Connecting space to village

SERVIR



Bridging Science with End User Needs Through Applied Sciences



Courtesy: alifayre

SERVIR

Goal: Improve environmental management and resilience to climate change

Objective: Strengthen capacity of government decision-makers and other key stakeholders to integrate earth observation information and geospatial technologies into development decision-making

Approach: Leverage agency strengths for impact





in new ways.

SERVIR empowers people in developing countries to use that view for gaining knowledge and insights about their environments and adaptation to a changing

We work with regional decision-makers to foster use of Earth observation satellite data, GIS, and predictive models for addressing water and land use, natural disasters, agricultural problems, biodiversity, and more.

These tools can improve the lives, livelihoods, safety, and future of people in communities around the world.





climate.

SERVIR Mekong

ADPC

NASA MSFC / SERVIR Coordination Office

USAID Washington NASA Headquarters

SERVIR AST Projects in Mesoamerica

SERVIR West Africa

SERVIR Himalaya ICIMOD

SEŔVIR Eastern & Southern Africa

RCMRD

SERVIR Regional Hub Organization

USAID Regional Mission

USAID Bilateral Mission

From space, we can view our planet









37+ Countries with SERVIR activities*

Mexico Guatemala El Salvador Nicaragua Costa Rica Panama

Belize Honduras Dominican Republic

> South Sudan Uganda Rwanda Burundi Zambia Botswana Namibia

Pakistan India

Ethiopia Kenya Tanzania Malawi Mozambique Seychelles Mauritius Madagascar Swaziland Lesotho South Africa

* Products, applications, training

Bangladesh

Nepal

Bhutan



Cambodia Laos Myanmar Thailand Vietnam

SERVIR Global Geographic Impact

C Pro

59 Countries with additional SERVIR cooperation





Disaster Assessment / Environmental Analysis



Lake Atitlán, Guatemala



Algal Bloom returns to Lake Atitlan in August 2015

The Authority for the Sustainable Management of the Lake Atitlan Basin and its Surroundings (AMSCLAE) requested SERVIR's support to monitor the algal bloom that reappeared in August 2015.

Using an algorithm developed by SERVIR in 2013 in collaboration with Universidad del Valle, AMSCLAE, and the University of Alabama in Huntsville, researchers were able to estimate Chlorophyll a (Chl_a) concentrations from the current satellite images portraying the bloom.









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SERVIR-Mekong Decision Support Tools

- Regional Land Cover Monitoring System ullet
- Regional Drought & Crop Yield Information ullet
- Surface Water Mapping Tool
- Dam Inundation Mapping Tool ullet









SERVIR-Mekong Data Products

- Landsat NDVI and Impervious Surfaces
- Virtual Rain and Stream Gauge
- Lower Mekong River Impoundment





SERVIR Network Capacity Building

- SERVIR VIC and bias correction of satellite precipitation products training
- SERVIR Science Fridays (SciFri)
- Collaborative learning
 - Example: GEE trainings



VIC CALIBRATION FOR HYDROLOGICAL EXTREME MONITORING

Kel Markert

NASA-SERVIR Mekong Regional Associate University of Alabama in Huntsville | Earth System Science Center 8 March 2017

VIC/BCSPP Training









Support for disaster response efforts after Nepal earthquake



- 23,000+ "tiled" NASA and commercial satellite images to ICIMOD in Nepal
- SERVIR providing satellite tasking igodolrecommendations

← GIS/remote sensing experts at ICIMOD and volunteers preparing maps for earthquake disaster response





250+ landslides identified by the NASA-USGS-Interagency Volunteer Earthquake Response Team (incl. SERVIR Applied Science Team Pls Kargel and Kirschbaum)

Nepal Earthquake 2015 **Disaster Relief and Recovery Information Platform**



http://apps.geoportal.icimod.org/ndrrip/

Esri Humanitarian Award





Incorporated into Nepal's Disaster Risk Reduction portal.

Unified information hub for interactive maps, charts, and infographics about the earthquake and relief efforts.

ClimateSERV Seasonal Forecasts and Precipitation Web service

Spatial and temporal statistics on demand

CHIRPS Precipitation data

30+ year quasi-global rainfall dataset (USGS Climate Hazards Group), 1981 to near-present

Seasonal forecasts of Rainfall and Temperature Bias-corrected and spatially downscaled seasonal (180-day) forecasts from NMME



http://climateserv.nsstc.nasa.gov/



ISERV

- Testbed SERVIR camera on the International **Space Station**
- Tasked by SERVIR Hubs
- 4m Spatial Resolution
- 14.5km x 10km field of view
- Visible Spectrum
- Operated Feb. 2013 Dec. 2014





Rio San Pablo in Veraguas, Panama

San Quintín Glacier, Chile ISERV, 02 June 2014



You will always continue to DEVELOP

- Ask questions and keep learning
 - "Judge a man by his questions rather than by his answers" - Voltaire
- Reflect on activities and yourself
 - *"The unexamined life if a life in not worth" living*" - Socrates
- Have an open mind
 - Say yes to opportunities





Stay Motivated

- Keep track of your goals
- Make weekly checkpoints for work
- Reward yourself when you achieve small goals
- Don't be too hard on yourself when you don't make goals



Work life balance

- Enjoy your work state of mind
- Give yourself breaks
- Get up and move
- Be spontaneous







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Youth Fora and Fellowships



Thank you for your time!

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