



GLOBAL MAPPING NEWSLETTER 32

Specialists Convened to Discuss Advances in Global Map and Global Spatial Data Infrastructure

Kate Lance

USGS/EROS Data Center and GSDI Secretariat



Participants and Mr. Une of ISCGM Secretariat

Technical specialists from 17 African countries participated in the 2nd Global Mapping Seminar in Nairobi, August 25-28, 2003. The specialists came from Botswana, Burkina Faso, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe. The seminar provided an opportunity for participants to discuss policy and technical dimensions of Global Map development, applications of Global Map data, and the contribution of Global Map to national and regional Spatial Data Infrastructure.

The 4-day seminar was convened by the Japanese Ministry of Land, Infrastructure and Transport (MLIT), International Steering Committee for Global Mapping (ISCGM), and the Regional Center for Mapping of Resources for Development (RCMRD), with support from the Survey of Kenya (SOK), Kenya Institute of Survey and Mapping (KISM) and Japan International Cooperation Agency (JICA).

Experts from United Nations Economic Commission for Africa (UNECA), United States Geological Survey (USGS) EROS Data Center, Food and Agriculture Organization (FAO)-Africover, International Livestock Research Institute (ILRI) and Environmental Systems Research Institute (ESRI) Inc. contributed to the seminar as lecturers. This also

provided an opportunity to discuss partnerships and collaboration.

ISCGM has made a point to engage others in Global Map development and leverage resources. In this regard, the following events were carried out in Nairobi in conjunction with the Seminar, thus getting 'more mileage' out of sponsoring the participants. A GIS course took place for the 3 weeks prior to the seminar, 28 July - 23 August 2003, organized by KISM and supported by JICA. After the seminar, ESRI conducted a 2 week GSDI/GM Grant GIS training course, 1-12 September 2003.

During the seminar, the participants from Burkina Faso, Kenya, and Botswana highlighted their success in producing Global Map layers and provided encouragement to other countries for doing the same. Colleagues from Zambia, Ethiopia, Ghana, Madagascar, and Burkina provided a summary report on mapping and geographic information management in their countries, and each country candidly discussed their ongoing activities and plans towards Global Map development. The GIS specialist from Mauritius raised the issue of scale with respect to his country's progress in Global Map development at 1:1,000,000. He pointed out that that "one map sheet at 1:100,000 covers the whole country." This set the stage for discussions about the future of Global Map with respect to scale, format, implementation, and applications.

All expressed a keen interest in achieving a total coverage of Global Map by 2007, and most of the participating countries already have made some headway in preparing their Global Map layers. The technical specialists recognized the role that Global Map plays in putting forth common specifications for building national framework datasets. A consistent data foundation is key to building Global Spatial Data Infrastructure, and it was emphasized that both GSDI and Global Map should be effectively promoted in tandem.

RCMRD Hosts Global Map/GSDI Grant Program Training for African Nations

Carmelle J. Côté, Ph.D.

International Relations, ESRI – Washington, DC



Training Participants

GIS professionals from ten African nations gathered for a two-week training class on "Building a National Basemap" at the Regional Centre for Mapping of Resources for Development (RCMRD) in Nairobi, Kenya from 1-12 September, 2003. Eighteen trainees participated from the following countries: Botswana, Ethiopia, Kenya, Lesotho, Malawi, Namibia, Swaziland, Tanzania, Uganda, and Zambia. The training was organized by Environmental Systems Research Institute (ESRI), who provided a trainer, Sandi Schaefer, from the ESRI Learning Center in Redlands, California, in partnership with the International Steering Committee for Global Mapping (ISCGM), the Global Mapping Partnership Program of the Ministry of Land, Infrastructure and Transport of the Government of Japan, the Japan International Cooperation Agency (JICA), RCMRD, and Oakar Services, the ESRI Distributor for East Africa. The Global Map/GSDI grant training program followed the Third Country Course on GIS, sponsored by JICA, and the Global Mapping Seminar which were also held in Nairobi. Several trainees were able to participate in two or all three of these co-located events.

The "Building a National Basemap" training program for the Global Map/GSDI grant (www.esri.com/sdigrant) is designed to make the process of creating and publishing Global Map data easy to understand and easy to accomplish. The training at RCMRD was delivered as a series of lectures and classroom exercises. The hands-on

training course focused on the use of the ESRI's ArcGIS software, including the Production Line Tool Set (PLTS), which was provided via the grant. The first week involved an introduction to GIS using ArcGIS, and the second week involved learning PLTS and creating Global Map database.

The PLTS is a powerful, easy-to-use collection of software applications that provide efficient production and maintenance of digital cartographic databases. It has been developed to produce mapping agency products for topographic and national mapping, nautical charting, forestry, census, and parcel mapping applications among others. This is a very useful technology for national mapping agencies as they develop and maintain Global Map data for their nation, per the Global Map Specifications (version 1.1). The final days of the training allowed the trainees to work with actual Global Map data.

The organizers wish to express our sincere appreciation to Dr. Wilber Ottichilo, Director General of RCMRD, and his colleagues for extending their kind hospitality, use of the training facility, and their staff resources to make this training possible. To date, the Global Map/GSDI Grant has been awarded to 104 countries in all regions of the world. Regional training programs such as this one conducted at RCMRD will provide a network of technological expertise and Global Map knowledge that is vital to development activities in Africa.



Hands - on Training

Experiences at Global Mapping Forum-2003

Dr. Alok Gupta

National Centre for Disaster Management, New Delhi, India



(from left) Dr. Gupta, Prof. Taylor, Dr. Tsuru of UNU

The Global Map is geographic information datasets directly related to the environment of the whole world, developed to solve global environmental problems along with economic development, social stability and improvement in the land administration system.

The **Global Mapping Forum-2003** (GMF03) from July 12-15, 2003 at Okinawa provides a platform to exchange ideas, experiences and information sharing among data users and providers concerning global or regional scale geographic information.

First of all, I am thankful to International Steering Committee for Global Mapping (ISCGM), Geographical Survey Institute (GSI) and Ministry of Land, Infrastructure and Transport, Japan by awarding me the *Young Authors Award* to attend and make presentation on **Mapping and Disaster Management in India** in GMF03.

It was remarkable to interact with over 200 participants from 41 countries and 7 international organizations in this gala event to discuss the progress of Global Map and to make plans for the future.

The Mapping Forum has taken certain important decisions which will go a long way in promoting the aims and objectives of the ISCGM such as to

develop a global map for the entire land surface of the earth, to further strengthen coordination with the users of Global Maps for sustainable development and to complete the Global Map coverage by 2007 to facilitate the actions of the countries of the world both individually and collectively to conserve our fragile environment and make the development of our societies more viable and sustainable for future generation to come and to call upon those countries not yet committed to Global Map to join and help make Global Map a truly global map of the world.

The Forum was held at Okinawa Convention Center near the fascinating coral sea beach. All the sessions were nicely arranged & designed and meaningful especially the inaugural function and sessions like Development of Global Geographic Information, Development of Global Geographic Information by Remote Sensing, Application of Human Activity, Disaster Prevention and Environment. The Keynote address by Dr. D. R. Fraser Taylor on **Global Mapping: the Status and the Future** was remarkable.

It was a thrilling experience to see the magnificence of the Okinawa Islands in the Technical Tour arranged by ISCGM on July 15, 2003. It was nice to see Okinawa Subtropical Environment Remote Sensing Center, Communication Research Laboratory, Okinawa Churaumi Aquarium, Ocean Expo Park and of course, the colourful Okinawa sea and culture.

Moreover, I would like to deeply appreciate the hospitality provided by the organisers like Mr. Hiromichi Maruyama and host of others.

Finally, Global Mapping Forum-2003 provided a very useful platform for interacting among the participants with their diverse ideas and experiences from different countries and cultures. I wish that this forum would succeed in its endeavor in development and promoting of mapping applications in the world.

Status of Participation in Global Mapping

Recent Participation in Global Mapping

Instituto Nicaraguense de Estudios Territoriales
Kosova Cadastral Agency

September. 17, 2003
October. 23, 2003

EuroGlobalMap Digital Database covering Europe

Heli Ursin
EuroGlobalMap Project Manager
National Land Survey of Finland



Example of the EuroGlobalmap data

From a technical point of view, the EuroGlobalMap data set is made up of 6 themes (administrative boundaries, hydrography, transportation networks, settlements, elevation and named location), including total of 12 layers. Feature coding structure in EuroGlobalMap database is based on DIGEST (Digital Geographic Information Exchange Standard) Feature and Attribute Coding Catalogue (FACC) (1). Metadata of the database follows the ISO19115 standard.

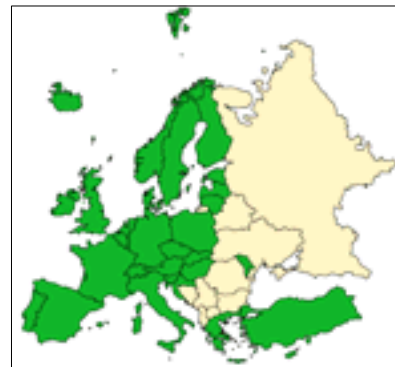
EuroGlobalMap (EGM) is a digital, seamless 1:1 M scale data base, based on official data from the contributing countries by their National Mapping Agencies. EuroGlobalMap database is produced under the umbrella of EuroGeographics (www.eurogeographics.org), the association of the European National Mapping Agencies. The association consisting of 40 official national data producers from 38 countries acts as one of the major contributor to the development of European Spatial Data Infrastructure (ESDI).

EuroGeographics launched the First version of EuroGlobalMap dataset, which covers 30 European countries in July 2003. The product is available for evaluation. The second EuroGlobalMap version will be released in January 2004. This version will contain 36 European countries. In the future by launching further versions, the coverage will be gradually extended fulfilling the whole of Europe.

The National Mapping Agencies have agreed on a common specification and produced the data accordingly. EGM Database is intended to be used in map scales 1:500 000 - 1:1 000 000.

EuroGlobalMap is designed for business use and can be exploited for analysis covering large areas and is mainly focused to serve as geographic backdrop for presentation and visualisation.

EuroGlobalMap will also define the common marketing objectives and the agreed business model for data distribution (pricing and licensing).



Planned coverage of the EuroGlobalMap in January 2004

Global Mapping Group Training Course - 2003

Dr. Ashok Kumar Singh

Ministry of Science & Technology, New Delhi, India



Dr. Singh (center) and JICA participants

The world is fast moving into being an information and knowledge society – especially with the emphasis on information technology and “transparent” e-governance. The advances in information technology communication and networking technologies enable large volumes of diverse data sets to be used in conjunction giving rise to the metaphor of data infrastructures.

It has now become essential that all the nations should come forward to share the information and develop integrated technology and expertise to meet the requirement of spatial planning for sustainable development of the globe. The growth of the world depends on speedy implementation of scientifically planned developmental activities through use of multifaceted geospatial data. The digital infrastructure would also enable greater sharing and better access to high quality spatial data and would also improve the well-being of our communities. Responsible stewardship of our natural resources for sustainable development depends on making sound scientific information available to the decision makers.

The awareness among the people regarding environmental problems began few decades ago. It has been realized that the satellite imagery along with

the geospatial data plays the important role for better understanding the environmental systems. During the United Nations Human Environment Conference in 1972 it was felt that the global environment problems need to be dealt with the global scale. The matter was again discussed in the “Earth Summit.” The concept of Global Mapping, and the establishment of an international body for global mapping were first proposed by the Ministry of Construction of Japan in 1992. The Geographical Survey Institute of Japan proposed the first draft map specifications in 1994.

The main objective of this global project is to bring all the countries and concerned organisations together to develop and provide easy and open access to global digital geographic information at a scale of 1:1 million. The national mapping organizations participate voluntarily and are responsible for providing data of their territory. It is used to facilitate the implementation of global agreements and conventions for environmental protection, consistent database for research and decision-making, disaster damage mitigation and countermeasure planning as well as encouraging economic growth within the context of sustainable development.

As a capacity building, JICA has initiated the training course on Global Mapping since 1994 for the purpose of supporting developing countries to prepare the Global Map. So far 53 participants from 33 nations have been trained in two different phases (Phase 1, 1994-1998 and Phase 2, 1999-2003). The phase 3 i.e. 2004-2008 is under review. During the training course from 30 September - 14 December 2003, five people from different countries- Fiji, India, Oman, Thailand and the Philippines have participated.

In the training programme we have been introduced the working of Geographical Survey Institute, their objectives and vision. The lectures were also

delivered on introduction of Global Mapping, challenges to the globe along with the issues addressed by Global Mapping project, introduction of GIS and GPS technology, NSDI in Japan, global environmental problems, problem with existing dataset, continuous and collaborative effort made to national mapping organizations of respective countries to release their data set. We have also studied the metadata as well as the specifications of the Global Map of spatial resolution of 1km or 1:1000000 in eight layers including 4 vector and 4 raster layers. The presentation on digital Japan was also made. We have also been introduced to ARC GIS, GRASS software and processing of the remote sensing data. We have seen the effective use of geographic information by the "Denshi Kokudo" e.g. its easy access to the local as well as the national level, excellent use for local area planning, real time data online, base map for electronic applications and its uses for disaster prevention information system. In the individual study we have tried to establish the linkages of the respective countries to the Global Mapping projects. In the study trips we have learnt

many good lessons from different places.

Its very fruitful initiative taken by JICA is being implemented by Geographical Survey Institute of Japan, to train the people from different part of globe to actively participate in the Global Mapping project. We have not only enjoyed the lectures, study trips, sightseeing etc., but also we will never forget the Japanese rich culture, society, people's affection, their knowledge, sincerity and their hard working.



Picnic to Mt. Tsukuba

Global Map and Related Meetings

Followings are Global Map and related meetings. Information on related meetings will be highly appreciated.

2004

- **30 - 31 January, Bangalore, India**
10th PCGIAP Meeting
- **2 - 6 February, Bangalore, India**
GSDI 7th Conference
- **7 February, Bangalore, India**
11th Meeting of ISCGM
- **22 - 27 May, Athens, Greece**
FIG Working Week 2004 "The Olympic Spirit in Surveying"
- **10 - 12 July, Istanbul, Turkey**
IC WG II / IV
5th Joint ICA/ISPRS/EuroGeographics Workshop
on Incremental Updating and Versioning of Spatial
Data Bases

- **12 - 23 July, Istanbul, Turkey**
20th ISPRS Congress
- **7 - 10 November, Berlin, Germany**
19th International CODATA Conference

2005

- **16 - 21 April, Cairo, Egypt**
FIG Working Week 2005 and XXVIII General Assembly
- **9 - 16 July, A Coruna, Spain**
XXII ICA International Cartographic Conference

*Published by : The Secretariat of the International Steering Committee
for Global Mapping (ISCGM)*

*Geographical Survey Institute (GSI)
1 Kitasato, Tsukuba-shi, 305-0811 Japan
Phone : +81-29-864-6910 Fax : +81-29-864-6923
Homepage : <http://www.iscgm.org/>
E-mail : sec@iscgm.org*