Activities of the Agriculture Societal Benefit Area

Bradley Reed, Ag SBA Coordinator
U.S. Geological Survey
U.S. Department of the Interior

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Agriculture Societal Benefit Area

Two Work Plan Activities under Re-Mapped Agriculture SBA

- **Task AG-06-02 Data Utilization in Fisheries and Aquaculture**
- **Task AG-07-03 Global Agricultural Monitoring**
  - Global Agricultural Monitoring System (former AG-07-03)
  - Agricultural Risk Assessment (former AG-07-02)
  - Expanding Earth Observation Applications in Agriculture and Promoting Capacity Building in Developing Countries (former AG-06-07)

Task AG-06-02
Data Utilization in Fisheries and Aquaculture

Identify opportunities for the enhanced utilization of Earth observations in fisheries and aquaculture. Support the implementation of the SAFARI project and IOCCG monograph.

- SAFARI (Societal Applications in Fisheries and Aquaculture using Remote Sensing Imagery) – led by CSA to accelerate the pace of assimilation of Earth Observation data into fisheries research and ecosystem-based fisheries management
- IOCCG (International Ocean Colour Coordinating Group) is working on publishing a monograph on "Applications of Remote Sensing in Fisheries and Aquaculture"– based on the outcome of a workshop held in March 2008. James Yoder is POC on this. The monograph is well along and a completed draft is expected by the end March, 2009.

Task AG-07-03
Global Agricultural Monitoring

- Global Agricultural Monitoring System (former AG-07-03)
- Agricultural Risk Assessment (former AG-07-02)
- Expanding Earth Observation Applications in Agriculture and Promoting Capacity Building in Developing Countries (former AG-06-07)

Agriculture Societal Benefit Area

Two of the Sub-tasks are just getting underway

- **Agricultural Risk Assessment (former AG-07-02)**
  - **No actions identified at this time for CEOS**
- **Expanding Earth Observation Applications in Agriculture and Promoting Capacity Building in Developing Countries (former AG-06-07)**
  - **Dynamic group that will likely end up working with WGEdu**

Global Agricultural Monitoring System

- **Most active of the Ag tasks**
- **Consists of members from space agencies, international organizations, national and regional administrators and academia, for example:**
  - **GIEWS (Global Information and Early Warning System)**
  - **USDA FAS (Foreign Agriculture Service)**
  - **MARS – FOODSEC (Monitoring of Agriculture with Remote Sensing)**
  - **FEWS Net (Famine Early Warning System Network)**
  - **GMFS (Global Monitoring for Food Security)**
  - **FAO FIVIMS (Food Insecurity and Vulnerability Information and Mapping)**
  - **WFP VAM (Vulnerability Analysis and Mappping)**
  - **SADC RRSU (Southern Africa Development Community)**
  - **CGIAR (Consultative Group on International Agricultural Research)**
  - **Many national monitoring efforts (Kazakhstan, Brazil, Australia, US, Argentina, Russia, China, India, etc.)**

Global Agricultural Monitoring System

- **Has held a series of thematic workshops over the past 2 years with published reports:**
  - Rome (July 2007) Developing a Strategy for Global Agricultural Monitoring in the Framework of GEO (report available at: http://www.fao.org/gtos/igol/docs/meeting-reports/07-GEO-AG0703-Workshop-Report-nov07.pdf)
  - Ispra (June 2008) – Best Practices for Crop Area Estimation/Forecasting and Future Needs
  - Ispra (October 2008) – Rainfall Estimates for Crop Monitoring and Food Security
  - **Beijing (February 2009) Developing an Agricultural Monitoring System of Systems**
  - *Banff (November 2009) SAR to Support Agricultural Monitoring*

From Beijing meeting

- **Monitoring agriculture and food supplies are critical to society**
  - **Food security is a fundamental societal benefit**
  - **Effective multi-scale, multidisciplinary agricultural monitoring (e.g. *in situ*, EO, surveys, socioeconomic analysis) can revolutionize our ability to manage food resources**
  - **Real-time information is still unreliable (e.g., confusion over the rice shortage event of 2008)**
- **Space agencies have given relatively little attention to agriculture since the 1970s**

From Beijing Meeting

- **Ultimately, Agricultural Monitoring needs:**
  - **10m daily observations over agricultural areas during the appropriate crop calendar period**
  - **Free of charge data**
  - **SWIR and Thermal data**
  - **Consistency in data formatting**
  - **At least a minimum level of processing**
    - **providing DNs is a disservice to users leading to inappropriate change analysis and monitoring**
    - **Need TOA or radiance at minimum**
    - **Georeferencing**

From Beijing meeting

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- LSI Constellations activity (AR-09-02) on "**Future Mid-Resolution Definition of Standards**" should consider these inputs as they progress. The Ag monitoring group sees the coordination of CEOS agencies as critical in developing their system.

From Beijing meeting

- **Identification of Pilot Study areas to demonstrate monitoring capabilities. Can be seen as an extension of LSI Regional Data Set Development activity; however, less spatially extensive and more temporally intensive. Pilot sites are:**
  - **Alberta, Canada**
  - **Others…**

- **LSI WGR should consider attending the SAR and Agricultural Monitoring workshop scheduled for 31 Oct – 1 Nov, 2009 in Banff, Alberta, Canada**

Other comments from Beijing meeting

- Agricultural Monitoring Group applauds the development of the LSI Constellations portal to ease the burden of searching for mid-resolution optical data
- They would like to see a coordinated global acquisition strategy by the agencies
- Space agencies can unburden the Agriculture user community by providing more than the current level of processing