

**Sub-task Number:** CB-09-02g

**Sub-task Title:** GEONETCast Training

**Overarching Task:** Building Individual Capacity in Earth Observations

**Area:** CAPACITY BUILDING

**Relevant Committee:** CBC

**Related Targets:** CB-06-04, CB-09-03b, CB-09-03c

**Sub-task Definition** (as given in the 2009-2011 Work Plan):

Enhance GEONETCast capacity building and user engagement activities, particularly in developing countries. In particular, develop the GEONETCast Training Channel that will focus on (i) training end-users to use products for specific purposes and to disseminate data via GEONETCast; (ii) linking GEONETCast products and product navigator (inside portal) with specific training material; (iii) transmitting training materials via GEONETCast to local trainers; and (iv) disseminating training materials on GEOSS-related environmental data.

**Leads** (GEO Member or PO, Entity carrying out the work, Contact: e-mail):

USA (NOAA), Linda Moodie, *Point of Contact*, Linda.Moodie@noaa.gov; Paul Seymour, Paul.Seymour@noaa.gov and George Jungbluth, George.Jungbluth@noaa.gov

China (CMA-NSMC), Jiashen Zhang, zhangjs@cma.gov.cn

EUMETSAT, Mike Williams, Mike.Williams@eumetsat.int and Gordon Bridge, Gordon.Bridge@eumetsat.int

WMO (OBS/SAT/SBOS), Jerome LaFeuille, JLaFeuille@wmo.int

### **Motivation/Background**

CB-09-02g will increase the number of real users of GEONETCast and EO products by linking new audiences with EO products and data, and educating them in their use and practical application. This sub-task directly influences the efficacy of GEOSS by bringing its benefits to new audiences and societal groups.

**Outputs** (e.g. products and services which result from the activities of the Task/sub-task; outlined in the form of deliverables with timelines)

#### Planned:

- Regular training materials broadcasts over the GEONETCast System;
- Interactive training materials request and viewing system with internet component;
- Dedicated training and capacity building channels;
- Training and capacity building materials organized and listed through GNC and EUMETSAT Product Navigator;
- Training and systems introduction materials on how to procure and set up a GEONETCast receiving station;
- Interactive user feedback and planning component;
- Training and CB channel forum for communication between users and academic institutions.

#### Produced (current status):

**Activities** (operations or work processes through which resources are mobilized to produce specific outputs; outlined in the form of milestones including timelines)

Planned:

Determine initial set of training materials and providers for dissemination over GNC system (Quarter1, 2009)

- COMET and MetEd modules
- EUMETTrain
- EUMETCal
- WMO Virtual Lab
- EUMETSAT VisitView

Strategize user interface and delivery strategies (Quarters 1-2, 2009)

- User-defined
- Regular materials broadcasts
- Session and calendar-defined training opportunities

Build university and educational center partnerships (Quarters 1-4, 2009)

- GLOBE
- ITC
- Other international university partnerships

Support training workshops (Quarters 1-4, 2009), including

- Several training workshops at various scales, all targeting developing countries, that are organized in the frame of the DevCoCast project. These workshops also support the use of CBERS imagery in Africa.
- Trainings organized by ITC at RCMD (Quarter 1), IEEE IGARSS (Quarter 3) and the AfricaGIS 2009 conference in Kampala, Uganda (Quarter 4).

Achieved:

- Both EUMETSAT and NOAA have created training channels on their respective regional broadcasts, EUMETCast and GEONETCast Americas.
- EUMETSAT demonstrated its training channel by transmitting materials to the Africa User Forum in Accra, Ghana, October 2008. Several large volume training resources were simultaneously delivered to the PUMA workstations of every Met Service in Africa.
- NOAA demonstrated its training channel in November 2008 by broadcasting a large volume of COMET training resources to the Americas and by sending materials across GEONETCast regions to EUMETSAT for broadcast to Africa.
- The GEONETCast Global Implementation Group is producing a Training Channel White Paper that will outline the service delivery plans and strategy for operating the Training Channel.
- Training materials will be listed on upgraded GEONETCast Product Navigator (portal), which is compliant with GEO ADC specifications. A new version of Product Navigator has been developed.
- Training materials that are being developed and enhanced in the DevCoCast project will be shared via the training channel on EUMETCast. DevCoCast partners also organized, together with ITC, a training on GEONETCast, water resource and marine applications as a short course to the IEEE IGARSS conference in South Africa (July) and a first virtual training in Brazil (June).
- ITC organized a GEONETCast training at the Regional Centre for Mapping Resources for Development (RCMRD) in Nairobi, Kenya, where they also assisted in setting up the GEONETCast receiver.

**Resources** (indication of resources – e.g. financial, human – contributed by GEO Members or Participating Organizations to produce outputs)

- This task will use human resources already dedicated to the GEONETCast system for the three GEONETCast Regional providers, namely EUMETSAT, CMA, and NOAA.

- Additional contributing organizations, namely COMET, GLOBE, and new university partners, will contribute some staff time to organizing training materials dissemination, and organizing cooperative work.
- Several European, African and South American organizations were able to contribute resources thanks to European Community funding (e.g. through the 7<sup>th</sup> Framework Programme for Research and Development).

### **Architecture and Data Component**

1) Please briefly describe any task-related Earth observation resources (data set, system, website/portal) and any related Web Service interfaces that are contributed to GEOSS. State whether these items are or will be registered with the GEOSS Component and Service Registry for access via the GEO Web Portals, and whether any associated standards or other interoperability arrangements will be registered in the Standards and Interoperability Registry.

2) Please also describe what data and information your activity/system needs that you would request to be accessible through the GEOSS Common Infrastructure.

### **Capacity Building Component**

(capacity building is defined to include the development of capacity related to: (i) Infrastructure and technology transfer (Hardware, Software and other technology required to develop, access and use EO); (ii) Individuals (education and training of individuals to be aware of, access, use and develop EO) and (iii) Institutions – building policies, programs & organizational structures to enhance the value of EO data and products).

1) In accordance with the above definition does this Task have a capacity-building component? If so, please provide a short description of this component including a description of end users.

This task incorporates all three aspects of capacity building as defined above:

- *i*: The GEONETCast training and capacity building component will provide new electronic software-based training products to users enabling them to better access and utilize Earth Observations.
- *ii*: The GEONETCast training and capacity building component will be targeted at training and educating individuals in a growing user community composed of EO scientists, meteorologists, public policy and government representatives, representatives of the academic community, and the general public, to be aware of, better access, use and produce their own Earth Observations.
- *iii*: The GEONETCast training and capacity building component will be structured in such a way as to create new linkages between users and data providers in disparate geographical areas, thereby institutionalizing not only the use and greater dissemination of EO products but to foment increased data-sharing and international cooperation in capacity building and the development and use of EO data and products.

2) Have any additional CB needs for this Task been identified? Please provide a short description.

### **User Engagement Component**

(please briefly describe to what extent end users are engaged in this Task and influence the nature of the outputs produced)

Users are engaged through training channel and capacity building fora, other networking and outreach activities (mailing lists), and training workshops (including virtual or in distance training).

### **Science and Technology (S&T) Component**

1) Please briefly describe the elements of scientific research or technological development contained in this Task.

2) In relation to the S&T component(s) of this task, please describe gaps, priorities, continuity needs, barriers, scientific expertise and additional resource needs (this information will be used for developing a gaps and needs assessment in Task ST-09-01)

**Members and POs' Contributions to Outputs and Activities above:**

(Input is optional. This section gives the chance to Members and POs to provide more details (3-5 lines) on their individual activities, making a clear connection with the Outputs and Activities outlined above).

**China**

The China Meteorological Administration (CMA) maintains FENGYUNCast, their contribution to the global GEONETCast system, which covers Asia and parts of the Pacific.

**EUMETSAT**

The European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) maintains the EUMETCast system, their contribution to the global GEONETCast system, which covers Europe, Africa, and parts of Asia and South America. EUMETSAT maintains a Training Channel on their broadcasts as well as maintains the GEONETCast Product Navigator, a fully-searchable html-based catalogue of all GEONETCast products, including training and capacity building materials.

**USA**

The National Oceanographic and Atmospheric Administration (NOAA) maintains GEONETCast Americas, their contribution to the global GEONETCast system, which covers North, Central, and South America and the Caribbean. GEONETCast Americas offers a Training Channel and is working with users and providers to match training needs with appropriate programming.

**CEOS**

CEOS supports the development and exploitation of the GEONETCast Training Channel as a contribution to the CEOS goal of expanding capacity in the development and application of satellite data, and as part of the CEOS Working Group on Education, Training and Capacity Building (CEOS WGEdU).

**IOC/GOOS**

GEONETCast: through the GOOS-AFRICA coordination, GOOS is a member of the GEONETCast Applications for and by Developing Countries (DevCoCast) Project aimed at promoting the use of EO services and products in developing countries.

**ISPRS**

ISPRS WG VI-1 and -2: contribution to workshops and other activities to complete task.

**Participation** (Table to be filled in 2009):

| Type        | Member or PO | Representing         | Contact Name     | EmailAddress               |
|-------------|--------------|----------------------|------------------|----------------------------|
| Lead(PoC)   | USA          | NOAA                 | Linda Moodie     | Linda.Moodie@noaa.gov      |
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| Lead        | USA          | NOAA                 | George Jungbluth | George.Jungbluth@noaa.gov  |
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