Evolving Data Products for Community Resilience and Disaster Applications I **[1]**

Submitted by kmoe on Tue, 2015-04-14 16:44 Tuesday, July 14, 2015 - 13:30 to 15:00
Event: Summer Meeting 2015 [2]
Session Type: Breakout [3]
Expertise Level: Beginner [4]
Collaboration Area: Products and Services [5]
Abstract/Agenda:
The Disaster Life Cycle Cluster coordinates efforts among data providers, managers and developers of disaster response systems and tools, and end-user communities within ESIP. We established an ESIP testbed called the Collaborative Common Operating Picture (C-COP) to facilitate sharing and validation of data products and tools to benefit every phase of the disaster life cycle.

This session will discuss experience with the initial use of the testbed, and describe how products and tools can be contributed to C-COP. We will get an update about the California Capstone activities from May 2015, and how this project's data was exercised in the C-COP testbed. We will also get insights/lessons learned from a second product test. Finally we will discuss what aspects of candidate data products and services to test, and what success criteria can provide useful feedback to test teams. We intend to use this session's outputs to evolve C-COP test procedures and evaluation criteria.

Speakers:

Maggi Glasscoe/JPL – California Capstone May 2015 results on common operational data via XchangeCore and ArcGIS

Ken Keiser, Sara Graves/UAH – Using Event-Driven and Real-Time Data for Disasters

Dave Jones/StormCenter, Maggi Glasscoe/JPL, and Ken Keiser/UAH – C-COP Testbed Progress Report

Discussion topics:

Lessons learned on how to use the C-COP testbed for data product evaluation

Criteria for evaluation and feedback to product developers

Notes:
Greg Yetman from CIESIN/SEDAC

* Title: improving earthquake risk assessment for the reinsurance industry using remote sensing and socioeconomic data

* Many remote sensing data sources including Landsat-8, global Rual-Urban mapping project

* Maps building construction types.

* Classifies regions: light residential, heavy commercial, etc.

* Uses fragility curves to assess exposure.

* Want to include socioeconomic data to weight their mapping/classification

* Compare census data to their classifications and use this data to better inform their classification.

* Uses k-mean clustering.

* Remaining work: integrate demographic data, complete validation, apply weights to land cover categories to produce estimates at the pixel level.

Tim Stough's talk

* Title: NASA Response to the 2015 M7.8 Gorkha (Nepal) Earthquake

* M7.8 earthquake in Nepal on April 25th, 2015.

* 7.3 aftershock on May 12th.

* NASA provided satellite imagery, modeling, and data analysis to USGS and NGO partners on the ground in Nepal, including SERVIR, USAID, and ICIMOD.

* The response was coordinated with daily full-group telecons.

* The team was divided into themed subgroups: induced hazards, surface deformation and modeling, damage and vulnerability maps, new optical imagery products, new SAR/GPS products, media.

* The team developed two data pipelines for delivering data: information products, and media products.

* The induced hazards subgroup is still active in looking at flooding risks from landslides.

* Created the "lights out initiative" that used change detection to show where the power grid was damaged by showing where there was previous anthropogenic light sources that no longer show in satellite images.

* Damage proxy map from ALOS-2 using SAR imagery. This showed areas of potential damage.

* InSAR used to detect ground ruptures.

* Lessons learned and next steps:

* Subgroups defined in advance with clear responsibilities

* Create role based email aliases

* Create organization and data flow charts

* Define data delivery pipelines and formats in advance

* Define media delivery pipeline

* Find approved data sharing tools (google drive?)

* Formalize connections to USGS, FEMA, OFDA, and other response agencies.

* Cultivate liaisons in the agencies

* Understand the impact of ICIMOD and Track Similar Collaborators

* Plan and carryout exercises (cooperative?)

* Collect volunteer names and acknowledge contributions.

Ruth Duerr's presentation

* Data advertising: community agrees on the information an advertisement should have for their type of data.

* Community also agrees on the appearance and other details of the html version of the advertisement if desired (xml mandatory, html optional).

* Disaster-related portals and data systems query the CCube database for new advertisements

* Users of these systems discover data matching their needs and are passed to the site where the data is held.

* Described as a Google Ad-Sense for data.

* In collaboration with ASPRS.

* CCube crawler --> CCube Aggregator --> ASPRS DPAC database --> ASPRS webportal.

* If funded, interested in working with this cluster as a testcase.

Cluster Goals for the next 6-months, Karen Moe

* Session open to ideas for new cluster directions.

* We are hopeful about Ruth's project getting funded and for future collaboration with her.

* We would like to focus in on developing ESIP Trusted data sources.

* In addition, we would like to continue to focus on testbed development.

* In the future we could also potentially look at exploring more work in wildfire data.

Session Leads:

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Accepted:
Keywords: Disasters Risk Management [14]
testbed [15]

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