

**11<sup>th</sup> WEND COMMITTEE MEETING**  
**Tokyo, Japan, 2-5 September 2008**

**Digital Nautical Chart® Report**

U.S. NGA Office of Global Navigation

Lead RADM Chris Andreasen, NOAA retired

1. Digital Nautical Chart (DNC) Status

The NGA (National Geospatial-Intelligence Agency), Office of Global Navigation-Maritime continues to maintain its worldwide folio of approximately 5,000 nautical charts in DIGEST C-Vector Product Format. NGA has transitioned from traditional methods of hard copy chart production and now prints hard copy charts using the vector DNC data as primary source. All New Editions are now printed using e-PODs (enterprise-Products on Demand) methodology.

Maritime achieved the goal of being recommended for ISO 9001 certification in 2008.

2. Systems and Software Development

Maritime continues to expand its capabilities for handling bathymetric data. Work continues in relation to development of a global elevation model and systems to support such a large area database.

Maritime continues to work with Sperry Corporation under the Cooperative Research and Development Agreement (CRADA) to improve the functionality of ECDIS-N. The CRADA timeframe is being extended.

Additionally, there are plans for extension of the NOAA/NAVO/NGA Memorandum of Agreement for re-computation of the Global Predicted Bathymetry model. Several iterations of the new model have been developed. Upon completion of the U.S. work, it is planned to transition the model to GEBCO for maintenance. The U.S. is using these data to determine areas in need of investigation and recently found an unknown pinnacle east of Australia within about 20 meters of the surface. As hazards are identified, the U.S. issues Notices to Mariners.

NGA Maritime and the U.S. Navy are working on automated updating of digital charts, i.e., machine to machine updating with only limited human interaction to confirm the adequacy of updating, e.g., adequacy of area coverage for the planned deployment. Implementation is not expected before 2011 after NGA moves to its new headquarters and prototypes have been conducted. This may initially be implemented with tracking of Mobile Offshore Drilling Units to keep Navy vessels continuously aware of their movements.

Maritime continues to work on automated ingestion of Notice to Mariners for a few countries that follow a relatively standard format.

NGA continues to work on use of ENC as source and is working on processes related to ENC/DNC harmonization, extraction of ENC into DNC and evaluation of how NGA should best use ENC, i.e., direct use or through an NGA re-compiled ENC as S-100 is phased in.

3. DNC Deployment

Nine surface ships and thirteen submarines have deployed with ECDIS-N as primary navigation.

4. HarborView (3-D display)

NGA Maritime continues to use imagery for change detection in port areas in support of U.S. Navy navigation planning, port protection and underway situational awareness. Over 450 port models have been produced and another 100 are in work from the total of 1,700 ports in the DNC folio. This product is not available to the public but can be shared through bilateral arrangements.

5. Shoreline Data

NGA continues to work on the development of an imagery derived shoreline (digital approximation of the high water line). This is intended to eventually replace the World Vector Shoreline® product and also is being used for revision of the smaller scale (coastal and some approach) DNC libraries. HarborView is used in support of the larger scale port products. To date, NGA has compiled nearly gap free shoreline data for DNC CDs 2, 3, & 17. CDs 1, 12 & 23 are nearly ready.