

Center of Excellence for Operational Ocean and Great Lakes Mapping

Update from March 2024 Report to HSRP

Andy Armstrong

Four Missions of the Center



(1) A focal point for activities **transitioning developments** in mapping platforms, sensors, and **concepts of operations into operations;**

(2) a focal point for applied **training** for mapping and surveying operations, to grow and diversify the pool of well-qualified talent in this expanding field;

(3) an agency-wide capability to provide **technical support** for ocean mapping technologies to operators in the field on an increasingly diverse set of platforms; and

(4) a mechanism to leverage **public-private partnerships** in advancing the **nation's ocean and Great Lakes mapping goals"**

September 2023—One year ago

Dr. Spinrad announces new Ocean and Great Lakes Mapping Center of Excellence at UNH



Action to date

- Award of \$20 M Construction Grant to UNH for an Ocean Mapping Center of Excellence Facility on the UNH campus
- Transfer of ongoing ocean mapping training programs to the Center of Excellence—Basic Hydro, Full-time university
- Sponsorship of NOAA Ship *Nancy Foster* student intern cruises
- Assignment of a start-up staff
- Convened technical support workshop in June; training workshop in July

Roadmaps for Implementation

- 4 new hires this year; more hires expected next year
- Arranged for temporary office space on UNH campus

Nancy Foster 2024 Student Cruises

Three 1-week cruises

22 Students & 2 Academic Staff

7 institutions

- UNH
- USF
- USM
- NMC
- CoC
- CFCC
- Stockton U



NOAA Basic Hydrography Training held at USCG Training Center, Yorktown Va

15
Instructors

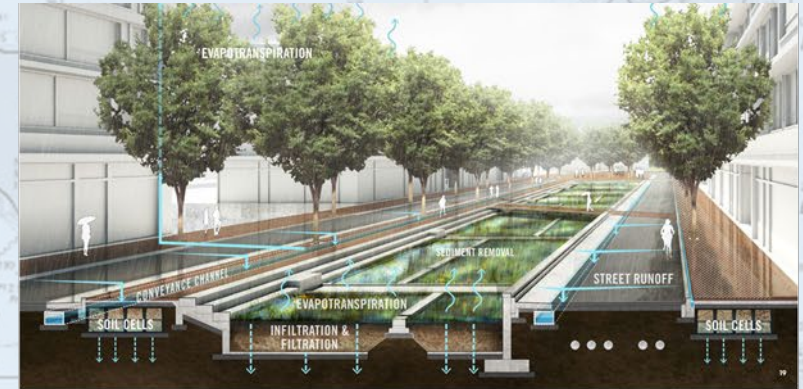
22 Students

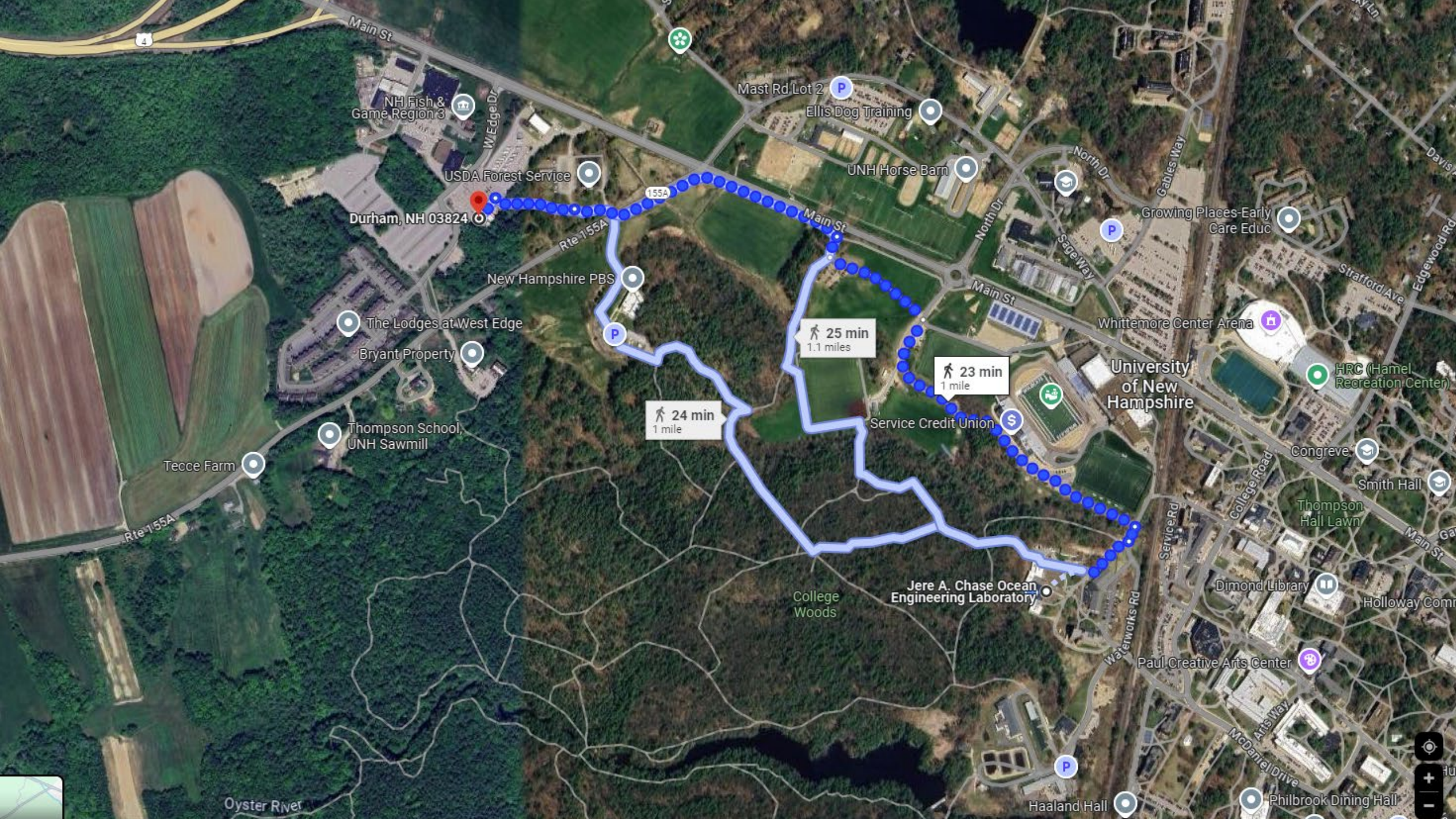
NOAA
NGA
USMC



The Edge at UNH

Live, Work, Play, Educate, Research..!





Durham, NH 03824

USDA Forest Service

Mast Rd Lot 2

Ellis Dog Training

UNH Horse Barn

New Hampshire PBS

The Lodges at West Edge

Bryant Property

Thompson School, UNH Sawmill

Tecce Farm

25 min
1.1 miles

23 min
1 mile

24 min
1 mile

Service Credit Union

University of New Hampshire

HRC (Hamel Recreation Center)

Jere A. Chase Ocean Engineering Laboratory

College Woods

Dimond Library

Paul Creative Arts Center

Haaland Hall

Philbrook Dining Hall

Main St

W. Edge Dr

155A

Main St

North Dr

North Dr

Gables Way

Sage Way

Main St

Stratford Ave

Edgewood Rd

Rte 155A

Oyster River

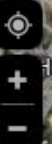
Service Rd

College Road

Waterworks Rd

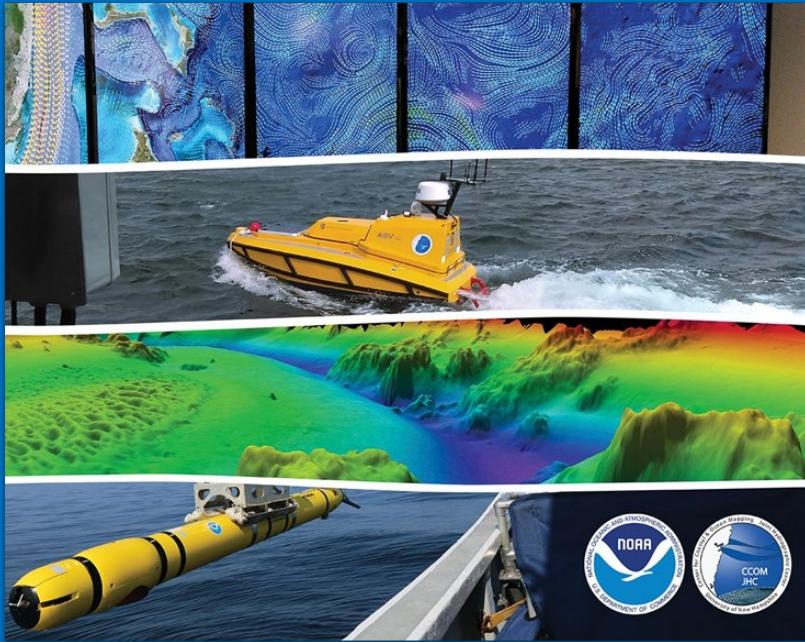
McDaniel Drive

4



Center of Excellence Facility Goals:

1. To embrace **environmentally conscious design and construction**,
2. Provide suitable space and infrastructure to meet program objectives.
3. Locate the facility in a **collaboration-friendly environment**.
4. Locate the facility with easy access to waterfront facilities.
5. Locate the facility with access to experts in hydrography and ocean mapping programs.
6. Locate the facility with access to experts in the transfer of developments in ocean mapping technologies into operations.
7. Provide **statement anchor building** design for The Edge courtyard.
8. Provide facility design that **shares the mission** of the NOAA Mapping Center with the public and The Edge.



Classrooms



High Bay for Uncrewed Survey Vessels (and more)



Lab and testing spaces



Remote USV control center



Program and Phasing

Phase 1:	NIST Innovation High Bay	15,000 sf
	Option 1: Industry partner expansion	+35,000 sf (50,000 sf total)
Phase 2:	NOAA High bay and office and training wing	16,400 sf (5,000 high bay; 11,400 sf office & training)
Phase 3	NOAA office and training Wing	4,100 sf (office and training)

Schedule

- Award design build contract 09/24
- Concept design 12/24
- NEPA Environmental Assessment & Permits 11/24 - 5/25
- Design development 01/25 - 4/25
- Groundbreaking for High Bay Construction 05/25
- Office & Training Construction begins 08/25
- High bay construction complete 03/26
- Office/training construction complete 02/27

Technical Support Goals: 2025



Office of Coast Survey
National Oceanic and Atmospheric Administration



Office of Marine and Aviation Operations
National Oceanic & Atmospheric Administration
Department of Commerce



NOAA - Great Lakes Environmental Research Laboratory



- Establish a framework for ocean/lake mapping system technical support to non-hydrographic vessels with mapping systems
- Create an operational management resource hub to further the goal of ensuring quality data for diverse mapping purposes across all NOAA platforms.
- Collaboration and mutual support with NOAA OCS, NOAA OMAO, NOAA OER, and UNOLS MAC for technical support
- Pilot project to conduct 2025 pre-season mapping readiness shakedown on NOAA Ship *Nancy Foster*
- Begin development of tech support infrastructure, including cloud-based remote data access capability with NOAA mapping platforms

A New Training Framework for NOAA Ocean and Lake Mapping

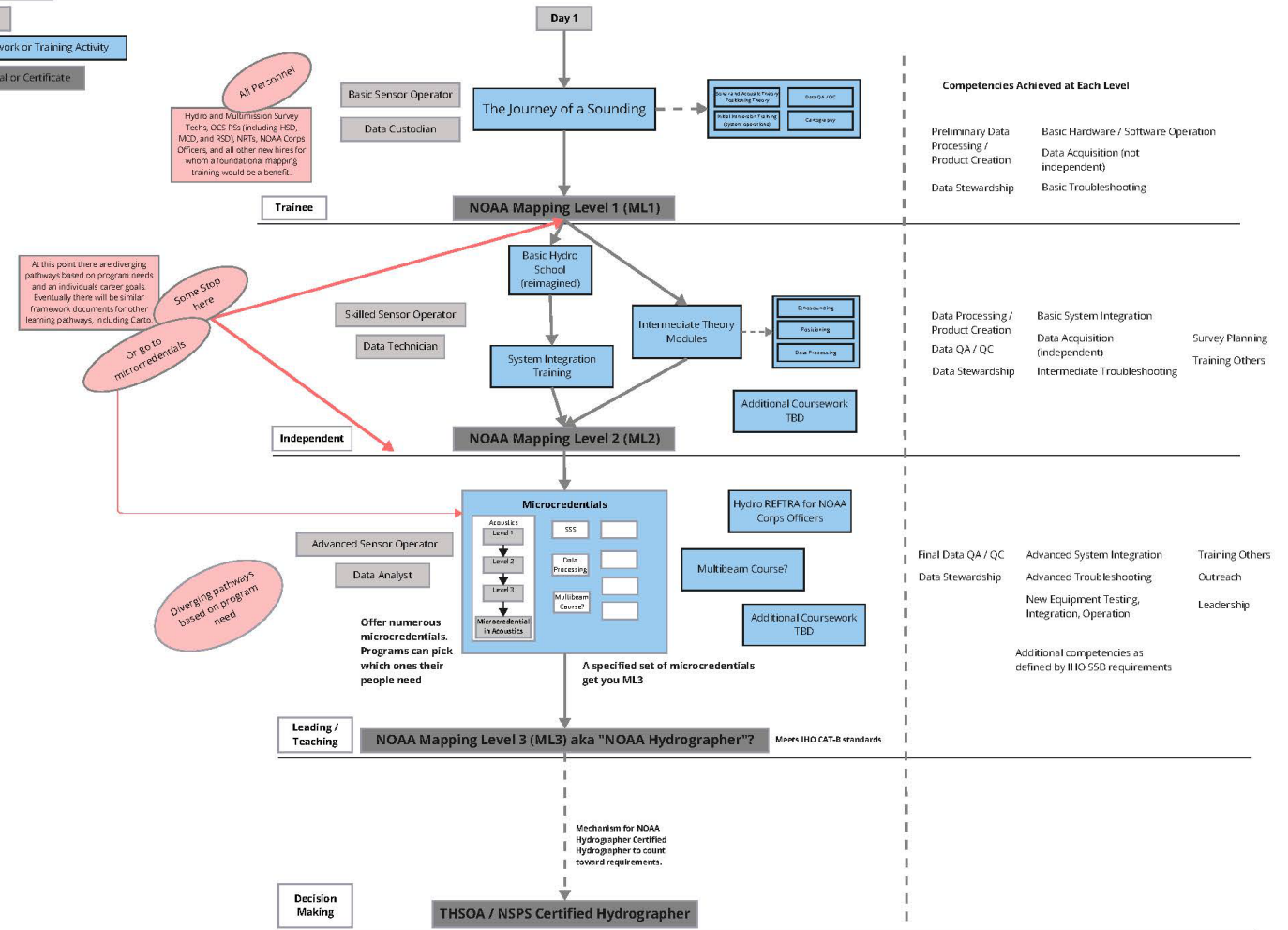
Intentionally implemented
 NOAA-wide
 Career focused
 Competency driven
 Multiple delivery mechanisms
 Government
 University
 Private Sector

9/25/2024

Legend

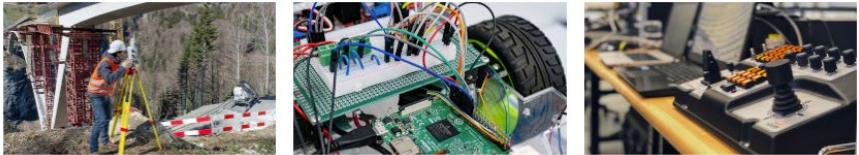
- Competency Level
- Role
- Coursework or Training Activity
- Credential or Certificate

Important: This framework is preliminary. The terms, course offerings, and specific workflow is in draft. Terminology, specific course offerings, and potential pathways will be developed as part of our next steps.



Training Goals: 2025

- Build a curriculum to implement the new training framework
- Identify how NOAA training and experience align with International and THSOA competencies
- Begin collaboration with academic partners and industry training organizations
- Incorporate micro credentials, digital badges, and internal/external certifications
- Establish training equipment and infrastructure requirements



Micro-Credentials

Micro-credentials are an aggregate of courses built around a competency that that can be taken as a standalone program or stacked to earn an academic degree or certificate. Micro-credentials are designed to provide specific workforce-ready skills in an accelerated timeframe. The micro-credential career pathway is a program for new students, professionals, military, and others seeking to up-skill their career paths.



Thank you