellite and AIS
4 information. And when I look at Alaska and
5 what we learned beforehand, this is one I
6 always like to talk about: 99.9 percent
7 success in Alaska it caused public outrage
8 because that's the success rate of getting
9 tankers in and out of Prince William Sound
10 before the Exxon Valdez. So that's not good
11 enough. It's a very high-stakes, very zero
12 tolerance game in Alaska. You really have to
13 get it right, because if you don't get it
14 right there's big consequences to pay.

15 So as I mentioned, you know, the
16 Marine Exchange and what we're doing here is
17 a shared commitment by the maritime industry,
18 government, what have you.

19 And how we track vessels, we're
20 using a variety of systems: Vessel Monitoring
21 Systems which are required to be carried on
22 fishing vessels; Global Marine Distress Safety

1 and Signal System, we tap into that and track
2 vessels with that. We use ship security alert
3 systems to track vessels and alarms go off in
4 our office for that matter when there's an
5 incident. Long-range identification tracking
6 is another system that the Coast Guard uses.
7 And then -- which is IMO-adopted. Every 6
8 hours a vessel will provide a position report.
9 Then Automatic Identification System which is
10 another piece of equipment that's required by
11 both international treaty and the Coast Guard
12 regulations.

13 And so to that end we've built in
14 Alaska 90 AIS sites and we're still building.
15 I still have people out today as we speak in
16 helicopters and float planes around Alaska
17 scoping out and building and upgrading and
18 repairing sites. As you can see, all the way
19 out to the Aleutians, southeast and up to the
20 Arctic.

21 And then we also continually
22 evaluate the coverage of where we actually are

1 picking on ships. This is where we picked up
2 ships in a period of 30 days so we know where
3 the gaps are and where the coverage is and
4 where we need to put new equipment in, what
5 have you.

6 And we can also monitor our
7 operations center. If they see the light goes
8 out, a red light goes on, alarm goes off and
9 then we start doing troubleshooting to get
10 them back to operational.

11 A lot of the discussion here has
12 been about the Arctic. Well, we are
13 prioritizing just like NOAA and the
14 Hydrographic Service is doing. You can't do
15 it all, you can't put everywhere, so initially
16 we prioritized saying where are the biggest
17 concerns, biggest consequences and that's
18 where the tankers went, where the cruise ship
19 went and where the ferries went. Those were
20 our first three areas that we installed our
21 AIS sites. And then when the Arctic became a
22 pretty hot issue we started installing AIS

1 sites up in the Arctic.

2 And then we realized most of our
3 trade, a lot of our trade goes into the
4 wilderness and serving small communities
5 throughout the interior if you will, and some
6 of our -- so we started populating the
7 entrances to the rivers, Vessel Traffic
8 Service. So we're constantly looking at the
9 trends and prioritizing. We don't have
10 complete coverage. We're constantly looking
11 at what's the best return on investment since
12 we can't do it all at once.

13 And how do we do this? Well
14 basically, you know, the maritime industry has
15 stepped forward to say we'll help get you
16 there. We're not using a Lockheed Martin or
17 General Dynamics solution where big expensive
18 towers. We're really going to lighthouse
19 associations saying can we come out and
20 install an AIS site at your pilot station, the
21 harbor office or tug offices, travel offices,
22 fish hatcheries, science centers, you name it,

1 and oil spill response organizations. All
2 those have actually come to the plate to say
3 we'll help you build this system. My staff
4 calls it the Friends of Ed. I've got friends
5 all over the place. If you're on the
6 waterfront I'll befriend you and try to find
7 a way I can put a tower on your property.

8 (Laughter.)

9 CAPT. PAGE: And this is an
10 example of one of our sites. This is our
11 little 30-foot landing craft that we put 3,000
12 miles on last year running around. And we'll
13 put a couple tons of concrete bags and
14 batteries and solar panels and wind
15 generators, what have you, and then we'll
16 build a site such as this that's looking down
17 at Dixon entrance and watching vessels in the
18 Canadian and the U.S. border and sends the
19 information back to our operations center
20 which goes into the Coast Guard system.

21 Here's another system we've built
22 at Cape St. Elias, another island lighthouse

1 that's a lighthouse association that we built.
2 This is another example of one we built and we
3 actually took a sailboat and sailed down the
4 coast with a crew and built the station. And
5 this is basically where we put the antenna and
6 power satellite. Now we're looking at tankers
7 that's 224 miles offshore. We're tracking
8 ships coming down the coast.

9 And this is what I do. I catch
10 the fish and I run around with my head cut off
11 like delivering sonar buoys to the guys.

12 (Laughter.)

13 CAPT. PAGE: People say what do
14 you do when this all happens? I say well, I
15 catch fish and whatever.

16 And also, our system allows us to
17 see Russia from my backyard which I think is
18 the expression that Sarah Palin used. And she
19 said when I'm with Ed and his iPad I can see
20 Russia I think is what she really said. They
21 cut her off. Katie Couric didn't let her
22 finish the sentence I think.

1 So, we've also of course used it
2 for search and rescue and emergency response.
3 The Selendang Ayu is the classic example where
4 we've used a system to track the vessel even
5 as it's unfolding then later on an oil spill
6 response tracking the vessels to ensure
7 they're optimally located position and
8 maximizing the return.

9 Other incidents happen. This is a
10 vessel that lost power that were identified.
11 Something was an anomaly, it didn't make
12 sense. It was going backwards a couple knots.
13 Talked to the Coast Guard and sure enough she
14 called and said they had some problems. A tug
15 was dispatched but fortunately she got herself
16 underway because she's far enough offshore
17 that she had time to actually repair the
18 problem.

19 But we could track the whole
20 thing, the rescue tug coming out to assist it
21 and the vessel in distress and locate tugs.
22 Pick on the screen where's the closest tug,

1 where can we find it, where is it right now
2 and what have you. So it's a tool that can be
3 used in emergency response.

4 I'd also use to identify what went
5 wrong -- if there is a casualty what went
6 wrong. In this particular case, a cruise ship
7 ran aground and hit this rock and then
8 continued on, and then called the Coast Guard
9 and said I hit a submerged object. Well, it
10 was a latter date action on that thing.

11 Environmental protection, remind the cruise
12 ships of where they're going.

13 The nexus to the Hydrographic
14 Service which Captain Lowell knows and Matt
15 knows is that -- and I think that my analogy
16 would be like a university where they put a
17 couple of sidewalks down and then they watch
18 where the students really walk and then that's
19 where they go ahead and put another sidewalk.
20 So when they cut across or what have you. And
21 so what this does is give you an idea of where
22 ships are really going. So we're going to

1 prioritize, maybe you want to see where the
2 ships are going.

3 And this has to do with monitoring
4 environmental compliance. This is also --
5 alarms go off. If a vessel's in the wrong
6 area or going too fast alarms go off in the
7 operation center, outside traffic lanes,
8 whatever. So we can -- these things are ways
9 that you can monitor compliance with the
10 various safety measures in place, areas to be
11 avoided, what have you. And we can
12 demonstrate compliance when it's happening.
13 If it's not then we can take other measures or
14 the Coast Guard can take other measures to
15 help improve compliance.

16 But here's a traffic analysis that
17 NOAA has had a lot of interest in the past as
18 well as the Corps of Engineers where we can
19 play back this data we come up with and see
20 the density of traffic. We can say which
21 vessels are actually going -- color-coded by
22 which vessels are going where. This is Cook

1 Inlet. This is the detail. We can play with
2 Excel spreadsheets. Do you want to just see
3 tankers? Do you want to see -- what kind of
4 vessel do you want to see, basically, and what
5 information, the destination or the type of
6 ship or the size of the ship, whatever. It
7 can sort it in different ways.

8 The Bering Strait, this is a slide
9 that shows up periodically in several
10 presentations. A lot of people are interested
11 in this new traffic that really didn't exist
12 a couple of years ago. And where are the
13 vessels going. And where -- if we're going to
14 survey charts and I've got calls from the
15 Fairweather XO saying hey Ed, can I get some
16 information from you. We're up here in the
17 Bering Strait. I'll send some pictures of me
18 kayaking off Diomed Islands, just rub it in
19 a little bit. And but anyway, and I
20 begrudgingly give him information even though
21 he kind of made me wish I was there.

22 But I also might add that NOAA was

1 bumping up the numbers a little bit. I don't
2 think deliberately obviously, but we're
3 looking at transits. We took a line and said
4 what are the transit, where are they going,
5 where's the density of transits and we came up
6 with 568 transits of which a couple hundred
7 were the Fairweather alone in their little
8 boats. They were going back and forth
9 surveying.

10 (Laughter.)

11 CAPT. PAGE: So we kind of rule
12 them out and said sorry, it's 338. So nice
13 job there, Captain, but we caught you on that
14 one.

15 We're also seeing ships that we
16 never even knew existed or transit through our
17 waters. And this is an example of a tanker.
18 And we have a couple of examples of tankers
19 coming that sail from San Francisco and then
20 going to Tuktoyaktuk, a Canadian town east of
21 Prudhoe Bay and what have you, and delivering
22 oil. And so where are they going and who are

1 these vessels again? And this is information
2 we didn't have a couple of years ago quite
3 honestly. Technology has changed the
4 information we have to make good decisions on.
5 So it's good and it's bad because your work
6 changes. We have more information, you have
7 something to do then. But in any case having
8 the information is best because you can focus
9 your efforts on it.

10 And this is an example of vessels
11 transiting up and down the North Slope and
12 seeing where they're going and kind of seeing
13 what the nature of the trade is. And this is
14 off of Barrow. This is the traffic off of
15 Barrow and they color-code the type of ships
16 and what have you and where they're going.
17 And then the density. Where are most of them
18 going? Where are they -- how close to shore
19 are they?

20 So these are all analytical tools
21 that we have that we've used to working with
22 the Coast Guard and NOAA and the state of

1 Alaska and other environmental agencies, what
2 have you, to kind of get better information,
3 to be more efficient and focus in your
4 efforts.

5 This is not a drunken sailor, by
6 the way, this is a guy simply working his way
7 through ice. So this is the other interesting
8 things you see is that people are navigating
9 through the area.

10 One of the things that we're
11 moving into migrating now is that once we have
12 our AIS stations we're starting to hang on
13 weather sensors and even testing digital
14 sector calling for search and rescue
15 capabilities that receive those signals which
16 aren't, again, that equipment isn't available
17 up in the Arctic and many other places in
18 Alaska.

19 And we're also doing some field
20 tests and we're going to have the ability to,
21 once we get Coast Guard approval, to push out
22 data, weather data, safety data, even tidal

1 data, realtime tidal data over AIS frequencies
2 so they can just digitally see that on our AIS
3 receiver and not have to listen to a long
4 broadcast or what have you, or dig for it. So
5 we're working on that to again further
6 increase the benefit of some of these tools.

7 And this is the Dixon entrance.
8 It's another area that's emerging. I don't
9 think it's been discussed at all here, but
10 there's been a lot of concern by some parties,
11 certainly the Coast Guard is looking at this
12 very hard because this entrance is starting to
13 heat up. This is the southern border of
14 Alaska. Because Prince Rupert, a Canadian
15 port, is starting to bring in oil into there
16 in container ships and what have you. So,
17 basically there was no shipping at all out of
18 Prince Rupert a couple of years ago except
19 fishing vessels. Now we're seeing large
20 container ships and support vessels and then
21 soon possibly tankers and right, going through
22 basically our waters or shared waters right

1 next to Alaska.

2 So these are some of the things
3 that we're using, tools that we're using to
4 get information. I look at this in a macro
5 perspective. You look at the bottom, we're
6 using a variety of tools to bring in
7 information. Global Marine Distress Signaling
8 System, Ship Security Alert Systems, AIS,
9 Vessel Monitoring System for fishing vessels.
10 And we like to refer to this as Alaska
11 Maritime Safety Net which has many other
12 benefits of course.

13 And then we can disseminate that
14 data on a need-to-know basis to local
15 authorities, NOAA, DoD, whatever, with no
16 restriction to essentially the government if
17 you will as far as access to data and some
18 restrictions to the others in the community.

19 Obviously some people could use
20 this to, you know, target vessels if you will
21 or cause some harm so we are sensitive to
22 that. And basically if you're a stakeholder,

1 you're operating vessels and you're on our
2 team and you have access to it.

3 But everyone pays. The only way
4 we keep the lights on because we're a non-
5 profit, and I have 16 mouths to feed and I've
6 got 90 AIS sites and I've got -- my internet
7 bill alone is about \$150,000 a year, because
8 I've got internet with everybody out there, is
9 that everyone who accesses the system has to
10 pay into the system to contribute to the
11 success.

12 So in summary, I see shared
13 objectives of the Coast Guard, NOAA, state and
14 local communities, the marine industry, all.
15 They have good information, good charting
16 information. The safe maritime operations and
17 one of the tools is this vessel tracking data
18 that can help you focus where you need to go.
19 The assessment here is -- can identify.
20 There's certainly a risk assessment component
21 as far as which vessels do we need -- cause
22 the greatest harm and how do we want to make

1 sure those are done well, safely. And lastly,
2 the efficiency of maritime operations is
3 important.

4 And seeing that many of you I'm
5 hearing are from the D.C. area and are proud
6 of, if you will, the traffic jams that you
7 have and like to say yours is worse than New
8 York or L.A. or what have you. I want you to
9 know that even in Juneau where I reside that
10 we also have heavy traffic in the morning.
11 This is what we refer to as heavy traffic in
12 Juneau. So with whales harassing people as
13 I'm going to work after camping on the island
14 for the night. So, you're not the only ones
15 with heavy traffic. We have our own heavy
16 traffic.

17 (Laughter.)

18 CAPT. PAGE: That's my story, I'm
19 sticking to it. Thank you.

20 (Applause.)

21 CHAIR WELLSLAGER: Thank you, that
22 was interesting. Would you rather be there in

1 Long Beach kayaking?

2 CAPT. PAGE: Where I'd rather be?

3 CHAIR WELLSLAGER: Yes. Keep in
4 mind where you're speaking.

5 CAPT. PAGE: (Speaking off-
6 microphone.)

7 CHAIR WELLSLAGER: Understood.
8 Thank you. The next speaker is Walt Tague
9 with Crowley Tug & Towing.

10 MR. TAGUE: Good morning,
11 everybody. I appreciate the opportunity to
12 speak to you guys. I pulled a presentation
13 that I've used in the past here to educate
14 captains of the port as they've rotated
15 through Alaska here.

16 I've been working in western
17 Alaska specifically with the petroleum
18 industry or petroleum distribution for the
19 last 6 years, and prior to that I was in the
20 escort response system over in Valdez.
21 Crowley has been operating in Alaska for close
22 to 6 years now and they've been involved in

1 the transportation of goods and supplies to
2 the western Alaska villages as well as sea
3 lifts for the Arctic Slope production and even
4 the Red Dog Mine type of exploration there.

5 I put this slide show together
6 originally as I said to educate captains of
7 the port on kind of what we do up here so
8 they're not quite as alarmed when we call them
9 in the middle of the night and say we have a
10 vessel aground.

11 In the past requirements for
12 reporting serious marine incidences included
13 groundings, both intentional and
14 unintentional. And as you'll see in these
15 slides due to the lack of charting and basic
16 knowledge of the coastline it is almost
17 impossible not to run a vessel aground in some
18 of these locations.

19 So, this is a good example of what
20 we do. This is an old Aputco barge that
21 Crowley ran in the Arctic. This is what the
22 beach can turn into in Barrow. And this is an

1 example of a typical Alaskan port facility.

2 So that is Barrow's port.

3 Lack of tide datum. There are
4 just some villages that exist out here that
5 don't get the recognition that the current
6 economic projects in the Arctic or mining
7 projects in Bristol Bay or the Kuskokwim River
8 get. But all these villages rely on safe,
9 reliable and efficient transportation.

10 One of the common complaints of
11 the people in communities in western Alaska is
12 the high price of transportation. And the
13 reason is most of them require up to three
14 transfers of product to get to the final
15 destination. You might have to put it on a
16 ship, then transfer it to a barge, and then
17 transfer it to another barge that has the
18 capability to get into the vessel.

19 This picture here is of Newtok
20 which is currently in the process of moving.
21 But this is the navigation channel into
22 Newtok. It is, like many villages, subject to

1 wind and tide. You don't go into Newtok
2 obviously on a low tide. And if the wind's
3 blowing the wrong way, and it often does for
4 several days, you may be in this type of a
5 situation for awhile. So, it adds days and
6 cost to the end user who is the village.

7 Channels and crossings change from
8 year to year. There are many villages that
9 are located on rivers and river deltas that
10 have some obviously unique challenges. These
11 channels literally can change from week to
12 week, year to year, and even storm to storm.

13 This is the channel at Hooper Bay
14 where again the water comes in with the tide
15 and can be wind-assisted or abated by the
16 wind. And you typically bump the whole way in
17 here. It's not a wide channel and it's often
18 restricted by the locals' fishing skiffs. And
19 it takes some special equipment to get in and
20 out of.

21 Like I said that the port
22 facilities in most of these villages are non-

1 existent. We have been working with the Corps
2 of Engineers to try and help and improve some
3 of these sites, at least to give, as I said,
4 deadmen a place to tie off to. You can see on
5 some of the river locations there's at least
6 some trees you can tie off to, but this is
7 river delta tundra and there's just nothing
8 here but the mud to lay in, so.

9 MEMBER DIONNE: So you just wait
10 for the tide to lift your boat up?

11 MR. TAGUE: Yes, basically.

12 MEMBER DIONNE: These are all just
13 naturally formed channels. There's no --

14 MR. TAGUE: Naturally formed, yes.
15 And actually what's kind of unique is these
16 villages used to be somewhat nomadic. They
17 were fishing villages or fishing locations.
18 Some are fish camps. And somewhere in the
19 past somebody decided to put up a building and
20 there sprung a community that needed fuel and
21 goods and services.

22 So, in a lot of these places they

1 were originally located on a cut bank. The
2 cut bank cut into the river, into the village
3 and the village has moved since. Or if you're
4 on the opposite side of the cut bank the water
5 went away from you, you know, and it got
6 harder and harder, and further and further to
7 move the products and keep the vessels further
8 offshore.

9 This is Diomedes and I put this in
10 here. This, looking at the second picture
11 here. There just isn't a port facility and
12 there's really nothing to do but float
13 offshore and run a hose in and hope the swell
14 is not too bad to knock you out of there. And
15 to also show that you really can't see Russia
16 from Diomedes. It's usually foggy.

17 (Laughter.)

18 MR. TAGUE: And here's an example
19 of, again, a village that's located -- this is
20 Gambell where you can't get close enough even
21 with our shallow draft tug and barges. And
22 you have to run a hose offshore to shore, and

1 then approximately 800 feet up to the marine
2 header which is safely tucked away from ice
3 and the hazards that exist in the wintertime.

4 Alaska has a short, intense season
5 that's subject to freeze-up. On the Kuskokwim
6 for example we have about a 150-day season.
7 On the Kobuk River and then the Kotzebue area
8 we typically run about 125 days. And those
9 regions take, you know, up to 3 million
10 gallons of fuel to some of the outlying
11 villages. And if you can only take it 100,000
12 gallons at a time it's quite a few trips. So
13 every trip is vital and every day is vital.
14 And it typically happens every year, a village
15 will not get their fuel because there's not
16 enough water or the planning in getting the
17 fuel to the village was too late for the
18 weather to set in.

19 So this is a transit in Cook
20 Inlet. This can typically happen overnight.
21 You can go from a 40 degree day to wake up and
22 have yourself completely surrounded by ice.

1 And it is, again, not necessarily a
2 hydrographic function but the reasons a lot of
3 these, we end up working late into the season
4 is because we get stuck in places. There's
5 not enough information on the whole Alaska
6 coast to be able to deliver efficiently.

7 There are some villages again that
8 one of the Coast Guard requirements is to
9 report whenever you block a channel. And in
10 some cases the channel's only a boat-width
11 wide or a barge-length wide. And to coin a
12 fishing phrase, this would be getting corked
13 off. You may -- we all try and time ourselves
14 to be at a village at the highest point of the
15 water.

16 For example, White Mountain,
17 there's about two tides in the summer where
18 you can get a barge into White Mountain and
19 you don't want to be second in line because
20 the guy who goes in front of you is going to
21 most likely knock around the channel and upset
22 it a little bit. But the other issue is that

1 he's going to be in there for the whole tide
2 cycle and you're going to miss out.

3 An example of a dock out in
4 Bristol Bay where the dock is above the low
5 water line. And it requires multiple transits
6 in and out in order to get a full barge load
7 off. And the other unique aspect of these is
8 the mud is all slope. So even if you have a
9 barge that's built where it can stay on, you
10 know, and actually ground out safely there's
11 always the potential that the barge can slide
12 down the channel which can get kind of scary
13 for the guys on the barge.

14 And then finally there's some
15 unique locations that require tidal plan
16 transits. Togiak Bay is a good example and
17 Goodnews Bay are examples where it may take
18 you more than one tide to get across the tidal
19 flat. And each time the water goes out your
20 vessel lays aground in the mud.

21 None of these, by the way, are
22 emergencies. This is just a typical day in

1 western Alaska.

2 I took an Alaskan Native cultural
3 awareness training last summer that our
4 company sponsored. And during the
5 presentation, Warren Anderson taught it here
6 at the Alaskan Heritage Center. He talked
7 about hunting and the cultural importance of
8 hunting in western Alaska and just the process
9 of planning these out. And I thought it would
10 be applicable to how we use all our
11 hydrographic and weather data.

12 Basically on almost an hourly
13 basis we're checking weather, satellite
14 information, and we're always appreciative of
15 the new chart information that Matt slides us
16 when they become available to plan our
17 logistics and to try and achieve the biggest
18 economies of scale for each load that we can.
19 And so we use your navigational suite
20 basically on the NOAA site bouncing from
21 Weather to NIMA sites, et cetera, to gather
22 information.

1 This is an example. Right now
2 Bristol Bay has actually, this ice band has
3 kind of moved off a little bit. But we have
4 deliveries currently in Nelson Lagoon, Port
5 Moller and Port Heiden. And each of these
6 were affected by the ice that came down,
7 packed in onshore and each of these locations
8 required their fuel for -- in Nelson Lagoon it
9 was for hunting. That's their economy. They
10 needed their fuel by May 10th and we were able
11 to get there May 21st. Port Heiden has a
12 large project going on. I believe they're
13 cleaning up contaminated dirt there. And they
14 were projected to start their projects April
15 25th and were iced out until just yesterday.
16 So it can have a huge impact on the planning
17 obviously when companies are investing large
18 amounts of money into the projects out there.

19 Commonly used tools. Again for
20 the hydrographic guys this is -- the Coast
21 Pilot contains a lot of information on these
22 ports, but what we do know is a lot of it is

1 passed from boat to boat. Information is
2 passed boat to boat and not necessarily
3 through a documented means like a Coast Pilot.
4 And to give Matt credit he showed up at a
5 captains meeting and sat through all of my
6 spiel to my vessel crews, but to interview our
7 captains and talk to them about relaying
8 information and advising them on what tools he
9 has in his websites.

10 This is Port Clarence and this was
11 actually pretty timely for us. We bring
12 tankers into Port Clarence, typically as
13 Crowley, and lighter them. This information -
14 - and most of the charts in western Alaska,
15 the majority of them are no larger than 1 to
16 50,000 on a scale. So by no means pilotage
17 charts. And even in this case bringing --
18 having an Alaska Marine pilot onboard to
19 doesn't do you a whole lot of good. We bring
20 them out, we board them on the ship and he
21 asks us where should I go, you know. So those
22 types of things.

1 We do know where to go, I'm not
2 trying to scare you, but we use this type of
3 information to pinpoint deep draft anchorages
4 where we can conduct our operations safely.

5 And obviously the guys on the
6 vessels, you know, right now the realtime
7 stuff they get is weather faxes and NAVTEX
8 forecasts. And you know, unless you're a
9 trained meteorologist a lot of this stuff
10 isn't, you know, it's not real useful to you.
11 And you know, I have to admit there are
12 probably a lot of mariners sailing out west
13 that have no idea what these things mean
14 except that that's a big storm and a really
15 big storm.

16 (Laughter.)

17 MR. TAGUE: And I'm going to
18 anchor, you know.

19 But some of the things that we've
20 been made aware of are your LiDAR hydrographic
21 surveys. In the Kuskokwim River that sounds
22 very promising. Each year -- and by the way

1 the pilots for the Kuskokwim River no longer
2 exist. The last one, Ron Sumstad, retired
3 last year.

4 And there isn't an official pilot
5 for the Kuskokwim River, yet Bethel is
6 probably the largest hub in western Alaska and
7 relies on basic passing of knowledge back and
8 forth between tugs and barges that have gone
9 through and what the latest makeup of the
10 channel is. The Kuskokwim River also is
11 fickle in that which way the wind blows and
12 how much the rain the river has gotten all
13 make a difference in what you can bring in
14 over the river crossings there.

15 And you know, we've heard
16 promising tales of realtime data being, you
17 know, water datum that our mariners could be
18 made aware of. And it would be just as useful
19 and probably more useful than weather charts
20 and NAVTEXs.

21 I think that's the end of my
22 presentation there. So I thank you very much

1 and I'll look forward to questions.

2 (Applause.)

3 CHAIR WELLSLAGER: Thanks, Walt.

4 Due to time constraints I think we'll actually
5 honor some questions afterwards. It sounds
6 like it's creative engineering with the tug
7 driving in your neck of the woods. I'm
8 surprised some haven't been stuck in the silt
9 and weren't able to lift off when the tides
10 came in and have to suffer through some of
11 that.

12 Our next speaker is Mark Smith
13 with Vitus Marine.

14 MR. SMITH: The name is after
15 Vitus Bering.

16 CHAIR WELLSLAGER: Okay.

17 MR. SMITH: That's anglicized. He
18 was Danish and the proper pronunciation is
19 Vitus.

20 CHAIR WELLSLAGER: Vitus.

21 MR. SMITH: However, because we
22 are here in America we call it Vitus Marine.

1 I appreciate the invitation to be here. I'm
2 sure that this audience is by far the most
3 August one I have ever addressed so I thank
4 you. You're a milestone in my life.

5 (Laughter.)

6 MR. SMITH: My previous experience
7 was in the little village of Aleknagik, Alaska
8 where I grew up and lived. I was able to
9 deliver the eighth grade commencement address.

10 (Laughter.)

11 MR. SMITH: Lucky for me the
12 principal found one that was already written
13 and so I just had to read it a few times and
14 then try to read it steadily during the event.

15 Up here on the screen is a picture
16 of one of our two vessels that we're going to
17 be transiting western Alaska waters with. So
18 our zone of operation is infrequently in the
19 Aleutians, but mainly in the other areas of
20 western Alaska.

21 More brief history on myself. I'm
22 a third generation tug and barge person of a

1 company that was based in Bristol Bay. I was
2 a commercial fishing captain at age 19 in 1980
3 and since then I have only missed the Bristol
4 Bay salmon season four times since my mother
5 took me setnetting in 1963. So I have a very
6 long history with the NOAA Chart I think
7 16322, Bristol -- Nushagak Bay and its
8 approaches.

9 So that's where I spent my
10 commercial fishing activity and then outside
11 of that 30 days of critical salmon fishing I
12 was able to wile away the hours with tug and
13 barge work. So the typical tug and barge
14 season for us started in May and ended in
15 October.

16 I have to say that I'm in love
17 with Google Earth. It's a fantastic tool that
18 I have just used probably more than any other
19 application other than Microsoft Outlook.

20 So, I got a few shots here just to
21 give you the operating environment and I guess
22 that's my presentation is similar to Walt's.

1 We just happen to be the same couple of
2 western Alaska guys here next to each other.
3 But a little different perspective, but
4 basically reinforcing the same thing, where we
5 operate.

6 So, large picture, coming into,
7 closer into Bristol Bay as I get closer and
8 closer to my home town. Same issues that were
9 also mentioned. Tidal influence is rarely by
10 the book. So you have a few datums that have
11 been set up historically for the better part
12 of a century, and then everything is sort of
13 leveraged off these particular points. But
14 not a lot of technical expertise was really
15 laid into these. This is very old technology
16 that exists out there. So it's basically
17 local knowledge of the captains and the
18 organizations there so that you can try to go
19 in and enter a location and figure out what
20 the actual tidal correction is.

21 So actually this morning -- I'll
22 try to use the laser here. We're up in

1 Goodnews Bay here actually this morning
2 waiting to get out. And so I was up talking
3 to the captain just after I got into work and
4 asked him what the, you know, when he was
5 planning on leaving. And he was saying well,
6 I'm just kind of adjusting what the tide book
7 says to what actually I'm observing here in
8 Goodnews Bay and I hope to be off by about
9 1:30 this afternoon. So that's the data that
10 we deal with.

11 So you've certainly seen the
12 unimproved beach landings that Walt showed
13 you. And one of the other issues about this
14 operating environment is the Coast Guard is --
15 doesn't have a great presence here. Dutch
16 Harbor has a lot of folks working out of
17 there. Coast Guard has a great presence
18 there. After my experience this fall I found
19 the Coast Guard to be a useful partner when
20 you're trying to get things done. So one of
21 the things that we're looking forward to is
22 having a larger Coast Guard presence here in

1 the future.

2 Getting in a little closer to the
3 Nushagak Bay chart area which again I'm
4 delighted to know that NOAA is doing some of
5 the basic work this summer to update this
6 chart that hasn't seen any major revisions
7 since I believe the fifties.

8 And you can start to see from this
9 Google Earth picture just the areas here into
10 the river entrances have a lot of gray shading
11 around it. So these are two rivers that we
12 transit very regularly. This is the Kvichak
13 River and this is the Naknek River. This is
14 the Nushagak River, this is the Wood River,
15 this is the Snake River, this is the Weary
16 River, this is the Igushik River. And these
17 are all little rivers that we deliver the
18 basic goods and services to. And so we have
19 marine traffic there that has the 6-month
20 operating season to take care of.

21 Zooming in a little closer to the
22 Igushik River and Weary River, highlighting

1 this area. The Manokotak is the village we
2 serve there, about 450 folk. And even though
3 as the crow flies it's only about 22 miles to
4 the village there's actually 55 miles of river
5 that you go through.

6 And when you get to Manokotak you
7 have from bank to bank about 235 feet across.
8 And so when you go in with a 180-foot barge
9 and you have a tug strapped onto the back of
10 it you really have to literally sometimes, you
11 know, pull your tug off, get on the hip or on
12 the bow of the tug and push out backwards down
13 the river to find a place where you can turn
14 around so you can head out in a conventional
15 manner. And this is, again, not a
16 particularly unusual circumstance for us.

17 I'm sure a lot of the nautical
18 folks have heard the old maxim that it's not
19 the ocean that's dangerous, it's the hard
20 parts around the edges. And that's truly what
21 we experience in Alaska. And I was able to
22 vent just yesterday a little bit to Mr. Lowell

1 that we really don't care where the
2 Fairweather goes because wherever the
3 Fairweather goes we don't have any concerns.
4 It's really that area that's less than 12 feet
5 of draft that we're truly concerned about
6 because our operations happen in the zone of
7 about 3 and a half feet to 8 feet.

8 So for the small barges that serve
9 Alaska's coastal villages we really operate in
10 that zone. I don't think that any of the
11 Crowley or Delta or Vitus equipment that
12 typically serves the village has a load line
13 that's over 9 feet.

14 Just to give you a perspective
15 here, a little dark on the screen but there's
16 a little red square here around what we call -
17 - well, the Fish and Game calls the Wood River
18 Special Harvest District. So again, this is
19 part of the chart, NOAA chart there for
20 Nugashak and its entrances. Here's
21 Dillingham. Here's the Wood River.

22 Between the Wood River and the

1 Nushagak River there is between 2 and 4
2 million salmon go up every year during the
3 famous Bristol Bay salmon season. There's a
4 4-mile stretch of river here called the Wood
5 River Special Harvest District. This year
6 it's going to be used because more salmon need
7 to get up the Nushagak. Wood River's had
8 success. So they're going to put all of the
9 fishermen in this little stretch of river here
10 4 miles long. You can see just some of the
11 issues.

12 You're going to have over 300
13 vessels, 225 and 150 feet of gillnet behind a
14 typical vessel. And you have setnet skiffs
15 that are also running around, you have
16 tenders, you have supply vessels and you have
17 other things servicing this very small area
18 that has, again, virtually no data with it.

19 Also up at the end Walt and I have
20 both had experience in transiting the very
21 rocky upper end of that river. We'd also love
22 to have some of those hazards identified.

1 The aids to navigation in western
2 Alaska are virtually nonexistent. Back in my
3 family history my grandfather, dads and uncles
4 basically, the aids to navigation were to find
5 particular transit across the river and to, in
6 the wintertime when the snow was high, go
7 knock the branches off spruce trees and nail
8 white signs so that you could make a transit
9 line between the slots. So that is still some
10 of the best aids to navigation in the area are
11 things that were put up 50 years ago.

12 This is a photograph as I'm
13 leaving Dillingham with the local aircraft
14 after fishing. This just gives you a visual
15 of that 4-mile area river where you will have
16 up to, you know, 400 vessels occupying that
17 with a majority of several hundred feet of
18 gillnet hanging off behind them so it's a very
19 exciting area. And of course having good
20 navigation charts and good water depth data
21 would be a great asset.

22 I appreciate the invitation by

1 Matt Forney to come here. He said that some
2 folks would be interested. The trip to Nome
3 this winter, very exciting on any number of
4 levels. Unprecedented and truly I think a
5 great positive story about what we can do in
6 the maritime industry. And just to let you
7 know, we enjoyed a wonderful amount of
8 national attention with this story and that
9 national attention just literally stopped cold
10 when the Concordia went aground. So that
11 actually happened while we were in Nome. So
12 tragedy, you know, does trump a positive story
13 every time. And this was just another
14 evidence of that.

15 So, to quickly run through. This
16 is a pirated presentation from some of my
17 staff that gave this earlier. But you know,
18 basically when the final barge missed its
19 regular delivery there was some real trouble.
20 And there's just no conventional way of
21 getting fuel through the ice in U.S. domestic
22 waters.

1 What we knew that a lot of folks
2 didn't know was that the Renda had gone
3 through a modification in 2010 that made it a
4 double -- an official double-hulled vessel and
5 it was also an ice class A1 Super so it was
6 some of the highest ice class capability out
7 there. And it was home-ported in Vladivostok.

8 So again, a gentleman by the name
9 of Mikhail Shestakov had worked for Aleut
10 Enterprises and had had overseen about 30
11 trips into U.S. waters I believe with the
12 Renda, so very familiar with the vessel and
13 its owners.

14 So by early December we had kind
15 of polled the stakeholders to see if they
16 thought this was possible. Nobody really put
17 up a flag and said no, it can't be done.
18 Everybody said well, you know, if the Coast
19 Guard is on board we'll try it, and ADEC said
20 well, if you can amend your plan we think we
21 can do it. And so based with at least tepid
22 support we chartered the tanker and started

1 the drama.

2 The biggest challenge in doing
3 this was actually not the navigation as much
4 as it was just putting the financing together
5 and finding the right product. When you're
6 taking gasoline to the Arctic you have to
7 achieve a specification that's appropriate.
8 We finally found that specification in Japan
9 that would be appropriate for the northern
10 latitudes.

11 When we got there and the tanker
12 was ready to do a transfer we had a huge
13 unprecedented storm that actually sank I think
14 a Russian fishing boat up there in the Far
15 East. And basically the conditions weren't
16 appropriate for lightering. Coast Guard was
17 on hold. It basically said don't wait for
18 weather in Japan, head for Dutch Harbor and
19 let's see if we can get a Jones Act waiver and
20 get gasoline on you in Dutch Harbor which is
21 a whole `nother story that could take up 20
22 minutes.

1 So here's a picture of the planned
2 route basically from Vladivostok where the
3 vessel was home-ported. We were looking at
4 going to Ulsan and Yeosu. We were thinking
5 about going up around and getting our gasoline
6 here.

7 It didn't work out so we actually
8 came back, came over here close to Japan, had
9 the big storm, so we went off and then this
10 was our route. Instead of going straight to
11 St. Lawrence Island as we had originally
12 planned with our gasoline we actually diverted
13 to Dutch Harbor, met up with the Healy and
14 then virtually headed straight north towards
15 Nome.

16 I think the critical factor in the
17 success of this mission was unquestionably the
18 Coast Guard. The Russian owners thought the
19 ship would be able to make it to Nome
20 unassisted. In retrospect I don't think that
21 had any chance of happening because it just
22 happened to be that December we had

1 unprecedented cold. And it seemed the north
2 wind blew and we had sub-zero temperatures and
3 the ice formed extremely quickly through the
4 Christmas break. And by New Year's the ice
5 footprint I think had about tripled.

6 Just a brief, there was a lot of
7 discussion about whether or not the trip was
8 necessary. The answer is no, it wasn't
9 necessary, but the alternative would be to fly
10 in fuel. And when it all came down and
11 looking at the economics it turned out that
12 the Renda's resupply was probably about half
13 the cost of flying the fuel in via aircraft.

14 Biggest challenge. The biggest
15 challenge by far I think for us was just
16 putting in the prevention aspects and trying
17 to get the stakeholders to a level of
18 confidence that we could pull this effort off
19 without incident. And there was a great
20 number of people who dedicated about an hour
21 every day with a 9:30 conference call that
22 started around mid-December and actually went

1 for about 45 days. And I'm sure there were
2 some days where we had 100 people on that
3 conference call. So it was just a tremendous
4 level of effort to get all the stakeholders
5 involved with the operation.

6 Some of the physical challenges
7 though when we actually got the Healy and the
8 Renda together were the expectations of both
9 on what, you know, what the Coast Guard
10 thought appropriate escort procedures were and
11 what the Russian captain thought appropriate
12 escort procedures were. So that was probably
13 the biggest challenge in actually getting the
14 vessel physically to Nome.

15 The Russian tanker wanted to be
16 right on the tail of the Healy and you know,
17 they would be perfectly happy 100 feet off the
18 stern traveling at 8 knots. And the Healy did
19 not want the Renda anywhere close to their
20 stern. And basically they wanted one-tenth of
21 a nautical mile for each knot of forward
22 speed. And so that was basically the paradigm

1 that they went forward.

2 Unfortunately that left the Renda
3 so far behind that the ice lead would come
4 together and essentially just put the brakes
5 on. And so it was constantly beset in the ice
6 and required a lot of relief work. So that's
7 one of the reasons why it took, you know, the
8 better part of a week each direction going
9 through 300 or so miles of ice on the way to
10 Nome and about 400 miles on the way out.

11 Coast Guard took some great
12 imagery, had flyovers to do some ice
13 reconnaissance and other support work so we're
14 sharing some of this. This is from the bridge
15 of the Renda. This is some of the ice when
16 they were beset. When you get pressure in the
17 ice and the wind and the currents came
18 sideways it would basically just squeeze the
19 boat and the ice would crawl up the side. And
20 here's a little bit of video if I can get it
21 to play. I'm not sure it's showing up.
22 Kathy, do you have any advice? There we go.

1 Yes, just click on it.

2 Taken with a cell phone from the
3 bridge. It's not terribly dramatic but they
4 said the accompanying noise and vibration of
5 the vessel as they're squeezed by the ice had
6 a profoundly chilling effect on those folks
7 that had never made that type of voyage before
8 just felt they would be crushed.

9 This is a typical block of ice off
10 the Nome Harbor. It's probably about 42
11 inches of ice there. And this just shows some
12 of what the Healy and Renda went through to
13 make it ashore. Folks from ADEC were out
14 surveying areas where we thought would be the
15 most appropriate place for the Renda to come
16 to rest after it reached Nome. So a lot of
17 pre-arrival survey was done. And you can ask
18 Commander Houck in the back about some of
19 that. He was the one that went out and did
20 some of the initial recon.

21 Some of the tools that were used.
22 NOAA played a very key role in the trip with

1 providing all of the ice and current and other
2 information they could and consolidated a lot
3 of data for. And I think in an unprecedented
4 move to my knowledge actually set up a special
5 website that was just for the Renda. And so
6 the NOAA folks did an awesome job of putting
7 together all of this data in one place that
8 had ice, weather current and other information
9 on it. So there was always good access for
10 those of us on the shore and for those in the
11 vessels to have access.

12 A little over a half mile of hose
13 was utilized to get from the vessel to the
14 header. In deciding where the vessel stopped
15 the Coast Guard did not want the Renda to get
16 any closer to the beach than the Healy could
17 safely transit next to it because they wanted
18 to be able to make relief cuts to get the
19 Renda out once she had been done delivering.
20 So there was a lot of work that was done
21 looking at all the data that exists off the
22 end of the Nome breakwater to ensure that

1 where the Renda came to rest that the Healy
2 would be able to do relief cuts on both sides
3 of it to get out.

4 Just a few more pictures there.
5 Twin hoses were used to try to speed up the
6 pumping time so we were able to pump in one
7 case two products simultaneously and when the
8 gasoline was delivered have two lines running
9 diesel. A picture of the Healy frame there at
10 Nome.

11 So the arrival was on the 14th.
12 It took several days to get set up, get
13 everybody's comfort level. Actual pumping
14 time was about 40 hours. And on the morning
15 of the 21st after several -- after the
16 previous day of basically relief cuts by the
17 Healy, the Renda was unable to really get
18 started. Overnight we had a 40-knot north
19 wind blowing directly offshore from Nome and
20 essentially we all woke up to daylight, or
21 when the daylight came essentially that 5
22 miles of shorefast ice was drifting its way

1 out and the Renda and the Healy were able to
2 depart in an open lead.

3 The southbound journey. Because
4 of the -- basically every day of the operation
5 up there was sub-zero temperatures and I think
6 the lowest that I saw was -31. And we had
7 winds that were gusting up to 40 miles an hour
8 occasionally during the exercise. So
9 essentially the deep freeze was put on super
10 cold and it just blew ice down into the Bering
11 Sea. So there was a significant amount more
12 of ice going south than there was. And with
13 the Renda being light it was even harder to
14 get through the ice and on some days the only
15 progress made was actually just the wind and
16 the currents pushing the Healy and the Renda
17 south.

18 Just a few of the folks that we
19 have to thank here. There's just a
20 tremendous, again, a lot of folks put a lot of
21 calories into making this work and of course
22 we're very appreciative because everyone

1 played quite a critical role.

2 And just have -- with great
3 appreciation to the Coast Guard Chief Scott
4 who was put on the Renda for the transit
5 south. He took a little bit of video here and
6 I guess it's having a hard time loading up,
7 but I thought I'd give you just 1 minute to
8 time-lapse photography to show you what the
9 actual process looked like.

10 So, they have a little comfort
11 behind them and the Healy allowed them to get
12 a little closer than they might just to make
13 some progress. This is the 25th so they're
14 probably 100 or 150 miles south of Nome. So
15 essentially the --

16 (Laughter.)

17 MR. SMITH: Okay. And the recipe
18 for success here is repeat as necessary, and
19 it got repeated a lot. So that is the story
20 and I'd be delighted to answer questions
21 later. Thank you.

22 (Applause.)

1 CHAIR WELLSLAGER: Thank you very
2 much, that's very interesting. Okay, our next
3 and final speaker is Captain Dana Jensen with
4 the Alaska Marine Highway System.

5 CAPT. JENSEN: Good morning. It's
6 my honor to represent Alaska Marine Highways.
7 I'll give you a little outline or brief of
8 what we're about and then I have some
9 recommendations that came from people in our
10 fleet for some areas that could use a little
11 improvement for the mariners in Alaska.

12 Alaska Marine Highways has been in
13 existence since 1963. As our name implies we
14 are the highway where there isn't one. We get
15 vehicles and people from road heads to various
16 communities around coastal Alaska. We're a
17 division of the Department of Transportation
18 in the state of Alaska.

19 We operate from Bellingham,
20 Washington along the coast of British Columbia
21 out along the coast of Alaska out as far west
22 as the eastern Aleutians and Dutch Harbor. We

1 operate out of 35 different ports from, again,
2 from Bellingham. We also touch Prince Rupert,
3 British Columbia and 33 ports in Alaska.

4 We operate -- if you went from
5 port to port to port by the shortest means
6 possible our route would be 3,248 nautical
7 miles. If you traveled all of our routes it
8 would actually be tremendously more than that
9 because many of our vessels and routes
10 overlap. But a minimum to get from one end of
11 our system to the other would be three
12 thousand and almost 250 nautical miles.

13 Of the 33 ports we service in
14 Alaska 15 are manned and have AMHS terminal
15 staff. Seventeen of the ports we frequent
16 have no staff, no shoreside support at all.
17 In the last year we've added two new ports to
18 our system, both of them near Kodiak. We've
19 added Ouzinkie which is about 15 miles
20 northwest of the city of Kodiak on Spruce
21 Island and we've added Old Harbor which is
22 about 80 to 100 miles southwest of the city of

1 Kodiak on Kodiak Island.

2 We operate a fleet of 11 ferries.
3 The original three in our fleet were the
4 Matanuska, Malaspina and Taku. They operate
5 in our southeast system connecting the cities
6 and towns in southeast Alaska and the
7 Alexander Archipelago to the mainland and road
8 heads out.

9 The Tustumena was built a year
10 later in 1964 and she's serviced from the
11 Kenai Peninsula out to Kodiak and seasonally
12 goes out the Alaska Peninsula and the eastern
13 Aleutian Islands. She's also serviced Prince
14 William Sound.

15 In the nineteen seventies we added
16 three more ships to our fleet, the LeConte
17 which operates out of Juneau and services the
18 smaller communities surrounding the Juneau
19 area in North Lynn Canal, the Columbia which
20 is our flagship of the fleet. She's 418 feet
21 long, primarily operates from Bellingham to
22 Skagway servicing the southeast communities

1 and getting them connected to the lower 48.
2 And the Aurora which services Prince William
3 Sound.

4 In 1998 we added our -- added the
5 Kennicott. She's our largest oceangoing and
6 she connects the southeast and the southwest
7 systems with her cross-Gulf transits from
8 Juneau up to Prince William Sound and then
9 continues out to Kodiak, Homer and Seldovia.

10 In 2004 and 2005 we added the fast
11 ferries, the Fairweather and the Chenega.
12 They're each 235 feet long. The Fairweather
13 operates also out of Juneau connecting
14 primarily Juneau with Sikta and Petersburg
15 with faster service than the rest of our
16 fleet.

17 And the Chenega works out of
18 Prince William Sound home-ported in Cordova
19 and provides the communities in Prince William
20 Sound a means of getting to and from road
21 heads. And the Lituya, the smallest of our
22 fleet at 181 feet was built in 2004 and

1 connects Ketchikan to Metlakatla. And that's
2 the shortest one we have of about 15 models.

3 Over the last 30 years we've moved
4 on average about 350,000 people per year and
5 in the neighborhood of 100,000 vehicles per
6 year. When I say "vehicles" that's a loose
7 term. That's anything from a small sedan to
8 a large tractor-trailer, large motor homes and
9 construction equipment.

10 In southeast the banner years as
11 far as moving people for us were in the early
12 nineties. It's dropped off some in Southeast
13 primarily although it's been growing in
14 Southwest pretty steadily. In Southeast we
15 bottomed out more or less on passenger counts
16 around 2005 and have been increasing again
17 since 2005 for vehicles. We've been pretty
18 consistent and that also though has been
19 growing since 2005. And 2011 was actually a
20 banner year for us. We moved the most
21 vehicles we had ever moved at 114,100
22 vehicles.

1 When I first came to Alaska in
2 1974 and like Captain Page I was a member of
3 the Coast Guard at the time sailing out of
4 Kodiak, the equipment we used to navigate and
5 the survey techniques were quite, quite old
6 compared to what we have now.

7 The state of the art equipment
8 that I had to use all too often was the LORAN-
9 A unit. I also had LORAN-C. The charts
10 didn't even have the lines plotted on them up
11 here so to get a fix laid on the chart would
12 take 15 to 30 minutes and then it was of
13 questionable accuracy but you had to go
14 through a worksheet. Well, you had to go
15 through five steps just to get a TD, a single
16 TD and then you had to go do a worksheet with
17 the TD, go through a bookcase full of tables
18 to come up with a means of laying that TD or
19 line of position on the chart.

20 Many of the charts back then
21 operated, in fact all the charts I remember
22 around Kodiak had a warning on them, and I'm

1 paraphrasing here but it basically said that
2 soundings may vary by as much as 50 feet due
3 to the '64 earthquake. Well, I was sailing
4 around '74, '75 and '76 and virtually all the
5 charts said that. So, the assumption is there
6 wasn't any surveys between '64 and up to that
7 time. Of course that's improved tremendously
8 in current years.

9 Overall AMHS is very happy with
10 the support we get through Hydrographic
11 Services and NOAA. We build our schedules
12 based on the Tides & Currents. We don't start
13 a schedule before we go thoroughly through
14 those. We travel a lot of waterways we can't
15 get through under certain tide conditions or
16 current conditions.

17 There's a number of waterways we
18 do operate and things, like I said, are much
19 better. We use both electronic charts and the
20 paper charts and the navigation systems
21 greatly exceed what they did back in the
22 seventies.

1 A couple of areas of concern I
2 wanted to bring up to the panel and point out
3 that we think could use some improvement.
4 This is Tongass Narrows. This is Ketchikan.
5 Our terminal is right here next to Alaska Ship
6 and Drydock and just to the south of us is
7 Boyer Barge. It's the largest tug and barge
8 facility in town, and then the largest small
9 boat harbor there is at Bar Harbor.

10 The tide prediction stations and
11 current stations in Tongass Narrows are north
12 and south of this narrow section across from
13 the airport. The velocities in the wider
14 sections of the Narrows are substantially less
15 than what we are actually encountering in the
16 vicinity of our terminal and we believe that
17 it would be of value to have a tidal station
18 or current station in the Narrows where so
19 much activity in town is going on and where
20 virtually everything transiting north to south
21 goes through. We would say we probably get up
22 to 4 knots of current going through there at

1 times, yet the predictions are rarely over 1
2 and a quarter knots.

3 Another area that we think could
4 have improved metering for current would be in
5 the vicinity of Wrangell. The station that is
6 noted for Wrangell is about a mile and a half
7 west of the town. The currents experienced
8 near town, near the port appear to be stronger
9 than what's predicted in the published tables
10 and all of our vessels that have experienced
11 some very heavy set onto the pier landing in
12 Wrangell.

13 This is a shot of Port Lions/Port
14 Wakefield. This is on Kodiak Island about 30
15 miles west of the town of Kodiak. We have
16 service going in there with the Tustumena,
17 nearly a 300-foot vessel, multiple times a
18 week. As you can see the scale of the chart
19 is less than ideal for navigating in and out
20 of the harbor. Basically we moor on top of
21 the buoy right there. So we would like to see
22 an inset developed of Port Lions if possible,

1 a larger scale inset available on Chart 16594.

2 Another place we would like to see
3 an improved inset would be False Pass. False
4 Pass, the chart appears to be accurate, but
5 again, it's at a scale when you're maneuvering
6 into the dock that is less than ideal and
7 believe that with the challenges of getting in
8 and out of False Pass due to weather and
9 current a more detailed chart would serve not
10 only Marine Highways but the other mariners in
11 the area.

12 The Coast Pilot isn't quite up to
13 date. There are some things that's happened
14 in False Pass that haven't -- that appear on
15 the chart but haven't been updated in the
16 Coast Pilot.

17 Another area that we think could
18 use extensive update on survey and an inset or
19 a better scale inset of the harbor is Akutan.
20 In the harbor of Akutan, the cannery wharf and
21 the city wharf have been there for decades but
22 neither is plotted on the chart. In 2008

1 there was extensive coastline change when a
2 lot of fill was pushed out into the water.
3 And currently there's a large boat harbor
4 being constructed in the west end. So I think
5 this area would warrant survey and a better
6 inset into the chart.

7 The last area that I wanted to
8 bring up of our concern was Olga and Neva
9 Straits. These two waterways are in southeast
10 Alaska north of Sitka. They're the waterways
11 that traffic coming in and out of Sitka
12 primarily use.

13 The charts are adequate there but
14 we've noticed a lot of beach erosion and
15 slides in those two channels. And the
16 coastline in those two areas has changed
17 somewhat over the years and we think that the
18 underwater has probably changed as well.

19 Anyway, that's really all I had to
20 bring to the meeting this morning. And I'll
21 be available for questions. Thank you.

22 (Applause.)

1 CHAIR WELLSLAGER: Thank you very
2 much. I'd like to thank all the panel members
3 for some very interesting and thought-
4 provoking presentations. My hat's off to the
5 tug drivers. I can't imagine going through
6 some of that stuff and the ferries as well.

7 But we've got time for some
8 questions. And Frank, I know you had one to
9 start.

10 MEMBER KUDRNA: I did. This is
11 for Steve Boardman. We've been discussing in
12 one of our working groups cost-sharing and
13 Holly earlier described how far behind we are
14 in revising the charts. The Corps has cost-
15 sharing relationships with local sponsors that
16 you talk about, these new projects and new
17 ports and port expansion.

18 I guess my question is would it
19 make sense to have a three-party agreement
20 instead of a two-party agreement between the
21 Corps, NOAA and the local sponsors so that the
22 necessary charting both for design and for

1 operation of a constructed facility would be
2 available?

3 MR. BOARDMAN: The idea is
4 intriguing. We haven't had those serious
5 dialogues. Certainly when we're dealing with
6 the development of a marine infrastructure
7 we've been looking at the near shore and
8 haven't necessarily focused our attentions.

9 The cost-sharing is an interesting
10 one because part of it in my mind right now is
11 how does the whole project fit together and
12 all the pieces, and whether that throws any of
13 the cost-benefit out. And I don't think it
14 should, but I think it's an intriguing idea
15 that we have not yet had a serious
16 conversation with NOAA and others of how to
17 put together a package.

18 Several harbors that the Marine
19 Highway just described are the ones that the
20 Corps has built recently. I look at those
21 charts and, wait a minute, the Heritage Harbor
22 down in Wrangell is not on the chart, Akutan's

1 under construction, False Pass, and they're
2 not there yet. And as we build those and open
3 up the door to users how comfortable are they
4 of coming in there if they don't know what the
5 conditions are outside the harbor? So it's an
6 intriguing question and I'll engage Matt and
7 others in that for future actions.

8 CHAIR WELLSLAGER: Okay. Dr.
9 Jeffress?

10 MEMBER JEFFRESS: This is a
11 question for Steve too. Steve, at least on
12 big projects that you've put up on your slides
13 do you have your own tide gauges associated
14 with these projects?

15 MR. BOARDMAN: We do put tide
16 gauges, but we work with NOAA as much as
17 possible to see because we've got to validate
18 them. So in certain cases, yes, we put our
19 own out and it's trying to then tie them into
20 adjacent data marks.

21 MEMBER JEFFRESS: On that subject
22 are they designed to NOAA specifications and

1 are they then permanently located and part of
2 the national water level system?

3 MR. BOARDMAN: My answer would be
4 is they are not permanently there and they are
5 not tied into the system. They're usually
6 tied for the purpose of the project. I'll
7 have to defer to Matt on whether we've been
8 leaving them there or working on it from a
9 permanent aspect. But during the course of
10 the project more often than not. Anne? This
11 is Anne Dollard from our operations and
12 navigation organization.

13 MS. DOLLARD: As part of the ARRA
14 money in the CEPD program and agreement with
15 NOAA we've been updating all of our datums to
16 NOAA's standards.

17 MR. BOARDMAN: What she's
18 referring to is the datums that we're using
19 for existing harbors. Some of the questions
20 you're asking as we develop a new harbor it
21 may be a long ways away from existing datum.
22 So it's creating new datum.

1 MEMBER JEFFRESS: Okay, can I just
2 finish this off? In Texas we have a really
3 sophisticated tide gauge network which is
4 funded by local government, the state of Texas
5 and the Corps of Engineers in cooperation with
6 NOAA. And it's an ideal system where all
7 those entities pay a part of the cost but they
8 all get the benefit of the entire network and
9 it's all to NOAA's standards. I just put that
10 forward as an ideal model to follow.

11 MR. BOARDMAN: I appreciate the
12 idea and I think that's something for us to
13 discuss. It's interesting, as you get down in
14 the area that I'm looking at, Arctic, these
15 small communities, cost-sharing is quite a
16 challenge. That's why the state of Alaska is
17 engaging more often than not because small
18 communities do not have the tax base to cost-
19 share. It'll be something that'll have to be
20 discussed on how they can financially
21 participate.

22 But you're absolutely right, they

1 will benefit by it. And whether it's a
2 sliding scale based on their ability to pay.
3 I'd be intrigued and interested in knowing how
4 they set it up for Texas. You're working
5 mainly with Galveston District or? Okay. I
6 might knock on their door and see because that
7 would be an appropriate -- of course the other
8 members of ADOT as well to see how they would
9 work.

10 CHAIR WELLSLAGER: Lawson?

11 MEMBER BRIGHAM: A question for
12 Captain Page. Could you comment about -- I
13 think there's some notion that satellite
14 coverage in all of this with AIS data and how
15 your system which is land-based kind of
16 relates to satellite information or the use of
17 satellite information in this new AIS arena.

18 CAPT. PAGE: The satellite
19 information is great strategic information
20 because it provides a very good overview of
21 traffic all over the Pacific and what have
22 you. But the granularity of the data and the

1 frequency of the data is many times 8 hours
2 gaps.

3 And so when you really want to get
4 into the detail of what the routes they took,
5 we'll look at our screen in AIS. We'll see a
6 vessel that's north of Unimak Pass. We'll
7 look at the satellite imagery and it's south
8 of Unimak Pass, 150 miles away. So that
9 doesn't help you for search and rescue,
10 doesn't help you for tactical type decisions
11 but the information is good as far as looking
12 strategically. What are the routes, the
13 patterns of where vessels are going.

14 So it's a valuable tool but -- and
15 it's also, the other satellite information
16 like vessel monitoring systems or LRIT also
17 provide different ways of providing reports.
18 And also again it's hours versus seconds. AIS
19 really gives it every 6 seconds. There's an
20 updated position report. A satellite will
21 give it probably every couple of hours. So it
22 is information used in the big picture but it

1 doesn't give you the granularity, the detail
2 you need for some decision-making. In other
3 decision-making it's very valuable.

4 CHAIR WELLSLAGER: Joyce?

5 MEMBER MILLER: Yes, this is for
6 Captain Page too. You said that everybody has
7 to pay for your services. Can you just sort
8 of briefly describe your relationship with
9 NOAA? I mean because NOAA would be
10 contributing data as well as being a consumer.

11 CAPT. PAGE: Right. Basically the
12 Coast Guard is one of our biggest customers
13 and pays in the system. When they pay in the
14 system they've also said please make -- the
15 conditions are that we can share with other
16 agencies. So, basically federal agencies. So
17 they share that information with DoD and NOAA.
18 The only caveat is they can't turn around and
19 put that publicly available on the internet
20 because then I'd lose all the shipping
21 companies who'd say we don't need to support
22 you anymore, or other agencies or State,

1 whatever. I no longer have a revenue stream
2 and then a couple of months later the thing
3 shuts down again because you don't have the
4 revenues to keep it operational.

5 So the Coast Guard actually right
6 now is contributing to the operation of 65 of
7 the 90 sites. They decided to pay into
8 supporting 65 sites of the 90 that we have
9 right now.

10 The state of Alaska has provided
11 us grants the last several years. The
12 government and the lieutenant governor have
13 been very supportive and the legislature.
14 Guys like Representative Joule and others have
15 been supportive. So they've given us capital
16 grants over the last several years to help
17 build the system but we don't have operating
18 funds.

19 So we go to the Coast Guard and
20 the maritime industry to get the operating
21 funds and we go to the state to help build it
22 out. And we've also had, you know, the

1 fortune of having NGOs on occasion contribute
2 some money to build a site. Like Oceana said
3 can we build something in the Pribilof
4 Islands. So they give us some money to build
5 it and we turn around and find money to pay
6 for the operating cost.

7 So it's kind of a very hybrid,
8 convoluted, complicated system but basically
9 we're going to be able to amortize costs by
10 sharing it with those people who are
11 benefitting from the information. Normally it
12 would be a case where the Coast Guard has the
13 whole burden to pay for the whole system and
14 everybody else would take off of that. But
15 the Coast Guard hasn't had the funding to
16 build an entire system.

17 And normally the Coast Guard, when
18 you look at a Vessel Traffic Service to AIS
19 they have in Prince William Sound they only
20 have enough money to really build and operate
21 their own operations center, but they don't
22 have information to share with other agencies

1 or similarly the maritime industry, the
2 operators, whatever.

3 Our system on the other hand is
4 designed to be disseminated to a whole bunch
5 of entities, the Coast Guard included of
6 course. So that's probably a long answer to
7 a short question, you can see it's somewhat
8 complicated, but NOAA certainly has access
9 through the Coast Guard for a percentage of
10 information, a good percentage. About 60
11 percent of our data is available to NOAA
12 through the Coast Guard right now.

13 MEMBER MILLER: Would there also
14 be opportunities to put, you know, sort of
15 weather sensors and that type of thing?

16 CAPT. PAGE: Oh, absolutely.
17 We're working with AOOS. I sit on the AOOS
18 board and AOOS is looking for the broader base
19 of people that benefit from data including the
20 maritime operators, shipping operators. And
21 so they provided some funding to test and
22 develop this capability.

1 So we can take this and add
2 weather stations to our -- once we got a
3 footprint, once we build the infrastructure
4 and a power plant which is solar powers and
5 wind generators and the back haul it's real
6 easy to hang out other ornaments as I call
7 them such as digital selective calling search
8 and rescue capability or AIS -- weather
9 sensors, excuse me, that could be disseminated
10 over AIS frequencies.

11 So we're already working down that
12 path, working very closely with Weather
13 Service and AOOB in leveraging this capability
14 and getting a lot more return on investment
15 aiding to maritime safety and environmental
16 protection.

17 MEMBER MILLER: Yes, I was
18 particularly thinking about potentially
19 current sensors if you've already got power
20 because there's been a number of calls for
21 that.

22 CAPT. PAGE: We definitely would

1 like to do that. I'm definitely taking notes
2 when I heard Walt Tague talking about that.
3 Even Mark Smith was talking about tidal
4 heights and whatever. Our goal is to get more
5 of those sensors co-located or at least if not
6 co-located then close enough they can transmit
7 the data to our site and we can turn around
8 and put it into the whole system as well as
9 broadcast it over AIS so it's digitally
10 readable to the vessel.

11 So we've been working with the
12 software engineers who -- and this is what AIS
13 was designed to do anyway, broadcast other
14 information, safety information, weather
15 information, what have you, and get away from
16 having to listen to the radio and trying to
17 interpret what was said. And the range of
18 radio is much less, voice comm is a much
19 shorter range than AIS which is digital.

20 So we have better range, better
21 clarity, easier to get the information you
22 want right when you want it versus push the

1 button and it shows up versus listening for
2 the broadcast that may have the information
3 you're looking for. So those are all things
4 that we're working on to better disseminate
5 information to the mariners and get more miles
6 out of the gallon if you will or more return
7 on investment. So if we can kind of commingle
8 and partner and share infrastructure we can
9 certainly cut down costs.

10 We've done that in southeast
11 Alaska with the Weather Service down there.
12 And we're working further up. I met with the
13 Weather Service up in this area and so that's
14 definitely the path we're going down.

15 CHAIR WELLSLAGER: Larry?

16 MR. MAYER: I should preface my
17 question by saying that I'm brand new to the
18 panel and I apologize if this is a very naive
19 question. And it's maybe more appropriately
20 a question to my colleagues here as opposed to
21 Captain Page but you certainly brought it up.

22 What you described really sounds

1 fantastic and it also sounds like a critical
2 infrastructure that's essential to safety and
3 navigation as traffic increases. And I guess
4 I wonder why this isn't part of the mission of
5 a government agency as opposed to having --
6 you're doing a tremendous job but it seems to
7 me this is really bordering on critical issues
8 of safety and navigation.

9 And why isn't this part of the
10 mission of a government agency rather than
11 having you to have to depend on fees and the
12 fact that you might want to go fishing many
13 more times next year and the thing will fall
14 apart.

15 CAPT. PAGE: I can answer real
16 quickly. I mean, I agree with you but the
17 point is that this is a lesson I learned with
18 my last -- my 30-plus years in the Coast Guard
19 that many times Congress wasn't forthcoming
20 with information. They just needed it and not
21 wait. So we just do it basically. But good
22 point, good question.

1 It won't hurt my feelings if you
2 take it over. I can find other things to do.
3 I can go back to retirement.

4 CHAIR WELLSLAGER: Just a second,
5 Larry. Rich?

6 MR. EDWING: So Rich Edwing,
7 Director of CO-OPS. And Ed, I run the office
8 that does do realtime water levels and other
9 information up in Alaska.

10 We've been collaborating with the
11 Coast Guard to get our realtime information
12 into an AIS format. That's all been done.
13 There's been successful tests down in Tampa
14 Bay and Columbia River of actually pushing
15 that data out to vessels. There's been at
16 least one manufacturer of the black boxes on
17 the vessels that have changed their firmware
18 to accept this data and integrate it with
19 other data.

20 The thing that's been lacking is
21 the Coast Guard has not had the funding to put
22 up the transmitters to get this information

1 out. So certainly -- it seems like you've
2 been able to get a couple of steps beyond that
3 up here so maybe we can talk afterwards and we
4 can get something going up here.

5 CAPT. PAGE: Absolutely. And
6 again, the state benefits and the maritime
7 industry benefits and the Coast Guard all
8 benefit then maybe to pool those. And I know
9 the National Academy of Science did a study
10 after the L.A./Long Beach Vessel Traffic
11 Service came online in a partnership.

12 And they said we should do more of
13 this. We don't have unlimited funds. We need
14 to partner and amortize and leverage better
15 with other entities benefitting from this than
16 put the burden on the Coast Guard or the
17 Federal Government for that matter in that
18 particular case. So it's something that's
19 been studied and I think it's one way of
20 getting things to move faster. And I
21 definitely would like to take to you further
22 on this one because we're chasing down the

1 same path and we'll get it done faster.

2 CHAIR WELLSLAGER: Bill, did you
3 have something you wanted to say?

4 MEMBER HANSON: Walt, Mark and
5 Dana, you guys touched on a different part of
6 the operation, the true highway in Alaska
7 since a lack of overland highways so much is
8 done by the waterways, and sometimes in some
9 pretty interesting locations.

10 As I watched the slides here I was
11 kind of struck though as what is the national
12 interest in those areas. And as you provide
13 your products and services to the locals
14 you're going to some pretty remote areas and
15 you might be the only folks going in there.

16 Is that a service you provide to
17 yourselves or to your clients to provide your
18 own surveys to make your operation more
19 efficient, or is that just something that you
20 think that maybe we should take another look
21 at with NOAA or the Corps?

22 I guess just, again, struggling

1 with what's the national interest and what
2 might just be better done on a local basis and
3 paid for that way.

4 MR. TAGUE: I guess I can say
5 there are a finite number of customers in
6 western Alaska and we're in the business of
7 transporting goods and selling fuel there. So
8 you are correct in not all of them are
9 strategic but they do have needs. So we get
10 by sharing information between operators or
11 between vessels.

12 And each year it's a little
13 different. Obviously there are some things
14 that would have a large impact on the
15 economies of western Alaska. When I say a
16 large impact it may be relatively small in
17 comparison to Seattle but to have realtime
18 water datum transmitted at the Kuskokwim mouth
19 near Bethel could mean the difference between
20 spending 3 days taking in a limited draft of
21 12 feet versus maybe knowing and if possible
22 maybe even forecasting what the -- based on

1 all of the elements, the tides, the wind, you
2 know, the amount of runoff upriver. To be
3 able to forecast what the water might be at a
4 certain crossing, you know, could be the
5 difference of three trips into Bethel for a
6 barge versus five or six trips into Bethel for
7 a barge.

8 MEMBER DEMPSEY: Deborah Dempsey.

9 Just kind of an observation and a comment,
10 Walt and Ed, is if we address the training on
11 the vessels, you know, why the need for so
12 much response. And Walt, as far as reading
13 the NAVTEX is it a NOAA issue to make it more
14 user-friendly or make sure that your officer
15 has the background in meteorology in reading
16 that. We used to, you know, we used to have
17 that onboard.

18 MR. TAGUE: Certainly we as
19 industry make the effort to hire trained
20 individuals. But just from my experience we
21 can hire a captain with 30 years of experience
22 and put him to work in western Alaska and tell

1 him to go into a village and (a) there's no
2 chart for that village. The GPS is showing
3 him being 5 miles inland versus what's on the
4 chart. The charts aren't scaled to show
5 accurate pilotage. And he's thinking of his
6 livelihood and career versus, you know,
7 getting in and delivering a product. You
8 know, because he's at risk for making
9 headlines if he, you know, rips open the side
10 of his barge.

11 So we do try and provide specific
12 training and we do have a continual
13 improvement process through our ISM
14 certifications where we're always trying to
15 identify what we need to improve on, whether
16 it's software, navigational equipment or
17 training. But you know, and we've appreciate
18 Matt coming over and talking to our guys.

19 But things just kind of appear on
20 your websites and you know, until we know that
21 they're there and know how to use them, you
22 know, they're probably just there.

1 We, you know, I've gone through
2 the NIMA site there and found some of the
3 things that you guys are working on and
4 they're very interesting. You know, now we
5 can pull up site-specific area forecasts just
6 with the click of a button. But unless you
7 know it's there, you know, you don't know it's
8 there.

9 So in the past it's always been a
10 call to Rich Courtney in Kodiak and said, you
11 know, trying to -- he'll do an area-specific
12 forecast and tell guys whether or not they've
13 got enough time to run from one port to
14 another. And in some cases that can be the
15 difference between 2 days of transit versus 3
16 weeks of transit in the fall.

17 MEMBER DEMPSEY: For sure you know
18 what you have to face in the seat of the pants
19 of your operation, you know, how much can NOAA
20 prevent that daily change that changes so
21 quickly. How feasible is it for NOAA to take
22 that on?

1 MR. TAGUE: I guess if you guys
2 keep supplying us tools we'll figure out how
3 to use them and use them to our advantage.

4 MEMBER DEMPSEY: Local knowledge,
5 right?

6 MR. TAGUE: It is, it's very much
7 local knowledge. When we lose a captain
8 either to him or, you know, to somebody else -
9 -

10 (Laughter.)

11 MR. TAGUE: It's a big loss. We
12 have some very skilled, very knowledgeable
13 mariners that operate in western Alaska that -
14 - they're probably not suitable for working
15 anywhere else. But they do know western
16 Alaska, you know.

17 (Laughter.)

18 MR. SMITH: I'd like to say just
19 for the record that our captain was kicked off
20 a tug in Mexico by Walt Tague.

21 (Laughter.)

22 MR. SMITH: I'd like to back up

1 just a bit too and squeeze a word in about
2 sort of the very larger picture, ask about
3 what is the national interest in doing things
4 out here.

5 Just a really, really broad
6 overview is that we operate in literally the
7 wild west. And so I mean, some of the same
8 questions could have been asked about moving
9 from, you know, east of the Rockies to the
10 west of the Rockies.

11 I mean, if you take a long enough
12 picture at what we're doing and the resources
13 and the development of Alaska, you know, this
14 is America's last frontier. There's a
15 tremendous amount of resources. Yes, there's
16 a very small population but it is in the
17 national interest to develop western Alaska
18 and we have to have the tools to do that
19 safely.

20 So, I think that the economies of
21 scale do not work today, but in order to have
22 something more to contribute to the greater

1 national good there's no question that we need
2 more data acquisition and more data
3 aggregation. And I think that's absolutely
4 NOAA's role is to help get that data and then
5 aggregate it so it's useful to us.

6 CHAIR WELLSLAGER: David.

7 MEMBER JAY: I was going to
8 comment that since the 19th century NOAA has -
9 - it wasn't NOAA then, but the Coast Survey's
10 job has been viewed as strategic. And in
11 those days of course national defense and
12 competing with the British was, you know, it
13 was strategic aspect of things or even the
14 Russians and Spanish.

15 But economic is strategic too and
16 the economic development side of this, the --
17 we've always taken in this country the point
18 of view that federal investment in navigation
19 was an important aspect of national security.
20 And you know, what national security is gets
21 reinterpreted and of course Congress could
22 make another decision that they don't want to

1 do that anymore, but that's certainly -- we're
2 back to the 19th century the way this has been
3 viewed.

4 CHAIR WELLSLAGER: Gary.

5 MEMBER JEFFRESS: Walt mentioned
6 just a little while ago that a GPS position
7 might plot some 5 miles different from what's
8 on the chart. One of the physics of GPS is
9 that the satellites oscillate between north
10 and south latitude of around about 60. Is
11 that right, Juliana? Yes.

12 And so in these high latitudes the
13 positioning of the satellites is always in the
14 southern sky which dilutes the precision of
15 the GPS positioning depending on the time of
16 day and the satellite constellation. So the
17 further north you go theoretically the worse
18 your position is because there's no satellite
19 coverage in the northern sky.

20 So I'm wondering if that is a
21 concern particularly if you're going further
22 up into the Arctic around Barrow, et cetera,

1 if the actual GPS positions are not accurate
2 enough for what you need.

3 MR. TAGUE: Well, I guess like for
4 us there aren't a lot of features that we have
5 to navigate through in Barrow, in that area.
6 But, and I like your -- I've made use of that
7 as an excuse sometimes when I'm talk to the
8 Coast Guard about one of our grounded vessels.

9 (Laughter.)

10 MR. TAGUE: I guess there are
11 probably two things I would -- two examples
12 that I've seen. We have an ECDIS system on
13 some of our tugs operating and you know, we
14 were up in the Red Dog Mine area. We were
15 trying to pinpoint an anchorage for the ship
16 to come into which -- just inside the 3
17 nautical mile curve that had enough water
18 depth for the ship to maintain its underkeel
19 clearance. And it was difficult to determine
20 based on the charting because, you know, the
21 coastal plain there literally showed up 3
22 miles out according to the GPS. So we had

1 pilots onboard and they knew from the local
2 geographic features where the area we were
3 trying to anchor at was, but.

4 Another example was we had a
5 grounding in Kwinhagak coming into the river
6 there. And the locals there put out buoys
7 each year to mark the channel. And it was
8 late in the season and they had pulled the
9 buoys out. And we came in via GPS and with a
10 pilot skiff out front. The pilot skiff was
11 carrying a handheld and reporting the
12 information back to the tug.

13 And they thought they were in good
14 water but they weren't. They went aground and
15 when we reported it and it got charted for our
16 incident it looked like we had come aground
17 about a mile inshore and kind of way up on the
18 beach which sparked the Coast Guard to send C-
19 130 flights and everything else. And very
20 quickly we had what had been a routine
21 grounding in western Alaska became a \$300,000
22 incident for a company trying to deliver

1 50,000 gallons of fuel. So those are
2 expensive to both us and to the customers.

3 CHAIR WELLSLAGER: Scott?

4 VICE CHAIR PERKINS: Captain
5 Jensen, Scott Perkins, vice chair of the
6 committee. Looking at your right table it
7 looks like it costs me about \$500 to get my
8 personal vehicle from Juneau up to Whittier.
9 Yesterday we reported out on our working group
10 committee's activity and we've been looking at
11 user fees.

12 So I guess I'm trying to get an
13 understanding, you're a state-run agency with
14 11 vessels on the water charging the public a
15 fee for service. That's a model that we've
16 been looking at for where are there
17 opportunities that we could leverage
18 additional user fees that would help fund for
19 the products and the services that each of you
20 are describing are desperately needed in this
21 region.

22 So what would the market bear and

1 is your agency profitable at this point? Are
2 you heavily subsidized? I mean, if \$500 is
3 enough to make profit could \$510 be enough to
4 pay for some charting and some mapping and
5 some additional hydrographic services in this
6 region? Can you speak to that or help us
7 understand the economic model that might work
8 here?

9 CAPT. JENSEN: Well, unfortunately
10 we aren't profitable. Basically the state
11 subsidizes us just about \$2 for every dollar
12 we take in in revenue. It's very expensive to
13 run passenger ships these days and it costs a
14 lot. So the revenues are set by the state
15 legislature. They're set at a cost that is
16 believed to be acceptable to the public and
17 not put too much of a burden on them. But
18 unfortunately we cost considerably more to
19 operate today than we're able to take in in
20 revenue.

21 I'm not an expert on this subject.
22 I did watch -- was catching the news a few

1 months ago and they were talking about with
2 the recent recession that public
3 transportation had increased significantly but
4 a lot of the municipalities and states were
5 cutting back at the same time that those were
6 increasing. And they noted that it generally
7 costs about \$2 of the state, city or whatever
8 agency is supporting the mass transit puts in
9 about \$2 for every dollar that they take in in
10 revenue. So in that regard I don't think
11 we're dramatically out of step with other
12 means of transportation. But we are heavily
13 subsidized.

14 CHAIR WELLSLAGER: Lawson?

15 MEMBER BRIGHAM: I just wanted to
16 get back to the issue that Larry brought up
17 about whether there should be -- Ed's
18 operation in the Marine Exchange should be
19 public or private, or Coast Guard should run
20 some massive command center with all the data.

21 In our working group the Marine
22 Exchange model here is exactly what we're

1 talking about, new and innovative approach to
2 a remote area where the Federal Government
3 will probably never invest enough to have a
4 system. And here Ed said he had, what, 13
5 people. A pretty lean organization.

6 I'd be nervous to think of what
7 kind of command structure and massive maritime
8 domain awareness system it would be if the
9 Federal government had such a beast here or
10 sitting in Washington trying to cover here or
11 wherever.

12 So I think in this particular case
13 it's a unique and a model for what we're
14 talking about thinking out of the box for how
15 to handle Alaska. And it's public safety,
16 it's in the public good but it's run by
17 commercial interests who have a vested
18 interest in the safety. So I think it's
19 actually, as you would agree, very positive
20 that maybe government not run this thing.

21 MR. MAYER: I would agree,
22 actually. I just am concerned about the

1 frailty of the funding basically, that when
2 you have a system like that it is maybe even
3 more fragile than some of the -- so I'd like
4 to see a hybrid where there's some commitment
5 on the part of the government because it's
6 recognized that this is an essential service
7 and then have this other model.

8 CAPT. PAGE: If I can add on the
9 discussion a little bit. And from my
10 perspective from having been in the Coast
11 Guard, now on the other side of it. Old
12 retired doddering captains like myself no
13 longer can jump on ships and helicopters,
14 whatever, so maybe it's a good job to sit
15 there and collect data or install these.
16 Basically I tell the Coast Guard we'll do the
17 easy work. When it's a good day we'll go out
18 and install the stuff. You know, when it's a
19 dark and stormy night you can get those young
20 kids and put them in helicopters and boats or
21 whatever and do the rescues if you will.

22 But some things are inherently

1 governmental and some aren't. Like for
2 instance I see the number shift in the phone
3 system. I don't think the Federal Government
4 needs to do a phone system but they need the
5 phone system. And the key thing is getting
6 information in the hands of the Coast Guard so
7 they can do -- act upon it. That's what I see
8 is just really an efficient way of getting
9 information to those who can act upon that.
10 So we're not really making decisions, we're
11 just helping them get the information to make
12 their decisions.

13 And if the Marine Exchange go back
14 -- I was just visiting with all the other
15 marine exchanges here last week in San
16 Francisco. Some go back to 1850 so some of
17 them are lasting longer than the agencies.
18 But I do agree that some commitment as far as
19 a recognition and commitment which is done to
20 some extent.

21 I know Senator Begich in hearings
22 has spoken very highly of the Marine Exchange

1 back in Congress, congressional hearings or
2 whatever, so we're definitely on the radar
3 screen with the congressional delegation.
4 They see the merit and wisdom of taking this
5 approach. But maybe some more
6 institutionalization of this to recognize and
7 further ensure the stability and long-term
8 would probably have some merit and recognized
9 as a sufficient way of getting the job done.

10 CHAIR WELLSLAGER: David?

11 MEMBER JAY: I was very impressed,
12 Captain Page -- this is David Jay -- by your,
13 you know, the possibilities of traffic
14 analysis and safety analysis. But the frailty
15 of the organization raises the question are
16 these data being archived, you know,
17 centrally, nationally, anywhere so that
18 somebody can take a 10-year retrospective or
19 a 50-year retrospective and look at how
20 traffic has changed and impacts for safety and
21 you know, that sort of thing?

22 CAPT. PAGE: Yes. I mean, we're

1 realizing now how important this information
2 is becoming to a lot of folks. And so we have
3 several server banks and we have -- in Juneau
4 but we also have servers in the lower 48 and
5 backups and what have you. So we're
6 recognizing that more and more people are
7 asking for data. It's very costly for us to
8 have the software and the servers, whatever,
9 for it but we recognize it's key information
10 that can help for risk assessment. So we are
11 -- and plus the information we're getting is
12 going right to the Coast Guard.

13 So I'm not exactly sure what the
14 Coast Guard is doing with it, but they also
15 have servers and they also have the ability to
16 data-mine or data-record and retain it. So
17 it's going to the Coast Guard back at Virginia
18 somewhere so they also have computers that can
19 pull this out and cull it out. So we have
20 several redundancy ways of both ourselves but
21 also the Coast Guard are basically getting
22 this information and have it available.

1 MEMBER JAY: My experience with
2 government agencies is that unless they are
3 told specifically that they have a data
4 archiving function they won't. You know, in
5 theory it's being archived, but oops, it gets
6 lost. And you know, the Coast Guard has got
7 lots, I mean, I'm sure -- you've been there.
8 They have lots of things to do other than, you
9 know, curate data. So I do wonder about the
10 robustness of the data.

11 CAPT. PAGE: I would say that
12 probably, you know, recognizing that Coast
13 Guard is really not funded to go ahead and
14 keep on generating data reports. So many
15 people come to us and say I know we can go to
16 the Coast Guard but it's not high on their
17 priority list to accommodate somebody else.

18 So we find a lot of people come to
19 us and say -- because we'll say well, you can
20 go to the Coast Guard. You know, they're a
21 federal agency, you can go to them and get the
22 data. And they come back to me and say you

1 know, we'd rather get it from you actually.

2 MEMBER JAY: I'm a subscriber to
3 my local Portland Marine Exchange so that we
4 have our own AIS data feed and we pay for it,
5 so.

6 CAPT. PAGE: Good.

7 CHAIR WELLSLAGER: Lawson, do you
8 have something you want to say?

9 MEMBER BRIGHAM: Just to add that,
10 you know, Larry, back to the original thought.
11 I mean, the Federal Government is all over the
12 place in the lower 48 with VTS systems.
13 There's a vast Marine Domain Awareness System.
14 We know ships come up from Singapore probably
15 when they leave Singapore and we follow them
16 using the intelligence. I mean, the Coast
17 Guard is hugely involved in all that. None of
18 that has actually been applied here, only
19 occasionally and on a maybe particular issue.

20 And so there have been calls for
21 VTSs in Bering Strait. There would have to be
22 a lot of justification to build some command

1 center and to have a federal system to
2 orchestrate traffic and manage it all. Maybe
3 in the future, but I just think that other --
4 the vast investments that have been made in
5 the rest of the country but again not here.
6 And so this fills this niche and this gap.

7 CHAIR WELLSLAGER: Admiral Barbor.

8 MEMBER BARBOR: Yes, Ken Barbor.

9 Follow-up on one of Joyce's questions to
10 Steve. In particular, when we're on the
11 Kodiak Horizon the master was very sensitive
12 to the annotated channel there and the
13 maintenance of it. And just wondering, I
14 think Matt has said that you have plans for
15 some maintenance coming up. But right now the
16 chart says `08 and nothing more. What is your
17 routine maintenance of that?

18 MR. BOARDMAN: Well, the challenge
19 we have, and we've already talked about
20 budgeting challenge, is we dredge five harbors
21 annually. The last few years the budget has
22 been so constrained and we were very fortunate

1 this past year. Well, the previous year ARRA
2 gave some money to do some planning and then
3 this year Congress had undesignated blocks of
4 money which we were able to get because we had
5 done the previous.

6 So in the case of Kodiak the two
7 that we're working on is the upper channel for
8 St. Herman's Harbor which was never finished
9 when we built the harbor because it was a rock
10 outcrop and then St. Paul Harbor which is the
11 one right at Kodiak itself. And that's either
12 through the earthquake or uplift. We're going
13 to knock a couple, 3 feet off of the bottom of
14 that.

15 Those plans and specs are due out
16 in a month or so I guess, go out for dredging
17 contracts here this season.

18 MEMBER BARBOR: Let me follow up
19 on my question. Maintenance is probably the
20 wrong word for me to use. Actually, more
21 awareness. What sort of survey asset do you
22 have available to adjust the chart in the

1 interim of the maintenance of this channel?
2 Because 30 feet of tide and you can -- there's
3 plenty of water out there, it's just knowing
4 when there isn't.

5 MR. BOARDMAN: Well, we have a
6 schedule and each harbor has his own schedule
7 based on historical use and the frequency.
8 This is the first time in quite some time I've
9 done any maintenance in the area. Anne, do
10 you know what frequency you do of surveying?
11 Everything is done contract. We used to have
12 our own crews.

13 We get a budget, annual budget in
14 the order of \$600,000 to go survey both
15 hydrographic, topographic and aerial
16 photography that we maintain on all of the 50-
17 plus harbors and channels. But Kodiak, you
18 know what the frequency is?

19 MS. DOLLARD: I'm sorry, I don't.

20 COURT REPORTER: Please use the
21 microphone.

22 MS. DOLLARD: I'm still pretty new

1 at the Corps but I don't know the exact
2 frequency of Kodiak. But in general it's 3 to
3 5 and even sometimes 7 years depending on the
4 importance of the area.

5 MR. BOARDMAN: So the unfortunate
6 thing is that any sudden changes, we're not
7 positioned to react to it very much.

8 MEMBER BARBOR: And I'm sorry for
9 my misleading question. It was the -- the
10 ship was the Kodiak Horizon. The channel was
11 the Cook Inlet Channel.

12 MR. BOARDMAN: Oh, we're at Cook
13 Inlet Channel. Okay. All right. I
14 apologize. Now, you want to talk Cook Inlet
15 Channel.

16 (Laughter.)

17 MR. BOARDMAN: The problem is that
18 the Corps of Engineers is project-funded and
19 Cook Inlet Channel which is a project but it's
20 only the 1,000 meter by 100 meter and that's
21 the area -- and that one right now is -- we
22 also receive funding to dredge that particular

1 channel but not the approaches to that
2 channel. And so I think that contract is
3 being worked right now. You're doing the
4 environmental work for it for later this year
5 or next, the actual dredging?

6 MS. DOLLARD: As far as the actual
7 dredging goes I don't know much about that,
8 but the survey is happening next month. So
9 everything will probably go from there. We're
10 talking about doing it more routinely but we
11 don't have a schedule as of right now.

12 MR. BOARDMAN: Yes. I think the
13 effort that we've got this year is to do the
14 environmental, the geotech and plans and specs
15 so that hopefully we'll do the maintenance
16 dredging next year.

17 We're trying to, we've asked
18 Congress and Senator Begich's staffer has left
19 the area. Asked Congress to move money from
20 one project to Cook Inlet and we'll have to
21 wait until Congress acts on that.

22 In fact, to be honest with you

1 it's still up in Washington, D.C. in the Corps
2 channels. It hasn't even gone to the
3 committees yet. The committees are going to
4 go on recess here in a few weeks and then come
5 back and we'll see how they react.

6 But it has not been in the
7 President's budget so we are in the process of
8 asking Congress to move it from actually Port
9 of Anchorage to Cook Inlet along with some
10 other projects.

11 CHAIR WELLSLAGER: Okay, Lawson.

12 MEMBER BRIGHAM: Just to extend
13 this discussion, Steve. When the arguments
14 are made, I mean aren't there security,
15 national security implications here when you
16 have combat ships, combat support ships,
17 Military Sealift Command ships come, pick up
18 brigades and all that. They're all 30-plus
19 draft, 35.

20 I mean, why aren't the arguments
21 not made by maybe you, but maybe Senator
22 Begich and others that this is not only a

1 commercial interest but a national security
2 interest particularly for this place?

3 MR. BOARDMAN: Well, I certainly
4 won't argue with you. The difficulty in this
5 constrained budget, again, we've presented I
6 don't know how many harbors needing
7 maintenance. Okay, we'll give you the five
8 you've been doing since 1960 and you have
9 channels throughout there.

10 The interesting thing is the Port
11 of Anchorage of course is challenged as the
12 vessels move to the port. You go across the
13 way, I don't know if anybody here represents
14 Port MacKenzie. They indicate they have no
15 need. Their vessels have no difficulty
16 getting to their port. And I'm confused but
17 I'm not a navigator and I don't move big
18 vessels around.

19 So, the -- in going back to the
20 legislation was to extend that channel which
21 in essence is saying Corps, establish a
22 federal channel that you will maintain for

1 future for all users whether it's at the Port
2 of Anchorage, Port MacKenzie or any other
3 development that might occur in upper Cook
4 Inlet.

5 And you know, we kind of hang our
6 sails and say well, okay, that's going to take
7 a study of X amount of time and dollars. We
8 have other needs for it. And Port of
9 Anchorage who is the more logical player to be
10 the cost-sharing sponsor -- someone brought up
11 cost-sharing earlier -- had not yet been --
12 they've been engaged in the port itself, not
13 necessarily the driveway to the port. Port
14 MacKenzie has been not necessarily in
15 agreement and the state of Alaska hasn't
16 necessarily been in agreement to jump in and
17 say let's study it, let's get it ready so that
18 we can do maintenance for future.

19 But you're right, you know, the
20 marine lift and everything else, all those
21 folks need to step into the game and say this
22 is impacting us adversely. We've got to go in

1 there. And I'm not sure we have that choir
2 yet singing.

3 CHAIR WELLSLAGER: Michele.
4 Speaker.

5 MEMBER DIONNE: Yes, Michele
6 Dionne. Going back a few steps to Lawson's
7 comment about, you know, a government-funded
8 effort versus a private non-profit. I can
9 certainly see how a private non-profit's
10 mission might go beyond the bottom line so
11 that they could, you know, direct themselves
12 to help a village out in a time of need at a
13 loss. But I think that's something that needs
14 to be worked out if you want to try to develop
15 a commercial supporter of the work that needs
16 to be done. I can't see a corporation making
17 any decisions that would lead to a short-term
18 or a long-term loss.

19 CHAIR WELLSLAGER: Okay, Joyce.

20 MEMBER MILLER: Joyce Miller.

21 This is a question I put to Ken yesterday.

22 And you know, Army Corps has assets. NOAA has

1 assets. NAVOCEANO has big assets. I've
2 sailed for NAVOCEANO.

3 And we -- Lawson's comment about,
4 you know, isn't this a national defense issue.
5 I mean, it seems to me that, you know, putting
6 a petition in for a couple of months. I mean,
7 they have big ships with two or three launches
8 and so forth. If it were a national security
9 issue it might be another route of possible
10 funding is to, you know.

11 Now, most of their ships are not
12 in this area unfortunately but it's just
13 another way to look at potential for cost-
14 sharing or potential for more assets that
15 could be, you know, the small ports I don't
16 think -- would make any sense. But if
17 Anchorage is such a big, you know, if it's a
18 real problem then maybe it's a possibility.

19 CHAIR WELLSLAGER: For something
20 like that though would it not require a
21 memorandum of understanding or agreement
22 between different departments within United

1 States Government? That's going to be trend-
2 setting right there I think. That would be
3 pretty good. Interesting.

4 (Laughter.)

5 MR. BOARDMAN: Let me follow on
6 that if I might just to understand a little
7 bit of the politics. When the Corps
8 legislatively was tasked to modify the depth
9 of water at the Port of Anchorage there was a
10 section in there is if the Department of
11 Defense needed deeper water that would be the
12 rationale. Department of Defense didn't want
13 to touch that for anything because the marine
14 or the carriers that were coming in for the
15 deployments and whatever, their attitude was
16 if I've got 10 feet of water I have a ship
17 that can go into 10 feet of water. If you
18 give me 30 feet of water I've got a ship that
19 can go in 30 feet. You give me 100 feet I've
20 got a ship that can go in 100 feet.

21 I'm not going to tell you I must
22 have X amount of feet because -- and I'm

1 paraphrasing it in my mind is if I put the
2 requirement then I'm going to be hit with the
3 bill of creating it. So, right now the Coast
4 Guard, NOAA and Navy and whatever don't
5 necessarily want to make commitments because
6 they'll be stuck with paying things.

7 CHAIR WELLSLAGER: Okay. I've
8 seen two people in the public that would like
9 to ask questions so I'm going to ask that that
10 happen. And we've got two questions. We're
11 almost out of time. So, please, if you could
12 limit it to one question I'd appreciate that.

13 MR. LAKOSH: Yes. My name is Tom
14 Lakosh. And the question was raised what kind
15 of sources of funding you might have to do
16 some of the hydrographic surveys and current,
17 tide work. And the Coast Guard, you know, by
18 both public and private vessel operators here,
19 the Coast Guard has access to the Oil Spill
20 Liability Trust Fund to establish not only
21 planning but actual equipment that for its
22 sub-area plants. And the state has a similar

1 fund, it's called a 470 fund. They're both
2 oil spill prevention and response funding.

3 So to the extent that you need
4 that hydrographic information for sub-area
5 plans that have to be constructed by both
6 state and federal governments and where the
7 Federal Government has the liability for
8 responding to spills from vessels in innocent
9 passage and state vessels, you know, state of
10 Alaska, federal vessels that are not otherwise
11 required to have spill contingency plans, that
12 it would be quite appropriate for the Coast
13 Guard to make app with the Oil Spill Liability
14 Trust Fund as it was the specifically
15 designated fund for these types of information
16 and planning purposes.

17 And the question is why haven't
18 those applications been made as part of the
19 sub-area planning for all of these areas that
20 now have tank vessel operations in the middle
21 of winter in 42 inches of ice. You know,
22 clearly I asked yesterday whether the

1 hydrographic information would be gathered and
2 utilized for designing specific salvage,
3 lightering and spill response vessels in those
4 areas.

5 And there seems to be with such a
6 large liability of the Coast Guard at stake
7 here that it would necessarily budget
8 hydrographic surveys and request funding from
9 the OSLTF. And certainly where the state has
10 very specific requests for operation of its
11 public vessels that it also seek funding from
12 the 470 Fund for that purpose as well.

13 So there are government
14 responsibilities here. There are government
15 assets that are specifically dedicated to oil
16 spill planning which these hydrographic
17 surveys are clearly a part of. And to the
18 extent that dredging is a spill prevention
19 measure it could definitely be included in
20 that sub-area plan request as well.

21 So, the other end of that is that
22 the private organizations that are required to

1 respond in these areas also need that
2 information, and it's a matter of these OSROs,
3 federally recognized Oil Spill Response
4 Organizations, to charge their membership dues
5 that can fully fund planning and response in
6 these areas.

7 And I might specifically give an
8 example of additional hydrographic surveys
9 that might be necessary. In Hinchinbrook
10 entrance we had a tanker go out that hit 135-
11 knot winds from a barrier jet when the buoy
12 near Seal Rocks registered less than 15-foot
13 seas and 45-knot winds allowing that tanker to
14 transit under the entrance closure conditions.
15 So we've got a real disparity.

16 I've seen AIS printouts of a
17 Crowley tug that was strung out across the
18 entrance to the extent that it forced a tank
19 vessel, a laden tank vessel to transit east of
20 Seal Rocks instead of through the normal
21 shipping channel.

22 So, we've got a real problem

1 created by barrier jets off of Hinchinbrook
2 Point that we need to recognize and that Coast
3 Guard needs to fund, Crowley needs to fund,
4 the state ferry system needs to fund and the
5 alternative planning criteria group that Ed is
6 now sponsoring, it needs to fund these types
7 of facilities to properly plan for and to
8 deploy equipment in these areas. Thank you.

9 CHAIR WELLSLAGER: Thank you. Mr.
10 James? I'm not sure if there actually was a
11 statement or if that was a question. It
12 sounded to me like it was a statement so I
13 don't know if there's any reply that we can
14 really make to that at this time.

15 MR. LAKOSH: Well, it's the
16 question is will the Coast Guard, the Marine
17 Exchange APC group, Crowley Maritime, Vitus
18 Maritime and the state spend the money that
19 they need to make the planning in these areas
20 using 470 funds and OSRO funds along with the
21 Coast Guard funds, the OSLTF funds that are
22 specifically supposed to be expended on these

1 measures.

2 CHAIR WELLSLAGER: I'm sure
3 they'll take things like that under
4 consideration and do what they can for that.
5 Mr. Chance. Or Jon, I'm sorry.

6 MR. DASLER: Our experience with
7 Marine Exchange, we use that a lot and we were
8 doing some work down in the Straits of Juan de
9 Fuca and the VTS system that the Coast Guard
10 runs down there was only picking up class A
11 AIS. So I think it's Lockheed Martin that was
12 working on that was working on that system for
13 them, but it was only picking up class A AIS
14 and we had to go through Marine Exchange where
15 you could see class B AIS data. So are your
16 receivers picking up all of those?

17 CAPT. PAGE: Yes, we are picking
18 up A and B. I'm pretty sure the Coast Guard
19 would be also. I don't know why they wouldn't
20 at that time but who knows, maybe the
21 equipment hadn't been modified at that time.
22 But actually we bring in, without diluting

1 what we do, but the Marine Exchange of Alaska
2 actually brings in data from Maine all the way
3 to the gulf coast, west coast, throughout the
4 country. It all comes in here and then we re-
5 disseminate to Lloyd's of London and other
6 folks.

7 So we see that information all
8 around the country and we work with other
9 Marine Exchanges as far as data analysis and
10 playbacks, historical and reports just to kind
11 of amortize costs and share the burden, what
12 have you. And we basically started it, we
13 built it in the lower 48 and we passed it over
14 to the other Marine Exchanges and we still
15 provide technical support on the whole system.
16 So but we do see that stuff all the time, Bs
17 and As and have the data to kind of play it
18 back whenever.

19 MR. DASLER: It was just
20 surprising to us that a class B AIS.

21 CHAIR WELLSLAGER: Talk into the
22 mike, please.

1 CAPT. PAGE: You know, I should
2 just say within class B because -- I just
3 realized you and I are probably the only --
4 well, a couple of others know it, but probably
5 don't really know the difference. But
6 basically a B-AIS is less robust, less power,
7 2 and a half watts versus 12 watts. It's
8 every 30 seconds versus every couple or 6
9 seconds or 3 seconds depending what your
10 course and speed and other parameters. It
11 doesn't have rudder angle indicator.

12 It's basically designed as a low-
13 cost, somewhere in the neighborhood of
14 actually \$500 you can put an AIS-B on the
15 vessel. And it's predominantly focused
16 towards fishing vessels and recreational
17 boats, whatever.

18 But fishing boats are starting to
19 realize that it's nice to have cruise ships or
20 other large vessels that steam in through the
21 darkness of night to see them and see that
22 they're a fishing vessel and they can also see

1 the name of the lights in the Horizon or the
2 radar image and call the cruise ship and say
3 by the way, I'm that fishing vessel 5 miles
4 ahead of you. I have net 1,000 feet or
5 whatever, several hundred feet out my port
6 side, please give me a wide berth and what
7 have you. So it's a lot of information
8 exchanged that normally wouldn't be exchanged.

9 We drive around in a little 32-
10 foot landing craft and I'm getting calls for
11 cruise ships now because they know my name and
12 they can talk to me, and basically say hey, we
13 have a closing situation. I say, trust me,
14 I'm giving you a wide berth.

15 But the fact is it doesn't add to
16 maritime safety by just knowing the name of
17 the vessel. So you call on the radar, you got
18 to know who you're talking to versus a vessel
19 being at Point whatever, some Cape Chachon and
20 five vessels answer. You're not sure who
21 you're talking to. So it doesn't add safety.

22 CHAIR WELLSLAGER: Okay, Joyce.

1 The last one of the day.

2 MEMBER MILLER: The last one.

3 This is just an idea kind of to foment
4 discussion maybe over lunch. NOAA has
5 something called NRTs, Navigation Response
6 teams. They're single boats, they're trailer-
7 able, they can be deployed anywhere in the
8 country. They were used in Katrina and so
9 forth. A lot of time transport to get them to
10 where they need to go is an issue. You know,
11 if there's needs with these little tiny areas
12 you don't need a ship, you need a launch with
13 a little boat, you know, a launch and people
14 that know how to run it. Is this an
15 opportunity for potential, say some user fees,
16 say some buy-in by the folks that have ferries
17 that are going into this place and want
18 charts?

19 You know, is there some sort of
20 possibility that we could make it a consortium
21 here that says, okay, you've got to survey in
22 that place. It's tiny. It would take a week

1 or two. I mean, would you guys be willing to
2 free of charge take it up there to get what
3 you need, et cetera? It's just an idea.

4 MR. SMITH: I'd like to respond.
5 Mark with Vitus. I think there's a lot of
6 interesting things that could be done with
7 getting data for these small areas. I'd like
8 to have discussions on depth data and how we
9 could aggregate that.

10 There are public sourcing
11 information, Olex software some of the folks
12 know. To me that really impressed me as a
13 group of stakeholders who get together and
14 share data to get specific information. I
15 think when you look at where me and the rest
16 of the industry goes to these small villages
17 if we all had a way to get data that was any
18 sort of reasonably ordered data we could get
19 a lot of information in just a couple of years
20 that NOAA really is looking out a 50-year
21 horizon at getting.

22 CHAIR WELLSLAGER: Okay. Thank

1 you very, very much. And gentlemen, please
2 know that there's a standing invitation for
3 each of you to attend and possibly add some
4 more valuable input to our breakout sessions
5 if you're at all possibly available to attend
6 those. It would be greatly appreciated.

7 And it is now time for lunch. So
8 we have until 11:30 to 12:30 for lunch and
9 then we will be picking things back up. Oh
10 and a lunch speaker at noon. Lieutenant Faith
11 Reynolds -- oh, okay. Commander Houck, thank
12 you very much. Sorry about that. He'll be
13 addressing the Bering Strait Port Access Route
14 Study.

15 COMMANDER HOUCK: Yes sir, thank
16 you.

17 CHAIR WELLSLAGER: Okay, very
18 good. Thank you. Can I have a quick hand for
19 the panel members, please?

20 (Applause.)

21 (Whereupon, the above-entitled
22 matter went off the record at 11:40 a.m. and

1 resumed at 12:07 p.m.)

2 CHAIR WELLSLAGER: Commander Houck
3 has graciously accepted an invitation to speak
4 to us today about the Bering Strait Port
5 Access Route Study. Thank you, Commander.

6 COMMANDER HOUCK: Thank you very
7 much. Ms. Reynolds extends her apologies for
8 not being able to be here. My staff is even
9 shorter this week in light of my number two
10 and his wife having a new baby and she's
11 covering for the Integrated Command System for
12 the Shell oil spill drill that's going on I
13 believe in this same building a couple of
14 rooms over.

15 I wanted to give you an update on
16 the Bering Strait Port Access Route Study and
17 our efforts to move forward in the process of
18 making a joint recommendation with the Russian
19 Ministry of Transport to the International
20 Maritime Organization on a better method and
21 a way to make the traffic which is ramping up
22 in the Bering Strait more predictable and

1 hence safer.

2 Much of this data I want to thank
3 Ed Page for. When we originally started
4 looking at the Port Access Route Study we did
5 not have the capability to get VMS or AIS data
6 north of the Bering Strait for much of the
7 year, and we're not able to track where and
8 what type of vessels were actually using the
9 data and which side of the Diomedes they were
10 transiting on, how close to shore. None of
11 this information was available and we were
12 only able to gather the data through reports
13 from the mariners. And no mariner is going to
14 tell the Coast Guard how close they're really
15 going to the shore, we realize that. But with
16 this data it's incontrovertible.

17 MEMBER HANSON: AIS has ruined
18 that.

19 (Laughter.)

20 COMMANDER HOUCK: AIS. It hasn't
21 stopped them from doing it, it just gives us
22 the ability to see where they really are.

1 So you can see that using Ed
2 Page's data we can break these down and see
3 that the majority of the traffic or at least
4 the biggest user of the traffic are the tugs
5 and barges who operate through the Bering
6 Strait to supply the small villages to run
7 back and forth between the Red Dog Mine and
8 the lightering operations that you saw earlier
9 through Crowley and Vitus Marine to resupply
10 ports like the Diomedes, like St. Paul Island.
11 Move to the next one.

12 These are some of the potential
13 routing measures that we could use to make
14 traffic more predictable. I've given this
15 presentation many, many times and generally
16 I've given it to hunting and subsistence
17 organizations as well as city groups, native
18 corporations, the Russian Ministry of
19 Transport.

20 And I want to say up front that
21 most of you are well aware of this, but the
22 International Maritime Organization, its

1 primary concern is the safety of shipping.
2 Anything that we do to shape shipping to
3 preserve subsistence rights or the areas to be
4 avoided for animals and the preservation of
5 those animals has to be tied to safety. So
6 that is my primary concern and I take it upon
7 myself to work those things into the safety
8 recommendations and the joint recommendation
9 moving forward.

10 What you see on your left are
11 areas to be avoided. You can see in yellow,
12 and there is a -- what you see here and around
13 the Diomedes and around Cape Dezhnev are areas
14 to be avoided which effectively shape traffic
15 through a negative by forcing them out further
16 away from shore.

17 If we go back to the slide that
18 shows the traffic routes you can see that the
19 majority of the traffic, and this is north-
20 and southbound traffic, north- and southbound
21 traffic on both the Russian side using -- or
22 showing all types of ships running close in-

1 shore on both sides. So, the areas to be
2 avoided effectively push that traffic out
3 further away from the shore and further away
4 from the potential grounding areas in these
5 shallower waters.

6 Now, as I go through these I need
7 to remind you and remind myself that these are
8 potential measures. These are not -- my final
9 recommendation is not due to be published
10 until November of this year in the Federal
11 Register, okay?

12 Another potential routing measure
13 that we're looking at is the traffic
14 separation scheme that you see on the right-
15 hand slide. This would benefit predictability
16 of the traffic in many ways, the biggest of
17 which is in my estimation and what the
18 recommendation is shaping up to be, northbound
19 traffic on the east side of the Diomedes and
20 southbound traffic on the west side of the
21 Diomedes. This would take a bigger level of
22 cooperation with the Russian Ministry of

1 Transport than we've seen at any time in our
2 history. So not being one to want to tilt
3 windmills this is just an idea that is up on
4 the -- up for review right now.

5 There is room, but you would --
6 the beauty of this one is you have straight
7 lines with no intersections of traffic moving
8 in opposite directions. As we all know,
9 intersections, especially with traffic moving
10 in different directions has the potential and
11 for those of us that have operated at sea for
12 any time at all we know that if it can happen
13 it will. It's only a matter of time. Anytime
14 you have two intersecting lines with traffic
15 moving in different directions it is only a
16 matter of time until you wind up with an
17 accident there. And we -- in shaping a
18 recommendation to the International Maritime
19 Organization we're trying to avoid as many of
20 those intersections as possible or reduce them
21 to the smallest number possible.

22 So, there is also the possibility

1 of making a recommended route. And you can
2 see that I've outlined that with these light-
3 colored arrows with the route coming in from
4 the south to the north on the east side of the
5 Diomedes with a course change in the vicinity
6 of due south of the Little Diomede Island and
7 then recommended routes on the other side.

8 The recommended routes
9 historically have worked not because the
10 mariner wants to make them work but because
11 Lloyd's of London has also, or the insurance
12 company has insisted that in order to insure
13 the cargo that is passing through these
14 international straits they have to comply with
15 the local regulations and recommended routes.
16 So to go against them opens them up to a
17 liability or uninsurability problem.

18 So I'd like to, since I feel like
19 I have a little time, are there any questions
20 that I could address before I move to the next
21 slide? Captain Brigham?

22 MEMBER BRIGHAM: Yes, I mean

1 you've probably guessed that I would ask the
2 question.

3 COMMANDER HOUCK: I did.

4 MEMBER BRIGHAM: None of the maps
5 have any ice. The application of routing in
6 ice-covered waters has some implications for
7 the navigator because as any icebreaker person
8 knows, you may go 50 miles out of the way to
9 avoid some sort of rubble field. So these are
10 recommended routes.

11 The question is in ice navigation
12 in the winter when it's ice-covered how we
13 were to handle the ice operation kind of
14 navigation which might be slightly different
15 than in free water. It is an issue, true?

16 COMMANDER HOUCK: Yes sir, it is
17 an issue. And while right now it's not a
18 current issue, economics shows that as there
19 is money to be made mariners will spend a
20 longer and longer season and find ways to
21 continue to make money in the ice. So that
22 will drive the issue.

1 And that's a nice lead-in to the
2 next slide. For those of that don't know,
3 Captain Brigham in one way or another taught
4 me how to break ice. He taught the people who
5 taught me how to break ice. And I owe a lot
6 of what I know about ice and icebreaking and
7 much of my career to Dr. Brigham.

8 Dr. Jeffress?

9 MEMBER JEFFRESS: Yes. I had a
10 question about the weather. Like, how often
11 is it clear visibility and how often is it
12 restricted visibility going through this
13 strait?

14 COMMANDER HOUCK: I would have to
15 base my answer on my own experience and I
16 would say that only about half the time are
17 weather conditions ideal with visibilities
18 greater than 8 miles.

19 The non-ideal can vary between ice
20 coverage, fog with visibilities down to where
21 you can't see the bow of your ship to sideways
22 rain to 40-foot seas. So, if there are no

1 other questions I'll move onto the next slide.

2 This is the Port Access Route
3 Study process that I've been following. I
4 inherited it and it seems to be working quite
5 well so far with one minor exception. Notice
6 of the study was published in November of
7 2010. The Access Route Study itself has been
8 ongoing. A recommendation was published in
9 the Federal Register and we are currently in
10 our second public comment period.

11 I'm working with the other agency
12 groups and just yesterday got a response from
13 the Ministry of Transport in Russia after
14 going to Washington, D.C. and giving a
15 presentation to them and asking for a point of
16 contact 6 months ago. They are, as you all
17 know, or may or may not know, they are
18 transitioning to a new government and not
19 quick to come to an accord with a foreign
20 government in the midst of their change. And
21 they cite our possible government change
22 upcoming as another reason not to be quick to

1 make agreements. But they are willing to talk
2 which is a huge step forward from where we've
3 been through my time with the Port Access
4 Route Study.

5 So this is the sticky point, the
6 joint Russia proposal to negotiations. And
7 then we would move forward to the
8 International Maritime Organization. Up until
9 yesterday I was considering the options of
10 going forward to the International Maritime
11 Organization without Russian concurrence,
12 knowing that this would delay any outcome by
13 at least 4 years.

14 But leveraging the International
15 Maritime Organization and their power to lean
16 on our Russian counterparts to at least
17 respond and ostensibly forcing them into if
18 nothing else coming up with their own
19 recommendation and then maneuvering from
20 there. Up until yesterday that seemed to be
21 our only option and I'm really looking forward
22 to working with my colleagues in Russia in at

1 least shaping what we would do for the Port
2 Access Route Study and the joint proposal.

3 This is our outreach at a glance,
4 many of the things that we've done. Myself
5 and my number three in the office are the
6 principal authors of the Port Access Route
7 Study so far. And she transfers this summer
8 so we've done as much as we could in
9 background while there were two of us knowing
10 that there would be less effort available come
11 June or July.

12 So we've met with these 7
13 communities, spoke at these 16 forums and
14 today makes 17. Letters and responses and the
15 news outlets have garnered us some pretty
16 excellent results. Lots of people with
17 opinions. The most headway that I made is,
18 you know, here in Alaska we have many who see
19 the sea and the Bering Strait as their -- it
20 is their grocery store, their food source.
21 Their subsistence relies on keeping the ships
22 a certain distance from shore affecting how

1 the ships operate in ice so that they don't
2 figuratively pull the plug and let all the
3 whales and walruses run out into the south
4 Bering before they've had an opportunity to
5 make their harvest.

6 I was able to speak to 11 of the
7 hunting and subsistence groups in this hotel
8 about 2 months ago and convinced them that
9 they needed to caucus and come up with one
10 recommendation from one voice rather than 11
11 or 12 different recommendations and that has
12 helped immensely and is helping us move
13 forward.

14 Next up, the 27 submissions during
15 the first public comment period have all been
16 gone through, collated and each has shaped the
17 proposal going forward in its own way. Many
18 of the people in this room have submitted
19 comments thanks specifically to you and you're
20 all welcome.

21 The comment period is not closed.
22 The last slide will give the contact

1 information of Lieutenant Faith Reynolds and
2 if you think that you might someday have some
3 input towards shaping it please write it down
4 and don't be shy about getting into contact
5 with us.

6 This is an example of a discussion
7 and ideas brought up at a PARS workshop here
8 in Anchorage on 15 August. You can see here
9 is the narrowest point with Big Diomedede and
10 Little Diomedede in the middle. And these are
11 the different suggestions that were put
12 forward by many of the people who were in
13 attendance at the August 15th meeting.

14 The Alaska Marine Pilots have also
15 submitted a great deal of data on the ships
16 that they've taken up through the Bering
17 Strait specifically to the Red Dog Mine and up
18 around to Barrow documenting some of the
19 shallowest areas that they routinely transit.
20 And I will tell you that we need to get a
21 handle on this. There are multiple transits
22 of ships that are carrying 40 feet over areas

1 that I know for sure are at most 41 feet and
2 they're only 41 feet because the last ship
3 went through, dredged the way for the current
4 one. As I said before, it's only a matter of
5 time until one of these goes bad and misjudges
6 his exact line and leaves a bottom on the
7 bottom.

8 This is the contact information
9 for Lieutenant Faith Reynolds. This site
10 right here you can look at the comments of
11 other people and use them to either shape your
12 own comments or refute some of the comments
13 that have been made already.

14 I appreciate your time and I thank
15 you for having me. Mr. Wellslager, I thank
16 you very much for allowing me to come and
17 present. I will be on a panel after lunch and
18 right now I'd like to open it up to comments
19 or questions. Captain Glang.

20 CAPT. GLANG: Gerd Glang.
21 Commander, can you talk a little bit about
22 what kind of analysis you did of the AIS data?

1 It would seem that there's probably certain
2 categories of vessels that are cutting it
3 close around the cape and that they may have
4 particular reasons why they're doing that and
5 how you de-conflict that with the other
6 stakeholders' interests to create areas to be
7 avoided. If there's smaller coastal traffic
8 you're going to be pushing them further
9 offshore so can you just talk about how you
10 did that analysis? Thanks.

11 COMMANDER HOUCK: Yes, sir. I'd
12 like to break that down into two parts. First
13 of all, through the Marine Exchange we were
14 able to break out the smaller data, the tugs
15 and local coastal traffic, from the larger
16 vessels that were using the Northwest Passage
17 and the Northern Sea Route.

18 And I will tell you from my
19 experience working on the Port Access Route
20 Study down in the Strait of Juan de Fuca that
21 special exceptions can be made for vessels
22 moving through marine sanctuaries and areas to

1 be avoided that would -- I won't way minimize
2 but I'll say reduce the cost of doing business
3 as far as fuel spent to increase the distance
4 from shore. And we are looking at that.

5 And there are, just like there are
6 different carriage requirements for different
7 tonnages and types of ships there could also
8 be different routing plans and procedures to
9 be put in place.

10 The beauty of -- the beauty of the
11 recommended routes and the areas to be avoided
12 is that they could be tailored to certain
13 times of year and changed. There are certain
14 sections of the Coast Pilot that deal with
15 different ports with approaches in winter.
16 There are sections that talk about approaches
17 with predominant winds from one direction or
18 another.

19 We could shape the routing
20 measures to deal with situations where the ice
21 comes in early or the ice comes in late or
22 there is an exceptionally large population of

1 eiders one year and we want to change the
2 routing to ensure that no detriment comes to
3 them.

4 These -- I say that and I realize
5 that I have contradicted myself with respect
6 to the IMO and its shaping, but one of the
7 other measures that we're looking at is a
8 scaled-down version of a Vessel Traffic
9 Service that would not have to be local, maybe
10 staffed out of another Vessel Traffic Service.

11 We're not sure how it would work.
12 We're not sure how the funding would work for
13 it but we have shown in every case where a
14 Vessel Traffic Service has been put in place
15 that risk is reduced, not eliminated, but
16 reduced by all the things that Captain Page
17 outlined earlier. Just people behave
18 differently when they know they're being
19 watched. They behave differently when they
20 know that their track lines can be
21 reconstructed from computer data. Yes, sir.

22 MEMBER JEFFRESS: If there was a

1 major vessel incident today, either say a
2 cruise ship or an oil tanker, what sort of
3 assets are in place to respond to that right
4 now and how long would it take? And could you
5 answer that if it was either the Russian side
6 or the American side?

7 COMMANDER HOUCK: If an accident
8 occurred right now response would be at the
9 very least 10 days out if you were relying on
10 the U.S. Coast Guard. Our closest asset that
11 could respond with anything more than removing
12 passengers and crew members would be the Coast
13 Guard cutter SPAR out of Kodiak, Alaska. I
14 assume you're talking about oil response?

15 MEMBER JEFFRESS: Oil or people,
16 if it was a cruise ship or a tanker.

17 COMMANDER HOUCK: Yes, sir. But
18 there are many other out-of-the-box ways to
19 get people off of cruise ships and ships by
20 rerouting other large ships to the area. But
21 for oil spill response this time of the year,
22 if it happened right now there is very little

1 that we could get on scene within 10 days.
2 For this summer's operations we will have no
3 fewer than two Coast Guard cutters in the
4 Arctic present for the duration of this
5 summer's explorative drilling operations and
6 transit season for the ice-free season. And
7 they will be very nearby.

8 CHAIR WELLSLAGER: Lawson.

9 MEMBER BRIGHAM: Back to the
10 question that Dr. Jeffress asked which was
11 insightful because it's like IMO asking the
12 question. When you go to IMO presumably NOAA
13 ROSHYDROMET would provide with a very
14 comprehensive analysis of the environment
15 here, ice, weather, winds and the question
16 that Dr. Jeffress asked. How much of the time
17 in the strait is low visibility? Who knows,
18 11 percent, 15 percent, whatever it is. I see
19 a role for NOAA in providing backup analysis
20 of data that the Coast Guard wouldn't have but
21 you all have at NOAA, whatever sparse
22 observations there are to define the

1 environment which you must do at IMO I mean I
2 would think to get a handle on risk and why
3 the need for this. Not just because there's
4 shallow water around a few points or a couple
5 of islands or even the level of traffic. It's
6 remoteness, cold, low vis, et cetera, right?
7 So is that part of your package, part of your
8 effort?

9 COMMANDER HOUCK: It is, yes sir.
10 Concurrently with the digesting of the data we
11 have just begun working on an Environmental
12 Impact Statement which will take into account
13 the weather, the response assets and
14 predominant currents, predominant ice
15 patterns, that kind of thing as best we can
16 figure them at this point.

17 MEMBER BRIGHAM: Who's the we?

18 COMMANDER HOUCK: We the Coast
19 Guard.

20 MEMBER BRIGHAM: But NOAA's the
21 support federal agency to provide all of that
22 analysis. Satellite data, historical record

1 for 30 years, passive microwave, I mean you
2 name it. I don't know, it just seems like a
3 support effort that NOAA could -- would gladly
4 provide the Coast Guard in this particular
5 effort.

6 COMMANDER HOUCK: We are certainly
7 taking every bit of data that they have and
8 they're very willing to help us out with it.
9 It's still not perfect, it's still as Mark
10 Smith of Vitus said the wild, wild west.

11 It is one of the -- there are many
12 sub-oceanic bathymetric buoys and studies that
13 are going on to try and catch up. Every week
14 when I sign the Notice to Mariners there are
15 three pages of buoys and beneath-the-surface
16 study items that have to be documented and
17 signed off on. It's just amazing to me how
18 much work we're doing in this area to learn
19 how the environment works and to learn the
20 predominant weather patterns.

21 CHAIR WELLSLAGER: Admiral Barbor.

22 MEMBER BARBOR: Yes, I -- at least

1 from the hydrographic standpoint a proposal
2 like this to IMO would then be farmed out to
3 the IHB which would ask for member state
4 comments. And obviously NOAA would be
5 expected to comment substantively on the
6 hydrographic ramifications of a particular
7 routing proposal before IMO. And then, you
8 know, the IHO would respond and support it.
9 I would assume WMO would probably do about the
10 same thing on the weather side.

11 But clearly to make that proposal
12 you've got to do your homework before it gets
13 sent out to the international forum.

14 COMMANDER HOUCK: Yes, sir. My
15 goal is that in order to move this -- we're
16 already behind the power curve. My goal is
17 that instead of farming it out for initial
18 assessment of the hydrographic data and the
19 weather data, that they are just re-contacting
20 people that I've already worked through for
21 confirmation of the data that's presented at
22 the time of proposal.

1 CAPT. LOWELL: I just want to add
2 a couple of comments on what both Lawson said
3 and what Admiral Barbor mentioned. Number one
4 is NOAA is heavily involved, we're always
5 assisting the Coast Guard in these PARS. I
6 believe a couple of months ago there's also a
7 PARS occurring on the east coast and we
8 actually housed a group of Coast Guard folks
9 over in our office where we provided direct,
10 you know, GIS hydrographic review, all the
11 things we typically do from my office
12 perspective to help on Agency PARS. We can
13 certainly do that over here with the Bering
14 Strait PARS study.

15 And to get Admiral Barbor's
16 comment is any routing measure that goes to
17 the IMO for discussion, there is a requirement
18 for hydrographic review because that's
19 actually where you're telling vessels to go as
20 opposed to a big ocean, go wherever you want.
21 And so there's a certain level of
22 responsibility that is incumbent on the

1 hydrographic offices, in this case both the
2 U.S. and Russia to conduct that review. Thank
3 you.

4 VICE CHAIR PERKINS: With the AIS
5 data are you able to track like we do in
6 aviation the near-misses? And are you
7 building that into either your response or
8 your report in the Federal Register to try and
9 help the public understand the necessity for
10 this from a safety of navigation?

11 COMMANDER HOUCK: It's not
12 something we're actively looking at right now.

13 VICE CHAIR PERKINS: Am I correct
14 in assuming that you could analyze the AIS
15 data and actually do proximity interference
16 and see how close these ships are coming to
17 each other in bad weather condition?

18 COMMANDER HOUCK: It would be an
19 assumption on my part and it would be a
20 historical re-creation of the near-miss data.
21 The beauty of having a Vessel Traffic Service
22 is that all that is captured realtime. I

1 would have to rely on Mr. Page and his limited
2 staff to go back and analyze that data right
3 now. And he's shaking his head yes as
4 vigorously as he can.

5 CAPT. PAGE: I won't do it.

6 COMMANDER HOUCK: No.

7 (Laughter.)

8 COMMANDER HOUCK: I can assume --
9 Mr. Page, tell me if I'm wrong. If we knew of
10 a near-miss we could go back and it would be
11 much easier to recreate the AIS track lines
12 instead of looking at a year's worth of data
13 and trying to figure out where the near-misses
14 were.

15 VICE CHAIR PERKINS: Will the
16 proposed traffic separation include spacing?

17 CAPT. PAGE: To answer your
18 question we do that routinely now. The Coast
19 Guard has referred to us on past collisions or
20 near-misses or incidents that have happened.
21 So we can play it back. And it's a lot easier
22 if you know what happened than to stare at the

1 screen like you said, like a year of data and
2 try to see if there's a near-miss situation
3 developing.

4 I'm sure there's ways you could
5 see if two vessels come within 50 yards or 100
6 yards or whatever you want, you could probably
7 determine that, but we never really looked at
8 that yet.

9 COMMANDER HOUCK: Yes, sir.

10 MEMBER DEMPSEY: You know, there
11 was a request of us to report near-misses. I
12 don't know of any ship or sailor that's going
13 to report a near-miss.

14 DR. SULLIVAN: In the aviation
15 community by contrast there's a long-
16 established volunteer reporting effort
17 shepherded by NASA, the Aviation Safety
18 Reporting System. And by pilots and to a
19 degree air traffic controllers do report near-
20 misses there.

21 And it's for just this reason.
22 You need some cuing to direct you to which

1 bits of data, what points in time are
2 pertinent to examine and extract some lessons
3 learned. So it's been a no harm, no foul,
4 anonymous if you wish, teach the system
5 lessons by letting it examine how did two
6 things come too close, come uncomfortably
7 close.

8 MEMBER DEMPSEY: I don't think
9 that's with the maritime yet.

10 CHAIR WELLSLAGER: Larry.

11 MR. MAYER: Thank you. I'm
12 wondering if you have any indication of what
13 the response of the Russians might be. And I
14 ask because, in recent discussions with them
15 about the sea issues, we were quite taken
16 aback that there seems to be some
17 reconsideration of the respect for the
18 maritime boundary. That seems to be driven by
19 a very strong fishing lobby in that part of
20 the world that's calling into question the
21 maritime boundary itself.

22 COMMANDER HOUCK: Yes, sir. The

1 maritime boundary that you speak of of course
2 has not been adopted by either nation at this
3 point. So it is constantly in dispute and
4 I've intentionally drawn the parallel lines
5 for the proposed traffic separation scheme not
6 to align with that boundary so that they
7 wouldn't deny it just on the face of -- that
8 I was trying to confirm that line. I mean
9 that's how international law is formed is by
10 adherence and adoption.

11 So I don't know. I've only been -
12 - I've tried to be in contact ever since I
13 took over in this job but only recently have
14 I gotten anything other than a handshake and
15 a "We'll get in touch with you." So.

16 CHAIR WELLSLAGER: Anything else?
17 Commander Houck, thank you very much. This
18 was very informative and it's an interesting
19 study. I hope everything works out for the
20 best. Thank you.

21 COMMANDER HOUCK: Thank you and I
22 hope to be in contact with some of you if you

1 choose to submit recommendations. I welcome
2 them.

3 (Applause.)

4 CHAIR WELLSLAGER: All right.
5 We're running a little bit ahead of schedule
6 but if at all possible and if the panel
7 members are here and would like to go ahead
8 and start I think that would be a good idea.
9 So if we could, please.

10 MS. WATSON: We need a few minutes
11 to load a few more presentations. We need
12 about 5-10 minutes.

13 CHAIR WELLSLAGER: Five to ten
14 minutes, please.

15 (Whereupon, the above-entitled
16 matter went off the record at 12:43 p.m. and
17 resumed at 12:55 p.m.)

18 CHAIR WELLSLAGER: Well, thank
19 you. It's time for our second panel
20 discussion and we have five people plus one
21 coming onboard again. So what we're going to
22 talk about today is the Alaska multi-mission

1 application of NOAA's geospatial Tides &
2 Currents and Hydrographic Services. Michael
3 O'Hare with the Alaska Division of Homeland
4 Security and Emergency Management. Commander
5 James Houck once again. He will follow up
6 with some waterways management. Aimee Fish
7 with the National Weather Service. Molly
8 McCammon with the Alaska Ocean Observing
9 System. Tom Heinrichs as the director of the
10 GIS Network of Alaska at University of Alaska
11 Fairbanks, and he's representing the Executive
12 Committee for Statewide Digital Mapping
13 Initiative. And then Dr. Bill Hazelton,
14 geomatics, University of Alaska Anchorage.
15 Thank you all for attending and Mr. O'Hare if
16 you would like to start, please?

17 MR. O'HARE: Well, thank you very
18 much, Mr. Chairman. I just wanted to say
19 thank you. It's an honor to be here in front
20 of such a distinguished panel. I'm going to
21 give you a brief overview of how emergency
22 management in the state of Alaska utilizes

1 coastal mapping data and who our partners are.
2 Because it was originally requested how we
3 directly utilize this, NOAA's maritime data
4 and to be honest we don't.

5 We have great partnerships with
6 the university Geospatial Institute. We also
7 have -- we have great relationships with the
8 UAF/DNR which produces our maps based upon
9 your data for tsunami inundation analysis and
10 provide communities with opportunities to
11 better prepare themselves for evacuation and
12 all-around emergency preparedness. I'll get
13 into that in a minute.

14 Also, FEMA uses the geodetic
15 survey data sets for their HAZUS runs as well
16 which provides us a visual perspective for
17 emergency and disaster preparedness, primarily
18 tsunami and flood planning. And as you can
19 see and as I'm sure you guys have talked about
20 some of the data sets are ship track lines
21 obtained 1850 to the year 2000. So you know,
22 we're using a full spectrum of data sets to

1 get information. So essentially we're winging
2 it.

3 But again, you know, it's all
4 about partnerships. The state, our division
5 relies on the sciences and the scientists to
6 provide us with good mapping and good modeling
7 for coastal erosion, for tsunami, for wind
8 damage and like I said, and coastal erosion.
9 Pretty much that is FEMA's cross-section and
10 their -- how they use the data sets and their
11 calculations for NFIP mapping in their HAZUS
12 models.

13 I believe this is an inundation
14 map of Seward again from the Geophysical
15 Institute in the University of Alaska
16 Fairbanks. Just to give you an idea of what
17 kind of stuff we use. The community uses this
18 to provide to critical information for
19 evacuation routes, good evacuation routes for
20 storm surge and tsunamis. As well as here's
21 a tsunami inundation map for Homer. I'm sure
22 you've probably all seen this thing but it

1 sure gives you a good perspective. It sure
2 gives the local community leadership's
3 perspective and the community planners a
4 perspective on what's going to be affected
5 during a tsunami event and where potential
6 best evacuation routes are.

7 And these are communities that are
8 trying to evolve themselves into the Tsunami
9 Ready program. I'm not sure if you're
10 familiar with that but it is a certification
11 from the National Weather Service. They've
12 been providing resources to get tsunami-
13 vulnerable communities better prepared for a
14 tsunami. Public outreach information,
15 awareness to local communities, to local
16 communities, to visitors and residents on
17 evacuation routes and the like.

18 And there's also some really good
19 modeling. And I had a great model set up but
20 you know how these things work with
21 PowerPoint, it really stinks sometimes. So
22 they also provide us with some very good wave

1 runup modeling based upon that metric
2 information and data sets that they get. They
3 can run some good models for us. I tried it,
4 didn't work, but I just wanted to show that
5 out for it. You can get to their website.
6 They've got some good runup models.

7 So one more item. As you know,
8 increasing coastal and riverine erosion. Some
9 of the communities that are what I call the
10 no-brainers. The communities in peril we've
11 called them in the past for coastal erosion.
12 With the lessening and lateness of the
13 shorefast ice along the coast and the west
14 coast and north we are seeing very, very
15 drastic coastal erosion of the communities.
16 I'll show you a couple of examples of that.

17 One more thing I want to put on
18 the slide is we've involved ourselves with
19 mitigation projects, I'll show you one or two
20 of those, with the communities and the Army
21 Corps of Engineers. They've been a great
22 partner. I love that slide though, it's a

1 great perspective.

2 And so yes, this is Newtok
3 shoreline. If you can -- and Kathy, you've
4 got the slide presentation. I'm sure you'll
5 have a copy of this thing. It provides some
6 good information. They're looking at --
7 they're basing their average on the model of
8 this thing and on a coastal erosion of 110
9 feet per year based upon previous data from I
10 think it was 1996. Yes, thanks. And aerial
11 photo was taken in 2002.

12 But as you can see in about 20
13 years it's going to be -- the community is
14 going to be pretty much eroded out. And so,
15 and the same thing for Kivalina and the other
16 communities that we saw on the previous map.
17 Again, with 110-foot erosion, shoreline
18 erosion per year the community of Newtok has
19 decided to relocate with the help of our
20 federal partners to their new location in
21 Mertarvik. And I think they're looking at
22 about 6 to 10 years out to have that

1 completed, but hopefully they'll do that.

2 So these are the options to the
3 community. Either we can help mitigate,
4 physically mitigate the shoreline community
5 from there, or the other option is to move
6 them and it's very costly.

7 Some of the mitigation techniques
8 that we've put forth. Of course those barrier
9 baskets. If you fill them with the right
10 material they work better. If you fill them
11 with sand they tend to not work very well so
12 you live and learn. But these are some of the
13 high-tech designs and getting beat up by low-
14 tech damage and stuff.

15 Some of the mitigation projects
16 that we've worked on again with the Army Corps
17 of Engineers and federal resources have been,
18 you know, seawall abutment, enforcement and it
19 is a continuous ongoing and expensive project.

20 Let's see. Going back to the map.
21 As far as the Arctic goes we don't have a lot
22 of population in there so the focus has not

1 been in the past unless there's been a call
2 for distress we will respond of course
3 immediately. But those west coast, northwest
4 coast communities due to coastal erosion have
5 been the biggest focus for the state of Alaska
6 with regards to coastal erosion issues.

7 Again, the lack of shorefast ice
8 and the lateness of the shorefast ice. And as
9 we all know we have hurricane storms up here,
10 they just don't call them pretty names. So
11 they are, they are vulnerable. And let me go
12 back. And so that concludes -- just to give
13 you an overview and a quick rundown of how we
14 utilize the data through our partners for
15 preparedness, mitigation, response and
16 recovery for the local communities of Alaska.
17 And thank you very much.

18 (Applause.)

19 CHAIR WELLSLAGER: Okay. I think
20 what we'll try to do is go through the
21 discussions and then ask for questions at the
22 end. Commander Houck, if you would, please.

1 COMMANDER HOUCK: I didn't
2 introduce myself before. I wanted to save it
3 for now. My name is James Houck. I'm a
4 commander with the U.S. Coast Guard. I have
5 10 years sea time on 5 different ships. Next
6 month I'm heading off to take over another
7 ship out of Homer as interim captain for about
8 6 weeks. I've operated here in Alaska out of
9 Cordova, Alaska with the Coast Guard cutter
10 Sycamore for 3 of the past 4 years.

11 I have six of the most capable,
12 flexible and easy-to-deal-with captains on the
13 six ships that I use to manage the waterways
14 of Alaska. My office is responsible for all
15 of the navigable water in Alaska for marking
16 it, sometimes for not marking it, for deciding
17 whether to mark it and to do the cost-benefit
18 analysis, sometimes after the fact, for not
19 marking a waterway.

20 I was asked to come and speak to
21 how we use hydrographic data in the Coast
22 Guard and how we use NOAA's hydrographic data

1 specifically. I'll tell you that the
2 placement of the aids to navigation, the
3 buoys, the towers, the lights to mark the
4 shoal water is critical to the safe navigation
5 and the safe movement of commerce to and
6 through Alaskan waters.

7 And we -- there are certain areas
8 where we use and need the data more than
9 others. For instance, the Kuskokwim River,
10 Bechevin Bay, Port Moller, we in recent
11 history, and we've always done this in the
12 Coast Guard. You know, in times past we'd
13 send a small boat in with a piece of line and
14 a weight on the bottom to determine how close
15 we could get to the shore because ever year it
16 changed.

17 In recent times we have the
18 ability to do our own single-band surveys of
19 the different ports which has saved a lot of
20 time. Now, I want you to keep in mind I have
21 four 225-foot ships with an allotment between
22 the 4 of them of 8,400 hours a year. Now, I

1 have to divide that 8,400 hours up into
2 training and many other things as well as
3 marking, visiting, reinspecting the aids to
4 navigation that lie along a coast that is
5 larger than the entire coast of the lower 48.
6 You've heard that said many times. To spend
7 2 to 3 days each time I want to go up into
8 Bechevin Bay or up the Kuskokwim River
9 surveying is not time I have but it's time I
10 must use.

11 I will tell you that in my office
12 and in the Coast Guard there are fewer than
13 five areas where in order to allow the captain
14 of a ship to head up into an area to look at
15 it they are given letters of indemnification.
16 In the Coast Guard in general if you touch the
17 bottom with your ship you can pack your bag,
18 you're done. You'll never go to sea again.

19 In areas like the Kuskokwim, in
20 areas like Bechevin Bay I personally write a
21 letter of indemnification to each one of my
22 COs that I'm asking to go up there explaining

1 to them that I understand the difficulties and
2 that I expect them to operate with the utmost
3 of care as they navigate up and down these
4 waterways, but that I understand that the
5 waterway changes constantly and that I'm
6 asking them to go up into an area that we
7 don't have good charts for.

8 It's pretty tough to ask a
9 commanding officer to create their own chart,
10 monitor the tide cycles, develop their own
11 tide tables and then use those to go and risk
12 everything to mark a waterway to help out with
13 commerce. So letters of indemnification are
14 given in all of those cases.

15 And I will tell you that in my 10
16 years of sea time before coming to Alaska and
17 taking command of the Coast Guard cutter
18 Sycamore I kind of got a chuckle out of how
19 people treated navigation in Alaska, the
20 weather, how fast things could change.

21 My first time getting underway out
22 of Prince William Sound and being slapped in

1 the face with one of these 145-knot winds that
2 the gentleman described earlier wiped that
3 smile right off my face. There's a lot to be
4 said for the need here.

5 And I realize there are other
6 places in the United States. I was captain of
7 a ship out of North Carolina that marked the
8 Outer Banks where things change constantly.
9 But we have methods and ships where if
10 something goes wrong down there, a major storm
11 comes through, within 7 days it's been re-
12 surveyed, okay? So I use that as a segue way
13 to my next item on the agenda.

14 First I want to tell you that
15 throughout my career in the Coast Guard, and
16 I've been in 22 years, I've been from the very
17 beginning the person that they turned to when
18 they think a job just can't be done or is
19 going to be incredibly difficult, go and
20 figure out a way to do it.

21 In that light I was sent to Nome.
22 I was the second person in and the last person

1 out for this refueling operation. And my
2 title changed several times. It wound up
3 being the ice boss because I had the
4 experience that Captain Brigham, Dr. Brigham
5 had given me.

6 There was a huge storm in November
7 that came through, hurricane force winds, did
8 damage to the brick wall. I knew that going
9 in and I knew that I was asking the captain of
10 the Healy to come into waters that may not be
11 as charted. So I spent several days walking
12 much further out on the ice than I needed to
13 or probably should have drilling holes, taking
14 soundings, verifying depths just to ensure
15 that we could get both the Renda and the Healy
16 in close enough to shore so that we could
17 refuel the city of Nome.

18 I wanted to make that for my own
19 benefit, my own selfish reasons because I was
20 also responsible for surveying and helping lay
21 in the hose road. I wanted to make that as
22 short as possible.

1 And luckily Captain Havlik on the
2 Healy -- I won't call her a risk-taker but she
3 came a lot closer than she had to in order to
4 make it easier and to make that refueling able
5 to take place in under 2 days. If we had had
6 to run the mile and a half of hose that I
7 suspected we would and that I refused to
8 promise less than a mile and a half of hose to
9 Mark Smith of Vitus and the other folks there.
10 It would have taken significantly longer just
11 by the sheer fact that each one of those
12 fittings, each one of those breaks in the hose
13 had to be staffed around the clock as we
14 started up the operation and through the night
15 to accommodate the refueling.

16 These are the ways we use NOAA's
17 surveys. The surveys are inherent to
18 everything that we do from PARS to port access
19 to the marking of the shoals to how we fuel
20 our ships. If one of my ship's captains is
21 heading into one of these areas where I've
22 issued a letter of indemnification they won't

1 even fuel up completely. They'll fuel up just
2 enough to get through the operation so that
3 they're as light as possible and bow down to
4 protect their screws. It, like I say it
5 affects everything that we do.

6 And it is sobering to look at a
7 chart and see that you're basing your career
8 on, at the earliest, or the latest a 1939
9 survey. And I was telling folks earlier, you
10 know, many of the places that we go up in the
11 Arctic over the top, I started going up there
12 in 1994 and I'm sure Captain Brigham was
13 heading up there in 1974. There were many
14 tracks. We were on the track and taking that
15 route solely because that's where the line of
16 pencil soundings, penciled-in soundings was.
17 And there were no soundings on either side of
18 it.

19 That's improved some. It's not
20 100 percent coverage, it's not like steaming
21 into Chesapeake Bay or the Strait of Juan de
22 Fuca where you know within 3 feet of how deep

1 the water is without even a fathometer. But
2 I thank you for your time and Mr. Chairman,
3 thanks for having me.

4 (Applause.)

5 CHAIR WELLSLAGER: Thank you. Our
6 next speaker is Aimee Fish of the National
7 Weather Service.

8 MS. FISH: Thank you very much for
9 letting me come here today and speak to this
10 distinguished panel. There were a few topics
11 that I could have chosen to speak about today
12 when it comes to hydrographic surveying and
13 coastal surveying along Alaska's coast.

14 As has been mentioned, bathymetry
15 obviously is critically important. And while
16 I'm not focusing on that topic today I will
17 just say without accurate bathymetry we cannot
18 provide accurate near-shore wave modeling
19 which is critically important not just for
20 boaters, for folks who are subsistence hunters
21 and gatherers, but also for our coastal
22 communities which are, as has already been

1 pointed out by Mr. O'Hare, very vulnerable to
2 the ocean.

3 Instead I'm going to focus on
4 water level measurements and tides. And I
5 think the best way to do that is to focus on
6 the storm that has been brought up by
7 Commander Houck and that was the very storm
8 that brought the Renda and Healy into Nome
9 because their fuel ship had to turn away. And
10 that was our big November storm of this last
11 fall.

12 What you're seeing on this screen
13 is a satellite image of the storm. And I like
14 your map better, Mr. O'Hare, than mine, but I
15 guess it gives similar perspective.

16 So obviously this is our big
17 storm. If you were to map that out, the
18 extent would be really about one-third of the
19 CONUS. What I've also put on this map here is
20 in red. This is where we have water level
21 observation points in the area that was
22 impacted. We have more than that in Alaska

1 but not in the western area that was impacted
2 by the storm. And really mostly these
3 locations were not much impacted, certainly
4 not in the way of communities being threatened
5 by damage. And this observation point here is
6 for tsunami water level monitoring. It's not
7 an NWLON.

8 Just a quick recap on what this
9 storm did. More than 35 communities were
10 damaged, received damage. It impacted about
11 1,000 miles of coastline. It prompted a
12 Presidential disaster declaration and damage
13 estimates are still coming in. Because this
14 happened in November we had a very cold, hard
15 winter that especially in the western part of
16 our state does not quite seem to want to leave
17 yet. The water that came in and inundated
18 these communities froze. So we still don't
19 really know what the total of our damages will
20 be.

21 And here's a few of the things
22 that we had to combat in our forecasts.

1 Forty-foot seas were measured by our one buoy
2 that was actually working which would be
3 approximately out in this area. Wind gusts to
4 about 93 miles an hour. That was measured at
5 Little Diomed Island. And blizzard
6 conditions as well as storm surge.

7 And again, just to put this into
8 perspective, we obviously do get hurricane
9 force winds and hurricane strength storms
10 here. This particular storm was only 1
11 millibar of central pressure different from
12 Hurricane Irene and the wind speeds were quite
13 comparable to those that were experienced in
14 the mid-Atlantic states as that hurricane made
15 landfall.

16 So as I mentioned, this is the
17 area outlined in red approximately that was
18 impacted as far as the communities in there.
19 And it's a little wide to the west so I could
20 include the Pribilof Islands which did receive
21 damage. But as you'll note there are two
22 water level observation points that are

1 encompassed by this, again, nearly 1,000 miles
2 of coastline.

3 And as has already been mentioned
4 this coastline in particular is extremely
5 vulnerable to coastal erosion and storm surge
6 damage. The photograph in the middle, it's a
7 little dark, but this is actually ice that has
8 inundated a home. This was a child's bedroom.
9 So the sea can often be relentless and in this
10 case we did have ice present so it brought a
11 whole new challenge.

12 I think to best illustrate our
13 need for water level observing and tidal
14 predictions I'm going to focus on the story of
15 one community. This is the community of
16 Golovin which is on Norton Sound, it's just
17 east of Nome. You can see on the map. And
18 this is a map that our forecast office in
19 Fairbanks, which is responsible for making the
20 forecasts for this area, generated based on
21 historical knowledge, 30 years of trying to
22 forecast for this area what kind of weather

1 makes them most vulnerable.

2 The picture in the upper is mean
3 low low water. So essentially, the
4 perspective of what the community looks like.
5 In the lower corner that's what the community
6 looks like inundated with water during a storm
7 of September 2005. I believe the storm of
8 September 2004 one year prior was a bit worse
9 in that community. But yes, okay good, you're
10 shaking your head. My memory could be
11 mistaken but sounds like not.

12 So this is a quick look at
13 Golovin. So the area that you saw
14 photographs, this is about that area right
15 here. This includes their school, the
16 majority of where the residents live, their
17 power plant and their water facilities as
18 well. This area closer to their airport is
19 about where they would evacuate if they needed
20 to evacuate their community.

21 So these were some of the
22 decisions that community leaders were having

1 to make and asking us for decision support.
2 Should we evacuate due to storm surge, and if
3 so when? Now it's not just like a regular
4 evacuation like you would have with a
5 hurricane. Typically those occur in warm
6 months. In this situation we had a blizzard
7 that was occurring. It was very cold and very
8 windy, and there was one private generator
9 that was available in the area for evacuation
10 and it had limited fuel. If my recollection
11 is correct I think they had about 72 hours'
12 worth of fuel to keep that generator going.
13 So certainly not something that they were
14 eagerly going to be doing if they could have
15 avoided.

16 Some of the other issues, their
17 power and their water. Power of course is
18 critical if you're talking about cold, windy
19 blizzard conditions and a community which has
20 elderly people and young children because it's
21 cold and you need a heat source.

22 There aren't very many trees that

1 live there so certainly you wouldn't have much
2 in the way of wood to burn so you needed power
3 and you needed fuel. So will the plants be
4 inundated? Should we shut down the water or
5 the power and when? And these were decisions
6 where they were trying to essentially save
7 their power plant.

8 If the water came in it would have
9 destroyed their power plant if they had it up
10 and running. So they needed to make a
11 decision of when to turn it down, but also at
12 the same time not put their population at risk
13 because of the elements.

14 And of course this was the
15 ultimate question. We heard this over and
16 over again. How bad will it be and will it be
17 comparable to 2004 or 2005? Something of a
18 historical record that they could put into
19 perspective.

20 Well, for us that's a little bit
21 difficult to answer because we don't have a
22 record of how bad it got in 2004-2005. We

1 don't have a water-level measuring capability
2 there.

3 These are two different charts
4 which our forecasters will use for
5 extratropical storm surge. So this is just
6 pure surge from the storm, pressure-driven
7 surge, with tidal predictions. Now, in
8 Golovin we actually did have tidal predictions
9 and that's this lower green line on this bar.
10 Compared to Nome which you saw on the map is
11 relatively by Alaska standards pretty close
12 by, quite a different tidal pattern.

13 Also on the Nome chart you'll see
14 a different color in these X'd marks. This
15 line, the big bold line, that is essentially
16 the total water level prediction based on the
17 surge in the tide. The red hash marks are
18 what was observed. So that's essentially our
19 benchmark, you know, how is the model
20 performing, how bad is this compared to years
21 past. If we have that data we can look at
22 that. We don't have that data for Golovin

1 because we don't have a way of measuring
2 what's going on.

3 And as you can see the same part
4 of this storm, quite a difference between
5 what's going on in Golovin and what's going on
6 in Nome. So we can't take one community and
7 make it fit with another, even if it's close
8 by. And as I already mentioned Golovin was
9 lucky because they had tidal predictions. And
10 the key word is "had" because they're no
11 longer available on tide and currents.
12 Luckily we still have them in our model and
13 we're still running our model with the old
14 predictions.

15 So the questions that we got from
16 many villages, and we had conference calls
17 with the state and FEMA, and there would be
18 dozens of villages that were in the line of
19 this storm that would be asking very specific
20 questions much like questions we received from
21 Golovin. And they all asked the same things
22 in one form or another, how bad will it be,

1 how high will the water get. And frankly it's
2 impossible to answer these questions when
3 there's no tidal prediction. Storm surge at
4 low tide is a much different thing than storm
5 surge at high tide.

6 So then of course the question is
7 when will high tide be. And on our conference
8 calls this is when we had silence on the phone
9 because there in many cases was no answer.

10 So here's a quick look at where we
11 do have tidal predictions. And I will point
12 out a lot of these are new in the area of
13 concern. So we're very pleased to see
14 Unalakleet come on this winter, North Bay,
15 Shaktoolik, Shishmaref. I mean, these as has
16 been mentioned are some really critical areas.
17 So these are brand new. Not all of these were
18 available to us for our November storm so
19 progress is great and much appreciated but
20 certainly we have some work to do. And so the
21 question is what can we do.

22 Well of course in the perfect

1 world we would have National Water Level
2 Observation Network sites everywhere. We know
3 that's not realistic. So in Alaska we have a
4 saying where, you know, you bring the paper
5 clips, I'll bring the duct tape, we'll make
6 something work. That's kind of our grassroots
7 effort and way of managing things.

8 Certainly there's a need for a
9 grassroots effort here, but there's also a
10 need for less expensive platforms. We don't
11 always need a Cadillac. It's pretty amazing
12 what an Alaskan can do with a four-wheeler.

13 We also desperately need more
14 tidal predictions. What's interesting is
15 there's actually a lot of historical data but
16 those are not necessarily available in the
17 form of predictions. And I'll use Golovin as
18 an example, again, a site that's no longer
19 available in Tides & Currents.

20 And I look back at the historical
21 data and it looks like that was from 1899.
22 Now, I totally understand the deal with

1 bathymetric surveys that are old, I get that,
2 but in our mind even though it's old it's
3 still better than nothing because we were able
4 to provide a service to Golovin that frankly
5 we were not able to provide with some of the
6 other villages.

7 And of course we would request
8 that some of the criteria be relaxed for
9 Alaska so we can still get, even though it's
10 about 2 weeks' worth of data and it is
11 extremely old, it's still very valuable.

12 So of course the question is is no
13 data worse than bad data, or is bad data worse
14 than no data. And I guess the question is are
15 predictions based on short observations better
16 than no predictions at all.

17 Well, let's think of what data is.
18 Data essentially is nourishment for a
19 forecast. So if we use an analogy about
20 nourishment the question then becomes is bad
21 food worse than no food, and in some cases
22 absolutely yes. You're not going to eat a

1 rotten egg, it's going to make you sick.
2 You'd be better off not eating anything at
3 all.

4 But what if you have some
5 strawberries that are just not quite ripe?
6 That's not good, it's not pristine, it's not
7 perfect, but is it bad? And our feeling is
8 it's definitely better than no food at all.
9 And I guess that analogy really works for us
10 here.

11 It's not -- we're not asking for
12 perfection, we're not asking for the Cadillac
13 of services but we are asking for something
14 that we can work with. Because quite frankly,
15 in Alaska we're kind of used to strawberries
16 that aren't perfect on our store shelves when
17 we can get them, and it's pretty amazing what
18 we can make with them when we're through at
19 the end of the day. So thank you very much.

20 (Applause.)

21 CHAIR WELLSLAGER: Our next
22 speaker will be Molly McCammon with the Alaska

1 Ocean Observing System. Sorry about that.

2 MS. MCCAMMON: That's okay. It's
3 McCammon.

4 CHAIR WELLSLAGER: Thank you.

5 MS. MCCAMMON: Thanks very much,
6 it's great to be here. I want to acknowledge
7 a couple of people in the room. The chair of
8 my board is Captain Ed Page. So I think he
9 has a better job than I do because I go to
10 D.C. a lot and he goes kayaking a lot.

11 And the person who hired me for
12 this job originally is Lawson Brigham in 2003.
13 He was one of the first people who got the
14 funding together to get the Alaska Ocean
15 Observing System started so thank you, Lawson.

16 So what and who is AOS, the
17 Alaska Ocean Observing System? We're a
18 regional program that's actually part of a
19 national integrated ocean observing system
20 that's been codified in law by Congress. So
21 we're part of a congressional act.

22 Our mission is kind of multifold.

1 We provide easy access to physical, chemical
2 and biological data. We develop a network of
3 ocean and coastal observations. And our
4 policy is if we can't do it, if we can't
5 provide it, who can and we do a lot of
6 facilitation. We do a lot of bringing folks
7 together, trying to make things happen.

8 And then thirdly we develop
9 information products and tools for informed
10 decision-making. Because so often what we
11 find is that people don't really want data,
12 they want the information that data is giving
13 them.

14 As I mentioned we're part of this
15 national program and there are programs like
16 us all around the country. When I first
17 started in 2003 with Lawson at that time it
18 was mostly a set of earmarked programs that
19 have been developed. About half of the states
20 were covered with this. We had a total of
21 about \$47 million in annual earmarks. We even
22 received several from Senator Stevens to get

1 started.

2 Now we have complete coverage of
3 the entire coastal U.S. and we're operating at
4 about half the money. So times have changed
5 and we're trying to do as everyone else, more
6 with less.

7 So our founding board members are
8 primarily state agencies, federal agencies,
9 the research community and then we have the
10 Marine Exchange of Alaska. So we do have
11 basically most of the decisionmakers in Alaska
12 at the table who set our priorities.

13 But we do partnerships with all
14 kinds of folks. I mean, we're -- Alaska is --
15 we're the queens and kings of leveraging up
16 here because that's the only way we can get
17 anything done. And I appreciate Larry Mayer's
18 comment about the frailty of programs that are
19 supported by these leveraged resources. But
20 I don't see any other way of being able to do
21 things and accomplish things in Alaska. And
22 at least we're getting things done that way.

1 So if you can come up with a better solution
2 we'll take it.

3 Our program is stakeholder-driven.
4 So a typical research program asks questions,
5 science questions, and then they decide what
6 kind of observations and models they need. We
7 start with who are the users of the
8 environment, what are the decisions they have
9 to make, what are the issues they're facing,
10 what kind of observations and forecasts do
11 they need. And then from there what kinds of
12 things do we need in the water, what kinds of
13 information products.

14 So we have a whole diverse group
15 of decisionmakers and stakeholders ranging
16 from resource managers to industry to local
17 communities to mariners, fishermen, just kind
18 of that wide swath.

19 Because we do have a limited
20 program and we try to be very strategic our
21 focus has been on a couple of thematic areas:
22 marine operations, coastal hazards, water

1 quality and ecosystems fisheries and climate
2 trends. And we try to pick the kind of key
3 areas within those segments of how we can make
4 a difference. Whether it's operating weather
5 stations in Prince William Sound which we've
6 done, whether it's partnering with Ed Page and
7 developing ways to push weather out through
8 the AIS sites, whether it's funding a historic
9 sea ice atlas that Lawson begged for for years
10 and we're now funding it with the University
11 of Alaska Fairbanks so we will have a
12 historical sea ice record for Alaska
13 electronically within another year. Whether
14 it's funding high-frequency radars in the
15 Chukchi Sea so that we can monitor currents,
16 surface currents, or monitor ocean
17 acidification at three buoys around the state
18 and along the Seward Line which is our longest
19 time series. So we do those kinds of things
20 in terms of modeling, forecasting, and
21 observations.

22 Part of our -- one of the things

1 we did this past year was develop kind of an
2 optimum 10-year build-out. If we didn't look
3 at money what are really the needs again
4 looking at these thematic areas and how would
5 we develop a program for the state. And we
6 looked it from kind of the large marine
7 ecosystem perspective and then developing it
8 into seven subregions and areas.

9 And we used our experiment in
10 Prince William Sound. We started this in 2003
11 as kind of a -- if we were to do an ideal
12 observing system what would it look like. And
13 we started in the sound because we built on
14 the legacy of the Exxon Valdez oil spill which
15 has a huge amount of research and a lot of
16 different facilities that were there that we
17 could leverage.

18 And we showed -- this is 100
19 kilometers square. So it's pretty small, it's
20 pretty tractable, it worked. We were able to
21 do in one field experiment we did lots of
22 drifters in there. We were able to show how

1 our models worked, how the models worked
2 better when you had realtime observations that
3 you could assimilate into the models. It
4 worked. It's just not cost-effective.

5 And then you try to replicate
6 something like this in other areas such as the
7 Bering Strait. And Lawson will recognize this
8 because this one kind of a conceptual
9 observing system that we developed as part of
10 the Arctic Marine Shipping Assessment a few
11 years back.

12 When you try to replicate it up
13 there the cost is just astronomical. And this
14 is the map that I like to use. I mean,
15 everyone else was showing the other map, but
16 this is the map I use, especially with my
17 California compatriots because this is -- in
18 some ways we do ourselves a disservice because
19 we put the entire map of Alaska on one slide.
20 And it looks like we have a lot of stuff going
21 on, and boy, you guys are lucky. Look at all
22 this stuff happening.

1 But you have to really put it in
2 perspective in terms of the scale of what
3 we're trying to deal with and the remoteness,
4 and the fact that most of these regions have
5 no roads, have limited power, are iced in a
6 good portion of the year, extreme weather
7 conditions, et cetera, et cetera. So I always
8 like to -- and the little purple area down
9 here, this area down here, that's our southern
10 California ocean observing system. So I
11 always like to say.

12 Of course then they'll tell me the
13 value of, you know, 1 inch of shoreline of
14 California coast compared to ours. Then we
15 start arguing about resources and whales and
16 fish and everything. But anyway.

17 So when we're trying to do this
18 and this has actually been a really good
19 exercise for us because we're looking at what
20 do we really need at kind of these subregional
21 scales. And again, it's kind of course
22 resolution everywhere. We're going to use a

1 lot of satellites, remote sensing models, not
2 a lot of observations, just to give us that
3 big picture.

4 But then everybody wants more
5 information about their back yard. So they
6 want more information on the Bering Strait,
7 Norton Sound, the Chukchi right off Prudhoe
8 Bay. You're going to need more point
9 observations, more sentinel monitoring.
10 You're going to need finer scale models and
11 forecasts. You're going to need ShoreZone
12 detailed GIS data layers. So at those little
13 scales like that.

14 And we've actually used this
15 build-out plan in a lot of different venues to
16 start talking about how do we collectively as
17 a community build something like this. We
18 don't see this as us, Alaska Ocean Observing
19 System, we see this as the collective
20 community trying to develop this.

21 So when you don't have a lot of
22 observations to begin with of course kind of

1 the key is making sure that whatever you do
2 have people have access to it. And when we
3 started in 2003 the only real regional data
4 portal was GINA which Tom is going to talk
5 about which really focused a lot on satellite
6 data and on terrestrial data.

7 So we really have put since that
8 time a lot of effort into our Alaska Ocean
9 Observing System ocean portal. And just this
10 year we are now able to integrate and
11 aggregate multiple data layers, from sensors
12 to models to remote sensing to anything with
13 GIS, with a lat-long to project-level point
14 data and integrate these into products that
15 hopefully will be of use to various
16 stakeholders.

17 We started this 2 years ago with
18 what was called the Arctic Research Assets
19 Map. And again you see all these little dots
20 up here and it looks like there's a lot going
21 on and there is. And this is all due in the
22 last 5 years to work from MMS/BOEM and the

1 industry, Statoil, Shell and ConocoPhillips
2 and then on the Beaufort side some from BP.

3 The industry and agencies asked us
4 to put this map together because all of a
5 sudden there was a lot of things going on up
6 there. There were buoys in the water. They
7 wanted to make sure that everyone knew where
8 everything was so that you wouldn't see your
9 mooring heading towards Canada.

10 But it's been incredibly useful
11 over the last 2 years. It's reduced
12 duplication of effort. People have looked at
13 this map and said I was going to put an
14 acoustic recorder there but I see you already
15 have one. I'm going to put mine over here.

16 It's allowed us to identify gaps,
17 where are the big holes in monitoring and in
18 research. It's allowed people to avoid
19 collisions. It's given incredible
20 opportunities for collaboration because we
21 also include ship tracks, planned ship tracks
22 and also air tracks. And it gives you a much

1 more holistic view of the research effort.

2 And we're now taking this and
3 we're expanding it to western Alaska, the
4 Bering Strait south and then our goal is to
5 have this statewide. Ultimately our goal then
6 is also to link directly to the data from
7 these various sources.

8 So we started 2 years ago with
9 first of all making sure that we had access to
10 every realtime sensor in the state. And we
11 have continued to do that and hopefully we'll
12 be getting the industry met/ocean data on here
13 as soon as that comes online through National
14 Data Buoy Center.

15 We provide things like winds,
16 tidal predictions, water temperature wherever
17 they have it. We can overlay all these
18 various pieces of information.

19 Our most popular page has always
20 been the webcam page and we've put these
21 together for Prince William Sound and Cook
22 Inlet where they're on one page so they don't

1 have to go to multiple sites.

2 These webcams come from a lot of
3 different sources. Pilots love them because
4 they can see on one page what the weather is
5 like across the inlet or across the sound.

6 This is an example of where you do
7 multiple sensors and multiple information,
8 whether it's water level or the webcam and the
9 winds. And you can see it all integrated on
10 one page.

11 We have a model explorer which
12 uses remote sensing data and any models. So
13 we have sea ice, winds, snow depth, water
14 level. Any model that we can get our hands on
15 we're putting that in. And again, you can
16 start layering those as well.

17 This includes things like currents
18 which gives you realtime currents in some
19 places plus 4 hours into the future. We have
20 a capacity where in a model like this you can
21 drop a virtual sensor and you can get the data
22 set for that point. It gives you some idea of

1 what it might be at that particular location.

2 Our latest tool that we've been
3 developing is for Cook Inlet and this was at
4 the request of the Cook Inlet Regional
5 Citizens Advisory Council. And it
6 incorporates all those various layers. So
7 we've got models, satellite data, all the
8 sensor data and then we also have the
9 ShoreZone high-definition videography and
10 videos.

11 You can now fly the coastline,
12 stop at a point, grab a picture of it and see
13 what data is available at that point. And
14 this is something that will be -- our
15 intention is to do this for the entire coast
16 of Alaska at some point. So this has been
17 something we're just in the process of
18 releasing right now.

19 And this is Augustine Volcano here
20 and these are the ShoreZone tracks here that
21 you can fly all around here and see the actual
22 coastline. So this is an incredible tool for

1 oil spill response, for any kind of planning,
2 for coastal zone permitting, for planning
3 where you're going to camp on your kayak trip,
4 to see if there's a beach available for
5 anything. And the entire state will be mapped
6 with ShoreZone probably within the next 2 to
7 3 years. So we're getting very close to doing
8 that.

9 So I do want to highlight a little
10 bit the industry-NOAA data-sharing MOA that
11 Dr. Sullivan mentioned yesterday and that was
12 signed by NOAA last year. And the three
13 companies, Shell, Statoil and ConocoPhillips.

14 And you know, you always say the
15 devil is in the details, and the detailed
16 annexes have taken way more time than we
17 thought they would. But the Annex Number 1,
18 the top priority for the met/ocean data in
19 realtime and the sea ice images, that's been
20 signed at least on the NOAA side and is
21 expected by the industry momentarily I
22 anticipate.

1 Annex 2, historic met/ocean data
2 and non-realtime environmental studies data.
3 That's in the process and is very close to
4 being signed. That's a \$40 million
5 environmental studies data set for the Chukchi
6 Sea. You combine that with the \$40 to \$50
7 million that MMS/BOEM has funded over the last
8 5 to 7 years, you have a \$100 million data set
9 of environmental studies in the Chukchi. That
10 is a huge resource that is going to become
11 available to the scientific community and the
12 public as of July 1st. So that's huge.

13 Annex Number 3, we hope to get
14 this in too is the hydrographic and
15 bathymetric surveys for charting and mapping.
16 That will be on its way and we hope to get
17 that accomplished by the end of the summer.
18 And I know Matt's really chomping at the bit
19 to get that.

20 Our data portal is going to be the
21 access point for the industry data, for the
22 non-realtime industry data. And all the NOAA

1 data centers are going to be in archive and
2 also provide public access. So this is a huge
3 thing that we hope to replicate elsewhere.

4 Another project that we've been
5 working on is funded by NOAA. We call it the
6 STAMP project, Spatial Tools for Arctic
7 Mapping and Planning. This was part of the
8 regional ocean planning funds that NOAA had,
9 coastal marine spatial planning, that kind of
10 pot of money.

11 We worked with the state of Alaska
12 who has expressed a lot of concerns about
13 CMSP. But they've always been very supportive
14 of data integration and data visualization.
15 They were right there with us on that. So we
16 crafted our project to really focus on those
17 pieces of it.

18 So we're focusing and we were
19 successful. We reviewed well and we received
20 \$760,000 for a year and a half project.

21 And instead of focusing on what do
22 you need for the PARS study for shipping or

1 for oil and gas development, we're looking at
2 hypothetically. Right now there's a
3 moratorium on commercial fisheries development
4 in the Arctic.

5 So what would you need though if
6 you were to have commercial fisheries? What
7 kind of baseline data? What kinds of
8 decisions would need to be made? How do you
9 start developing those information layers?
10 And oh by the way, they can be used for the
11 Bering Strait shipping issues. They can be
12 used for decisions on oil and gas now because
13 it really is the same kind of information.

14 So this project, right now our
15 project manager is in Kotzebue with the Arctic
16 ERMA folks. They're meeting with folks there
17 jointly to make sure that everyone knows how
18 we're working closely together on that. But
19 this I think will be of a lot of value to the
20 Coast Guard and to other decisionmakers.

21 And this is -- as part of that we
22 have a new polar projection that is going to

1 come out on our ocean portal. So the Arctic,
2 typically you just see this little band of
3 Arctic and then it gets cut off. So for the
4 Arctic piece of it we're going to have the
5 polar projection so we can really see with
6 Alaska where it should be kind of prominent at
7 the bottom where your eye is usually.

8 And this is the sea ice
9 concentration from yesterday. So this is the
10 kind of thing layers will start showing there.

11 So just in conclusion I just want
12 to emphasize that all of the stakeholders that
13 we have depend greatly on Hydrographic
14 Services for lots of different purposes and
15 not just navigation. I think Aimee mentioned
16 a few of them, just the need for bathymetry
17 for storm surge inundation models, for ocean
18 circulation models. We -- and it doesn't have
19 to be perfect but we just need to have some
20 and we need to have whatever we have
21 integrated.

22 Fish and Game uses winds,

1 bathymetry and sea surface temperatures to
2 gauge the run timing of salmon into the Yukon
3 and Kuskokwim Rivers and that run timing is
4 changing. It has huge impacts on commercial
5 fishermen.

6 So we have a really broad mandate
7 and mission, lots of diverse stakeholders but
8 our kind of motto is measure once, use many
9 times. So you get -- if you get lots of hits
10 from multiple stakeholders, you know, you're
11 golden in terms of an observation platform.

12 We also have the capacity and are
13 serving now as kind of a key data assembly
14 center and integrator. We look at things as
15 trying to present the ocean in 4D. A lot of
16 mapping services are two-dimensional, they're
17 kind of lat-long. We're looking at the ocean
18 with depth and with time, over time.

19 Our system is one that also meets
20 national standards and global standards so we
21 feed directly into a national program and a
22 global program.

1 And just lastly I want to say
2 there's lots of interest in the Arctic now and
3 every time you go to a meeting it's a changing
4 landscape of players who are at the table.
5 We're now working with the landscape
6 conservation cooperatives that are Department
7 of Interior. We're working with USGS, their
8 climate science centers. So there's lots of
9 new partners and players. Industry is really
10 at the table.

11 And it's something we all have to
12 keep on our toes about because, you know, you
13 just go on vacation and you come back and
14 everything's all changed. So it really is a
15 changing landscape and we appreciate that
16 interest, especially if you come with money.

17 (Laughter.)

18 MS. MCCAMMON: And with that I'll
19 conclude. Thanks.

20 (Applause.)

21 CHAIR WELLSLAGER: Thank you,
22 Molly. That was very, very interesting. Our

1 next speaker will be Tom Heinrichs, the
2 director of Geographic Information Network of
3 Alaska and the University of Alaska Fairbanks.

4 MR. HEINRICHS: Well, thanks. I'm
5 here pinch-hitting for Ann Johnson of the DNR,
6 Division of Mining, Land & Water who's back in
7 D.C. representing at another meeting.

8 So as I mentioned I'm also
9 representing the Statewide Digital Mapping
10 Initiative. Michael O'Hare is one of my co-
11 chairs on that -- board members on that.

12 And all right. I'll give you an
13 update on what we're doing in terms of mapping
14 Alaska, both orthoimagery and digital
15 elevation model mapping. So, I'm going to
16 frame it first of all what the goal of the
17 program is.

18 Our focus is on three data layers
19 primarily, the first being orthoimagery, the
20 second being DEMs and third being control, to
21 produce those two layers. And we focus on a
22 statewide basis.

1 There's a number of projects that
2 are done, you know, say the communities are
3 mapped by census or a given transportation
4 corridor is mapped by DOT to serve a project.
5 The SDMI looks at these broader statewide
6 issues. So we're mapping, you know, 1.7
7 million square kilometers of orthoimagery and
8 a comparable amount of digital elevation
9 models.

10 We also seek to make this data
11 more easily accessible through open standards.
12 I'll show you some of that here. So I'll make
13 a brief digression about my group which is the
14 project managers for the orthoimagery side of
15 this. We're at UAF part of the International
16 Arctic Research Center, and GINA, Geographic
17 Information Network of Alaska is our group.

18 We do a lot of direct reception of
19 satellite data. A few of these slides in here
20 just show our deep and long ties with NOAA.
21 We work with the Weather Service all the time.
22 One of the main reasons I'm down in Anchorage

1 this week is to go over to the Weather Service
2 forecast office over on Raspberry Road to work
3 with the forecasters in the Bering Strait WFO,
4 the Alaska Aviation Weather Unit and the
5 Volcano Observatory and the River Forecast
6 Center to introduce some new data products
7 from the Suomi NPP satellite which was
8 recently launched. It's doing fantastic work
9 with the High Latitude Proving Ground which is
10 being scored by the JPSS and the GOES-R
11 programs. So we have a long history that's
12 literally more than two decades we've worked
13 with the Weather Service and others in NOAA.

14 We also have a strong partnership
15 with NOAA's primary ground receiving station
16 in Fairbanks which is their primary polar
17 ground receiving station. This station is
18 busier than all of the NASA ground receiving
19 networks combined. So what I'm saying is they
20 receive more satellite passes on these six
21 antennas here in Fairbanks than NASA does
22 globally. But it's a fantastic shop. And we

1 have a high-speed line so we can pretty much
2 tap into that and receive any kind of realtime
3 satellite imagery. I'm not going to focus a
4 lot on that because we do realtime stuff.
5 Wildfires, a big thing this summer, volcanic
6 ash, a huge hazard to aviation obviously.

7 This is going to be the only time
8 you're ever going to see Golovin, Alaska used
9 twice as an example.

10 (Laughter.)

11 MR. HEINRICHS: I had to laugh
12 when Aimee showed this. So I'm going to jump
13 right into a real world example of the
14 problems we're solving.

15 So, I'm going to go into this in a
16 little more detail in a second, but we produce
17 what's called the best data layer we call it
18 which is basically a mosaic of the best
19 available imagery. You know, down in the
20 lower 48 you have -- the entire country is
21 mapped every 3 years using high-resolution
22 airborne photos. The stuff you're seeing here

1 in terms of these blocks here is the high-res
2 data we have. And I'll talking about some of
3 that here in a second.

4 So we'll be looking at Golovin
5 down there. This is one of the product lines
6 that's come out of our SDMI Ortho program.
7 Here's a color infrared image. And I'm going
8 to zoom in on Golovin here.

9 This is what we had in terms of
10 what's available in the public sector. You
11 can do better than this in, say, Google Earth
12 or Bing Maps but in terms of -- if you're an
13 agency you want to be able to print a map
14 using public sector. This is what we had,
15 landsat data, 15 meter pixels for Golovin.

16 Through our statewide mapping
17 program we got to this. This is 2 and a half
18 meter pixels. And that shift you saw there is
19 actually not -- that's not an error in terms
20 of image registration, that's actually a
21 problem in the horizontal accuracy of the
22 landsat data. This imagery is more accurate

1 horizontally and of much higher resolution.
2 We also have a color infrared product useful
3 for doing vegetation mapping type stuff. We
4 have a black and white product all derived
5 from the same data set that's used for -- can
6 be used if you want to overlay colored
7 polygons. It's great to have a black and
8 white layer behind that to not interfere with
9 your color scheme.

10 What we had before, again this is
11 the USGS topo map for Golovin. That's the
12 best we got from USGS as of recently. Here's
13 the chart.

14 So again, that's where we are in
15 terms of natural color. And then we also have
16 through the State Department of Commerce and
17 Economic Development we have 1-foot imagery as
18 well too. And that's all incorporated into
19 this web service that I'll talk about more
20 later.

21 So, wherever you go in the state
22 of Alaska you hook up to this particular

1 service and you'll now have 1-foot data or 2
2 and a half meter data or landsat data,
3 whatever is best available for that area. So
4 these are all enabled through the SDMI program
5 that I'm describing. So again, that's the
6 mission statement again.

7 So, about SDMI in general, it's a
8 state-run outfit. These are the agencies that
9 are -- the usual suspects. The land managers,
10 resource managers, university as well.

11 In terms of our funding partners
12 for this work I'll show you the extent of the
13 work here shortly. The orthoimagery side is
14 being funded by the BOEM and also the state
15 SDMI through capital appropriation. And on
16 the digital elevation model side the funders
17 are in order of contribution NGA, SDMI, USGS,
18 NRCS and BLM and Park Service. We thank our
19 funders.

20 The contracting teams. Aero-
21 Metric is the lead on the orthoimagery side,
22 Dewberry on the IfSAR side.

1 And then this map here shows all
2 the new data that's been generated through the
3 program to date. So what we're seeing here is
4 -- sorry. All this area here is going to have
5 new 2 and a half meter spatial resolution,
6 12.2 meter CE90 accuracy orthoimagery. The
7 entire state's going to be covered wall to
8 wall by the end of the program.

9 These are all the new acquisitions
10 we flew in 2010 of 20-foot contour accuracy
11 DEM. And I'll show you there's going to be a
12 bunch of work in western Alaska this summer.
13 I'll show you here in a second. But we've
14 made good progress. This is the past several
15 years of work for us. It went from having
16 much poorer products to this state now. So,
17 again, like I say we'll be covered wall to
18 wall with imagery. We're going to have about
19 one-third of the state done with high-quality
20 DEMs.

21 On the ortho side the product line
22 is a 2 and a half meter product that's from

1 the SPOT-5 satellite produced to 12.2 meters
2 CE90 and that's -- this slide is probably --
3 the horizontal is actually very important for
4 a product like this. We don't have a good --
5 the base maps for Alaska particularly can be
6 off by several hundred meters in places so
7 having a common reference layer that is good
8 to within better than 12 meters is a fantastic
9 improvement that would enable all kinds of
10 good research.

11 We're actually doing much better.
12 We're actually doing about three times as good
13 in our spec. I'll show that table here in a
14 second.

15 Again, wall to wall coverage. We
16 started in 2010. We'll be done by June of
17 2014. We have a broad use license, state,
18 federal, local, tribal government. And anyone
19 can have access to data via our web services
20 including the commercial sector and NGOs.
21 Three and a half million dollars total about
22 split from the state and the BOEM. And we add

1 some additional products to the line as well.

2 Here's example products here.

3 Again, from this you can see houses, sheds,
4 trails, power lines, all the good stuff you'd
5 want to be able to see in a product anywhere
6 in the state.

7 We've done a huge amount of
8 stakeholder engagement both on the ortho side
9 and the DEM side. We spent probably close to
10 half a million dollars on contractors and
11 various things and surveying people and
12 talking to them, and going to meetings, all
13 kinds of stuff. Here's just one map we had
14 and we're trying to set our priorities for
15 collection a few years or 2 years ago.

16 And again, here's what we've
17 collected in terms of source data. We can't
18 produce all this to ortho images immediately
19 because we have to assemble enough scenes to
20 produce a good block for the ortho processing.
21 But you can see we've got about half the
22 states covered at this point. We've got a

1 couple more seasons ahead of us so we're in
2 good shape. And the smaller squares, the blue
3 and yellow squares are what will be produced
4 in ortho tiles. We'll have that wrapped up
5 here in the next couple of months, the final
6 deliveries on this year's batch.

7 And again I'll just show this
8 chart here which shows the accuracy. I
9 mentioned the spec is 12.2 meters CE90 which
10 means that it's 90 percent of the points have
11 to be within 12.2 meters of their actual
12 location on Earth. That's the specification.
13 But we're actually exceeding that. We're
14 getting more and this column here is the --
15 the worst is here, 7.78 meters. We're getting
16 4.3 meters. That means every pixel is
17 basically within 2 or 3 pixels of its actual
18 location on Earth which again is just a
19 fantastic improvement over what we've got.
20 And if you've ever been out in the field
21 working with this data be it a coastline, be
22 it a site anywhere, it's really frustrating to

1 not have good, accurate maps to start from.

2 We're going to improve that with higher.

3 We offer the data for download via
4 this web interface. And I'm going to talk a
5 little bit about -- I'm going to talk about
6 the DEMs next. So we're also producing -- in
7 addition to the ortho products statewide we're
8 doing digital elevation models. The product
9 line here is a 2 meter RMSE product, which is
10 24 contour equivalents. In 2010 we acquired
11 28 new 1 degree boundary cells. It's about 10
12 percent of the state. Six million dollars we
13 spent on that. NGA was the main contributor,
14 \$2 and a half million. State put a couple
15 million in, USGS a million and so forth.

16 We had -- this is our collection
17 season for 2010. We flew all this. We
18 uplifted some of this that they flew to --
19 Fugro flew this entire -- Intermap is one
20 company. They flew this area, purchased all
21 that. Fugro flew this area here. We
22 collected -- they collected some of this area

1 on spec which was later uplifted, later
2 purchased by some of the agencies. This area
3 hasn't been purchased yet.

4 And this area up here is going to
5 be the collection. This is the definitely
6 funded area for this coming, for 2012. This
7 will definitely be flown. We're probably
8 going to fly some more. I'll show you that
9 here in a second.

10 This is the current map of what's
11 probably going to happen this year. So here's
12 the area that's certainly funded. We've
13 actually received another \$3.7 million in the
14 state of Alaska in this year's capital cycle.
15 The USGS is going to -- has committed another
16 million and a half or so and then also the
17 Fish & Wildlife Service and Forest Service and
18 Park Service have some funding as well too.
19 So we're going to be able to fly and process
20 this area, this peninsula, plus this whole
21 area to the north here. So we're going to get
22 a good chunk of the Bering Strait and Chukchi

1 Sea coast there which is going to be good in
2 terms of -- because right now we don't have
3 especially like DEMs for things like storm
4 surge modeling, that kind of thing. Not that
5 our DEM is necessarily best for that, but
6 having the larger context is very useful.

7 We also have done some other
8 projects like this is -- this is bought from
9 the SDMI contract. The Park Service purchased
10 this other DEM, lower accuracy but much less
11 expensive for the Katmai National Park. This
12 is the Alaska Peninsula right here. So
13 there's other options out there as well too.

14 And then finally, the last few
15 slides here. We're working with the USGS.
16 This is really quite exciting. When we say --
17 when I tell people we are mapping the state of
18 Alaska what they think is they think topo
19 maps, you know. We're not making topo maps.
20 We aren't. We're making digital elevation
21 models and orthoimagery.

22 But the USGS has stepped up and

1 they are producing a new line of topographic
2 maps for the entire country but for Alaska
3 they're going to be using the DEMs we produced
4 through the SDMI program and also
5 orthoimagery. So it's really quite exciting.
6 We're going to have new topo maps that will be
7 completely updated for the first time since
8 the nineteen fifties. We had some minor --
9 done in the late seventies but in general they
10 haven't -- maps for more than 50 years. So
11 this is a fantastic collaboration.

12 Again, these are the contours come
13 off the new DEMs we flew. Here's some of the
14 imagery. This is Harding Lake near Fairbanks.

15 And then finally what I'll talk
16 about is the -- I mentioned the Open Standards
17 Web Services. So that's what we're really all
18 about in a lot of ways. We provide all these
19 services, all these imagery services out
20 through what are called Open Geospatial
21 Consortium web standards. They work in things
22 like ESRI Arc map, they work in all kinds of -

1 - we work with the Arctic ERMA folks, we work
2 with the Alaska Ocean Observing System as
3 well. We work closely with Axiom, who's model
4 leads the contract on the data side so we can
5 exchange data freely. We were on the same
6 page in terms of that whole approach.

7 We do imagery. We do the
8 elevation models as XYZ data point, actual
9 data -- you can do analysis of them via web
10 services. And then again we have a really
11 strong support for the different web-mapping
12 engines. Like you know, if you want to make
13 a map with open layers or Google Maps or Bing
14 Maps or whatever online, ESRI tools, we
15 support all that stuff in terms of the way you
16 actually make those maps using tiles. I won't
17 get into the details of that but the point is
18 we really know that stuff and we really
19 support all the end users including all the
20 programming environments.

21 We have a huge number of data sets
22 in addition to the imagery I showed you, high

1 res, low res, charts, USGS topos, grayscale
2 stuff, landsat, LiDAR data, all kinds of stuff
3 is available. And the best spot to find it is
4 we have a data gallery on the SDMI's website
5 which described all this and shows pictures of
6 it.

7 A couple of examples. We have
8 done NOAA charts as WMS. So this is actually
9 done on behalf of the -- for the state DNR on
10 behalf of the state Department of
11 Environmental Conservation who wanted some of
12 this information readily available in their
13 web maps for their planning purposes.

14 Our high-res layer has, again,
15 these are air photos of Homer Spit here for
16 example. The beauty of this is say you were
17 using a tool like Arc map, you can just
18 basically connect to this web service and then
19 you can pan anywhere in the state.

20 So you could be in Homer right now
21 and say what's it look like over in Golovin.
22 And go over there and then the best imagery is

1 pulled in automatically over the web into your
2 map as opposed to you having to go to whomever
3 and download it and re-project it and so
4 forth. So it's really a huge time-saver.

5 Very popular services. Again, the
6 trends over the past 5 years have been upwards
7 continuously. Thousands of users. One week,
8 we pulled these stats for one week. That's a
9 lot of use, it really is, in terms of these
10 things.

11 My last thing, I had a couple of -
12 - I talked to my colleague Ann Johnson of DNR.
13 She had a couple of -- I said what are DNR's
14 concerns in terms of this audience here. And
15 one is she says she'd love to have more of the
16 NOAA digital coast product, Homer being the
17 sole example for Alaska I believe.

18 Another thing that -- my initial
19 was the ShoreZone. ShoreZone is really
20 important. Again, it's really a heavily used
21 data set in Alaska in terms of the oblique
22 photos and also the habitat mapping in the

1 inner tidal zone. It's really important.

2 Also, she mentioned for both
3 verifying permits, coastal zone permits, and
4 also looking for trespasses, that kind of
5 thing. It's a good historical record for
6 identifying those situations. And of course
7 we're all interested in doing shoreline
8 updates because the DNR of course is the land
9 manager for Alaska and those 3-mile limits and
10 so forth are of critical importance for how we
11 tax things as you are well aware I'm sure. So
12 those are three issues that came up in terms
13 of what the DNR is concerned with, what the
14 DNR would hope to have addressed for Alaska as
15 regards hydrographic work.

16 So I guess my last slide would be
17 thank you and if there are any questions you
18 can catch up with me at the break and I'd be
19 glad to answer them. We're excited to work
20 with NOAA in any way possible. They've been
21 a great partner over the years, all parts of
22 NOAA, including NGS who we're working with on

1 geodetic stuff and GRAV-D as well. So thank
2 you.

3 (Applause.)

4 CHAIR WELLSLAGER: Thank you, Tom.
5 And our next speaker, Dr. Hazelton, will speak
6 to us. He's from the University of Alaska
7 Anchorage in the geomatics program. And we'll
8 go through a little technical change.

9 DR. HAZELTON: My name's Bill
10 Hazelton. As was mentioned I'm from UAA and
11 I'd like to thank you for the opportunity to
12 talk to you this afternoon.

13 Principally what I'd like to talk
14 about is the geodetic measurement and product
15 side that comes from NOAA and perhaps NGS in
16 particular. There have been quite a few
17 things that have come up over the last couple
18 of days here that I thought were interesting
19 that I want to just mention first.

20 And the first was the big picture.
21 Predominantly NOAA's all about decision
22 support tools and products. And that's really

1 a critical part of where the national economy
2 or the world economy is going to a post-
3 industrial thing. So NOAA really should
4 recognize that it's a central part of that,
5 and that for what's left in terms of the
6 transportation of material goods NOAA has a
7 significant part to play in that as well
8 through its transportation part. So I haven't
9 seen anybody sort of making a big song and
10 dance about this but I think it may be
11 something that you want to sort of just
12 highlight a little bit.

13 To move into perhaps more details,
14 looking at some of the responsibilities that
15 were sort of listed there's lots of ways of
16 thinking about them. And at the risk of sort
17 of dragging everybody into my own
18 specialization here we can look at them, at
19 practically all of the things that were listed
20 out on one of the pieces of paper that came
21 around had to do with stuff that required a
22 location. And you could look at it in terms

1 of requiring a good horizontal location or a
2 good vertical location.

3 And all of these things tended to
4 come back to the geodetic control that
5 underpinned all of this in order to get the
6 location. So, fundamentally then an awful lot
7 of what NOAA does depends upon the geodetic
8 side of things.

9 It's also the foundation for
10 trying to link all of this stuff together.
11 Integration is critical so you've got to have
12 stuff that links together. You can think if
13 you like that a lot of the data that's
14 collected not only has some meaning attached
15 to it but also has some degree of
16 intelligence, and the intelligence being how
17 you link the stuff together to actually form
18 larger data sets that you can work with.

19 So the intelligence part is
20 critical. And what underpins that to a large
21 extent is datums. So the fundamental geodetic
22 measurements and the products are what link

1 together everything else that happens. That's
2 a fairly important point I felt.

3 So, when you go out collecting
4 spatial data the -- you've got a number of
5 datums like NID83 and geoids and the whole
6 series of tidal datums and various other
7 things to link it together. They're all
8 rather abstract entities. Yes, you can go out
9 and determine sea level approximately but you
10 can't just go out and say well, right over
11 there is the ellipsoid.

12 You actually need to realize them
13 in some way which means that you've got to
14 ultimately have something on the ground that
15 you can connect back to. And what this tends
16 to mean is that you've got to have what
17 ultimately comes down to continually operating
18 reference stations.

19 Unlike the lower 48, Alaska
20 doesn't have a lot of traditional survey
21 control. One of the main reasons for that is
22 that survey control tended to follow the roads

1 or reasonably close to it and we haven't got
2 a lot of them. So we just simply never got
3 the infrastructure on the ground.

4 So we're way behind where the
5 lower 48 is as a lot of people have brought
6 up. So we need to make a significant jump to
7 move ahead which gives us the opportunity to
8 move into something that's more modern. And
9 for us that comes down to these CORS.

10 Elsewhere in the country such as
11 Ohio, Michigan, I think bits of Kentucky and
12 a few other places the density of CORS has
13 been enough to allow additional groups,
14 particularly departments of transport, to
15 build more advanced systems such as virtual
16 reference networks and various other products
17 that allow users to use the fundamental system
18 at levels that are not possible without
19 putting in an awful lot of your own personal
20 infrastructure.

21 In Ohio, for example, you can get
22 a subscription into the Department of

1 Transport's system. You simply go through
2 your cell phone, connect it into your
3 receivers in the field and it's the same as
4 having your own system sitting over on a high-
5 precision control point connecting in so that
6 all of your work is now substantially better
7 than it would be if you were trying to even
8 connect into the CORS because you're now
9 working with a whole network of CORS
10 simultaneously.

11 This wasn't done by NOAA or NGS,
12 it was done by other players who've built on
13 top of the infrastructure. Now, we're not in
14 a situation where we can do that in Alaska
15 yet. Maybe at some stage around somewhere
16 like Anchorage. But we still need the
17 infrastructure in place to even get there.
18 Once the infrastructure is in place then other
19 people can add to it and we can build on it.

20 And if you -- I think the NGS has
21 done some preliminary work on cost-benefits of
22 the CORS. I think something like a 7 to 1

1 return on investment I think was the --
2 somewhere around about that sort of figure.
3 That seems reasonably profitable to me. If
4 you were getting 7 to 1 on your investments in
5 shares wouldn't you be happy rather than, you
6 know, 2 percent in the CDs if you're lucky?

7 So, what's been happening with
8 regard to the data that has been provided so
9 far. Well, if we look at what was happening
10 just a dozen years ago we were using the
11 GEOID99 model up here. And through idle
12 curiosity I went through and I looked at what
13 was happening with the geoid over the last
14 little while just at the location in my office
15 just across the way here in beautiful
16 Anchorage.

17 Now, Anchorage is right on the
18 road network. It's right by the sea. It's
19 got lots of people and lots of activity
20 happening. It should presumably be okay.
21 Well, basically sea level if you like or the
22 geoid moved about 2 meters in the period 1999

1 to 2006 between the different GEOID models.
2 That's noticeable. In Ohio during the same
3 period I think which I was also working in
4 some years ago, I think it moved a matter of
5 a centimeter or two, if that. So the change
6 in the data, rather the change that's been
7 brought about by the additional data has been
8 huge.

9 In the shift between GEOID06 and
10 GEOID09 at my place it sort of shifted back by
11 less than an inch. But across the entire
12 region the shift in the geoid has been
13 somewhere on the order of 0.6 of a meter on
14 average. This is just an indication of what
15 happens when you start putting better data in.

16 Now, what does this mean for us in
17 Alaska? As has been mentioned, SDMI is
18 dealing with the -- a new digital elevation
19 model, basically a surface for Alaska as a
20 whole. At the moment because that is being
21 done by interferometric SAR that's ultimately
22 tied back to the ellipsoid.

1 We don't have a way of connecting
2 that readily back to how water flows, sea
3 level, or anything at all like that because we
4 don't yet have a really tight geoid model.
5 That's one of the things we're waiting on.
6 So, that data has a disconnect if you like
7 between how we can apply it because we've got
8 this difficulty of converting from ellipsoid
9 to geoid.

10 Even when we do that we're going
11 to have some difficulties because we don't
12 have any benchmarks anywhere. If you'll
13 notice there's a road goes from here to
14 Prudhoe Bay and that basically divides the
15 state in half. And west of that road there
16 isn't anything in the way of a connecting
17 road. We may have bridges to nowhere but we
18 don't have roads to nowhere.

19 (Laughter.)

20 DR. HAZELTON: Not even so we can
21 go and see Russia.

22 Now, okay, everybody says great,

1 we'll get GPS, GNSS, et cetera, and this will
2 fix up our positions. We can wander around
3 here and it's going to be wonderful. Well,
4 that's fine. If you're using a single
5 receiver by itself you'll get it to perhaps a
6 couple of meters horizontally and maybe 15
7 meters vertically. It's not good on vertical.
8 It's not a lot we can do about it.

9 And here in the north as was
10 mentioned the satellites tend to be slightly
11 differently configured because of where we
12 are. We do have the advantage we can see the
13 ones over the other side to some extent but
14 it's still, the configuration isn't quite
15 perfect. But we still get by.

16 Now, with this level of precision
17 it's good enough for general use. I mean, you
18 want to figure out how do you get to the local
19 McDonald's. You want to get to the other side
20 of the lake. You want to figure out where the
21 trail is. Plenty good enough.

22 However, you want to sort out

1 water levels, you want to do some bathymetric
2 surveys, you want to run a LiDAR, et cetera,
3 this isn't going to work. You've got to do
4 much better work so you ultimately have to
5 connect back to a ground system which is
6 ultimately CORS. You need these things
7 scattered around at a reasonable density.

8 Now, what this sort of comes down
9 to is that you can have datums and things, but
10 you need to actually realize them. There has
11 to be some way for people to connect into them
12 to make them useful.

13 Now, traditionally this was done -
14 - we ran along mountaintops and we
15 triangulated in all directions and we put
16 stations up there for people to connect into.
17 And we came down and put in tighter and
18 tighter control. We don't do that anymore but
19 we still have to have some means for people to
20 connect into real points that mean something.
21 And ultimately that comes back to the CORS.

22 And for us without any of the

1 prior existing sort of infrastructure we're
2 going to be totally dependent on GNSS in
3 various forms to provide us with the bulk of
4 our spatial location and measurement type
5 data.

6 So, for the surveying geomatics
7 community in Alaska we're going to be very
8 dependent on GPS type stuff. Our total
9 station type work is going to be fine when
10 we're working within a couple of kilometers.
11 Outside of a couple of kilometers range it's
12 going to be totally GNSS. There's just no way
13 around that.

14 This is going to be even more
15 interesting when we start looking at having to
16 transfer vertical locations around. There's
17 a certain amount of development going on to
18 the north of Anchorage, for example, up into
19 the valley. If you push on a bit further up
20 into the valley you'll end up heading towards
21 a little town called Talkeetna which is
22 getting towards Denali.

1 Somewhere around about Talkeetna
2 there is a beautiful great big gravity
3 anomaly. So GPS data is going to run into all
4 sorts of problems when you try and translate
5 what I get from the GPS results to what
6 happens when I get water moving around. So I
7 may well achieve the civil engineer's dream of
8 making water run uphill, at least as far as
9 the GPS is concerned. But that's going to
10 leave me in some difficulties.

11 Now, NGS at the minute is working
12 hard. There's lots of gravity coming.
13 There's stuff from Grace. There's lots of
14 other things that people are doing, basically
15 trying to refine the geoid.

16 In the lower 48 the name of the
17 game is get it from about 2 centimeters down
18 to 1 centimeter depending upon frequency. Up
19 here it was sort of hey, let's get it under a
20 meter if we can. And again, we're going to
21 need lots and lots of CORS to actually put
22 this stuff down on the ground.

1 So, what's sort of happening up
2 here? I think Joel Cusick back there has
3 mentioned that he's got a national park
4 floating around there is the size of West
5 Virginia and he doesn't have so much as a
6 single control point effectively in it, and
7 yet he's sort of got to do survey work and
8 measurement within it. This makes life a
9 little bit tricky.

10 As I was looking at one of the
11 slides this morning with the Vessel Traffic
12 Systems there are more of those around the
13 north and west coast of Alaska than there are
14 CORS. So we can figure out where vessels are
15 going around, shippings going around the coast
16 better than we can actually put control in to
17 develop the hydrographic charting that they
18 need to actually get there.

19 The critical areas in this -- that
20 we're looking at here are the northern and
21 western coasts. I mean, everybody's talking
22 about hey, we've got to get to the Arctic,

1 it's the next frontier. And I wish Lieutenant
2 Governor Treadwell was here at the time
3 because we could have mentioned that perhaps
4 we should have changed the Alaska license tags
5 to the Penultimate Frontier since the Arctic
6 is now the ultimate one.

7 There's another issue that's
8 floating around as well. Perhaps -- there was
9 some mention I think of the SDMI surface model
10 running out to about 5 petabytes I think by
11 the time it's actually completed with all of
12 the IfSAR data. That's one layer. By the
13 time we get the rest of the data in we're
14 probably looking at Alaska representing
15 somewhere about an exabyte of data. How do we
16 serve that up to people? What happens when we
17 start bringing in all the historic NOAA data?
18 This is going to be a challenge for all of us
19 and for NOAA in particular to deal with these
20 sort of volumes of data that we're going to
21 have to provide to people. It's all very well
22 to say hey, let's gather lots and lots of

1 data, but at some stage it has to go out.

2 And you know, if you're somewhere
3 in a village in Alaska and you've got what
4 amounts to a 128k line it's going to take a
5 long time to download something that you, some
6 information that you're wanting. So we've got
7 to look at how that sort of stuff works as
8 well.

9 So, some things that would be nice
10 to have from the sort of surveying mapping
11 geomatics sort of community. It would be nice
12 to have a nice stable modern geoid for Alaska.
13 This would sort of tighten out the vertical
14 across the whole region. Alaska will actually
15 make this interesting because being in a
16 tectonically active area we're likely to
17 actually have a dynamic geoid. We'll actually
18 see changes because of the earth movement and
19 various effects around here. So this gives us
20 sort of an interesting bleeding edge of
21 geodesy type of thing.

22 We need a dense network of CORS as

1 well and this will allow us to actually
2 realize the horizontal and vertical datums.
3 And there's been a lot of talk about
4 increasing partnerships. I would like to just
5 emphasize that.

6 Also, the idea of crowdsourcing
7 data. We're now in a time when a lot of
8 people are producing an awful lot of data.
9 Can we work out ways to suck it into how we're
10 processing it to include it in what's going
11 on? Maybe not so easy at the geodetic end of
12 things, but in the more general data there's
13 lots more possibilities.

14 So, just to sort of finish up
15 here, in the surveying, mapping, geospatial
16 community we realize just how far we've come
17 and how much NOAA has put into making it
18 successful here. And we're really very
19 appreciative of this.

20 We'd like to help NOAA figure out
21 how to operate more efficiently. We know that
22 the budgets are going to be tight. How can we

1 actually work towards helping you people do
2 this better from what we can do locally. And
3 also it's important that we all help get the
4 message across to the people that are funding
5 you about why what you do is important not
6 only for us but for the nation as a whole. So
7 thank you.

8 (Applause.)

9 CHAIR WELLSLAGER: Thank you,
10 Bill. We've heard some compelling,
11 interesting, very interesting and compelling
12 and thought-provoking presentations. Are
13 there any questions from the panel that we
14 would like to address? Yes, Deborah.

15 MEMBER DEMPSEY: Molly, do AOS
16 and NOAA compete for the same funds?

17 MS. MCCAMMON: I should mention
18 that our program is an interagency program but
19 it's -- NOAA is the lead federal agency. And
20 all of our main source of funding comes
21 through NOAA. So we don't compete. We're
22 within National Ocean Services. Dr. Bamford's

1 division, line division, is where we're
2 housed. But at the regional level we get a
3 broader suite of funding sources. But really
4 NOAA's the only federal agency that's really
5 stepped up to fund the Ocean Observing System.
6 So no.

7 MEMBER DEMPSEY: Thank you.

8 CHAIR WELLSLAGER: Yes, Larry.

9 MR. MAYER: Also a question for
10 Molly. You shared some very nifty tools, the
11 Arctic Research Assets Map and the STAMP I
12 think that was called. Has there been any
13 kind of cross-pollination between what you're
14 doing and with the ERMA effort?

15 MS. MCCAMMON: Yes, we've actually
16 worked really closely on that. When the
17 Arctic ERMA folks were here for their workshop
18 last year we participated in that. We've --
19 in fact we've had a lot of discussions on it
20 because what's happened is -- and we want to
21 avoid this -- is that a lot of our
22 stakeholders and communities are being asked

1 for the same data sets. It just gets kind of
2 annoying when you're asked by three or four
3 different data portals to provide your data
4 for it.

5 And so we're working on a whole
6 letter of agreement on how we're working
7 together and who's kind of taking the lead and
8 which kinds of data and how we're putting it
9 together.

10 They're clearly the tool for
11 hazard response in the field and for planning.
12 I think our system is a bit broader. We have
13 a bit broader group of stakeholders but they
14 definitely dovetail with each other. But yes.

15 MEMBER JEFFRESS: This is a
16 question for Bill. Bill, I know Alaska has
17 got a lot of federal lands and the Bureau of
18 Land Management does a lot of surveying up
19 here. Do they show any interest in supporting
20 CORS networks up here?

21 DR. HAZELTON: They haven't sort
22 of been leaping out to sort of throw money at

1 us about it yet, no.

2 (Laughter.)

3 DR. HAZELTON: They have had a
4 significant era of budget-cutting themselves
5 which seems to go through cycles. They laid
6 off a whole lot of people and now they're
7 putting a whole lot of people back on again.
8 But they don't seem to have been hugely
9 enthusiastic at this point yet.

10 CHAIR WELLSLAGER: Dr. Sullivan?

11 DR. SULLIVAN: Yes, I'd like to
12 come back to Molly. A point of wisdom in all
13 aviation communities is you're going to fight
14 like you trained. So I guess back to the
15 question of Arctic ERMA as a planning and
16 response tool but Alaska OOS as a more
17 commonly used perhaps tool among multiple
18 stakeholders.

19 Have you thought about that level
20 of human reality, that habit patterns and
21 experiential comfort that people build up
22 through the day to day use or the consistent

1 use of a set of tools will pattern the tools
2 they most naturally go to when there's an
3 event? ERMA arose in the heat of battle out
4 of need because there wasn't such a thing, but
5 if you had a significant event somewhere in
6 coastal Alaska I think one really needs to
7 think through the people who would come
8 together to respond to that, the affected
9 folks in the communities, the operators.

10 Are they very familiar with AOOSS
11 tools and that would be their natural default
12 set of places to go and you'll have another
13 common operating picture challenge between
14 some cadre of folks who come in from the
15 federal side, for example, with Arctic ERMA
16 presumed as a default but everyone locally is
17 intuitively and with a good base of experience
18 working fairly fluently in a different tool
19 set. How do you prevent that tool set split
20 just at the moment that you most need to be on
21 the same page?

22 MS. MCCAMMON: That's a good

1 question and it's a challenging one. I think
2 that's -- I mean, we like to think that an
3 agency or whomever in an emergency would use
4 the best tool and the best information out
5 there. So from an emergency responder like
6 the Coast Guard use, if they're used to a
7 certain set of tools like ERMA which I think
8 is very familiar to them, especially after
9 Deepwater Horizon, then we want to make sure
10 all of the data and the information that we
11 have can filter into that tool to be
12 accessible to it. For other purposes maybe
13 the AOS tools are more useful.

14 And sometimes it's good to have
15 more than one tool, to have two just for
16 comparisons. When we had our field experiment
17 in Prince William Sound we tested our
18 circulation model, the ROMS model we had. We
19 had NOAA come and test the GNOME model. We
20 had Alyeska test their model, their ATOM
21 model. And then we did comparisons of -- and
22 they all used the drifters and they all tested

1 their own models in comparison there. Of
2 course we thought our model performed better,
3 you know.

4 It's a question of -- this is a
5 challenge actually all across the country
6 because often kind of the smaller systems, the
7 academics are doing things maybe a little
8 better, maybe a little more innovative. But
9 then the federal agencies have to deal with
10 doing things operationally that is more
11 standard across the country and it's always
12 this challenge of do you go with kind of that
13 cutting edge a little bit better versus
14 something that's familiar and standardized
15 across the country. So I don't have a good
16 answer for that but I think there's a role for
17 both.

18 And certainly the Cook Inlet tool
19 that we developed, there wasn't an ERMA for
20 Cook Inlet. We wanted to see, especially --
21 and Arctic ERMA is being developed. There's
22 not a lot of, you know, people want a lot of

1 stuff in Arctic ERMA and there's not a lot of
2 data that's all, you know, aggregated and put
3 together there. I think they're doing a great
4 job of pulling bits and pieces and putting
5 into it.

6 But Cook Inlet had a lot more data
7 and so we wanted to see what could we do with
8 something that had a lot more data and do
9 something for the Regional Citizens Advisory
10 Council. Now, whether it would be used by the
11 Coast Guard in the event of a spill, we hope
12 it would, but.

13 CHAIR WELLSLAGER: David.

14 MEMBER JAY: My microphone, I
15 always forget my microphone. David Jay.
16 We've heard repeatedly today about how people
17 in Alaska are doing for themselves because the
18 Federal Government simply isn't big enough and
19 doesn't have enough reach out here.

20 I can't help in the, you know,
21 this illustration of well, there's no tide
22 data. Are you collecting tide data? And if

1 not, why not?

2 MS. MCCAMMON: We're not directly
3 collecting tide data now. We've done a lot of
4 stakeholder surveys about it and what it comes
5 down to is it gets into a little bit what
6 Aimee was talking about.

7 For predictions you want a certain
8 level of precision and then for kind of
9 planning you can accept a different level of
10 precision. And so how do you balance those
11 two needs out when you have kind of two very
12 different stakeholder needs there and how do
13 you balance out the costs and benefits of it.
14 So, we haven't done tide gauges. It hasn't
15 risen to the top of ours yet.

16 We've been working with Western
17 Alaska Landscape Conservation Co-op and some
18 others to get some more water level
19 observations in different places, but we've
20 focused more on waves and currents.

21 MEMBER JAY: I guess I have to say
22 that, you know, there are various useful

1 intermediate places and I've worked with a lot
2 of historical data. They aren't perfect but
3 they're better than no data. And there are
4 things that can be done and you can transition
5 to a higher level and eventually sell it to
6 NOAA kind of thing. It seems like in the
7 complete absence of data that would be a good
8 way to do it. If you could make a compelling
9 case to the state that there is a need based
10 on these disastrous storm incidents.

11 MS. MCCAMMON: We actually put in
12 a capital budget request this year through the
13 Northern Waters Task Force and it didn't get
14 funded this year but we'll try again next
15 year.

16 CHAIR WELLSLAGER: Joyce?

17 MEMBER MILLER: Yes, just another
18 question for Molly. Is ERMA and your database
19 on common platforms or have they gone in
20 different directions?

21 MS. MCCAMMON: They're both open
22 source. I'm not a techie so my level of

1 understanding is about to here.

2 They're both open source so in
3 that sense they're a common platform. Our
4 platform uses Flash which apparently is a
5 little bit different and so we can do things
6 like incorporate the ShoreZone videography and
7 high-definition video which ERMA can't at this
8 point. So there are some things that we can
9 do that the ERMA platform isn't able to do.
10 But we're both open source, yes.

11 CHAIR WELLSLAGER: Okay. Bill,
12 actually I've got a question for you. In
13 South Carolina we're slowly developing a CORS
14 network. We have realtime reference stations
15 also. But we've investigated and have created
16 memorandums of understanding and agreements
17 with the DOT and with the railroad, and have
18 been able to work with them and they've been
19 able to actually fund the installation of CORS
20 stations at facilities they have.

21 Now, granted we don't have roads
22 to nowhere because we're a very small state.

1 You could probably fit about 1,000 South
2 Carolinas in Alaska. But the idea would be
3 where you did have roads or the DOT had
4 facilities there's a possibility that perhaps
5 they could help work with something like that.
6 And the same would hold true for the railroads
7 I would assume. Have you thought about
8 possibly approaching either of those two for,
9 you know, help in trying to establish a
10 network of CORS stations?

11 DR. HAZELTON: Well, actually the
12 DOT is one of our strongest supporters. I'm
13 hoping to actually work with them in the
14 latter part of this summer to prioritize where
15 we should be placing CORS as we can fund them.
16 They're keen to try and work them into the
17 budget. We tried putting something into the
18 capital budget last year which didn't make it
19 through. But yes, they're definitely keen.

20 The railroad doesn't really go
21 anywhere that there isn't a road nearby by and
22 large, so to some extent that's a duplication.

1 The big advantage with the DOT however is that
2 they also have a big involvement in air fields
3 and airports right across the state. And
4 that's another area we can use.

5 Another one is actually on
6 telecommunication towers because they've got
7 an internet connection and power, and that's
8 actually one useful place we can look at
9 connecting. So there's lots of different
10 possibilities here. School buildings in
11 villages where there's generally somebody
12 there right around the year. There's lots of
13 different ways that we're looking at how we
14 can sort of spread the load and the cost and
15 particularly the maintenance across a wider
16 community.

17 CHAIR WELLSLAGER: The idea of the
18 school buildings is probably actually very
19 good in that you're going to have a solid
20 foundation to work with. Telecommunication
21 towers move.

22 DR. HAZELTON: Just a bit.

1 CHAIR WELLSLAGER: Yes. They have
2 a tendency to kind of sway a little bit. And
3 afterwards I can give you a card. We have
4 actually manufactured -- or I could give you
5 some specifications on brackets that you could
6 permanently mount to sides of buildings that
7 have been accepted by the National Geodetic
8 Survey for CORS installations. And we've had
9 good fortunate with them.

10 DR. HAZELTON: Thank you.

11 CHAIR WELLSLAGER: Juliana.

12 MS. BLACKWELL: Juliana Blackwell,
13 the director of the National Geodetic Survey.

14 I just wanted to follow up on a
15 few things that Bill said and that Tom alluded
16 to for the benefit of some of the panel
17 members and the audience here related to CORS
18 and some of the work that's gone on with
19 Gravity for the Redefinition of the American
20 Vertical Datum or GRAV-D as was in some of the
21 slides.

22 Just to give you guys a little bit

1 of an update on CORS to start. The
2 Continuously Operating Reference Station
3 network has grown to about 1,900 stations.
4 Less than 5 percent of those stations are
5 owned by NOAA. It really is a collaborative
6 effort in which NOAA is, NGS in particular
7 taking in the data and processing it on a
8 regular basis, on a daily basis, providing
9 coordinates, providing information about those
10 stations that individuals can then use free of
11 charge for positioning purposes, for
12 monitoring purposes, for whatever their
13 applications are.

14 The primary use for the National
15 Geodetic Survey is as the backbone of the
16 National Spatial Reference System, the
17 starting points, the foundational points that
18 provide latitude, longitude and elevation as
19 well as other information about the reference
20 system that we use for all mapping and
21 surveying and geospatial information.

22 So I know it is esoteric in some

1 senses but it really is, as Bill pointed out,
2 the starting point for, you know, what we do
3 as far as positioning things. We just like to
4 do it very accurately and precisely to start
5 with and then everybody else can take it as
6 they need it and do what they need for their
7 purposes.

8 But realizing that it is a
9 difficult concept to talk about geodesy and
10 geoids and things that, you know, don't quite
11 -- can't really draw a good picture of without
12 using mathematical symbols and lots of funny
13 things up there on the screen to try to
14 explain.

15 It is important to be able to talk
16 about the benefits of CORS and the National
17 Spatial Reference System. And back in 2008
18 the National Geodetic Survey did a scoping
19 study, a socioeconomic scoping study on the
20 National Spatial Reference System and CORS in
21 particular.

22 And the information is available

1 on the NGS website but just for the benefit of
2 the group here the study found that the NOAA
3 CORS network alone provides an estimated \$758
4 million per year in benefits to the nation.
5 So, even if it was off a little bit, I mean
6 that's still a really good return on
7 investment as far as potential, the benefits
8 that the CORS network provides.

9 So things like having these
10 studies, being able to talk about the
11 applications is important to our programs to
12 be able to communicate that to our users and
13 to those who are making decisions as far as
14 where resources go.

15 And looking at how we can partner
16 because this network wouldn't be possible if
17 it wasn't for all the investments made by all
18 the other groups, universities, state, local,
19 other federal entities who are putting these
20 resources out there and then giving us the
21 data so that we can manage it and provide it
22 back out to the public. So, the CORS network

1 is extremely vital but it really is a group
2 effort. And we all want to share in the
3 benefits that it's giving to the nation.

4 Another socioeconomic study that
5 was done and this doesn't necessarily fit into
6 one of the presentations that was given, but
7 the Coastal Mapping Program, and we've heard
8 all about the shoreline and how it's important
9 to have updated shoreline for charts, et
10 cetera.

11 Recently we provided another
12 scoping study through the National Geodetic
13 Survey that showed that there is a \$100
14 million direct economic benefits per year for
15 our Coastal Mapping Program. And that is a
16 \$35 per dollar spent by return on investment
17 there.

18 Again, that's also just a very
19 high-level scoping study that was done but
20 even so the idea is that being able to provide
21 this type of information, you're really
22 getting a lot more benefit out of it than it's

1 costing. And there are many more applications
2 that could be utilized and developed in the
3 future that will even improve those figures
4 I'm certain.

5 As far as partnerships and the
6 work that's being done here in Alaska, the
7 National Geodetic Survey is very pleased to be
8 able to say that groups such as NGIA, National
9 Geospatial Information Agency, the Bureau of
10 Land Management, USGS, Naval Research Lab, we
11 have had a variety of federal partners who
12 have come to the table offering platforms and
13 resources to be able to co-collect data on
14 airborne platforms.

15 And it's really made a huge
16 difference of how we've been able to do our
17 program GRAV-D and try to stay within budget
18 and on time for doing that. And we welcome
19 future collaborations too because it's still
20 going to be 7 to 8 years out before we
21 actually get all of the information collected.
22 So, we've done a lot of work in Alaska, still

1 a lot more to go, and a lot more work to go in
2 the lower 48 as well. So I just wanted to
3 mention those ongoing opportunities.

4 And the fact that the work that's
5 being done by the State Digital Mapping
6 Initiative to create the digital, the train
7 models is critical for us to be able to
8 utilize in making our geoid -- validating the
9 geoid models that we'll be producing. So, we
10 want to continue to build that relationship
11 and feed off one another into the future about
12 how our collections are going and how they
13 benefit each other.

14 So thanks for speaking to that
15 today, Tom, and appreciate everything that you
16 guys are doing too. Thank you.

17 CHAIR WELLSLAGER: Joyce?

18 MEMBER MILLER: Yes, a question
19 for Juliana. How many CORS stations are
20 currently in Alaska and/or planned in the
21 future?

22 MS. BLACKWELL: I would say there

1 are probably about 50. I don't know if the
2 folks that are here have any better recent
3 counts. There are about 50 CORS stations?
4 Anybody? Bill, do you have any idea?

5 DR. HAZELTON: It's around about
6 that figure. There are a very large number of
7 stations around the south coast that are there
8 with the Plate Boundary Observatory. But not
9 all of those are able to be converted to CORS.

10 Where we're sort of very thin on
11 the ground is around the west and north coasts
12 and a fair bit of the interior.

13 MS. BLACKWELL: The National
14 Geodetic Survey doesn't have any planned at
15 this point in time but we're certainly happy
16 to take the data from any other group that
17 would like to establish CORS. Especially --
18 I mean there's -- it's a difficult place to
19 put CORS, especially in the -- anywhere north
20 of Anchorage, right?

21 So, there certainly is a need and
22 certainly being able to put CORS where there's

1 a lot of change going on is important to be
2 able to see what's actually happening at those
3 locations. So, if there were other folks who
4 are interested we'd certainly want to work
5 with them and be able to incorporate those
6 stations into the network.

7 CHAIR WELLSLAGER: Gary.

8 MEMBER JEFFRESS: I have a
9 question for Juliana. Juliana, is NGS working
10 with the FAA towards aircraft using GPS to
11 navigate and for air traffic control so that
12 they can better utilize air space and reduce
13 their fuel costs?

14 MS. BLACKWELL: We work closely
15 with the FAA as far as airport surveys and
16 knowing or trying to keep in touch with what
17 their vision is for WAAS and LAAS
18 implementation for their aircraft navigation.

19 There are a lot of concerns with
20 the FAA related to datums and the fact that,
21 you know, they have to think internationally
22 and work internationally. And we know that,

1 you know, 10 years from now we'll be in a much
2 better place when we have our new datums
3 established to be able to have something that
4 works better in an international reference
5 frame.

6 But in the meantime, you know,
7 they're going down their path for WAAS and
8 LAAS implementation, Wide Area Augmentation
9 System and Local Area Augmentation System, for
10 their control of their aircraft. We work
11 primarily with them on datum issues and
12 quality assurance/quality control of airport
13 survey data.

14 MEMBER JEFFRESS: The reason I ask
15 is our campuses are responding to a request by
16 the FAA to fund six centers of excellence
17 throughout the United States to help come up
18 with the policies of innovating unmanned
19 aerial systems with commercial aircraft
20 throughout the United States. They want these
21 policies in place by 2020 and a lot of hinges
22 on collision avoidance which is precise

1 positioning in three and four dimensions which
2 is going to be based on precise GPS which has
3 got to use the CORS network. So I was just
4 wondering if any discussions have started
5 along those lines.

6 MS. BLACKWELL: While we have the
7 CORS network available we are not really in
8 the -- a realtime positioning service hat. We
9 don't wear that hat, we don't want to wear
10 that hat, that's not what we're about. All
11 disclaimers here. So we wouldn't be talking
12 to them regarding the actual positioning of
13 aircraft in realtime.

14 I will say, however, that the CORS
15 network is beneficial in post-processing
16 aircraft positions. So that when data is
17 being collected on airborne platforms, after
18 that data is collected post-processing can be
19 done so that that -- where that aircraft is is
20 very well known which only improves the
21 information about the data that's being
22 collected on the ground. So, after the fact

1 positioning of aircraft I would say is
2 something that we're involved with and
3 supported as far as CORS -- what the CORS
4 capabilities are, but not the realtime
5 positioning of aircraft.

6 CHAIR WELLSLAGER: Anybody else?

7 Yes.

8 DR. BAMFORD: So a question for
9 Molly. And I'm just thinking with the CORS
10 station how getting to that network you've got
11 to have some kind of baseline standards and
12 you have to make sure everybody's connected.

13 You were talking about up in
14 Alaska I think the number was 3,000 or so
15 parameters you want to try to get into the AU
16 system and all those measurements. How do you
17 verify the QA/QC and if you have two tide
18 gauges or two similar parameters really close
19 to each other and you're getting variations in
20 measurements, how do you control that or
21 ensure that the quality and the reliability is
22 there when you're inputting all different

1 information? Or do you have some kind of
2 baseline standard you're requiring everybody
3 as part of the system adhere to to ensure that
4 consistency?

5 MS. MCCAMMON: I think ideally you
6 would have those kind of baseline standards.
7 But it's one of those sometimes even not
8 necessarily the most robust data is better
9 than no data.

10 But we do look at things like that
11 and we do look for outliers and anomalies.
12 And we would call whoever the data provider is
13 and say there's a problem with your sensor.
14 You know, it's winter and it's showing 70
15 degrees temperature or something odd or
16 something. We would let them know that it's
17 off.

18 But we leave it to the provider,
19 the data provider, to do that QA/QC. But we
20 do some level of overseeing it. But that's,
21 you know, we've got 3,000 sensors coming in
22 and they're from all different kinds of

1 providers, but it's -- they're for the most
2 part pretty reliable folks. And we have the
3 metadata that they use, we have that source so
4 we can look at that too.

5 CHAIR WELLSLAGER: Well, okay.
6 Once again thank you very much for your
7 participation.

8 And again, you have a standing
9 invitation to come back tomorrow and sit in on
10 our stakeholder breakout sessions. We'll have
11 the baseline data collection requirements for
12 NOAA's navigation data, emerging Arctic
13 priorities, Alaska geospatial framework and
14 Alaska tides and currents. I think your
15 information and input would be invaluable to
16 help us come up with some recommendations for
17 our letters to administration. So thank you
18 very much. This has been very, very
19 informative.

20 (Applause.)

21 CHAIR WELLSLAGER: And for the
22 panel we have 5 minutes before our break. I

1 think we might be able to break now then. And
2 again, for those interested Kathy has arranged
3 a site view of Mount McKinley for the HSRP and
4 NOAA. We can meet in the hotel lobby for the
5 escort up to the observation deck here. And
6 if you have a camera, bring it.

7 MS. WATSON: Right. And Matt,
8 could you please let all the speakers know
9 that when we return to Silver Spring all the
10 presentations will be posted on the website?

11 CHAIR WELLSLAGER: Did you hear
12 that? All the presentations, if we could have
13 those from you, will be posted on the website.
14 Thank you. And we'll meet back here at 3:30.

15 (Whereupon, the above-entitled
16 matter went off the record at 2:54 p.m. and
17 resumed at 3:34 p.m.)

18 CHAIR WELLSLAGER: Okay, we have
19 an hour and a half to discuss the stakeholders
20 presentations, come up with some
21 recommendations for NOAA and talk about the
22 agenda for tomorrow.

1 A couple of things. I have one
2 request, and I was asked if I could bend
3 protocol a little bit for the public comment
4 period. Joel Reynolds would like to address
5 the HSRP and he's going to have to leave very
6 shortly. So he has about a 5-minute
7 presentation that he would like to ask to
8 present right now to the panel. So, Dr.
9 Reynolds.

10 DR. REYNOLDS: Thank you for the
11 opportunity. Sorry I have to leave early but
12 I appreciate your flexibility doing this.

13 I'm the science coordinator for
14 the Western Alaska Landscape Conservation
15 Cooperative. For those of you who don't know,
16 the LCCs are a DOI-funded program to try and
17 address -- more efficiently address shared
18 science needs among land and resource
19 management agencies. Basically the mission
20 for western Alaska is to promote coordination,
21 dissemination and development of applied
22 science to inform landscape-level conservation

1 including terrestrial and marine linkages in
2 the face of landscape-scale stressors with a
3 focus on climate change. I had to actually
4 look up what my mission was so that I'd get
5 that right.

6 And I just wanted to make a couple
7 of real brief comments to emphasize the
8 importance of some of the data gaps that you
9 heard about this afternoon. Just from the
10 perspective of some stakeholder groups that
11 you maybe don't think about in your day-to-day
12 life which are the wildlife and habitat
13 resource management agencies and user groups
14 like subsistence hunters in the villages in
15 western Alaska along with recreational and
16 sport users.

17 And so the LCC is pretty new.
18 About a year ago we had as part of our
19 strategic planning process we had a science
20 workshop here in Anchorage to identify sort of
21 pressing science needs that are held in common
22 across these management agencies and user

1 groups with a focus on climate change impacts.

2 The two biggest landscape-level
3 process changes that came out as the greatest
4 sources of uncertainty had to do with changes
5 in coastal processes and changes in
6 hydrological processes which both have links
7 to NOAA and NWS.

8 Out of that we decided that this
9 year the LCC would take its vast \$600,000 of
10 DOI funding for projects and apply it as --
11 this is year 1 of a 2-year pilot program
12 focusing on changes in coastal processes,
13 specifically coastal storms and their impacts
14 on biological resources more or less.

15 Almost all of that money we had an
16 RFP. We got a number of about 20 or 30
17 proposals. We funded 11 of them. Just to
18 point out where we're putting our money
19 because these end up being the greatest needs
20 for our user groups we funded two ShoreZone
21 proposals that we're leveraging with things
22 that the Park Service and Fish and Wildlife

1 funded and the Arctic LCC.

2 We've put money into three
3 different proposals that have to do with storm
4 surge modeling that basically effectively want
5 to do a lot more finer scale storm surge. You
6 may or may not know that the Yukon-Kuskokwim
7 delta is the world's most important breeding
8 area for migratory waterfowl. This is a
9 worldwide important resource. If you want to
10 investigate historic impacts let alone begin
11 to project climate change impacts on migratory
12 waterfowl in that very low elevation gradient
13 area then you need to be able to do storm
14 surge on the spatial resolution of 10 and 20
15 meters which the Army Corps, the existing Army
16 Corps work is way beyond that. And so we
17 actually gave funding to a project that Robert
18 Grumbine with NOAA is leading as a very small
19 chunk to just try and push some of that work.

20 From delving, beginning to
21 understand storm surge modeling and stuff it's
22 really driven home the complete -- the huge

1 limitations on near-shore bathymetry data,
2 tidal data, DEMs, coastline location maps,
3 things like that in western Alaska. We have
4 the technology to begin investigating how
5 climate change projections will impact these
6 important habitat areas in terms of inundation
7 and salinization and deposition but we realize
8 that the baseline data you need to drive those
9 models and do those investigations doesn't
10 currently exist.

11 So I just wanted to take the
12 minute to sort of let you know that this is
13 important enough to us, all the work you guys
14 do is important enough to us that we're taking
15 what, you know, relative to what your budget
16 is a very tiny amount and putting all of it
17 into this for the next 2 years. So I
18 appreciate your time and I will be here
19 tomorrow for the breakout session so I'll give
20 you more detail then. Thank you.

21 (Applause.)

22 CHAIR WELLSLAGER: Well, I guess

1 we had a chain reaction. The ball's rolling
2 right now, so Bob, would you like to address
3 the committee as well?

4 MR. PAWLOWSKI: Sure. Yes, thank
5 you. For the record, I'm Captain Bob
6 Pawlowski, NOAA retired. I'm talking on
7 behalf of the University of Alaska as an
8 adjunct professor.

9 I'll give you a slightly different
10 perspective on users because in -- with the
11 original Hydrographic Services Improvement Act
12 that was the navigation advisor up here. And
13 John Rayfield was up talking with Bill
14 Sherron, Don Young's chief of staff, who
15 promptly said so what are you guys going to do
16 to hire Alaskans? We're going to put money up
17 here to address the survey backlog in Alaska.
18 What are you going to do to hire Alaskans?

19 John Oswald who has JOA
20 Associates, Tom Newman with TerraSond, myself
21 and Orson Smith at the university said we'd
22 create a one-semester 400-level hydrographic

1 surveying class. And in that semester we
2 would fully introduce the students to enough
3 information that they could go to work in the
4 industry.

5 It was taught every fall until 2
6 years ago and now it's every other year. This
7 last class had 20 students in it. But we
8 start off introducing to charts. Let me step
9 back one.

10 In 2005 we finally got a textbook,
11 the IHO Manual on Hydrography. Prior to that
12 the texts were totally inappropriate because
13 GPS and multibeam were dominating everything
14 and there was nothing out there other than on
15 side-scan and on single-beam. It was in the
16 Corps of Engineers Engineering Manuals and
17 then we were able to bring in NOAA's specs and
18 deliverables.

19 So we put this curriculum
20 together. In the process we would start off
21 looking at what is the uses, what are the
22 sources. The chart got -- chart one, all of

1 the navigation stuff, teaching the
2 fundamentals of working on a chart and
3 planning.

4 And then we would step into the
5 whole process of acoustics in the ocean, the
6 sonar equation and how the sonar equation
7 works. What is the role of thermoclines, et
8 cetera. And then step into tides and currents
9 and establishing vertical datums, not just in
10 the coastal zone but because this is co-joined
11 with Corps of Engineers we have to deal with
12 rivers, locks and how it goes up in the inlet.
13 It's still hydrographic survey.

14 So once we got them into
15 understanding the datums then for datums they
16 would often go over to John Oswald's shop and
17 look at the tide gauges, look at the
18 instruments, get the presentations over there.

19 We would then go into single-beam,
20 multibeam, side-scanned and LiDAR and run
21 through all those with practical examples, et
22 cetera, and assignments on total propagated

1 error, on pulse repetition rates, et cetera,
2 et cetera, et cetera. Enough to give them --
3 this is 400-level. Enough to give them the
4 response to it.

5 Mid-term they would have to take
6 all their notes, all their information and
7 fundamentally work through a dozen questions.
8 And I guarantee, I don't know why it takes 3
9 hours but graduate and undergraduate students
10 can use 3 hours to try to answer 12 questions.

11 Be that as it may the second half
12 of the curriculum, because we are looking at
13 people going to work. We want them in these
14 companies. Was to actually give them survey
15 planning and survey practices standards, what
16 goes on with all of your patch tests, what
17 goes on in length of duration of establishing
18 tidal datums, just run them through all the
19 practical stuff so that by the time we got to
20 the end of the class they would understand
21 contracting language, what is Brooks Act and
22 IDIQ.

1 They would be able to look at
2 what's the responsibility of meeting the
3 standards. What are the statistics of errors
4 that allow for a 95 percent confidence level
5 in your data, all of these details. And they
6 would also be introduced to a statement of
7 work and a cost estimating sheet.

8 And the final exam, because I want
9 them to go to work and be successful, they
10 were given 3 hours with a statement of work
11 and the responsibility to say was it more
12 effective to charter and outfit the boat, or
13 was it more effective to use your own
14 integrated launch. And in 3 hours it was give
15 me a plan and give me a price. There is no
16 right answer, it's only the answer that you
17 can justify.

18 But what we found was we can teach
19 an entire semester introduction to hydro
20 enough so they can go and work with -- they
21 know what CARIS has brought in. Matt did a
22 great job bringing the NOAA data sets in and

1 showing all the access to all of this.

2 We found that we can get in one
3 semester a complete overview of hydrography,
4 give them 500 megs of public information in
5 the hydro manuals and the other things that
6 are online, the NOAA tides documents, great
7 complex documents, and send them on their way
8 and the companies can grow them.

9 And we've got company, we've got
10 them in the university. We've got them at
11 PND, the architect engineering firm. They're
12 in John's shop, they're in Tom's shop. And
13 they're also in other companies around the
14 country. So thank you.

15 CHAIR WELLSLAGER: Before you go
16 that sounds like a very productive program.
17 Not knowing the application process, but have
18 any of the students gone on to apply for and
19 possibly receive the ACSM inshore and offshore
20 hydrographic certifications?

21 MR. PAWLOWSKI: I don't know. I
22 know that Nathan in John's shop went back to

1 UNH. What? IHO. Yes. Okay. And I don't
2 know how many -- I don't know if Andy did it
3 out of Fugro and went on.

4 I know that they're all introduced
5 to the certification processes there. But we
6 teach them a class. They've got to get the 5
7 years of field experience and happily we met
8 the responsibility of hiring Alaskans. Other
9 questions?

10 CHAIR WELLSLAGER: Did you want to
11 say something, John? Or Dr. Sullivan?

12 MEMBER CAROTHERS: Jeff. Yes,
13 Jeff Carothers. You said the program is not
14 still running?

15 MR. PAWLOWSKI: No, it is still
16 running, it's just every other year. We also
17 teach a coastal measurement and analysis class
18 that fundamentally would be using the portal
19 that Molly had and bringing all that up.
20 Because I can walk into a classroom and I can
21 say okay, turn on your computers, we're going
22 to Adak. I'm going to need to see what

1 technology you're going to give me for landing
2 a fiberoptic cable based on the Unified Soil
3 Classification System and hydro. Other
4 questions?

5 MR. DASLER: Jon Dasler. I'm glad
6 you brought that up, Bob, because I think
7 that's probably the only undergraduate program
8 in the U.S. I mean, there's geomatics
9 programs and most of them are graduate
10 programs.

11 MR. PAWLOWSKI: It's the only one-
12 semester -- to my knowledge it's the only one-
13 semester hydro class in the nation.

14 MR. DASLER: But that brings up I
15 guess in the 2010 HSRP document one of the
16 recommendations is developing a lifetime
17 career program that fosters the hydrographic
18 profession and continues the NOAA tradition of
19 national and international leadership in
20 hydrography. And really trying to push that
21 forward, how do we get kids excited about that
22 and get people into the programs.

1 I know recently at the Canadian
2 Hydrographic Conference there was a huge
3 discussion on the need for training. And so
4 I guess I would just urge the HSRP to continue
5 pushing for that and NOAA moving forward on
6 that.

7 There was a point I think when
8 NOAA was talking about what they call NOAA
9 certified. You know, it doesn't really
10 necessarily need to go to that but I think
11 there's a real need that a lot of
12 hydrographers are getting a little more gray
13 hair, or less hair I guess.

14 CHAIR WELLSLAGER: Or both.

15 MR. DASLER: For that effort. I
16 think that's really important. I'm glad to
17 see that program is moving forward.

18 MR. PAWLOWSKI: During the 1998
19 hydro conference when Hydrographic Services
20 Improvement Act was going we did an 8-hour
21 short course specifically to give the industry
22 the choice of did they want to buy into the

1 technology and bring it into the company or
2 did they want to look at contracting for it.

3 We still do a 3- to 4-hour short
4 course because surveying to maintain your land
5 surveyor status you need -- and your
6 engineering status you need continuing
7 education units. And so we can do a 3- or 4-
8 hour short course that just hits the
9 highlights of what's in the manuals and what's
10 the emerging technology. So we keep current
11 on that. But it's a very important subject up
12 here because we have so much to do and we want
13 Alaskans to be doing it.

14 CHAIR WELLSLAGER: Well, thank you
15 very much. And I'm very happy to hear that.

16 (Applause.)

17 CHAIR WELLSLAGER: Bill, did you
18 have a question that you wanted to address the
19 committee with?

20 MEMBER HANSON: Actually I've got
21 a comment and a question. And the comment
22 first thing is I mentioned this to Matt

1 earlier.

2 We talk a lot in these panel
3 meetings about things that we need to do and
4 there's a little bit of grousing, a little bit
5 of complaining that goes with it and that's
6 part of the program. But once in awhile we
7 actually do something and do it well. And our
8 last session in Norfolk you remember we had a
9 gentleman from NOAA come and talk to us about
10 LightSquared.

11 Well, I think you guys, mostly you
12 know that LightSquared declared bankruptcy
13 last week. So congratulations to not only
14 this panel but the rest of the industry that
15 kind of got behind that and showed some
16 strength in being able to defend what we do.

17 It's one of those things that may
18 never go away. Somebody else may take up the
19 banner but we have to understand what it is we
20 do and be able to explain to others what we do
21 and do it well. So first off, congratulations
22 to the group for that.

1 Secondly, there was a House
2 appropriations bill that had some language,
3 committee language in it that called for NOAA
4 -- or called for GAO to do a study on NOAA
5 products, data collection products
6 particularly. And we're wondering, first off
7 I understand it's just in the House bill. I
8 don't know if it's in the Senate, don't know
9 if it'll eventually pass and be required, but
10 can you give us any sense of the background on
11 that and what -- who's pushing that? And
12 maybe how NOAA would respond to GAO.

13 DR. SULLIVAN: This is Kathy
14 Sullivan. We actually are asking ourselves
15 some of those same questions and working
16 through our staff contacts to see, to find our
17 more conclusively if we can what the back
18 story is and whether there are particular
19 motivations or just a broad sense of things.

20 You know, as a general rule if GAO
21 is being tasked the underlying surmise is that
22 there's a view that there's redundancy and

1 duplication that ought to be identified and
2 removed. But whether that's, you know,
3 broadly across the efficiency of the observing
4 systems or it's particular in some domain is
5 not yet clear from the intelligence that we've
6 been able to gather.

7 And if I could loop back to your
8 LightSquared comment, I'll add my applause to
9 the committee's efforts to make the voices of
10 these industries heard. But the driver behind
11 LightSquared is the competitive pressures on
12 spectrum and in particular a variety of the
13 space-based segments in and around L-band that
14 are used for not only GPS but a number of NOAA
15 applications.

16 Those pressures are not going to
17 go away. The desire for commercializing
18 portions of those spectrum and deriving the
19 revenues, both government revenues from the
20 auctions and then commercial revenues from
21 ongoing services are not likely to fade.
22 They're likely to persist. So I think it's

1 important to keep an eye on that space in the
2 interests of this industry.

3 And the other thing that the
4 industry might well do, I think there probably
5 is a point of validity in one of the arguments
6 that LightSquared made about the way in which
7 receivers to date largely have been built. It
8 has really not been necessary to be as
9 effective in the receiver designs or the
10 general public common user receiver design as
11 one can be at different price points. But
12 that's the other side of the coin to look at
13 is how our receiver technologies in the
14 commercially available sets for both precise
15 surveying purposes and general applications,
16 how are they being built and can they be more
17 resistant to bleedover from nearby frequency
18 usage.

19 CHAIR WELLSLAGER: Joyce?

20 MEMBER MILLER: A related question
21 from the document that was in our packages,
22 the House -- is this the House mark? It

1 specifically restores the navigation response
2 teams in this document. We discussed this
3 last, I believe in Norfolk. During that
4 meeting the navigation response team after the
5 hurricane there in Norfolk had significantly
6 enhanced NOAA's image in there and there was
7 a lot of praise for the navigation response
8 team. And in the discussion of the panel we
9 thought that was important.

10 We had seen that it was not in the
11 budget. Can anybody address what the status
12 of that is, of the navigation response teams?
13 Because if it's not in the budget I think it's
14 something that the panel may possibly want to,
15 you know, address.

16 DR. SULLIVAN: So, the President's
17 budget submittal for '13 did propose to
18 terminate funding for the nav response teams
19 in response to the set of pressures that we
20 were under to get it to certain caps and other
21 ground rules that came along with the
22 budgeting process.

1 The Senate mark did not reverse
2 that proposal. The House mark does reverse
3 it. I think this is the House mark, not the
4 bill that was passed last week. The House did
5 take their bill to the floor but have yet to
6 get to conference. The Senate has yet to take
7 their bill to the floor. So the status is we
8 are in that stage of competing in varied
9 proposals from the White House, from the
10 Senate and the House, and not yet moved into
11 a reconciliation phase. So limbo basically.

12 MEMBER MILLER: But I mean what is
13 NOAA's kind of position on it? Is NOAA
14 pushing restoring the navigation response
15 teams to the budget or not?

16 DR. SULLIVAN: Well, we like all
17 executive branch agencies once our discussions
18 within the administration are complete and a
19 budget goes forward are obliged to support and
20 defend the President's budget.

21 CHAIR WELLSLAGER: Okay, well,
22 thank you very much and I appreciate your

1 bringing that up, Bill.

2 The next thing on our list of
3 agendas is the discussion of stakeholder
4 presentations. And I'm not really sure how to
5 launch into this so if anybody wants to step
6 up to the plate by all means feel free.

7 We had two different groups, the
8 regional needs for NOAA nav services that was
9 this morning and then this afternoon more of
10 a session for the geospatial tides, currents
11 and hydrographic services.

12 Going back and thinking about
13 this, is there anything that stands out
14 collectively within the panel that you think
15 should be a recommendation to NOAA? And while
16 you think about that Lawson had to leave so he
17 could get ready for things tonight, but he
18 gave me a letter and I'll read this to the
19 panel because this is something that he
20 strongly believes in.

21 And it states, "I believe in our
22 letter to the administration we have a comment

1 regarding the Port of Anchorage to access
2 navigation issues. I was not impressed with
3 the responses regarding current depth and the
4 need for improvement. I brought up the
5 national security aspect for Anchorage. This
6 issue is a high-profile one for economic
7 security reasons. HSRP should highlight this
8 critical need."

9 I think I can understand a little
10 bit of what he's talking about in the fact
11 that there is shoaling and there is a concern
12 for water underkeel as ships are coming into
13 the harbor. But I also think that what we're
14 looking at for nav services, especially
15 hydrographic services, we're just -- the
16 shipping industry is going to have to pay a
17 little bit more attention to the tides.

18 They still have water under the
19 keel that they can use to navigate through the
20 shoaling areas with. The window of
21 opportunity might be a little bit less but at
22 the same time I think the point was also noted

1 and correct me if I'm wrong, but there was a -
2 - the shoaling was actually receding somewhat
3 along MacKenzie Point. So I think if some
4 type of a study were done we might see that as
5 with every other thing with Mother Nature
6 there's ebb in the flow.

7 And is this necessarily a matter
8 of national security? I'm not sure but far be
9 it from me to say yes or no of something like
10 that. Does anybody have any opinions on that
11 and could you at least clarify thing for me?
12 Is there that study and was there some
13 indication that the shoaling was receding?

14 LT. FORNEY: Yes. So currently --
15 this is Matt Forney, by the way. Yes,
16 currently there's actually two shoals that are
17 in question. There's the Knik Arm Shoal which
18 is where the navigable channel is and then
19 also further down that range line there's the
20 Point MacKenzie shoal. That shoal indeed is
21 from I do believe it's last year's, or excuse
22 me, 2010 data to 2011 it has receded. And

1 there's going to start kicking off this year
2 a 5-year planned study by the U.S. Army Corps
3 of Engineers which by the way they have
4 actually signed on and said that they will
5 collect that data to a NOAA standard so that
6 we can ingest it and put out a navigation
7 product from that data. So yes that study is
8 underway.

9 And then the other area is and I
10 do believe Steve did say this earlier this
11 morning, is that there is a plan and actually
12 I think he said it was out for proposal, a
13 dredging plan for the Knik Arm Shoal.

14 CHAIR WELLSLAGER: So I read this
15 to you and I want you all to chew on this a
16 little bit. This is one of 15 panel members
17 and has a vested interest in what's being said
18 here. And I don't know. I'm coming at it
19 with mixed feelings myself.

20 Beyond that it was interesting and
21 at least in the last panel session I've had to
22 deal with mapping issues myself and I've had

1 to deal with geodetic control issues. And one
2 thing that I think Mike and Aimee and Tom, I
3 brought to their attentions was everyone pays
4 an enhanced 911 tax on their cell bill,
5 cellular service, and that money could be used
6 to help fund possibly a tide gauge or the
7 mapping initiative that Tom was working on, or
8 Mike could use for emergency 911 practice in
9 mapping or possibly monitoring the shoreline
10 because of homeland security. And it has been
11 successfully used in the states of North
12 Carolina, Virginia and Indiana.

13 Things like this need to be
14 brought to their attention but I think things
15 like this in work with recommendations that we
16 might be able to make could open up avenues
17 for them because with Aimee and the need for
18 predicted tides, if she were able to use
19 monies made available to her with something
20 like this, the installation of an NWLON
21 station or a tide gauge and use with expertise
22 from local kids to help do other forms of

1 innovative measurements perhaps. They could
2 do some constructive things. So I think
3 outreach plans might be beneficial.

4 The money's there in some ways. I
5 don't know how the services are collected or
6 how the taxes are collected here but it's a
7 pot of money that we have tried to use in
8 South Carolina unsuccessfully because of
9 legislation that was written, but have -- know
10 of other states that have been able to do
11 something like this. So I think that would be
12 something that we could address possibly
13 tomorrow in the breakout sessions as food for
14 thought to see where things might go with that
15 if they had the monies to work with.

16 Other than that, Michele?

17 MEMBER DIONNE: Well, the reserve
18 system has been through working around the
19 edges of developing what they call sentinel
20 sites for patterns of inundation in the
21 wetlands that they characterize most of the
22 reserves. And they have fairly well developed

1 education program. At the woman at Estuarine
2 Reserves Division in Silver Spring might well
3 be interested in talking to somebody from HSRP
4 about that. Her name is Laurie McGilvray and
5 she's, as far as I can tell, she's excellent.
6 So she might be interested in developing a
7 collaboration of some kind or at least
8 discussing what one would look like.

9 CHAIR WELLSLAGER: Okay. Larry,
10 did you have something?

11 MR. MAYER: Yes and I'm almost
12 hesitant to bring this up. And I guess I
13 speak as a taxpayer. You're talking about
14 potential sources of revenue. I always look
15 for ways to gain efficiency and try to be more
16 efficient at what we do so we can get more
17 done with less money.

18 And I have to admit, I was very,
19 very concerned at the, at least in my mind
20 apparent redundancy between much of the Corps
21 of Engineers effort and the NOAA -- and Coast
22 Guard needs too. I'm not sure what this panel

1 can do because I'm not sure it's a NOAA issue
2 but there seemed very much to be an attitude
3 of treating NOAA as a stakeholder.

4 And that is so funny to me. Yes,
5 NOAA is a stakeholder but they're also an
6 Agency that's charged with collecting very
7 much of the same data in the same places. And
8 yet there wasn't that apparent recognition of
9 that. That's very concerning. I think as
10 taxpayers we should be always on the lookout
11 for that kind of redundancy and trying to
12 address that.

13 CHAIR WELLSLAGER: So if I
14 understand what you're saying correctly then,
15 we have a mutual interest from various sources
16 and we should all try to work together towards
17 a common goal?

18 MR. MAYER: Yes and I think there
19 are great efficiencies to be gained in doing
20 that. But I haven't seen -- let me just leave
21 it at that.

22 CHAIR WELLSLAGER: Okay. Okay,

1 very good. Scott?

2 VICE CHAIR PERKINS: On that note,
3 Larry, there is a draft piece of legislation,
4 "Map it Once, Use it Many" that was taken to
5 the Hill for the 112th Congress. So maybe we
6 should put that on the legislative affairs
7 action list for this group.

8 MR. MAYER: I know that
9 legislation very well. Yes, that's exactly
10 right.

11 CHAIR WELLSLAGER: Okay Scott,
12 thank you. Frank.

13 MEMBER KUDRNA: I want to follow
14 up on that and I have a specific recommended
15 action. And when Steve Boardman discussed all
16 the Corps projects for potential new harbors
17 and expansion of existing ports and those type
18 of things, and then talked about the lack of
19 a link to NOAA charting that is going to be
20 necessary as soon as every one of those things
21 is finished, the question I had asked him was
22 is there an opportunity instead of having a

1 joint cooperative agreement to have a three-
2 party cooperative agreement with NOAA and the
3 Corps of Engineers and the local sponsors so
4 there would be some resources so that when
5 these new capital improvements took place the
6 charting and mapping would be in place.

7 And his comment during the open
8 session was it was an intriguing concept. And
9 I talked with him afterwards and he thought
10 that could be very helpful. I said well, how
11 do we do this and he suggested that there's a
12 brand new Chief of Engineers in Washington
13 just installed right now and it really is an
14 appropriate time for a high-level NOAA
15 discussion with the Corps of Engineers on how
16 the charting and mapping portion of NOAA could
17 be integrated into the Corps of Engineers
18 project and cooperative agreement.

19 And that could also provide some
20 potential resources to supplement NOAA to do
21 this. Because right now when they build these
22 projects they're creating hazards out there

1 because of the lack of adequate charting
2 that's available for the approach to these new
3 facilities. So I would make the
4 recommendation or suggest that one of our
5 recommendations be to encourage NOAA to have
6 this high-level meeting with the new Chief of
7 Engineers to discuss the possibility of begin
8 entering into three-party cost-sharing
9 agreements for future projects with the Corps
10 of Engineers.

11 CHAIR WELLSLAGER: Yes, Rich.

12 MR. EDWING: So just following up
13 on that. Following Hurricanes Katrina and
14 Rita, and everybody remembers the failure of
15 levies down there and there was lots of
16 studies done as to why that occurred. One of
17 the findings was because the Corps was not
18 using proper datums for design.

19 And there was a policy that came
20 out, issued after that that said -- told
21 districts thou shalt use NOAA tidal datums and
22 NOAA geodetic datums for all of your coastal

1 projects.

2 And you heard Mr. Boardman's
3 assistant, I don't recall her name. She said
4 the CEPD project. Well, that's their project
5 to try and get all of their coastal projects
6 onto NOAA datums. It's not made a lot of
7 progress since then and a lot of it's kind of
8 funding and that's the way the Corps' funded
9 by a project by project basis. So I think try
10 not to encourage the --

11 MEMBER KUDRNA: I understand. And
12 I served on the peer review for all the
13 standards for the Corps on Katrina's
14 reconstruction. But I'm saying I think
15 there's an opportunity with a new chief at a
16 high level to have that discussion to try and
17 integrate that process.

18 And I don't mean just using NOAA
19 data, I mean incorporating the updating of the
20 appropriate NOAA charts into a project so that
21 when there's a new major facility or
22 construction there would be the appropriate

1 charts available and it would be cost-sharing.

2 MR. EDWING: And I agree but I'm
3 just pointing out the policy is in place to
4 kind of start.

5 CHAIR WELLSLAGER: Right. Okay,
6 Joyce, then David, then Gary.

7 MEMBER MILLER: Yes and I think
8 Evelyn had a comment too.

9 What I wondered was this whole --
10 the Army Corps and so forth. And it's kind of
11 a follow-up on what I brought up right before
12 lunch. I mean, to redo most of these places
13 that people are talking about including the
14 Port of Anchorage you don't have to have a
15 ship up here. All you need is a couple of
16 launches or a contractor. I mean, it's just -
17 - there, you know, Anchorage is a big project,
18 there's no doubt about that.

19 But I mean, and the other question
20 I have in terms of Army Corps is don't they do
21 post-dredge surveys and why isn't that getting
22 on the charts? I mean, doesn't Army Corps do

1 post-dredge surveys?

2 CAPT. LOWELL: I do show my
3 fingernails a lot during these meetings for
4 many reasons. Number one, let me assure
5 everybody that we do coordinate fairly closely
6 with all the Coast Guard districts that we
7 deal with, and we typically deal with 21 of
8 the 40. There's quite a few Army Corps
9 districts.

10 We are challenged in several ways
11 in doing that because of the way they're
12 funded. I think there was some inference of -
13 - by Mr. Boardman they get money for specific
14 projects. This is just the way they run.
15 Surveying is attached to it but maybe not
16 directly funded.

17 I've even heard stories of some
18 districts saying we never survey outside of a
19 channel because the money is meant to be spent
20 in that channel. And in fact even if there's
21 a spur off to the side of another associated
22 channel that isn't attached to the funding

1 mechanism they have that they don't even feel
2 they have the authority to redirect survey
3 assets. So, it's not really clear.

4 Actually perhaps Mr. Miles could
5 comment on some of these things coming from
6 the Army Corps. By the way, everybody does
7 recognize Mr. Miles is a past district
8 commander for the Army Corps.

9 But the key here is all of the
10 data that's provided to NOAA from Army Corps
11 we do process and process as quickly as we can
12 and we get it out to the end users as fast as
13 we can.

14 I think there are a number of
15 different flavors of the data, how we can get
16 it out. Do you get out higher resolution
17 point data or do we just do quarters as we
18 were discussing in the past? But all of that
19 is in place.

20 We get condition surveys, we get -
21 - we typically don't apply pre-dredge surveys
22 because it's going to change, but we do apply

1 post-dredge surveys pretty much post haste.
2 So it's not like it's falling apart at this
3 point, it's just 21 different moving parts
4 that we have to deal with taking a very
5 distributed work effort and trying to pull it
6 into a national program of charting. So it's
7 just challenging.

8 CHAIR WELLSLAGER: Okay, Dave.

9 MEMBER JAY: David Jay. I was
10 going to follow up on what Joyce had said.
11 It's been my impression watching Corps
12 district operations over the years that, you
13 know, as you just said, Captain Lowell, that
14 the mandate for survey is interpreted very
15 tightly. They've got the assets and a lot of
16 times the operation doesn't look like it's
17 very efficient or working very hard. And a
18 lot more could be done if there was a mandate
19 for them to do it and if what they're doing it
20 is up to standards. And I'm not sure, you
21 know, whether it always meets your standard is
22 something I wouldn't be able to -- wouldn't

1 know.

2 CAPT. LOWELL: Just one more
3 clarification is, and maybe this gets a little
4 bit to what Larry was talking about, but the
5 way we deal with Army Corps data is Army Corps
6 is responsible for federally authorized
7 channels. Typically they would dredge it,
8 they would survey it and they would provide
9 the information to us.

10 We do not put our own standards
11 onto that. We actually view the Army Corps as
12 the owner of that channel and if they tell me
13 it's 48 feet I put 48 feet on the chart. The
14 only time we get a little hitch in our giddy-
15 up there is if it comes in on different datum.
16 Then we actually have to figure out what datum
17 was it collected to. We have a charting
18 standard which is mean lower level water.
19 What is the relationship between those datums.
20 And then we might actually make a correction
21 if we can, especially of a broad area that
22 get's a little more challenging. But they own

1 the channel and we let them tell us what that
2 depth is.

3 CHAIR WELLSLAGER: Gary?

4 MEMBER JEFFRESS: On this same
5 subject about -- following up from what Frank
6 said about agencies getting together and being
7 more efficient. The same applies with coastal
8 mapping and FEMA flood inundation mapping
9 along the coast.

10 I don't know if you noticed today
11 or this afternoon. Michael O'Hare from
12 Homeland Security had a slide up there when he
13 talked about HAZUS software and also he had a
14 line there that FEMA does their mapping to
15 National Geodetic Survey vertical datum of
16 1929. Did you all notice that?

17 In Texas, in Corpus Christi, Texas
18 the 1929 mean sea level datum is now a foot
19 and a half below mean sea level that it is
20 now. It's like 2 feet in Galveston. So
21 they're way behind the times when it comes to
22 modern sea level and they're basing millions

1 and millions of dollars' worth of flood
2 insurance on these erroneous elevations. That
3 also needs a higher level communication
4 between NOAA and now Homeland Security which
5 FEMA comes under.

6 CHAIR WELLSLAGER: Steve, please.

7 I agree with you.

8 MR. MILES: Thank you. So Steve
9 Miles. I did 27 years with the Army Corps.
10 I finished up as the Portland District
11 Engineer. And so what I would just add to is
12 I wouldn't read too much into Steve Boardman's
13 language of how he maybe addressed a sister
14 federal agency. Because I would say where I
15 left the Army Corps of Engineers NOAA is a
16 great partner just like the Bureau of
17 Reclamation. I put a lot of pride in being,
18 you know, interagency, smart government like
19 our President wants us to do. Let's work as
20 hard as we can for our taxpayers given the
21 rules that we operate.

22 And so until you're in the Army

1 Corps of Engineers to the panel member down
2 here to the right is it's a project-funded
3 organization. And it can be a great
4 organization to hate but we're given
5 authorization and appropriation. So we work
6 within the federal channel and we survey that
7 survey.

8 Once we survey that area for
9 dredge surveys which may not be good for
10 navigating large vessels we'll share that
11 information with anybody that would like to
12 use it. And like what Captain Lowell said, a
13 lot of times that's not great survey data to
14 be navigating on but it is shared with as many
15 agencies as we can.

16 And so I'd just -- but
17 unfortunately if the district engineer could
18 have been here for the Alaska District, I know
19 he's packing out this week with his family,
20 you would have gotten a whole different
21 perspective on how Colonel Koenig works with
22 other agencies. And I think it would be

1 great, I applaud the recommendation over here
2 with General Bostick who just took over as our
3 next Chief of Engineers for our nation is for
4 NOAA to engage and talk about the Arctic with
5 General Bostick. And say let's go up there
6 and let's collaborate together. NOAA, have
7 the Commandant of the Coast Guard. I think it
8 would be a great, you know, tri-agency
9 recommendation coming from the panel to get
10 General Bostick, the Commandant of the Coast
11 Guard and the Administrator for NOAA together
12 and say let's craft a policy for how we can
13 work together in the Arctic here in Alaska.
14 Thank you.

15 CHAIR WELLSLAGER: Evelyn, did you
16 have something?

17 MEMBER FIELDS: Yes. This is
18 Evelyn Fields. I was just going to agree with
19 what Frank said. If the Corps of Engineers at
20 this point here in the Alaska area is looking
21 at priorities for new areas, up and coming
22 ports or whatever, it would seem to me that

1 NOAA's priorities or should be involved in
2 knowing what those priorities are so that if
3 they start work you should know that so that
4 your surveying priorities could integrate with
5 whatever they come up with.

6 And I'm not saying that you have
7 to follow them, but it would seem to me that
8 as soon as they come up with a laundry list or
9 a priority list the next thing that's going to
10 happen is somebody's going to say well, we
11 need surveys in those areas. And it would
12 seem that those two things should go together
13 as opposed to each doing their own thing. And
14 I think that's what Frank was -- I think
15 that's what he was saying. Okay.

16 CHAIR WELLSLAGER: Okay, just a
17 second. Bill, did you have something you
18 wanted to say?

19 MEMBER HANSON: Yes, I just wanted
20 to follow up with Joyce's question about the
21 after-dredge surveys. And we do -- 75 percent
22 of our work is for the Corps of Engineers and

1 we work all over the country for them. And
2 every project has an after-dredge survey.
3 Sometimes they have both their contractor
4 surveys and the government surveys for
5 contractual purposes, but also for acceptance.

6 A lot of those surveys are on the
7 web for most of the districts. I can't find
8 it here on Anchorage's but it's, other
9 districts it pops up very quickly.

10 The pilots. We've been talking
11 about Portland which is one of the better
12 districts in the country has an excellent
13 relationship with their pilots. Most of the
14 districts do. There are some that struggle a
15 little bit but it's a very big country with a
16 lot of needs and districts do things a little
17 differently. But for the most part they do a
18 really good job of providing that. So I think
19 as Frank's alluded to, getting together with
20 headquarters and talking about some bigger
21 issues.

22 I have talked to Corps

1 headquarters, we talk to them frequently as
2 well, and they think they have a very good
3 relationship with NOAA. So we might want to
4 explore that a little bit and define what that
5 means. Because at the end of the day as users
6 of the channels and uses of this data we just
7 want the data. We don't care who it comes
8 from we just want it out there. And if it's
9 floating around in somebody's pocket or
10 website let's get access to it.

11 CHAIR WELLSLAGER: Frank.

12 MEMBER KUDRNA: I would just add
13 that the point I'm trying here is if an
14 authorization takes place between the Corps
15 and a local sponsor, and it has the narrow
16 parameters of the navigable channel that's in
17 the authorization and there isn't a discussion
18 and a third-party presence of NOAA that has to
19 deal with the approach channel that might be
20 considerably larger and have hazards and very
21 important elements in it, a major element is
22 missing in that project. And the collective

1 project could be much better, there would be
2 an opportunity for some cost-sharing for
3 mapping and charting by NOAA and be a
4 participant.

5 And the place for that -- the time
6 for that to take place is before there's a
7 project agreement with a very narrow scope.
8 To have NOAA and the Corps of Engineers
9 discuss how there might be three parties to
10 achieving a successful project rather than two
11 and NOAA fitting in on the back side.

12 MEMBER JAY: I'll remember the
13 microphone this time. In response to what Mr.
14 Miles has said, you know, I understand the
15 Corps has limitations, but on the other hand
16 if you're in charge of maintaining a channel
17 one of your major issues is where are you
18 going to put the material which implies you
19 should be learning from where you put it last
20 time which means you need to be surveying
21 outside the channel. Otherwise you have no
22 idea where all the material goes.

1 I mean, I think there is scope and
2 I think there's also hope. What I'm hearing
3 from my colleagues at the Corps is that they
4 now have a directive from headquarters to
5 think about things in much more holistic
6 system-oriented ways rather than fragmented.
7 The headquarters is trying to get them to stop
8 thinking about I've got this project, it ends
9 here, this is the next project downstream, it
10 starts there and the two never speak to each
11 other. So I think there is room for dialogue
12 and progress in this area.

13 CHAIR WELLSLAGER: Okay, good.
14 Not to cut you off, Gary, but getting back to
15 that -- did not FEMA, weren't they regulated
16 to switch to NAVD88 instead of using '29?

17 MEMBER JEFFRESS: FEMA, no. The
18 Corps has, yes. The Corps is finally working
19 up after Katrina that they need to adopt the
20 National Spatial Reference System datums. But
21 FEMA has not come to that realization yet.

22 CHAIR WELLSLAGER: Jeff?

1 MEMBER CAROTHERS: Yes, we just
2 worked on a large flood plain mapping project
3 mapping the San Joaquin Valley in California,
4 Sacramento area and the Sacramento River. All
5 of that and it was funded mostly by the state
6 of California. However, all of the results
7 were going to FEMA to draw the new flood maps.
8 And they were very specific about 88 being
9 used and even hired special people to come in
10 and make sure that everybody used the same
11 datum and it was all up to 88. So, different
12 states I guess different things but I know in
13 California it was very specific on that one
14 project.

15 CHAIR WELLSLAGER: Matt?

16 LT. FORNEY: So Matt Forney, nav
17 manager of Alaska. I think we can clear up --
18 hopefully, I don't want the panel to think
19 that Army Corps of Engineers and NOAA only
20 talk at this. We don't.

21 There has been a survey request
22 submitted to NOAA's Hydrographic Services

1 Division within Office of Coast Survey. That
2 survey request actually came from a joint
3 effort between myself and Army Corps of
4 Engineers.

5 Cook Inlet is actually a re-survey
6 area. It's generally surveyed right around
7 every 4 or 5 years. We're right now on our
8 fifth year. Next year will be six. It's not
9 an emergency priority because by definition
10 emergency priority states that no traffic can
11 move through the area. And that's not the
12 case here in Cook Inlet. There is traffic
13 moving, there is commerce moving around.

14 So it is -- I did assign it the
15 highest priority I could which is the number
16 one priority non-emergency. With that said
17 we'll see what FY `13 brings for us. And you
18 know, I'll be working very closely with the
19 folks who do assign these surveys projects to
20 push for that being a main priority for 2013.

21 Also on that same scale with the
22 cutting areas and the disposal of the dredge

1 areas, those were actually one of the main
2 areas that Army Corps of Engineers said hey,
3 if you can get to it first can you go ahead
4 and survey those areas. And it's been put
5 into the survey requests.

6 Also, I'll I guess change gears
7 here and go to a datum type of discussion for
8 the inundation because that's actually a
9 question that has come up around here is that
10 really the local datum is what is still used.
11 If you go to most areas, and actually Mr.
12 Hazelton over there along the wall might be
13 able to provide a little bit more information
14 about this. But really the local datum is
15 what is still used, especially for inundation.

16 Recently I do believe
17 approximately 8 months ago they actually went
18 and redid some of the FEMA maps in Homer and
19 it caused quite an uproar because they
20 actually tried to take it to NAVD88 and all of
21 a sudden a lot of the local communities saw
22 their insurance premiums shoot through the

1 roof. And of course it caused a huge uproar.
2 So they actually had to take it back to a
3 local datum based on water levels. Which I
4 guess leads me to say that we can't wait to
5 have some GRAV-D new G08 brought to the area.

6 CHAIR WELLSLAGER: Bob?

7 MR. PAWLOWSKI: This time I'll put
8 on my legislative staff hat. I worked in the
9 Alaska State Senate. And I want to follow up
10 on first off the importance of introducing the
11 Kotzebue chart because we have been working
12 with Corps of Engineers, the state, DOT and
13 NOAA in a previous life trying to find ways to
14 develop Kotzebue Sound. But without the
15 survey to indicate loss of area there was no
16 way to move any farther forward because we
17 didn't know how long the causeways had to be.

18 That was one of those classic
19 situations where the survey had to -- there
20 was a lot of dialogue in the process. 2008-
21 2010 we've had more and more work on the
22 Arctic ports, but the important one is and the

1 state has mentioned that is three-part -- the
2 federal. The state's put a million bucks into
3 an Arctic port this last appropriation to
4 continue to work with.

5 We're looking at getting those
6 site-specific surveys to come into places.
7 The survey that was completed on the transect
8 across Port Clarence to Teller made the Nome
9 Port Clarence a complex that we could look at
10 for charting. Now we can discuss are we
11 putting \$10 million into the causeway, \$50
12 million into the causeway at Nome? Is Nome
13 going to be -- these are all dialogues going
14 on in the legislature.

15 But the important one is wherever
16 they need to come forward the Corps of
17 Engineers is involved very much but they
18 really need the fundamental survey and the
19 tidal datum and the Corps of Engineers storm
20 data all to be brought together so it can
21 actually be proven along with the ice. But
22 thank you.

1 CHAIR WELLSLAGER: Interesting.
2 What would be the possibilities of -- to build
3 on some of the things Joyce had said, if the
4 Corps of Engineers said I want to have a port
5 here, infrastructure was in place and the
6 facility looked like it was a go. And keeping
7 in mind my knowledge of the Alaskan shoreline
8 is poor at best what would be the
9 possibilities of bringing up a navigation
10 response team or possibly two teams to come in
11 and do the survey since the cost factor to try
12 to get a ship up here to do something like
13 that and the time involved would be
14 prohibitively expensive. And that's a
15 question I guess that would come to either you
16 or Dr. Sullivan. Could something like that
17 actually happen?

18 I mean, we're looking at another
19 way of getting or possibly getting it out to
20 a contractor.

21 CAPT. LOWELL: I would say it's
22 probably more likely that we would go the

1 contract route in this area. I mean, we've
2 had good success in this area. The NRTs are
3 fully occupied down south at this point.
4 Basically when something arises high enough on
5 the priority list then we do our best to act
6 on it based on our resources.

7 CHAIR WELLSLAGER: Okay. Michele?

8 MEMBER DIONNE: Is there any --
9 are there any examples of using drones to
10 collect this kind of data? Coastal, you know.

11 CHAIR WELLSLAGER: Drones to
12 collect this kind of data?

13 MEMBER DIONNE: Yes. Elevation
14 data.

15 VICE CHAIR PERKINS: Autonomous
16 underwater vehicles are available in the
17 contracting community right now. If the MOU
18 is in place between NOAA and the Corps, and
19 the Corps has a private sector already in
20 place under contract it's simply a task order
21 requesting a funding issue. Private sector
22 could respond to this need to get this inlet

1 out here surveyed in rapid fashion. The
2 private sector capability is there in place.
3 Contracting vehicles are there in place.

4 MEMBER DIONNE: What about from
5 above the surface?

6 VICE CHAIR PERKINS: I would say
7 the turbidity of the water out there would
8 preclude the use of bathymetric LiDAR. Just
9 that's an unprofessional observation. Yes,
10 the Secchi depth looks to be very insufficient
11 for airborne.

12 CHAIR WELLSLAGER: Admiral Barbor,
13 you wanted to say something?

14 MEMBER BARBOR: I've been involved
15 for the last 6 years in the next generation
16 LiDAR. It looks like it's going to be a very
17 good turbidity LiDAR. So, yes. We just flew
18 validation flights in the Mississippi Sound
19 which is about as turbid as you could get.
20 And we're getting, you know, I think we were
21 starting to see 5 meters, 6 meters with it
22 which, you know, does a pretty interesting

1 job.

2 MR. MAYER: I was going to
3 reiterate that. And one of our speakers today
4 said that their real problem is less than 12
5 feet, zero to 12 feet. And when we're talking
6 about that and with the new generation of
7 LiDAR, I think there is potential there.

8 MEMBER BARBOR: I'd like to --
9 yes, I was kind of waiting for the cooperative
10 Army Corps-NOAA thing to die down and pick up
11 one other thing. It really kind of stems from
12 the chairman's comments.

13 You know, I look at this job as
14 two fundamental enablers. One is water
15 levels, the other is positioning. And in both
16 cases this seems to be an extremely poor area
17 for. And what sort of innovative things --
18 you were tugging on the tide gauge sort of
19 innovations and I think whatever we can come
20 up with innovative ways of helping the
21 establishment of additional CORS.

22 Gary's got a good network, you're

1 working a good network, Mississippi has a
2 great network. A lot of that's earmarks which
3 aren't going to happen now, but to that extent
4 what sort of innovative ways can they find
5 funding for establishment of the start of a
6 coordinated CORS network. And I think along
7 with a water level network that would go --
8 which ought to be, you know, the sentinel
9 buoys or the sentinel stations are the ideal
10 situation but obviously an expensive solution.
11 In this I think we might need a less expensive
12 solution.

13 MEMBER MILLER: And something
14 struck me when both Aimee spoke and I think
15 Molly. Both of them said some phrase that we
16 don't need it to be perfect, we just need
17 data. And that sort of, you know, the GPS
18 isn't the greatest, et cetera, but you know,
19 that doesn't fit well with what you need to do
20 nautical charting. You know, you need it to
21 be as close to perfect as you can get it and
22 yet isn't some data better than nothing. I

1 mean, that's essentially the question they
2 were asking. And so I just -- that had just
3 struck me when two people said we just need
4 data, we don't have to be perfect.

5 MEMBER JAY: This thing always
6 gets me. I'm looking at you, not at the
7 microphone. David Jay. Along the lines of
8 innovative things to do, the gentleman from
9 the Alaska State ferry brings up the
10 situation. The BC ferries, I think it's the
11 one from Tsawwassen over to on the Victoria
12 side on Vancouver Island that has been fitted
13 out with an ADCP. These guys, you know, they
14 cover large areas in Alaska where there are no
15 current data and it's not -- the main effort
16 is in processing the data. I mean, it's not -
17 - it's a pretty simple thing getting that
18 Doppler profiler in there. Once it's in there
19 it really is not an effort for the crew at all
20 and that would be a way for them to get quite
21 a bit of current data which they certainly
22 lack.

1 CHAIR WELLSLAGER: Yes, sir.

2 MR. CUSICK: Joel Cusick, National
3 Park Service. I'm a GIS specialist.

4 Keep doing what you're doing.

5 NOAA and NGS are the pins in our maps and the
6 GIS professional community understands scale
7 and we understand a 60,000 scale chart is
8 going to meet the needs and we'll wait. Just
9 pick up the rate a little faster and to
10 leverage it is lean on us feds.

11 Fish and Wildlife, Park Service,
12 we're in some really remote spots but we've
13 got a cabin you might not know about. You
14 might not like it but we'll put you in an
15 aircraft and you'll land on a beach like this,
16 but we'll get you there and we're OAS-
17 certified. That helps. And all our skippers
18 have at least got a six-pack, okay? But we
19 can save you money on the logistical side big-
20 time. So liaisons like Matt Forney and Kris
21 Holderied. We were almost pulled off a tidal
22 gauge station on the west side of Cook Inlet.

1 The only one that we would have
2 had in the Park Service shoreline. We almost
3 got there and we were coordinating it but it
4 just takes talking to us. We've got some very
5 willing people out there and just keep us
6 informed.

7 CHAIR WELLSLAGER: Don't sit down.
8 So what happened? Why didn't you get it?

9 MR. CUSICK: It was the Tide &
10 Current group that's coming up here. I think
11 -- are they here now?

12 MR. EDWING: We were looking at
13 modifying the project that was being done with
14 the Alaska Energy Authority which was to put
15 out a bunch of tidal current meters and create
16 a model to assess the energy budget in the
17 area. And there was a recommendation that
18 came up maybe to do a current meter or two
19 less and pull it into this tide gauge. When
20 we looked at the benefit to the model and the
21 project that we were involved in, the benefit
22 wasn't there to the AEA in that project. So

1 you know, we couldn't justify using the
2 partner funds to also help out the Park
3 Service in this case.

4 We looked for the collaborative
5 opportunity there but when we looked at the
6 numbers it didn't really -- we couldn't
7 justify, you know, the benefit to the project.

8 DR. SULLIVAN: Was that because
9 the geography -- this is Kathy Sullivan -- the
10 geography or the ADCP or the tide gauge would
11 have been helpful didn't fit within the --

12 MR. EDWING: We had some historic
13 data that really could be used to, you know,
14 help improve the model. Putting a tide gauge
15 in wasn't going to buy us enough improvement
16 to the model to justify the cost.

17 CAPT. LOWELL: I don't know if I'm
18 applying the wrong logic here, but if we were
19 to think about the IOCM concept of simply
20 understanding what the differential is could
21 that be applicable to that? Obviously the
22 cost associated with a new tide gauge to the

1 single project you were working with was not
2 cost-effective but perhaps if other users
3 weighed in on other requirements could be met
4 based on that.

5 Is there a coordinated way to do
6 that or do we corporately simply look at
7 things project by project and you know, if we
8 were to look wider to apply IOCM to tides how
9 would we do that?

10 MR. EDWING: Well, I know on a
11 national level we are engaged with the Park
12 Service. Anywhere now where we're going to be
13 doing a project we inform the Park Service
14 ahead of time to give enough lead time to both
15 sides to be able to make it -- in fact, we did
16 this in North Carolina where we were doing a
17 VDatum project and we adjusted the locations
18 of some of the VDatum gauges to also meet the
19 Park Service needs for -- I'm not sure what
20 they were using it for.

21 But you know I think in this case
22 there wasn't quite enough time. We just kind

1 of came up -- it was kind of a last-minute
2 thing. And putting a tide gauge in in the
3 west side of Cook Inlet is no trivial matter.
4 And again, this wasn't our funds that were
5 being expended, it was also partner funds.
6 And when we looked at those partner funds were
7 to do the energy budget we couldn't, you know,
8 putting the tide gauge wasn't going to make a
9 big difference to that project.

10 MR. MAYER: The National Academy
11 study, National Needs of Coastal and Ocean
12 Mapping that led to the IOCM legislation had
13 another recommendation in it that I don't
14 think made it to the legislation. And that
15 was for a national registry, a registry of
16 surveys that are going to be done that are
17 funded but also a database of desired survey
18 areas. And I think it didn't make it into the
19 legislation because it's hard to formulate how
20 you actually legislate that.

21 But it seems to me that this is
22 something that can address all these different

1 issues. If you can look ahead a year or two
2 or three years, you know, we really want to
3 survey here. And the other agencies say well,
4 gee, the Corps is surveying over there, we
5 have some needs over here. And that's what
6 sets up the mechanism for doing this
7 leveraging, for what we call the incremental
8 surveys. We pay 10 percent more to collect
9 the appropriate tide data on a Fisheries
10 survey and we have a Hydrographic survey.

11 And so I don't know if this maybe
12 is a group that can try to push back for that
13 concept of a registry.

14 MEMBER JAY: The state of Alaska
15 has a reduced but still substantial revenue
16 stream from gas and oil revenues and they
17 distribute money to the taxpayer each year I
18 guess. So, maybe they could, if they saw a
19 benefit to their citizens of supplying the
20 state with tide gauges maybe they could be
21 persuaded to buy the equipment and pay the
22 maintenance. It's not a -- it's a substantial

1 but it's not an enormous cost.

2 MR. EDWING: Rich Edwing. So
3 there's lots of different ways to partner and
4 we're, you know, I guess we've got all sorts
5 of different partnerships out there where
6 sometimes people buy the equipment and we
7 provide expertise and do, you know, do data-
8 processing.

9 The work we've done with TCOON and
10 Gary's group is kind of one end of the
11 spectrum where there's 26 tide gauges
12 operating in Texas using the same technology
13 we use and they process the data and compute
14 tidal data using the same methodologies we do.
15 And they're really interchangeable with us,
16 you know.

17 To the other end of the spectrum
18 where there's somebody who just needs one tide
19 gauge in in an area and doesn't have any
20 expertise. And at that point it comes down to
21 really resources. But there's -- we're pretty
22 flexible in the ways we can work with people.

1 CHAIR WELLSLAGER: Joyce.

2 MEMBER MILLER: One thing that
3 would have helped me understand better what
4 was happening was if we had had maybe just a
5 10-minute presentation from the three of you
6 about what projects are active in Alaska right
7 now. Because when you get all these
8 stakeholders saying we need this, we need
9 this, we need this and if the panel doesn't
10 know what's actually happening, what's active,
11 you know, what surveys are planned, what
12 you're doing with National Park Service or
13 something we're kind of -- so what is NOAA
14 doing I guess would be my question.

15 So, just maybe for future meetings
16 just a brief summary of what the current NOAA
17 projects, current and planned NOAA projects
18 are. It's just a suggestion for better
19 understanding of the panel.

20 CHAIR WELLSLAGER: Juliana.

21 MS. BLACKWELL: In many of the
22 past meetings we had provided updates and

1 appreciate that with the new members certainly
2 at this meeting and the past few meetings
3 those would be extremely helpful.

4 We felt like we were in a -- I'm
5 not quite sure when all the feedback came, but
6 we were in a pattern of sort of doing these
7 updates and maybe they weren't really the most
8 efficient use of time. But certainly we'll
9 take that as a note for the next meeting to
10 make sure that we do highlight those things
11 early on in the meeting so that you do get
12 that update and sense of what's happening with
13 the four offices that are involved in, you
14 know, the navigation services. So you get an
15 initial perspective.

16 MEMBER MILLER: Well, specifically
17 when you're in a region something very focused
18 and targeted about what's happening in this
19 region, not sort of what's happening in a
20 global sense I guess would be what I would be
21 looking for.

22 DR. SULLIVAN: Joyce, this is

1 Kathy Sullivan. Would that be most useful to
2 you as a pre-read to paint a background
3 picture before you arrive in the region, or is
4 it something -- and maybe have a small unit of
5 time in the opening session if there are
6 particular questions about what you read
7 rather than using agenda time to work through
8 a presentation?

9 MEMBER MILLER: Possibly, but I
10 think it might be useful to the stakeholders
11 who were here as well to get some idea of the
12 scope.

13 For instance, when we met in
14 Honolulu I had an expectation that I'd hear
15 what was happening in the Pacific region, you
16 know, partly as a panel member but partly as
17 a stakeholder. And you know, and I can
18 understand that a long presentation, yes. We
19 got a couple in the previous meetings. But
20 just, yes, something pre -- and maybe a
21 handout for the stakeholders and then a brief,
22 you know, 10-15 minute session just to discuss

1 it.

2 DR. SULLIVAN: Okay.

3 CHAIR WELLSLAGER: Deborah.

4 MEMBER DEMPSEY: Just to comment.

5 And I appreciate that, Joyce. As a brand new
6 member I just got the sense today that -- and
7 yesterday that Alaska is doing their own
8 thing, you know, and that's not the case. So
9 it would be most helpful. And it was,
10 Juliana, for you to update us on some of that.
11 So thank you.

12 CHAIR WELLSLAGER: Okay.
13 Interesting discussion. Tomorrow we have the
14 breakout panel sessions and there was a
15 spreadsheet that was sent out by Kathy for all
16 of us to sign up and decide which of the four
17 we wanted to participate in. And I'll make an
18 assumption that everybody did that, but that's
19 an assumption. You know what that means. So
20 please make sure that you are going to
21 participate on one of those and is the sign-up
22 sheet in the back. So if you haven't done

1 that yet please sign up on the sheet so we
2 have an idea of who all is going to
3 participate in this.

4 One other thought that I had. Has
5 everybody filled out and signed your blue
6 folders and gotten them back to Kathy? If you
7 haven't, that needs to be done as well.

8 The other thing is I need -- we
9 need a head count of who's going to Lawson's
10 House tonight because -- no, no, it's going to
11 be driving. We need to know just how many
12 vehicles we're going to need to have. So if
13 you're going to -- how do you want to do this?

14 MS. WATSON: Excuse me, can I --
15 before we jump to that?

16 CHAIR WELLSLAGER: Please.

17 MS. WATSON: Just going back for
18 the stakeholder breakouts tomorrow, some
19 logistics. After we come in here at 8:30 in
20 the morning we're going to hear -- is it
21 Christian? I'm sorry, what is her -- Michele.
22 Michele is going to do a demo tomorrow

1 morning.

2 CHAIR WELLSLAGER: Right.

3 MS. WATSON: Okay. And the Alaska
4 Baseline Stakeholder will be meeting here in
5 the Aleutian Room. The Arctic Emerging
6 Priorities will be in the Cook Inlet Room.
7 And the Alaska Geospatial will be in the
8 Prince William Room. And the Tides & Currents
9 will be in the Lupine Room.

10 And they're going to have -- it's
11 on the first level. As you go down, you go
12 back down this way and they'll have on the
13 header boards for those rooms. Okay?

14 And Lawson wanted us to get to his
15 home by 6:30 so we should be leaving by 6
16 o'clock.

17 CHAIR WELLSLAGER: Okay. So could
18 we please have a show of hands of those on the
19 panel that are planning to go?

20 MS. WATSON: So there's about 22
21 of us. Okay. I have a van that carries six
22 people. Aimee has -- she can take seven. And

1 Matt?

2 LT. FORNEY: I have two vehicles.
3 I'm going to take my vehicle and hopefully we
4 can ask --

5 MS. WATSON: So I would recommend
6 we all meet in the lobby at 6 o'clock like we
7 did for the site visit. We'll divide up into
8 the vehicles.

9 CHAIR WELLSLAGER: Okay.

10 MS. WATSON: Okay?

11 CHAIR WELLSLAGER: We can do that.

12 MS. WATSON: Thank you.

13 MEMBER DIONNE: What time does he
14 want us there?

15 MS. WATSON: Six o'clock.

16 CHAIR WELLSLAGER: Six o'clock.

17 MS. WATSON: And I have driving
18 directions.

19 CHAIR WELLSLAGER: Okay. So the
20 last little bit of work we have left is we had
21 a public comment period. Some people spoke.
22 Is there anyone else that would like to

1 address the panel for public comment? Once,
2 twice. I'll say that's a negative. No.

3 That being said, unless there's
4 any other thing -- yes, Frank.

5 MEMBER KUDRNA: I have a request
6 for the FACA from the Science Advisory Board.
7 And the Administrator has asked the Science
8 Advisory Board to have a working committee to
9 deal with the subject of the research
10 enterprise of NOAA.

11 And there's a working committee.
12 I happen to sit on that working committee.
13 That's why I got the charge to carry it to
14 you. And that committee has been asked to
15 approach all the other FACAs requesting no
16 more than two pages' comments and input
17 concerning their views on the subject of
18 research. And a short questionnaire with I
19 think four or five questions has gone to
20 Captain Lowell and Kathy.

21 So they're on a fairly short
22 timetable and I would ask that maybe for

1 tomorrow morning we could have a copy of that
2 distributed to the panel. And whatever your
3 preference, Mr. Chairman, whether we maybe
4 have a little discussion somewhere in tomorrow
5 or have a subcommittee respond to that. I
6 think that would be appreciated.

7 CHAIR WELLSLAGER: Okay. That
8 will be done. Yes, thank you.

9 MEMBER KUDRNA: And I might add,
10 there's two direct references to that in the
11 appropriations budget, one in the House report
12 and one in the Senate report. And the Science
13 Advisory Board is asked to brief the Congress
14 on this within 30 days of completion of the
15 report by the House. And there's also
16 specific direction by the Senate. So it's an
17 important issue.

18 CHAIR WELLSLAGER: So you need the
19 reply yesterday.

20 MEMBER KUDRNA: Well, no. They're
21 going to meet in another month so getting
22 replies from all the FACA committees is

1 important.

2 CHAIR WELLSLAGER: Yes, that will
3 be an item of business then on Thursday. Very
4 good. Anything else?

5 DR. SULLIVAN: Mr. Chairman?

6 CHAIR WELLSLAGER: Yes.

7 DR. SULLIVAN: I've also been
8 asked by the Administrator to shepherd
9 innovation efforts within NOAA. Government
10 agencies are not notoriously good at
11 innovation, but you've seen good evidence I
12 think in a number of the people who have
13 spoken here today out in the field, 1 over R-
14 squared, far away from headquarters. You
15 know, lots of good things do get done just
16 because lots of smart people do find ways to
17 get good things done.

18 So I've had that percolating in
19 the back of my mind through our discussions
20 yesterday and today. And I would like to
21 float a very broad thought to this group. And
22 I would be interested in your comments back

1 and whether it enters any of your own thinking
2 or recommendations or not.

3 Joyce, I'm really starting from
4 one of the places that you came from. We
5 heard from a number of folks, we heard from
6 everybody how data-sparse the region is.

7 We heard implicitly from a number
8 of folks and explicitly from others in so many
9 cases some data is better than the no data
10 that I have. Not always, don't need the
11 rotten eggs, but in a lot of cases it is. And
12 a number of us had a big discussion last night
13 over dinner about crowdsourcing. It's also
14 come up in the session discussions here.

15 And I keep wondering whether
16 there's a more profound way that we should be
17 thinking about the kinds of opportunities that
18 Alaska offers, not just the challenges. It's
19 a big state, data-sparse, long list of things
20 to get done in tight budget times. That's the
21 challenge list.

22 What's the opportunity list?

1 Should we be finding some way together to be
2 turning the telescope around and thinking of
3 the state in collaboration with state partners
4 of course, as a very unique and important test
5 bed or innovation sandbox almost where we
6 could make some progress by finding out what
7 it means to adopt pragmatic evolutionary
8 standards, and move in a progressive fashion
9 towards the preferred and optimum standard.

10 What is crowdsourcing actually and
11 how might it work? Challenges to be sure, but
12 there's a big opportunity space here as well.

13 Talent development. We've got a
14 one-semester course. We have a talent
15 development model that centers on the NOAA
16 White Ships hydrographically and survey
17 launches, professional science masters, short
18 courses. What can this place teach us about
19 more innovative ways to develop the kind of
20 talent that we need which may go a different
21 pathway or even to a different endpoint than
22 we have traditionally thought of?

1 And finally, in a really wild
2 metaphorical leap, you know, back in the
3 sixties and seventies a lot of us were
4 watching the development of communications
5 across the continent of Africa evolving in
6 concert with the evolving space age and
7 telesat communication age.

8 Africa never pulled copper fiber
9 to establish continent-wide comms. They
10 skipped over that step. They didn't follow
11 the path that we followed in the continental
12 United States. They just did a leapfrog to an
13 entirely different technology basis for
14 establishing that communication.

15 And I keep thinking of that as a
16 metaphorical analogy to the scale of
17 opportunity and challenge in Alaska. So it's
18 just been too persistent a thought all day
19 long. I wanted to offer that to the panel for
20 thoughtful consideration. Maybe there's a
21 pony in that stall.

22 MEMBER DIONNE: So can we pursue

1 that tomorrow?

2 DR. SULLIVAN: You may do that
3 whenever you wish starting from not at all to
4 anytime you desire, madam.

5 (Laughter.)

6 MEMBER DIONNE: Thank you. I was
7 going to make one comment about the survey
8 that was just mentioned and was -- I received
9 it somehow.

10 And one of the first things you do
11 is a pulldown list of what part of NOAA you
12 work for or do science within. NOS isn't on
13 the list at this point, so. I mentioned that
14 I work for the Reserves but internally NOAA
15 doesn't really necessarily know that we exist.
16 So, anyway.

17 DR. SULLIVAN: We'll be sure the
18 Deputy Administrator -- Assistant
19 Administrator knows that.

20 (Laughter.)

21 CHAIR WELLSLAGER: David?

22 MEMBER JAY: Innovation is funny.

1 You know where crowdsourcing started in the
2 tides world? The very first tide surveys in
3 the world by Britain in the eighteen thirties
4 came from a scientist, William Whewell,
5 writing to all the missionary societies, you
6 know, everybody he could think of in the far-
7 flung British Empire with instructions about
8 collecting -- how to collect tide data.
9 That's how the first global tide surveys were
10 done.

11 CHAIR WELLSLAGER: Anything else?
12 I think we're supposed to meet in the lobby
13 what time? Six a.m.? Eighteen hundred hours.

14 MS. WATSON: I'm back on east
15 coast time.

16 CHAIR WELLSLAGER: Meeting
17 adjourned.

18 (Whereupon, the above-entitled
19 matter went off the record at 4:56 p.m.)
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21
22

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Hydrographic Services Review Panel

Before: NOAA

Date: 05-23-12

Place: Anchorage, AK

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.



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