USGS EROS
Emergency Operations
The Earth Resources Observation and Science (EROS) Center has been a part of the U.S. Geological Survey (USGS) since 1972

- Currently around ~650 employees, USGS and contractor
- World’s largest civilian archive of remote sensing data
- Data reception, processing, archiving, and distribution
- Home for data from the Landsat series of satellites
- Research facility for remote sensing and terrestrial science

In support of Emergency Operations, EROS “Provides current and accurate geospatial data for local, national and global hazard support.”
• Provide Federal, State, and Local organizations with timely and relevant remotely sensed imagery and information during an event to include pre and post event.

• Support and coordination for satellite and aerial image access, storage, delivery, acquisition, reception, and archival.

• Host the Remote Sensing Working Group (RSWG) coordination calls for geospatial requirements and remote sensing activities (on request).

• Collection requirements through Collection Management Tool (CMT).

• Image access and delivery through Hazards Data Distribution System (HDDS).

• US representation for International Charter ‘Space and Major Disasters’
What is the International Charter?

• An international agreement among space agencies to provide space-based data and information to support relief efforts in the event of emergencies caused by major disasters.

Provides a mechanism for:
• Multi-satellite data acquisition planning
• Very rapid data turn-around and priority acquisition
• Archive retrievals and spacecraft tasking
• Data processing at pre-determined level
• Space agency contribution in image/data
• Space agency initiative for value-added-data fusion

http://www.disasterscharter.org/
Charter Support

- Emergency Operations Team supported 43 new charter events with 219 new data acquisition requests (DAR).
- Liaised with a multitude of International Disaster Management entities

Domestic Support

- Emergency Operations Team supported 31 new non-charter events with 161 new data acquisition requests (DAR).
- Participated in inter-agency support with FEMA, NOAA, and National Guard Bureau for hurricane Fiona and Ian.
Emergency Response: Operational Flow

**Hazards Data Distribution System (HDDS):**
- Storage and access for USGS-hosted response datasets
- Interactive Map-based Portal ("HDDS Explorer")
- Two access categories (Public or Restricted)
- GIS Services (WMS on-demand)
- Bulk download and bulk media options
- API Services (Machine-to-Machine)
- [https://hddsexplorer.usgs.gov/](https://hddsexplorer.usgs.gov/)

**Collection Management Tool (CMT):**
- Interactive map-based tool for submitting image requirements
- Enter and monitor Data Acquisition Requests (DARs)
- View public DARs (including AOIs) submitted by other users
- Triggers the USGS emergency event support
- Provides automated email notification as imagery is collected
- Includes DAR management and status communications

**EO Ingest System (EIS):**
- Standardized product format (GeoTIFF)
- Consistent and searchable metadata
- Georeferenced browse and metadata files (shp, kml, csv, etc.)

**EO Technical Support:**
- Create HDDS event
- Identify relevant data sources
- Search and monitor available datasets
- Submit tasking requests

**Disaster Response Community**
Hazards Data Distribution System (HDDS)

Data Holdings
- HDDS currently holds over 689 TB of data representing over 10.7 million files
  - Public: 358 TB (9.9+ million files)
  - Restricted: 331 TB (1.5+ million files)
- Represents over 1,1648 baseline and disaster events

Data Distribution
- Over the last 12 months, the HDDS systems have distributed 30,195 files to the disaster response community.

3/21/2019 Sentinel-2 of Omaha, NE
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