**United Nations Committee on Experts on
Global Geographic Information Management**
(UNEC-GGIM)

Scoping Paper

Draft 1: October 7, 2009

The Need

- **Climate Change**

- **Food Security**

- **Health**

- **Disaster Management**

"Driving forces are modernization of government, modernization of National Mapping Agencies (NMAs) or similar institutions, modernization of cadastres, programmes related to the promotion of e-government and information society, shortcomings in disaster prevention/management, and the need to enhance administrations and make them more cost-effective." – SDI in Iberia-America

The Goal
- A consistent, maintained Global Base Map at the scale of 1:50,000.

The Solution

- **Data Model**
    - A global base map data model is essential to consistent data structure and development for the global base map.
    - A modification of the existing base map data model: http://support.esri.com/index.cfm?fa=downloads.dataModels.filteredGateway&dmid=3

- **Workflow**
  An effective workflow for map, chart and data production organizations provides solutions for collecting, managing, producing, and sharing your data.

  A modern mapping agency workflow:
  1. Source Capture and Compilation
  2. Data Management
  3. Data Editing
  4. Cartographic Production
  5. Data and Cartographic Dissemination
  6. Data Maintenance and Quality Assurance

  from an enterprise geodatabase that follows the structure of the base map data model noted above.

- **Technology**

  A platform is needed which leverages geodatabase technology, provides the tools national mapping organizations need to complete their current missions and support the new challenges facing our planet.

  Required functions:
    - Extract, Transform, Load (ETL)
    - Disseminated Server GIS
    - Hierarchical, replicated Geodatabases
    - Cloud Computing architecture

- **Institutional Capacity Building**

  Need support mechanisms for developing nation MNAs

The Governance Structure

Member-driven focus
Highly consultative
Focus on the goal (product) vs. the process

- **ECOSOC**

- **UN Statistics Division**
    - Geographic Names: In 1959, Economic and Social Council (ECOSOC) paved the way for a small group of experts to meet and provide technical recommendations on standardizing geographical names at the national and international levels. This meeting gave rise to the United Nations Conferences on the Standardization of Geographical Names (UNCSGN) and to the United Nations Group of Experts on Geographical Names (UNGEGN). The UNCSGN is held every five years, and UNGEGN meets between the Conferences to follow up the implementation of resolutions adopted by the Conferences. Today, UNGEGN is one of the seven standing expert bodies of ECOSOC, with over 400 members from over 100 countries.
    - Regional Cartographic Conferences: In February 1948, the ECOSOC recommended that Governments of Member States stimulate surveying and mapping of their national territories and that the Secretary-General of the United Nations take appropriate action to further such efforts. In February 1948, the ECOSOC recommended that Governments of Member States stimulate surveying and mapping of their national territories and that the Secretary-General of the United Nations take appropriate action to further such efforts. The ECOSOC adopted resolution 556(XVIII) on 27 July 1954 and the first conference was held in the region of Asia and the Pacific in 1955. The ECOSOC, at its fifty-sixth session, from 22 April to 17 May 1974, adopted resolution 1839 (LVI) which "Requests the Secretary-General to make the necessary arrangements to convene the First United Nations Regional Cartographic Conference for the Americas during the first quarter of 1976".
    - Secretariat: The Statistics Division serves as Secretariat to UNGEGN and the regional conferences, and organizes and services the UNCSGN, the UNGEGN sessions and the regional cartographic conferences. In addition, the Secretariat organizes ad hoc training courses, seminars, and expert group meetings, mostly in cooperation with host governments and international scientific and professional organizations. Subjects include application of modern technology in surveying and mapping in developing countries, geographical information systems (GIS) for application in basic mapping and applied mapping such as mapping for statistics, population census, environmental protection, tourism, land use, and cadastral registration; legal aspects in map production; and toponymy. The Statistics Division also promotes the development of geographical information systems for population and demographic statistics in developing countries.
    - Mandate: http://unstats.un.org/unsd/geoinfo/mandate.htm

- **UN Cartographic Section**
    - Many maps produced by the Section are an integral part of UN documents; some are prepared for briefing purposes only; and others are prepared for use by the Security Council and not for general distribution. Each map has a unique number that appears in the lower left-hand corner. This number is used to archive and retrieve maps in the Cartographic Section. Most digitally-prepared, current maps can be downloaded from this site, and are also available for reference in the Map Collection.
    - The Cartographic Section is comprised of a small team of experienced mapping and GIS specialists. It is equipped to undertake a range of cartographic services related to the work of the Secretariat, including the preparation of small-scale illustrative, large-scale stand-alone maps and GIS products. To a lesser extent, the section provides advisory geographic/cartographic services on technical and research issues.
    - Mandate: As the cartographic authority for the Organization, the Section formulates cartographic standards and provides the necessary clearance for maps published under the UN imprint (Guidelines for the Publication of Maps, ST/AI/189/Add.25/Rev.1).

- **Role of National Mapping Agencies**

"While traditional uses of National Mapping Agencies' products have focussed on the map as a contextual reference, today's uses of the products from a National Mapping Agency are much more diverse. In addition to traditional map representations, geographic data is also heavily used in processes such as analysis, report generation and business intelligence data aggregation to drive decision making in both the public and the private sector.

These changing needs require producers of geographic data to rethink the way they customize their spatial information to make it appropriate for the user who maybe still a specialist or may be very unfamiliar with using geospatial products; they also have to rethink the channels to reach these customers." – Vanessa Lawrence, FIG Working Week 2009

"National mapping agencies (NMAs), commercial cartographic publishers, and federal defense and civilian mapping agencies are creating topographic, hydrographic, and/or aeronautical map, chart, and data products and performing dissemination. While they are each unique in their specific data and map products and individual missions, they have common processes and procedures of data collection and compilation, data discovery and verification, data management and quality assurance (QA), publishing and disseminating information, employing sophisticated analysis and visualization, and adhering to standards for these operations.
Mapping agencies throughout the world use GIS software to meet the mapping demands of the military services; hydrographic offices; aviation authorities; national land information departments; commercial map, chart, and atlas publishers; and their contractors.

Because mapping agencies must leverage data from a variety of sources and align with national spatial data infrastructure requirements, they prefer interoperable GIS software that manages and maintains various data types. National mapping agencies need to integrate myriad types of maps and data including geodatasets, maps and globes, metadata, process and workflow models. GIS implementing in a consistent national strategy promotes a country's spatial data infrastructure." – ESRI MAPS team

Related initiatives:
- Global Map: www.iscgm.org
- GSDI Association: www.gsdi.org
- Cambridge Conference: www.cambridgeconference.com
- International Cartographic Association: www.icaci.org
- FIG: www.fig.net

References:

Role of National Mapping Agency in Geoinformation Management
www.fig.net/pub/fig2009/papers/ps01/ps01_lawrence_abs_3505.pdf

Modernizing Mapping Organization's Workflow
www.esri.com/library/bestpractices/modernizing-mapping.pdf

Spatial Data Infrastructures in Iberia-America: State of Play 2006
www.upgrade-cepis.org/issues/2009/2/up10-2Crompvoets.pdf