



MULTINATIONAL GEOSPATIAL CO-PRODUCTION PROGRAM

A GLOBAL ALLIANCE OF DATA COLLECTORS HOPES TO REPLACE VMAP1 AT 1:50K AND 1:100K SCALES VIA AN INTERNATIONAL GEOSPATIAL WAREHOUSE

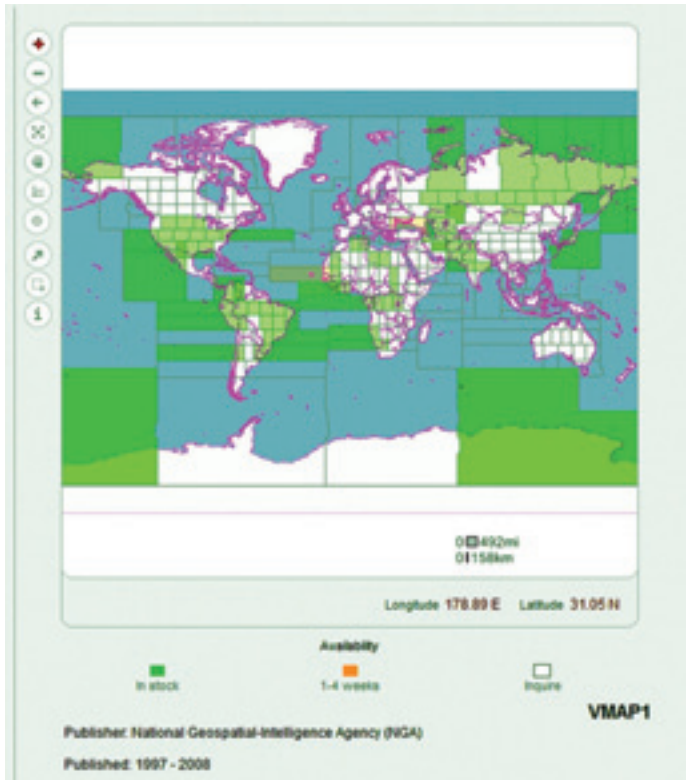
The Multinational Geospatial Co-production Program (MGCP) is a coalition of nations participating in production of global high-resolution vector geospatial data. All MGCP data co-producers will populate the International Geospatial Warehouse (IGW) for storage, exchange and use of geospatial information. The IGW will be established and maintained by the United States National Geospatial-Intelligence Agency (NGA). The MGCP is scheduled through December 31, 2011.

Since its inception in November 2003, MGCP has been working toward bolstering international cooperative production and coordination of high-resolution digital vector data in high-interest regions where inadequate data currently exists. The project is the evolution of the 10-year, global Vector Map Level 1 (VMAP1) effort that began in 1993. MGCP is not only more international, but also streamlined in terms of data analysis and user access.

MGCP membership includes 28 countries, including 11 "lead nations", and several industry partners who provide technical assistance. Whereas previous global efforts focused on a digital vector scale of 1:250 000, MGCP's goal is to work globally at the 1:50 000 or 1:100 000 scales, in which production will be divided into one-degree-square cells (about 3600 sq. nautical miles at the equator). All data collected will reflect 25 metre accuracy.

MGCP's second goal is to create an International Geospatial Warehouse (IGW) from which members could easily deposit and withdraw data from a common, web-based holding area and exchange mechanism that would enable rapid data exchange from a protected site.

The IGW had an initial operating capability target date of January 2006. The IGW was developed under NGA's "GeoScout" programme - a multi-year IT services contract to modernize and integrate geospatial intelligence into a unified enterprise in support of the NGA GeoScout mission. GeoScout's block three was to build on previous blocks with a



VMAP1_EVC.jpg [caption: VMAP1 data can be ordered from vendors such as East View Cartographic (www.cartographic.com)]

focus on upstream processing of source information, including analysis and an integrated information environment. While ease of data access was a priority in creating IGW, so was data security.

MGCP data is not expected to be a 'finished product' like a 1:100,000 topographic land map, but rather a 'work in progress' that users will modify according to their needs. Needs may extend to a variety of activities, from war fighting to peacekeeping to disaster relief. Expected uses for the data are applicable to military operations in the Geo Intelligence field (GEOINT) as well as for numerous humanitarian efforts, e.g. helping with logistics after natural disasters such as the Indian Ocean tsunami or Hurricane Katrina – wherever they may occur.

Nowhere is the value of shared geospatial responsibility more apparent than within the Multinational Geospatial Co-production Program (MGCP) - an agreement among 28 member nations to produce digital vector data over some very important regions of the world. Each country individually benefits from data sharing, and the stipulation to also share with NATO allows NGA to bring a unique arrangement to bear that supports U.S. national security interests.
Dawn Eilenberger, Director, Office of International Affairs and Policy, NGA

From recent news reports, it is easy to see that, while NGA is heavily engaged in supporting U.S. military forces overseas and in homeland security efforts, the peacetime, disaster relief effort is increasing. Relief efforts are benefiting from not only new, more accurate data, but also from the spirit of international cooperation applied in gathering and analyzing it. Military uses span non-combatant evacuation operations, peace support operations, stabilization operations, tactical land operations, logistical operations, tactical air operations, supporting arms operations, urban operations and embassy support operations. Future disasters aside, as with VMAP1, the MGCP data will be used to support national military systems, where high-resolution vector data can be integrated into command and control, surveillance, reconnaissance or weapons systems operated by allies.

Australian representation in MGCP

DIGO (Defence Imagery and Geospatial Organisation) was formed by the Australian Government in November 2000 by joining three existing agencies: the Australian Imagery Organisation, the Defence Topographic

Agency, and the Directorate of Strategic Military Geographic Information. The United States, Australia, Canada, and the United Kingdom, which form the Quadripartite (Quad) Committee, share unique and special relationships concerning the sharing of geospatial intelligence (GEOINT). According to DIGO Director, Clive Lines, one of the most tangible outcomes of DIGO's Quad membership is their involvement in the Multinational Geospatial Co-production Program (MGCP). The MGCP's aim is to produce high-resolution geospatial data around the world. While 28 nations are involved in MGCP, the Quad members are four of the 11 lead nations in the project. As lead nations, the Quad will have access to all the data that is produced. In addition to the obvious benefits of the MGCP, our involvement also provides opportunities for collaborative analytical engagement both with the Quad and other MGCP members.

While high-resolution data is the goal, initial organizational MGCP issues include procedural steps, standardisation (working within the framework of evolving international geo standards from ISO and OGC), and memoranda of understanding between organisations. Organisationally, the MGCP has three groups: the MGCP Plenary group, responsible for program issues such as developing the production plan; a Steering group, responsible for policy issues such as developing the MOU; and a Technical group, responsible for production support such as developing the extraction guidance. The plenary group meets twice a year and the steering groups three times per year. The technology group had met most frequently, up to five times per year (now less frequently), due to the complexity of the technical issues to be resolved.

Compared to earlier global efforts, the degree of cooperation already seen within MGCP may spell the difference in quality and data delivery. The VMAP1 database was built on a 1:1,000,000 scale and was an update of the US National Imagery and Mapping Agency's Digital Chart of the World. Original VMAP1 cooperation was good concept and the MGCP has learned from that. Early in the life of MGCP there were some data release restrictions, but as technical issues were ironed out, these have reduced. As the different areas of responsibility among MGCP members are finalized, an 'exchange rate' among the members has been conceptualized, based on the idea that those members who contribute more data should reap more benefits, receiving a higher return on investment.

MGCP product specification is based on International Standards Organization/TC211 and Digital Geographic Information Working Group standards, taking into account the interoperability standards being developed also with the Open Geospatial Consortium (OGC), to which many MGCP partner organisations belong. As geospatial intelligence continues to emerge with an important security assistance role in the broader picture of national intelligence, the MGCP will likely contribute greatly to the effort as it moves into its third year.

As the NGA's GeoScout programme meets its projected goals, the data emerging from MGCP will realize its full potential. GeoScout is finishing block one, the delivery of infrastructure upgrades, and moving into block two, integrated source and information management capabilities. Block two capabilities are projected to be reached during 2006 to 2010.

German participation in MGCP

The Bundeswehr Geoinformation Office (BGIO) has extensive and varied geospatial exchange and co-production arrangements with various nations, under which they exchange topographic, aeronautic, and hydrographic data in hardcopy and digital formats. They also participate in the co-production arrangement that satisfies military requirements and deployments. BGIO is a partner in the Multinational Geospatial Co-production Program (MGCP) where its topography co-production arrangement with the BGIO and its MGCP production commitments currently focus on the North African region.

Article by Roger Longhorn, Editor, GEOconnexion International magazine, contact at roger@geoconnexion.com, based on material drawn from multiple MGCP partner sites and additional information contained in a paper by Luis Filipe Nunes of the Portuguese Army Geographic Institute, published in the Proceedings of the 7th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences.