

6th Arctic Regional Hydrographic Commission Meeting

3 & 6 October 2016, Iqaluit, Nunavut Canada

PRO 1 - ARHC MEMBERS ARE INVITED TO VISIT AND USE THE NATIONAL-GEOSPATIAL-INTELLIGENCE AGENCY (USA) ARCTIC PORTAL

Submitted by: United States of America

- Reference:
- A. NGA Arctic Public Website (<https://nga.maps.arcgis.com/home/index.html>)
 - B. ARHC 5: Report of the Marine Spatial Data Infrastructures Working Group (MSDIWG)
 - C. (DRAFT) IHO Publication C-17, Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices, Ed 2.0, April 2016
 - D. Open Geospatial Consortium (OGC) Marine Domain Working Group (Marine DWG)

PROPOSAL:

The Arctic Regional Hydrographic Commission members are invited to access and utilize the data from NGA's public Arctic Webpage. As part of the U.S. Open Data Policy, this data is freely available and can be used by any member state.

EXPLANATORY NOTE:

- As part of the response to the changing conditions in the Arctic, the president issued an Executive Order to enhance collaboration of national efforts in the Arctic. He asked the National Geospatial-Intelligence Agency and the National Science Foundation to lead a collaborative effort to create the "first-ever, publicly available, high-resolution, satellite-based, elevation maps of Alaska" by 2016 and the entire Arctic by 2017.
- NGA and NSF released the first of those maps September 01, 2016 as part of the Arctic Digital Elevation Models (Arctic DEM) project. The 3-D topographic maps from the Arctic DEMs project are the first to show Alaska's terrain in such great detail and bring the unique Arctic landscape into focus. The DEMs, and the tools to explore them, are available on an open public portal to anyone with Internet access.
- Until now much of Alaska and the Arctic lacked modern and reliable topographic maps to help communities understand and manage the threats of climate change on the communities and the ecosystems on which the residents depend. The new Arctic DEMs, which bring together critical knowledge and capabilities from the scientific, research, academic, technical and intelligence communities, correct that deficiency. This project brings together a unique set of U.S. assets, including the U.S. Geological Survey, NGA, the State of Alaska, the Polar Geospatial Center at the University of Minnesota, University of Illinois, Ohio State University and Cornell University.

- The ArcticDEMs project represents an unprecedented achievement in the world of digital mapping and is a great example of leveraging open data, public-private partnership and innovation to produce the information communities need to become more resilient and better preserve their traditional way of life.

- Better elevation maps can be used to quantify changes in sea level and monitor coastal erosion to identify buildings and critical infrastructure at high risk of storm-surge damage, and to identify safe places to shelter when storms come. This capability will be particularly important as the Arctic warms and sea ice is reduced. This causes an increase in the areas of open water, enhances the potential for storm-surge effects, and put many Arctic coastal communities at greater risk.

- The ArcticDEMs are the benchmark against which future landscape-level changes can be measured. Satellite imagery can be collected and DEMs produced at regular intervals – weekly, monthly or annually to observe and document changes as they occur.

- NGA worked with partners to launch an unclassified, open Arctic portal where the DEMs and emerging information is available to the public. Esri, a geographic information system provider, hosts the site at nga.maps.arcgis.com. The public website hosts Webmaps, map viewers, other DEM exploratory tools, nautical charts, sailing directions and infographics, and a downloadable Pan-Arctic map with mission-specific data layers as part of the US Open Data Policy. These datasets support efforts to understand the Arctic, engage with residents, and develop tools, products and services that improve federal, state and local activities in the Arctic.