

# OPEN NAVIGATION SURFACE WORKING GROUP

Inaugural Meeting, 21-23 January 2004  
CCOM/JHC, Durham NH

## REQUIREMENTS DOCUMENT: 21 JAN 2004

### **1 General**

- 1.1 The Bathymetric Attributed Grid Format (BAG) shall be an open format defined through a Format Specification Document (FSD).
- 1.2 The BAG shall be provided with a software access library.
- 1.3 The BAG shall be supported on at least Linux, Win32, SGI, Sun, and potentially others as tested in accordance with the FSD.
- 1.4 The BAG shall support a secure hash algorithm (SHA) used to show that the contents of the file have not been either corrupted or modified since the SHA was affixed. The BAG shall support a digital signature algorithm (DSA) linked to the meta-data structure (q.v.) used to prove that a particular competent authority certified the data for a particular use, and that the competent authority can be authenticated.
- 1.5 The BAG shall use HDF V as a support file format.
- 1.6 The FSD, supporting documentation (including this document) and source code library will be available from a CVS (Concurrent Versioning System) repository hosted by the Center for Coastal and Ocean Mapping/Joint Hydrographic Center at the University of New Hampshire.
- 1.7 The BAG shall contain only bathymetric data, and no point features.

### **2 Geospatial Data**

- 2.1 The BAG shall use regularly spaced nodes.
- 2.2 Georeferencing of the data shall be node based, with geo-referencing of the south-west corner provided in the meta-data.
- 2.3 The BAG shall include depth and depth uncertainty at each node.
- 2.4 The BAG shall represent a planar projected surface in a suitable coordinate system for the area of the grid and the location on the earth. The units shall be international standard meters in all dimensions. Coordinate systems, projections, ellipsoid definition and other geodetic parameters are correctly part of the meta-data associated with the grid, and shall be represented as specified in section 3.
- 2.5 The BAG shall support the extraction of one or more nodes as position-depth triples in any supported coordinate system.

### **3 Meta Data**

- 3.1 The BAG shall provide an extensible approach for encapsulating meta-data.
- 3.2 The BAG metadata shall include sufficient information to populate a meta-data report to ISO19115.
- 3.3 The BAG may contain extensions to the meta-data minimal requirements as necessary to encapsulate other details of processing, certification, etc. of the data. Allowable extensions to the meta-data minimal requirements shall be documented in the FSD.

### **4 Configuration Management, revision control, and change acceptance**

- 4.1 The BAG is taken to be as defined by the FSD and source code found in the public repository held at CCOM/JHC ([cvs.ccom.unh.edu/external](http://cvs.ccom.unh.edu/external), module opensns, HEAD branch).
- 4.2 A Board of Review will be nominated by the initial developers of the FSD to include at least three people. New members shall be co-opted from time to time, as required, by a majority of the current members. The general public shall nominate new members by submission via e-mail to [navsurf\\_dev@ccom.unh.edu](mailto:navsurf_dev@ccom.unh.edu).
- 4.3 Suggested revisions to the BAG's FSD and the source code library shall be accepted from the general public when submitted by e-mail to [navsurf\\_dev@ccom.unh.edu](mailto:navsurf_dev@ccom.unh.edu).
- 4.4 Suggested revisions will be reviewed by the Board of Review in a timely manner, and accepted by simple majority of the members. The results of the review will be communicated to the donor via e-mail only on a best-effort basis.