**SERVIR Hub Exchange**

**Cloud Based Open Source System for Automated Satellite Image Acquisition, Analysis and Distribution: focus on Flood Mapping**

March 10-13, 2015

Kathmandu, Nepal

ICIMOD

The goal of a Hub Exchange activity is to enhance knowledge, build capacity and share state-of-the-art technology among the SERVIR hubs and key stakeholders by participating in exchange programs with other hubs, collaborators, key partners and institutions. Where possible, these exchanges are combined with workshop opportunities or other events to facilitate collaborations with resource persons and knowledge experts. This particular Hub Exchange event is therefore joined to the Cloud Based Open Source System for Automated Satellite Image Acquisition, Analysis and Distribution: focus on Flood Mapping Workshop.

**Purpose of this workshop**:

-Learn how to use the cloud-based system for automated satellite image acquisition, analysis and distribution for flood mapping (https://github.com/vightel/FloodMapsWorkshop)

-Run flood map analysis using multiple satellite image sources in an automated fashion

-Position workshop participants to train others on these topics for upcoming trainings (train-the-trainer approach)

-Collect feedback from RCMRD and ICIMOD in the implementation of this flood-mapping system

-Exchange lessons learned and experiences between RCMRD and ICIMOD regarding extreme event response activities

-Brainstorm on topics for the next hub exchange in RCMRD

**Agenda**

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| *Time* | *Tuesday, March 10, 2015* | *Responsible* |
| 9:30 – 9:45 AM | Participants introduction and welcome | ICIMOD |
| 9:45 -10:00 AM | Expectations discussion | Africa F. |
| 10:00 – 10:10 AM | Overview of the Flood Mapping Workshop | Africa F./Pat Cappelaere |
| 10:10 -10:30 AM | An overview of the SERVIR Comprehensive Disaster Framework- Deo Raj Gurung and Denis Macharia | Deo Raj/Denis Macharia |
| 10:30 – 10:50 AM | ICIMOD’s Current Flood Mapping activities; WSN, International Charter- Multi-scale disaster risk assessment and decision support system for DRR | Deo Raj Gurung |
| *10:50 AM- 11:00 AM Coffee Break* | |  |
| 11:00 – 11:25 AM | RCMRD’s Current Flood Mapping activities: CREST and GIS Flood Mapping Tool (GFT) and International Charter | Denis M./Faith M./Maungu O. |
| 11:25 – 11:50 AM | Summary of Cloud system for Flood Mapping Workshop: What does the system do?  Overview of general requirements | Pat Cappelaere |
| 11:50 AM – 12:15 PM | Cloud Instance setup: SERVIR CO  Haiti Coverage | Billy Ashmall |
| 12:15 PM- 1:30 PM Lunch | |  |
| 1:35 – 1:50 PM | Cloud Instance setup: ICIMOD | Kiran Shakya |
| 1:50 – 2:30 PM | Cloud Instance setup: RCMRD  Namibia coverage | Pat Cappelaere /Maungu Oware |
| 2:30 – 3:30 PM | Start Disaster Architecture Overview | Pat Cappelaere |
| *3:30 PM – 3:45 PM Coffee Break* | |  |
| 3:30 – 4:30 PM | Instantiate VI and Database  Wrap up and plans for next day | Pat Cappelaere /ICIMOD |
| *Wednesday, March 11, 2015* | |  |
| 9:30 – 10:30 AM | * Continue Instantiate VI and Database * Load Database & Generate HAND | Pat Cappelaere /Billy Ashmall |
| *10:30 – 10:45 AM Coffee Break* | | |
| 10:45 AM – 12:30 PM | • Process Manually  – Radarsat2, EO-1, Landsat-8, MODIS, DFO | Pat Cappelaere |
| 12:30 – 2:00 PM Lunch | |  |
| 2:00 – 3:30 PM | * Process Manually   + Radarsat2, EO-1, Landsat-8, MODIS, DFO * Visualize Data | Pat Cappelaere /Africa F. |
| *3:30 – 3:45 PM Coffee Break* | | |
| 3:45 – 4:30 PM | • Data Visualization  Adjourn | Pat Cappelaere |
| Thursday, March 12, 2015 | |  |
| 9:30 – 10:30 AM | * Recap of previous day   Continue with Flood System Demo   * Crowd-source with JOSM, OSM and WaterPedia | Pat Cappelaere /Billy Ashmall |
| *10:30 – 10:45 AM Coffee Break* | | |
| 10:45 – 12:30 | * Create Flood Event Records and Use GitHub   • Understand Publisher Example working in standalone mode  • Publish Data from Radarsat2, EO1, L8, MODIS, DFO | Pat Cappelaere |
| 12:30 – 2:00 PM Lunch | |  |
| 2:00 -3:30 PM | * Make Shareable Products on Social Networks * Test consumer API Example | Pat Cappelaere |
| *3:30 – 3:45 PM Coffee Break* | | |
| 3:45 – 4:00 PM | * Connect securely to Publisher and retrieve result of an OpenSearch * Demonstrate Ease-of-use of Open GeoSocial API | Pat Cappelaere |
| 4:00 – 4:45 PM | Final summary of Cloud-based system | Pat Cappelaere |
| Friday, March 13, 2015 | |  |
| 9:30 – 10:30 AM | Lessons learned from Cloud based demo: How feasible is it to implement this cloud based system in your region? | Africa F./Billy A. |
| *10:30 – 10:45 AM Coffee Break* | |  |
| 10:45 – 11:45 AM | Current Improvements to the GFT and SRTM 30m DEM: Working with the GIS Flood Tool- | Faith Mitheu |
| 11:45 – 12:00 PM | NASA resources available through SERVIR to address extreme events | Africa Flores |
| 12:00 -12:30 PM | Brainstorm for next Hub exchange topics | ICIMOD/RCMRD |
| 12:30 – 1:00 PM | Post-Workshop Assessment | Africa Flores /ICIMOD |
| 1:00 – 2:00 PM Lunch | | |