RELIEF

Research & Experimentation for Local & International Emergency First-Responders

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Director's Corner

Last week's RELIEF experiments took a trip east hosted by National Defense University's TIDES initiative in Washington DC. This eleventh meeting of our quarterly field explorations convened over 60 participants from 30+ organizations from government, non-profit, private industry and academia.

A contrast to Camp Roberts' field environment, NDU's campus in Washington DC was an ideal location to hold tabletop discussions relating to RELIEF experimentation. Focused on the workflows pioneered through past RELIEF initiatives and planning for larger field-based experimentation in August, the event benefited from diverse participation from numerous federal entities and members of the humanitarian assistance and disaster relief communities.

This newsletter provides you with a good flavor of the weeks discussion and a brief outline of the shape the August event is taking in Camp Roberts, CA. Beginning with the event's agenda, the newsletter will move on through the event's focus areas and conclude with areas of planning for the upcoming 12-4 event in August. We hope you enjoy the following information and, as always, feel free to contact us with questions and feedback.

Regards,

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Naval Postgraduate School
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Meeting Agenda

Mon 21 May 2012

Start	End	Activity
09:00	10:30	**In Brief**
10:30	12:00	**Imagery Processing Planning**: First Roundtrip of data under the Camp Roberts Process. Preparation for pressing the "go" button for volunteers to trace imagery released from the US government.
10:30	12:00	**Crowdsourcing Discussion**
12:00	13:00	**Lunch**
13:00	14:00	**Civil Air Patrol (CAP) Conference Call (DHS and VTCs)**.
14:00	16:00	**Imagery Workflow Technical Discussion (NGA, State, OSM) with DHS and CAP.** What can be learned from the Camp Roberts process that was built at previous RELIEF events with DoS, NGA, and USAID?
16:00	17:00	**Out Brief**.

Tues 22 May 2012

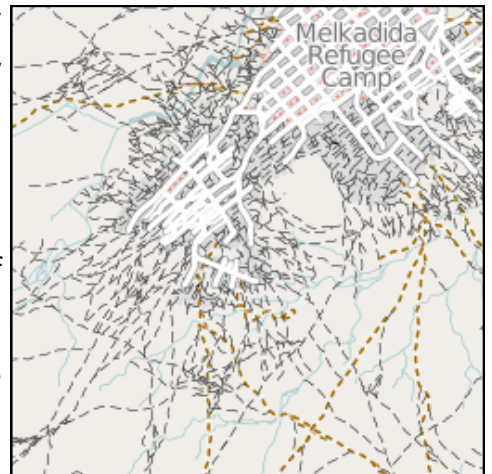| Start	End	Activity
09:00	09:30	**In Brief**
09:30	10:30	**Federalization of Geospatial Data**. Several entities in the USG have implemented geospatial software that provides the ability to federalize exchange of data across agencies. This session will explore how this federalization works and the opportunities that it provides for unclassified information exchange.
09:30	12:00	**Imagery Workflow Technical Working Session**. Building on the workflow known as the Camp Roberts process, DoS will work with NGA and VTCs on running the first ever round-trip for data release and generation. State will release imagery via WMS, which OpenStreetMap will trace into vector data. State will then use its own process to extract the data from the OpenStreetMap database for inclusion on the internal State GIS portal.
12:00	13:00	**Lunch**
13:00	16:00	**Interagency Unclassified Information Sharing Discussion**: Continuing the discussions from Stuttgart, the DoS and DoD will explore potential options for unclassified information sharing with external partners as well as for interagency coordination. This discussion may occur in multiple small conversations, including one specific to geospatial information sharing, social media analysis, and unstructured documents.
13:00	16:00	**Imagery Workflow Testing of Prototype Workflow**. Continued from the morning session.
16:00	17:00	**Out Brief**.

Wed 23 May 2012

Start	End	Activity
09:00	09:30	**In Brief: An Introduction to the NPS JIFX Experiments in Aug 2012** *(Tristan Allen, Naval Postgraduate School)*
09:30	12:30	**Planning CP Roberts 12-04 Experimentation**. The August experiments will explore the complexities of information sharing during evacuation operations, including a NEO and a domestic CBRNE. This set of experiments will include building a shared geospatial picture, establishing a secure cellular network, activating crowdsourcing platforms, and interconnecting the various agencies and organizations involved with the operation. The entire experiment will be red-teamed and blue-teamed by cybersecurity experts.
09:30	12:00	**Imagery Workflow Working Session**
12:00	13:00	**Lunch**
13:00	15:00	**Final Work Session**. An open hacking session for final development of code and mockups and closure on projects started during the RELIEF 12-03 experiments.
13:00	14:00	**Visualizing Big Data** *(Sophia Liu, USGS)*. What new visualization tools are going to help analyze social media data and other forms of big data?
15:00	16:30	**Hotwash and Closing**. An after-action review of the RELIEF 12-03 experiments with thoughts to making RELIEF 12-04 the biggest yet.

12-3 Focus Areas

USG & Non-Governmental Imagery Workflow

The 12-3 event saw the launching of the first official imagery workflow from the US government to a crowdsourcing/voluntary organization. A partnership between the National Geospatial Intelligence Agency, the State Departments Humanitarian Information Unit, and the non-profit OpenStreetMap (OSM) community, this is the first (to our knowledge) approved release of license-controlled USG data to the so-called "crowd." The data allowed members of the OSM community to intricately trace maps of eight refugee camps located in the Horn of Africa region. You may view the results of one of these (the Melkadida camp) at:

http://www.openstreetmap.org/?lat=4.52167868614197&lon=41.7249584197998&zoom=15. These open source maps are crucial tools toward providing better support for these large populations in distress providing detailed, accurate, and current situational awareness to areas previously blank on available maps and imagery.

Civil Air Patrol Tasking During Domestic Disasters

Recognizing an underutilized resource, FEMA led a discussion exploring how the Civil Air Patrol may be better leveraged during domestic disaster response efforts. The discussion surveyed current operational practices by the Civil Air Patrol and FEMA and explored ways in which current strengths can continue to be leveraged while increasing response time and tasking relevance for imagery in post-disaster settings. Utilizing this workflow, the group designed a process by which the Civil Air Patrol can apply crowdsourcing techniques within its 60,000 volunteer membership pool and rapidly accelerate the pace at which the nation gains a complete picture of major national crises. This experimentation thread will be a major focal point at the upcoming August event at Camp Roberts.

Underlying Methods for Unclassified Information Sharing Between DoD & DoS

Revisiting a conversation on unclassified information sharing between DoD and DoS, the afternoon of the second day found the group focusing not on the policies, but on the underlying methods by which agencies can move forward through experiments in August.

12-4 Experimentation Planning

Small Cellular/Radio Networks with Crowdsourcing. Natural disasters (like the Haiti earthquake) create disruptions to both radio and cellular communications. Networks are often overloaded as they come back online. In these circumstances, how can we ensure that the USG can establish radio and cellular communications with affected citizens about evacuation plans and other official instructions?

Accelerated Aerial Reconnaissance. In the unclassified world, satellite imagery takes more than a day to collect, process, and distribute. The fastest imagery is therefore often taken by aircraft. However, on the unclassified side, the methods used to task, collect, and process this rapid aerial reconnaissance are also slow. We will explore means to accelerate this process with FEMA, NGA, and the Naval Postgraduate School's CIRPAS research group.

Cybersecurity of Crowdsourcing Technologies and Practices. Many SMS and crisis mapping platforms have never had a systematic cybersecurity review. However, ever more autocratic regimes are catching onto the potential of crowdsourcing to mobilize opposing political factions and are devising cyberattacks that can disrupt crowdsourcing. At RELIEF 12-04, we will perform the first known audit of crisis mapping and crowdsourcing platforms, with a red team from the Joint Information Operations Warfare Center (JIOWC) performing the audit using all unclassified means. Our question will be: How can we ensure that the temporary crowdsourcing networks are reasonably protected from cyberattacks?

Unclassified Common Logistical and Synoptic Visual Interface. While DoD has embraced APAN's unstructured data environment as its unclassified information sharing system (UISS), the Department of State and major NGOs are moving towards modern web services architecture that enable the exchange of structured operational data. Bridging these two conceptions with the third stream—social media and crowdsourcing—remains a challenge. We will explore information sharing across USG agencies and external partners using the problem domain where all parties intersect: medical operations. We will explore how to work in both the domestic and international contexts, where USG actors needs to track the health status of American citizens, the citizens of the affected country, and military personnel. We hope to integrate web services architectures like DISA's SIMON JCTD into the operation.

RELIEF 12-4 will coincide within JIFX 12-4:

13-17 August in Camp Roberts, CA.

Questions? Email: **relief@nps.edu**

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