**Considerations for NOAA Investment in Alaska – July 26, 2017**

The Alaska Section of the American Society of Civil Engineers has canvased its approximately 800 members to gain insight into the areas where we believe weather and other climatological data was lacking and/or out of date. The following is a list (in no specific order) of items/areas that our engineer members believe NOAA could focus on in the coming years:

* Storm Surge Studies – Especially in western Alaska where it appears they are more frequent and larger. Data need is for designing coastal community infrastructure.
* More air temperature monitoring stations in western and northern Alaska (target permafrost areas). Many designs for frozen foundations rely on climate data from airports than can be hundreds of miles away.
* More ground temperature profile data acquisition at various points in Alaska would be desirable. In particular, determination of ground temperature trends over time, i.e., recession of permafrost level would be of practical value.
* More wind and precipitation data in rural Alaska. Unalaska as a specific target. The City is trying to collect their own data to better design their water supply system. They are actually teaming with DNR/USGS on groundwater level monitoring and would probably be happy to team with NOAA.
* NOAA has wave buoys but most are so far offshore and don’t provide the data we need. It would be better to have more nearshore buoys in locations with population centers to help properly design nearshore structures for those communities.
* Updated bathymetry statewide. This may already be in the works.
* Add more “sea level change” stations to get a good coverage of the coastline would be good.
* Often, we are asked of the sustainability and feasibility of alternative energy sources, such as wind and solar. Could NOAA provide some assistance with data gathering to inform the decision makers whether or not alternative energy sources are feasible in different parts of Alaska?
* Create a website where sounding data, particularly for bays and inlets, can be downloaded in .dwg format, but any format for detailed data would be beneficial. The intent would be to support design for small projects (e.g. residential) and conceptual/initial design study for larger projects. Also consider facilitating crowd sourced personal/commercial depth finder data to refine charts.
* Collect data that may be useful to support permitting reviews within other divisions of NOAA and NMFS to thereby potentially speed up their review. A regular comment was the length of permit reviews, especially for common typical projects. Is there specific data that NOAA can collect in-house to assist their in-house peers during their review of permit applications?
* Provide more detailed rainfall, snowfall, and snow depth data throughout Alaska, particularly Southeast Alaska with such varying weather accumulations due to topography, weather patterns, etc. Further refine the interactive snow information mapping website, which is seen as a potentially great benefit in evaluating snow loads for structures located away from traditional snowfall collection sites. Also, improve website navigation for casual website visitors to locate the information of concern.
* Review and publish up-to-date tidal datum, reflecting changes to sea level elevation.
* River meander studies over time. This might not be NOAA but it is needed for properly planning bridge and highway work.
* Vegetation changes over time – this is an item that is important with climate change and impacts previously published vegetation maps/ranges. Especially for areas of wetland.
* Overall investment in more official weather stations. Concern with the aviation safety and having good weather data to make informed decisions. It is one of our identified needs as part of ASCE’s Report Card for Alaska’s Infrastructure.