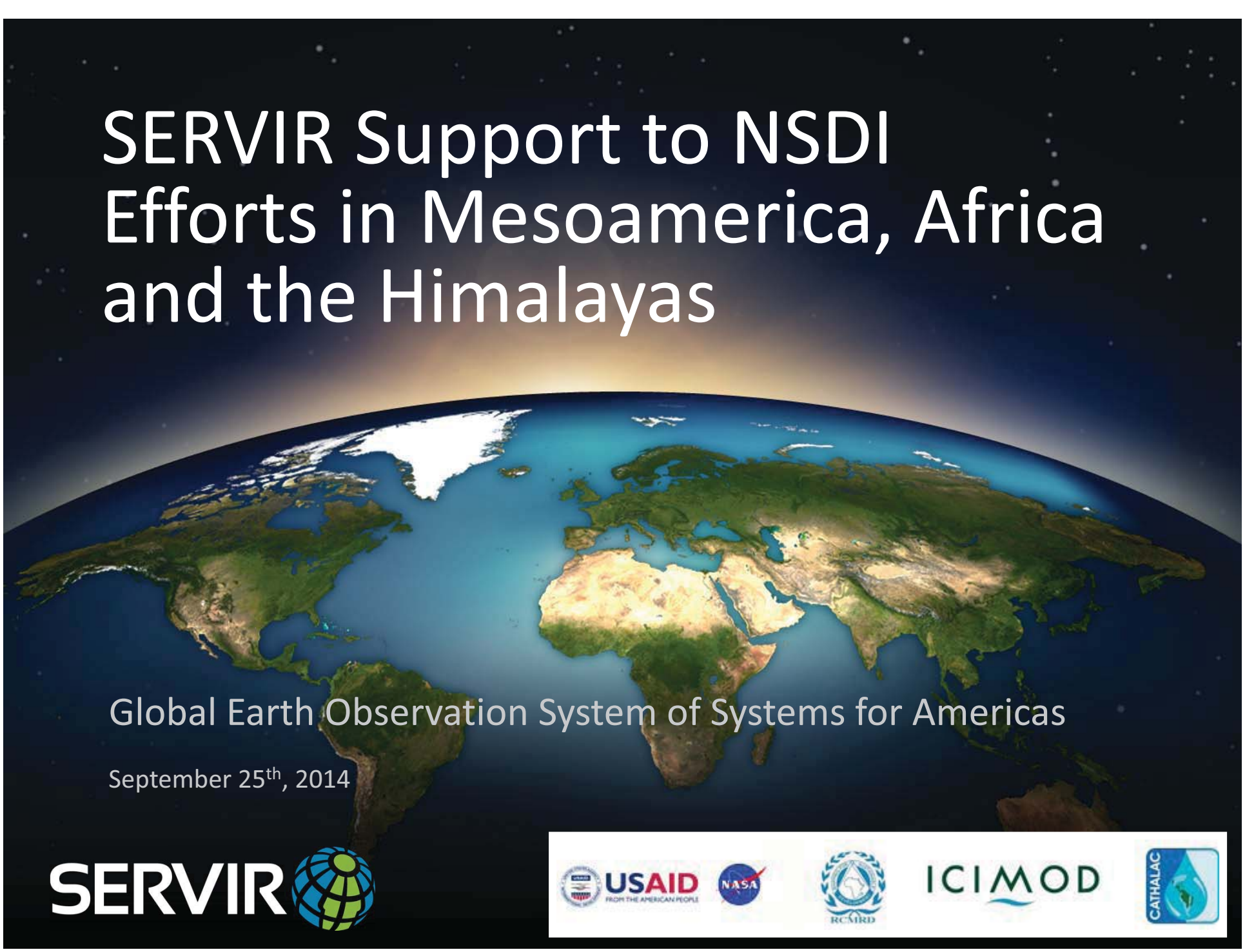
SERVIR Support to NSDI Efforts in Mesoamerica, Africa and the Himalayas



Global Earth Observation System of Systems for Americas

September 25th, 2014

SERVIR

USAID FROM THE AMERICAN PEOPLE

NASA

RCMRD

ICIMOD

CATHALAC

The SERVIR Project

- SERVIR is a joint effort between NASA, USAID to build or improve capacities in developing regions to help adaptation to climate change by taking advantage of Earth Observation data for decision making.
- The project began in 2004, in Mesoamerica, partnering with the Central American Commission for Environment and Development (CCAD), the World Bank and CATHALAC. CATHALAC, located in Panama, serves as the regional hub for Mesoamerica since 2005.
- Two additional regional hubs have been established (in Easters & Western Africa – at RCMRD, Kenya, and The Himalayas – at ICIMOD, Nepal), and two more regional hubs are soon to be launched.

SERVIR Regional Hubs

2nd Regional Geospatial Technology Application Symposium, 2010

SERVIR MESOAMERICA

SERVIR EAST AFRICA

SERVIR & African Monitoring of the Environment for Sustainable Development (AMESD) MOU, 2009

SERVIR HIMALAYA

SERVIR Himalaya Launch, 2010

SERVIR Applied Science Teams (AST)

- In 2011 NASA's Earth Science Division's Applied Sciences Program, issued a solicitation for Research Opportunities for Space and Earth Sciences (ROSES) to support the SERVIR Project. Ager a competitive process, 11 proposals were selected, as four-year funded efforts to address identified end-user needs in SERVIR hub regions.
- The SERVIR AST consists of the 11 principal investigators for those projects, targeted toward a balanced variety of themes across SBA's, such as water, agriculture, disasters, climate, and public health.
- These PIs are collaborating not only with the SERVIR regional hubs on projects of special benefit to their regions, but also with the Coordination Office on tiger teams as new and pressing needs are identified.

SERVIR Demand Team

- The SERVIR Demand Team is composed of international development experts from DAI.
- The Demand Team helps grow the local impact of SERVIR's geospatial products and applications in the regions.
- DAI works to increase demand for SERVIR tools and services, evaluate development impacts of selected products, contribute to SERVIR hub sustainability plans, assist USAID field missions with new hubs, and more.

SERVIR involvement in NSDI

- NSDIs facilitate the process of mainstreaming Earth Observation data to all kinds of decision makers
- Establishing NSDIs is a high-value expectation from SERVIR hub organization's member states
- The capacities developed for NSDI implementation are useful in many different scenarios
- NSDI and Open Data initiatives share values and objectives. Open Data is mandatory in SERVIR Data Policies.

Challenges for NSDI Implementations

- Lack of cooperation between institutions or even between organizational units in the same institution create barriers to co-developing datasets.
- If data is not created with multiple uses in mind, applicability to different scenarios is difficult at best.
- Lack of context for the correct interpretation of data can results in technical and political conflicts.
- Organizations fear the impacts when data is released to public domain.
- Lack of long-term support (financial/political) for the initiative.

SERVIR Support Activities to NSDI Development

- **Latin America**:
  - Promoting engagement with GEOSS within CCAD member countries
  - Multiple regional and national capacity building events to enable collaboration and wider usage or Earth observations and geospatial data in general
  - Promoting GEONETCast
  - GEOSS in the Americas Symposium with the National Environmental Authority of Panama
  - Providing technical backstopping for publishing geospatial services and datasets
  - Technical advisory for the implementation of regional environmental & risk management information systems

The Second annual GEOSS Symposium GEOSS in the Americas

The Group on Earth Observations (GEO) members from the Americas are organizing the second "GEOSS in the Americas Symposium," to be held from September 30 through October 3, 2008. GEO, an intergovernmental body comprised of 74 governments, the European Commission and 51 international organizations, work together to build the Global Earth Observation System of Systems (GEOSS) In follow-up to the previous GEOSS of the Americas Symposium held in September 2007 in Brazil, the purpose of this year's Symposium is to increase understanding of GEOSS in the region, raise awareness about existing GEOSS in the Americas activities, strengthen partnerships, and advance a dialogue about opportunities, capabilities, and requirements.

Participants include over 80 scientists of the hemisphere and from five institutions with space programs such as NASA, the U.S.NOAA, Canada's CSA, Brazil's INPE and CONAE of Argentina. The current membership in GEO from the Americas includes: Argentina, Belize, Brazil, Canada, Chile, Costa Rica, Honduras, Mexico, Panama, Paraguay, and the United States. The only prototype system in the GEOSS Americas was established in Panama in 2005. This system, known as SERVIR (Regional of Visualization and Monitoring System) is operated by the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC, Spanish acronym) in the City of Knowledge, Clayton.

The welcoming speaker will be Dr. Ligia Castro de Doens, Minister of Environment, representative of GEO in Panama and a member of the Steering Committee of World GEO. On the second day of the Symposium, Dr. Rosario Turner Minister of Health will launch the SERVIR-Air subsystem.

Seminar on National Capacity Building for Earth Observation

En la ciudad de Cartagena de Indias, Colombia, del 26 al 28 de septiembre, se realizó el Seminario sobre Creación de Capacidades Nacionales para la Observación de la Tierra, organizado por el Instituto Nacional de Meteorología de España y la Agencia Española de Cooperación Internacional (AECI).
El evento se realizó con el fin de informar y discutir sobre los avances en el establecimiento del Sistema Global de Sistemas de Observación de la Tierra (GEOSS por sus siglas en inglés), promovido por el Grupo de Observación de la Tierra (GEO por sus siglas en inglés) y discutir posibles cooperaciones e intercambios entre los organismos representados.

Contando con una importante participación de la Organización Meteorológica Mundial y de Servicios Meteorológicos Nacionales de varios países latinoamericanos, así como Autoridades Ambientales y de Recursos Naturales, y Organismos No Gubernamentales dedicados a la investigación en diversos campos asociados a la observación de la tierra, el evento ofreció una valiosa reseña de las actividades, proyectos y capacidades existentes en la región, entre las cuales se cuenta el Sistema Regional de Visualización y Monitoreo (SERVIR), que opera en CATHALAC desde el 2004.

En el evento se resaltó la importancia de los servicios prestados por los institutos meteorológicos nacionales, el aporte que instrumentos de observación de la tierra a través de la Carta Internacional del Espacio y las Grandes Catástrofes, y la importancia de contar con herramientas como SERVIR para la difusión ágil de la información a los tomadores de decisiones durante eventos naturales extremos como los huracanes recientes.

SERVIR Support Activities to NSDI Development

- **Africa**:
  - Regional trainings on metadata development and data management
  - Regional trainings on implementation of standards-based map services
  - Organization of high-level (political) committees to drive NSDI development
- **Common topics (Himalaya & Africa):**
  - Assistance for the implementation of national geospatial data portals
  - User needs assessment & user engagement
  - Evaluation and monitoring mechanisms

Readiness levels and strategy

The SERVIR Demand team is producing tools to:

- Assess country readiness & maturity levels to plan activities accordingly
- Monitor and evaluate country progress and impacts of activities conducted by the project
- Develop plans for user engagement and outreach

Lessons Learned

- Commitment and leadership (political and technical) from key national organizations is crucial.
- Staff turnover happens frequently. During early stages of NSDIs initiatives, this impacts the dynamics of the process significantly, to the point of possibly halting it.
- Dataset access is a primary driver in NSDI initiatives, but supporting applications and interfaces that help users make sense of the data are as important.
- Data access policies are powerful enablers of NSDI, however operational and technical issues should be worked out in parallel, rather than making the implementation depend on policies being officially issued.
- Standards are difficult to follow. Use the simplest possible approach and evolve/improve gradually.
- High visibility/quick-wins are possible, they help the organizations build confidence and enthusiasm.
- A lot of effort will go into continuous education and training, even after the initial stages of the NSDI. Train-the-trainers approach, coaching of in-country leaders and online knowledge sharing platforms are viable long-term solutions.

Thanks!

Francisco Delgado
francisco.delgadoolivares@nasa.gov
Geospatial IT Lead
SERVIR Coordination Office