GSFC Disaster Working Group

July 26th, 2016

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GSFC Disaster Coordinators

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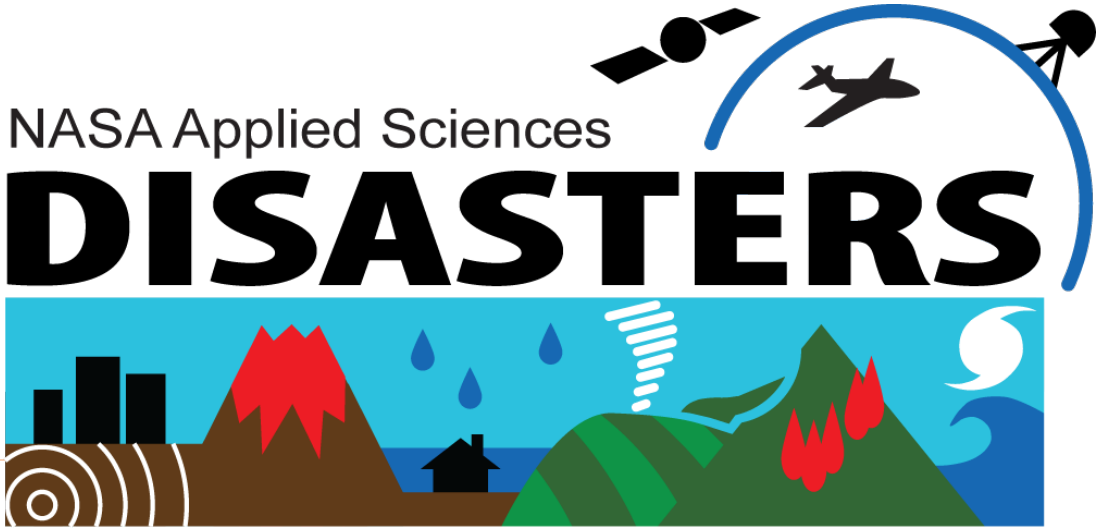


Agenda

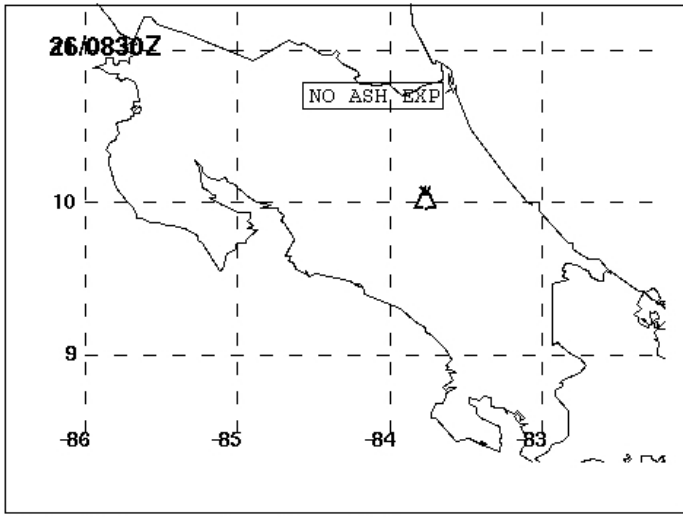
- 11:00-11:15 – Updates on NASA Disaster Response Activities, updates from group
- 11:15-11:35 – Gerald Bawden (Program Scientist in the Earth Surface and Interior and Terrestrial Hydrology Programs)
- 11:35-11:45 – SBA activity on disasters – Discussion led by Jeanne Sauber-Rosenberg and Gerald Bawden
- 11:45-12:00 – Discussion and next steps

Updates

- **Response Activities**
  - Tropical Storm Danielle
  - Floods/Landslides Pakistan
- **Meetings**
  - NASA Direct Readout Conference, Valladolid, Spain: June 21-24th
- **Trainings/Webinars**
  - **ARSET Using NASA Remote Sensing for Disaster Management**
    - http://arset.gsfc.nasa.gov/disasters/webinars/disaster-overview-2016 (all presentations archived
  - **GPM Data**
    - https://pmm.nasa.gov/training (all trainings archived)
- **Website**
  - Prototype concept for front end website
  - Continuing to work on the conceptual framework for a “back end” system for data management
- **Playbooks**
  - Floods (GSFC), Severe Storms (MSFC), Earthquakes (JPL)

Updates cont.

- **Tier 0 Response: Keeping a watch on status of the Turrialba volcanic activity today**
- **HQ has received inquiries about this event due to closure of the airport.**
- **If anything changes or anyone has further intel please pass this along to Miguel/Dalia ASAP.**
- Media: http://www.ticotimes.net/2016/07/25/costa-ricas-turrialba-volcano-erupts-sends-ash-3-km-high
- Volcanic Ash Advisory Center (VAAC): http://www.ssd.noaa.gov/VAAC/ARCH16/TURR/2016G251605.html



INFO SOURCE: GOES-EAST. OVSICORI-UNA.
ERUPTION DETAILS: VA EMISSION ARND 25/1345Z
RMK: VA EMISSION OBS IN STLT AT 1345Z MOVG WNW FM SUMMIT AT 15KTS NEAR FL200. BOUNDARIES DIFFICULT TO DETECT DUE TO WX CLDS. ...RAMIREZ
NXT ADVISORY: WILL BE ISSUED BY 20160725/2200Z

Playbook Updates

Takeaways from Flood Playbook Facilitated Scenario Discussion

David Green (HQ)
Scott Porwick (HQ)
Miguel Román (GSFC)

NASA's Earth Science DISASTERS

NASA Playbook

- The structure of the current NASA Playbook:
  - Trigger to enter?
  - What can NASA and its partners provide that is valuable?
  - When can we do it?
  - Who are we going to coordinate and give it to (domestic & international)?
  - When do we decide to exit?
  - Post event after action analysis

Structure of the Exercise

- Used one flood response scenario (based on Hurricane Alex) to drive discussion

- Experts were seated in five “community” groups
  - **Emergency Management**
  - **Monitoring and Observing**
  - **Mapping and Modeling**
  - **Product Dissemination and Distribution**
  - **Capacity Building & End User Engagements**

For each module we asked…

- **Emergency Managers & Response Teams:**
  - What would you be doing?
  - What kinds of decisions are you making? What information do you need to make those decisions?
  - What do you need to provide to the public?
- **Science & Agency Teams:**
  - What would you be doing to support response?
  - Who would you be coordinating/working with?
  - What would you be producing, who would you be sending it to, how would you send it, and when?

Identify a spokesperson to report out for the group. Each group will have 5 minutes to report on their discussion.

NASA's Earth Science DISASTERS

Example: Emergency Management Team

- Module 1:
  - *Daily briefings with National Hurricane Center (NHC); Implement State Hurricane Plan; Need data from NHC and other forecasts for impact of coastal flooding, storm surge and riverine flooding.*
- Module 2:
  - *Tasked radar at this time (NGA); At least one call per day*
- Module 3:
  - ***Evacuation mode;*** *State/Local calls with River Forecast Center; Need to know flood areas now and predicted. Use gauge data …* ***but if gauges go down access SAR data.***
- Module 4:
  - To know extent of flooding, FEMA will deploy Incident Management Assistance Teams (IMATs) (~16 people). Within IMATs exists a geospatial lead that helps data needs coordination to FEMA HQ. States will use data from Civil Air Patrol (CAP) to access damage extent. Begin planning for reentry planning and getting ready for water and utilities restoration.

NASA's Earth Science DISASTERS

Upcoming workshops

- National Academies Workshop on Improving Understanding of Volcanic Eruptions, Washington, DC, on August 17-19, 2016 (Closed Session: http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=8691)
- Workshop to Develop a Portfolio of **Low Latency Datasets** for Time-Sensitive Applications, September 27-29th, 2016. Langley Research Center, Hampton VA
- Others?

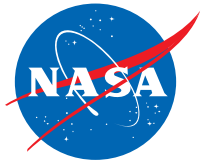
NASA's Earth Science DISASTERS

Updates from Group?

- Proposal news?
- Workshop news?
- Relevant events?

Gerald Bawden's Presentation

- Gerald Bawden is a NASA Program Scientist in the Earth Surface and Interior and Terrestrial Hydrology Programs and is responsible for Research and Analysis for Natural Hazard research science. He supports the NASA ISRO Synthetic Aperture Radar (NISAR) mission, the Surface Water Ocean Topography (SWOT) mission, the UAVSAR Airborne Program, as well as the Distributed Active Archive Centers (DAAC) at the Alaska Satellite Facility (ASF). He serves as the NASA-USGS liaison for solid earth and hydrology.
- Dr. Bawden is at NASA Headquarters on an extended detail (an Interagency Agreement IAA) from the USGS that began in 2014.


NASA


NASA's Earth Science
DISASTERS

Fig. 1 SEM temporal trends during the study period 2000–2014

Voigt et al., 2016, “Global trends in satellite-based emergency mapping”, *Science*, 353(353), 247-252

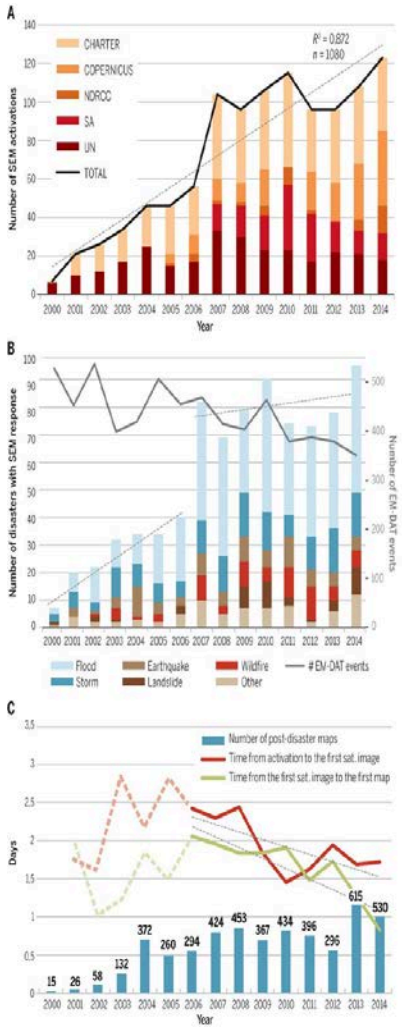


Fig. 2 Spatial distribution of SEM activations by disaster type.

Voigt et al., 2016, “Global trends in satellite-based emergency mapping”, *Science*, 353(353), 247-252.

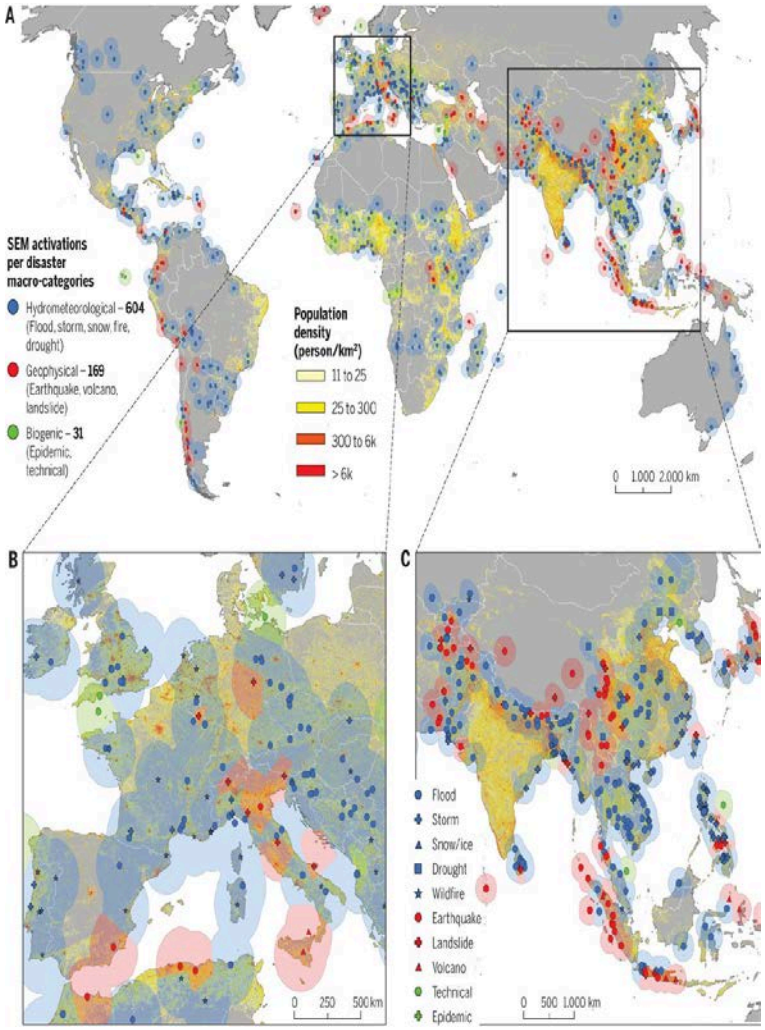
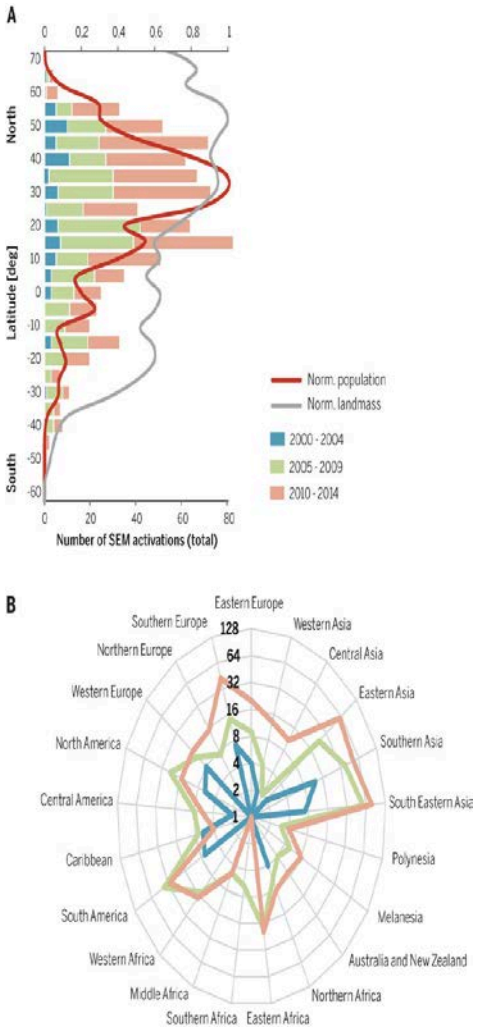


Fig. 3 Global 5-year totals of SEM activations by latitude and world region

Voigt et al., 2016, “Global trends in satellite-based emergency mapping”, *Science*, 353(353), 247-252.



Discussion and Wrap-up

- Get updates on current activities of the NASA Disasters Program (disasters, solicitations, other)
- Disaster response – what is “expected” what can *be* expected
- Summary of Disasters through GSFC White Paper and Data Matrix
- Discuss current GSFC disaster activities (research, operational activities, etc.)
- Two-way feedback on current needs, issues, etc.
- **What else would be helpful?**