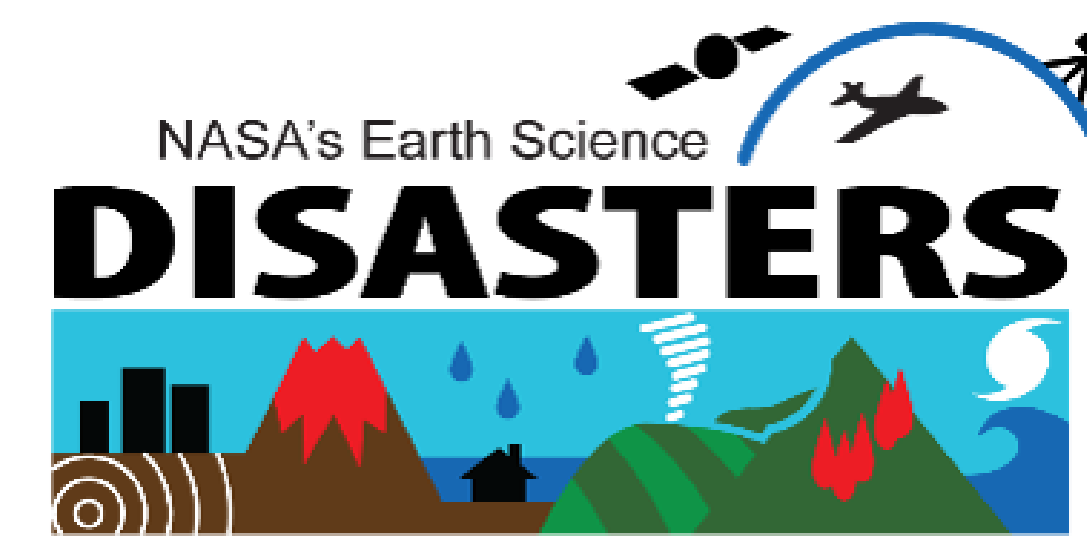


The NASA Disasters Program Web-Mapping Portal: Connecting Scientists to Response and Recovery Activities in Near-Real-Time



Poster:
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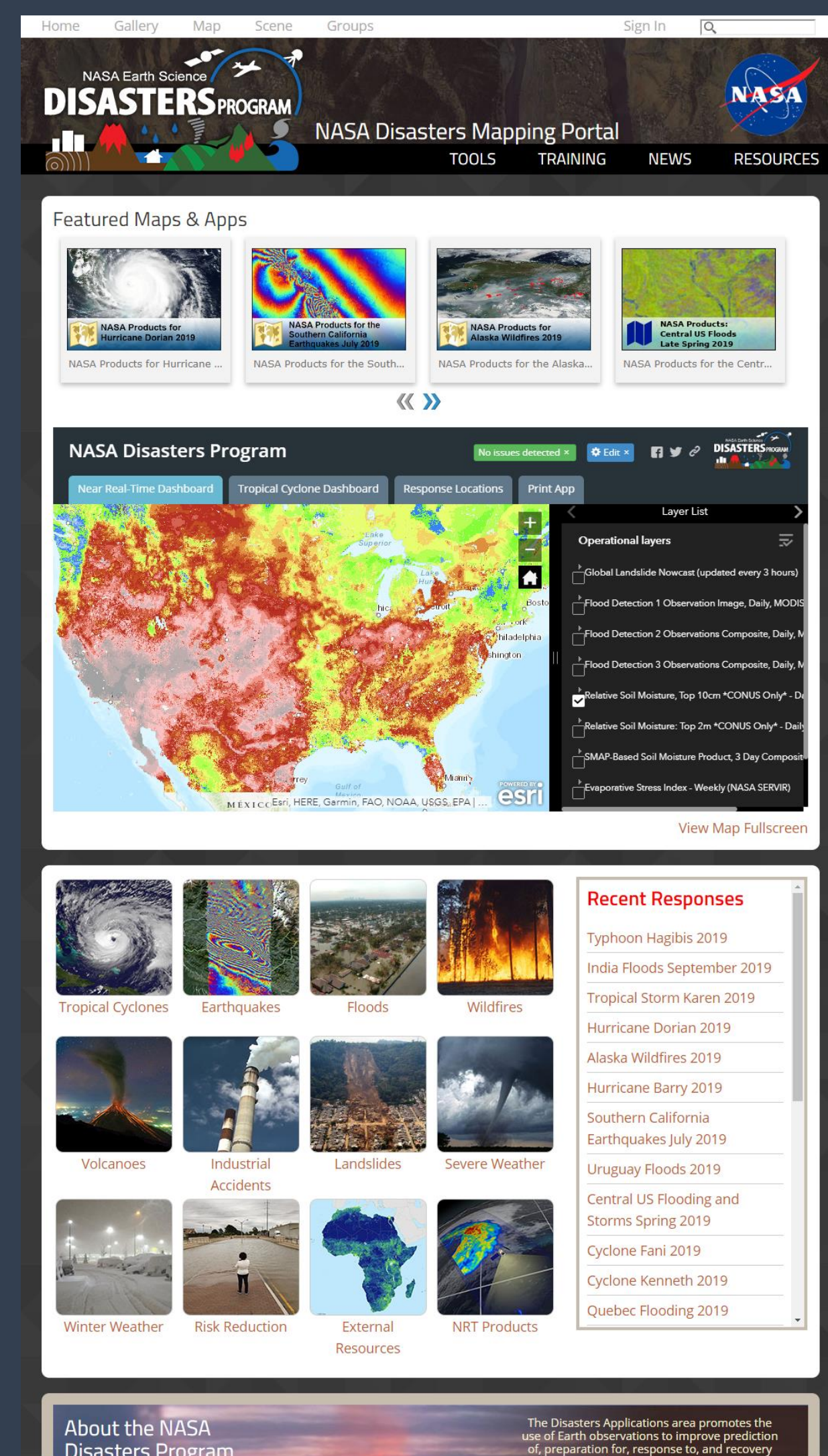
NASA Earth Science Disasters Program:

Mission:

- To promote the use of Earth Observations (EO) to inform disaster risk reduction and resilience across the disaster cycle from local to global scales

Goals of the Program:

- Harness NASA Capabilities for Disaster Risk Reduction and resilience
- Engage stakeholders in the use of Earth Observations (EO) throughout the disaster lifecycle
- Demonstrate the value and impact of EO to support decision making and actions
- Grow as a trusted source for delivering useful results



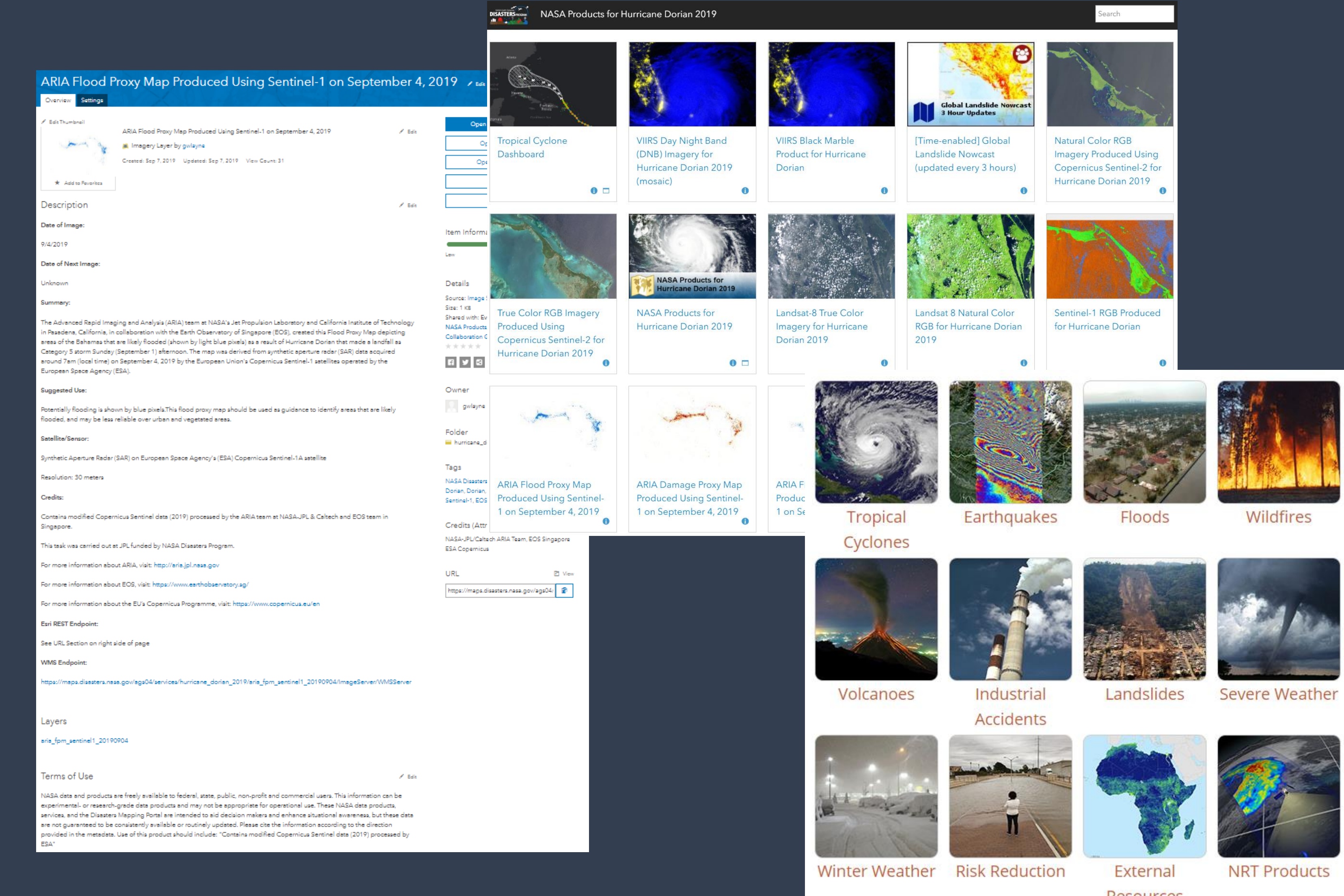
NASA Disasters Mapping Portal:

Hub of geospatially enabled NASA disaster products:

- Uniform format for easy ingestion by emergency managers and the public
- Free and open data available without login requirements
- REST and WMS endpoints for all products
 - Supports both ArcGIS and Open Source systems
 - Web-based mapping also available

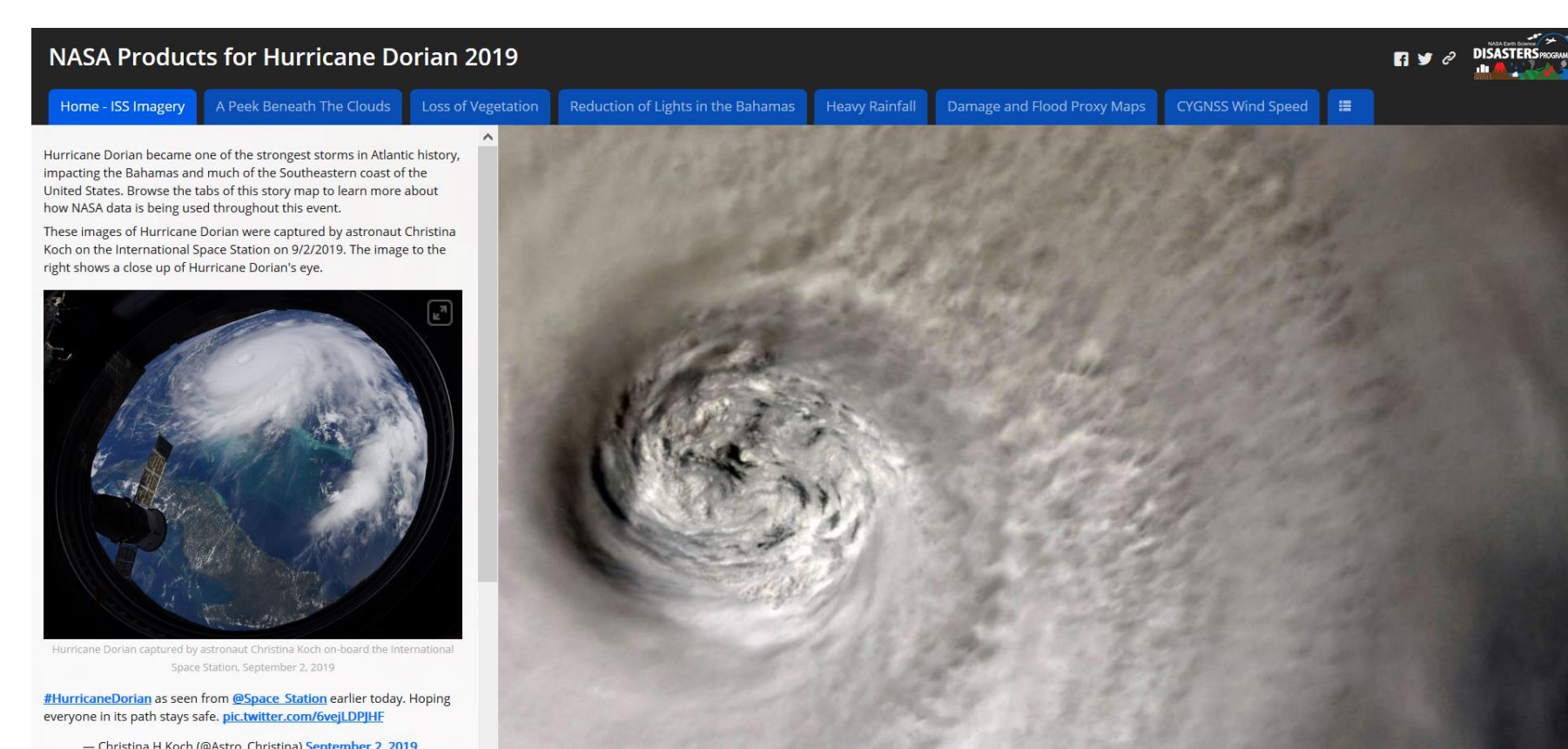
Two product types:

- Event-based Products
- Near Real-Time Products



Story Maps

Story maps allow for the assembly of information from multiple sensors and data products that tell the disaster's story over the lifetime of the event from multiple perspectives.

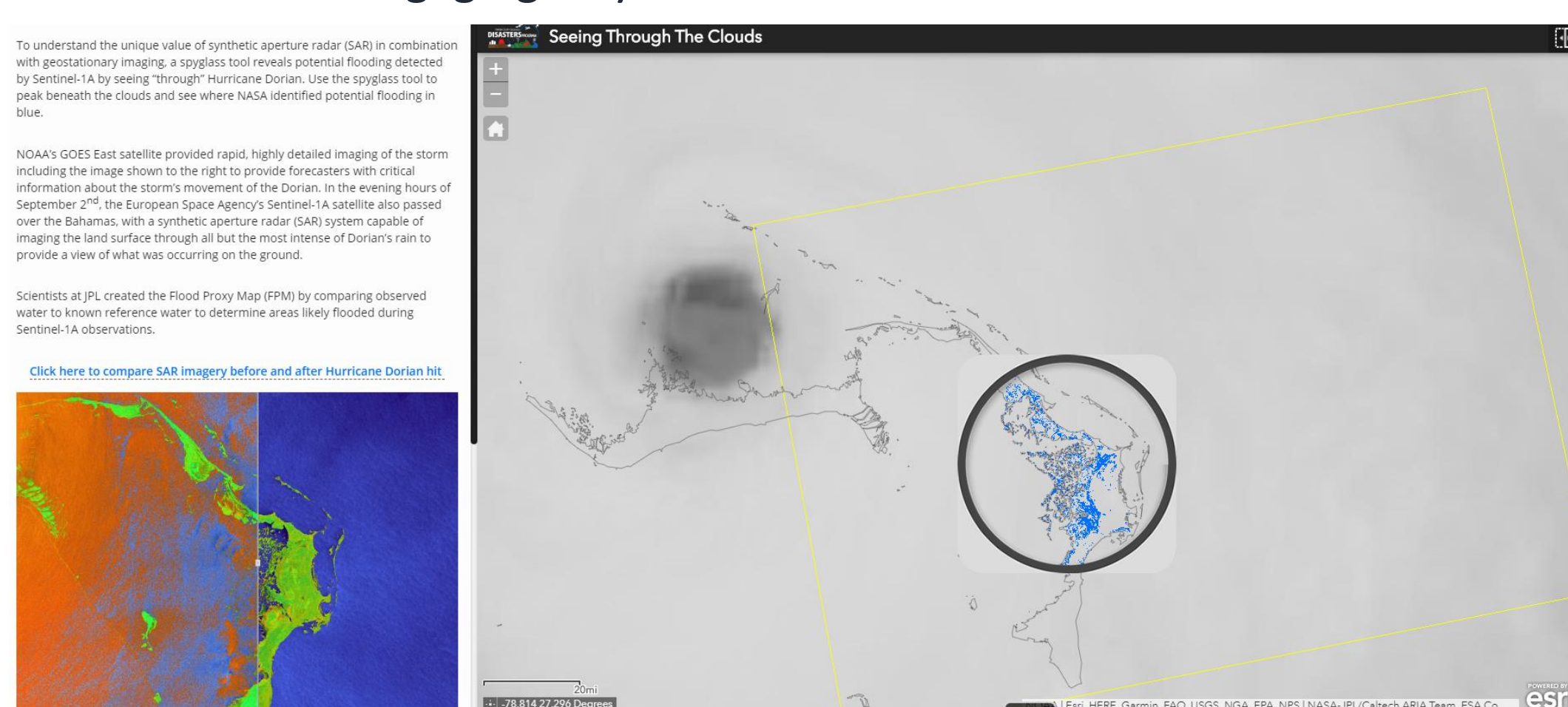


- Serves to highlight notable products from both NASA and partner agencies to show the scope of disaster impacts that can aid in recovery efforts
- Lastly, the information can serve as training for those new to their use

Interactive Widgets and Web Apps

Widgets and apps can be used to help explain how satellite data from multiple sources and sensors can "see" the event.

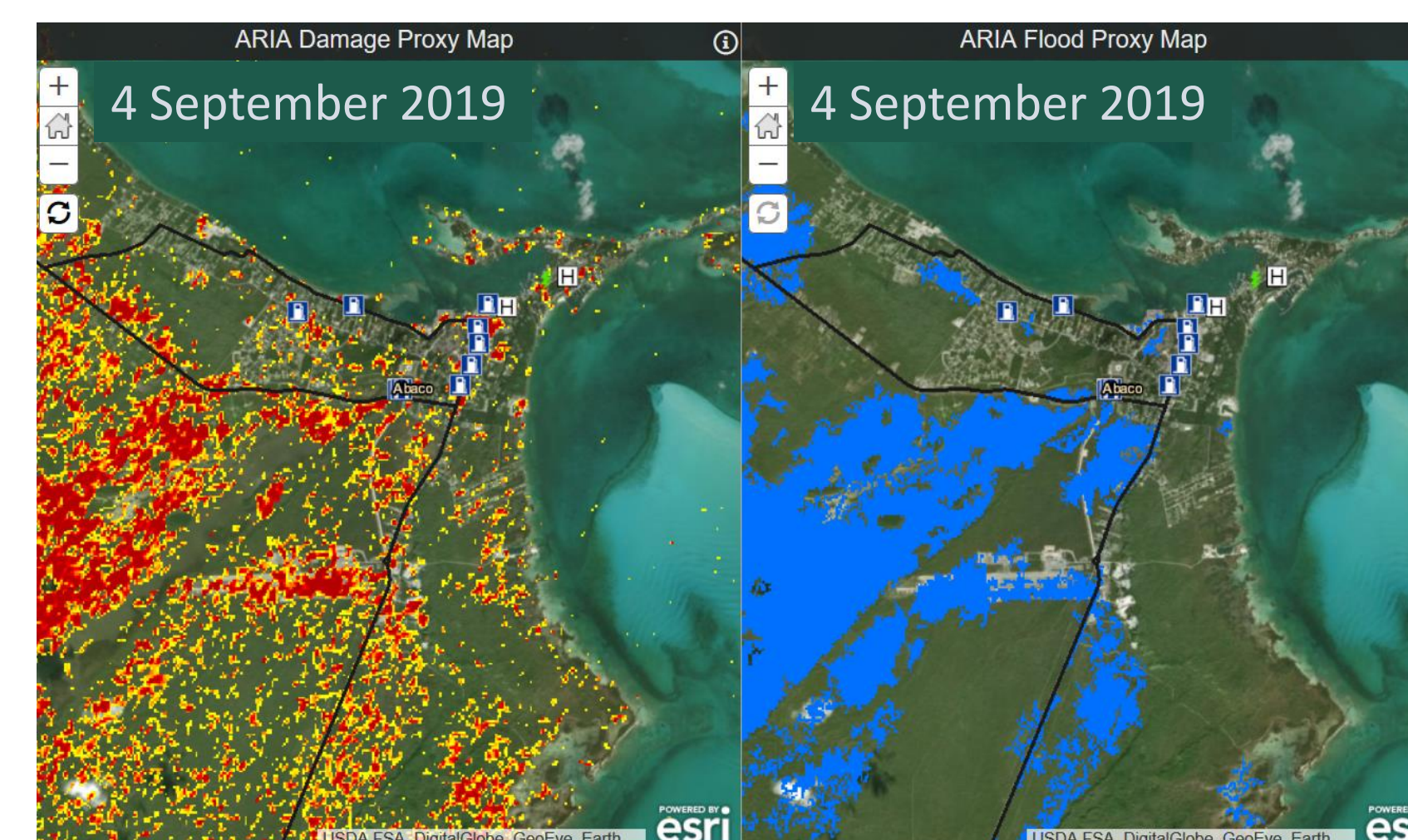
- These tools provide examples of how to use different types of information together in an interactive and more engaging way



Show What is Possible

Damage and Flood Proxy Maps produced from spaced-based SAR sensors during Hurricane Dorian.

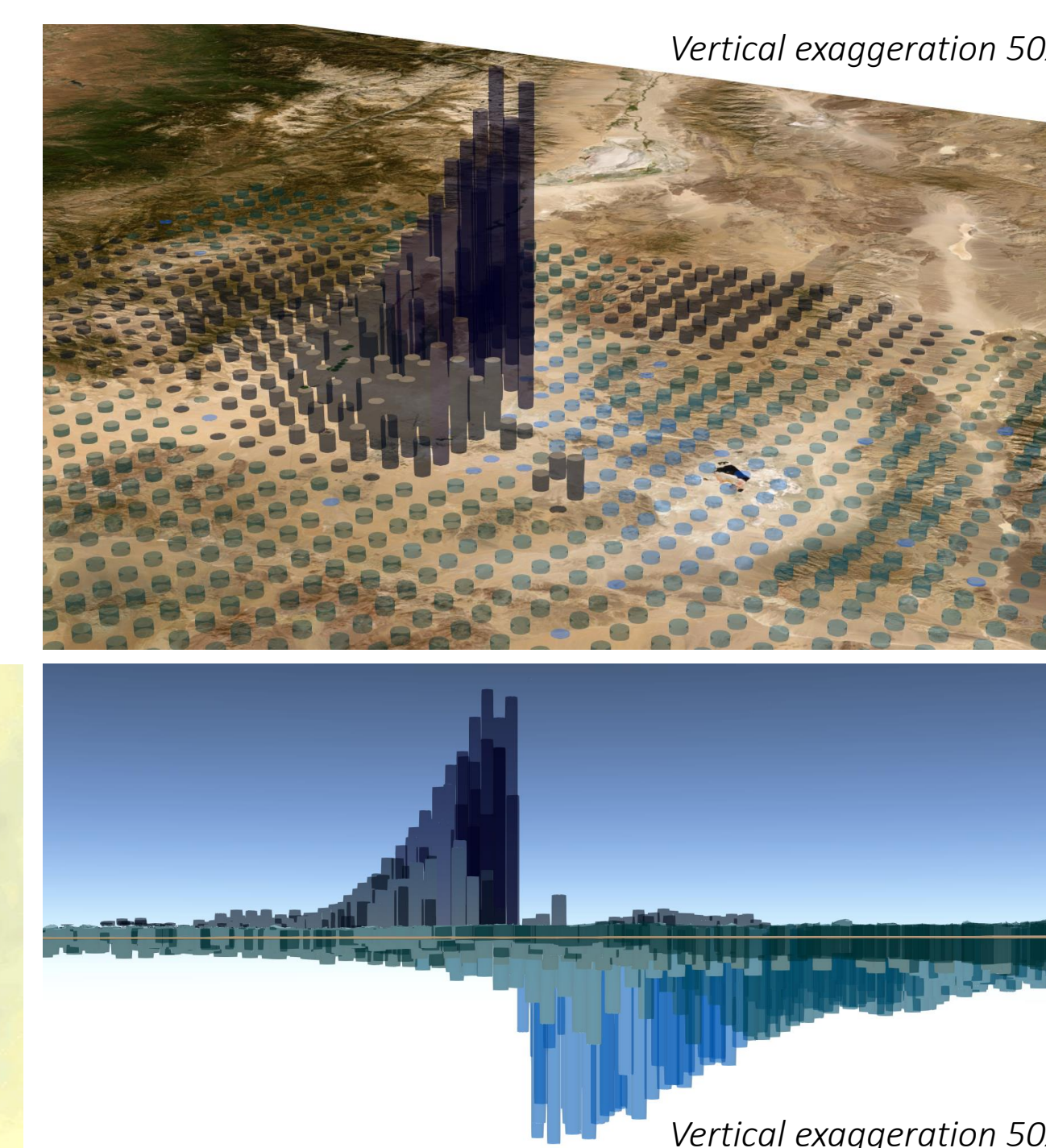
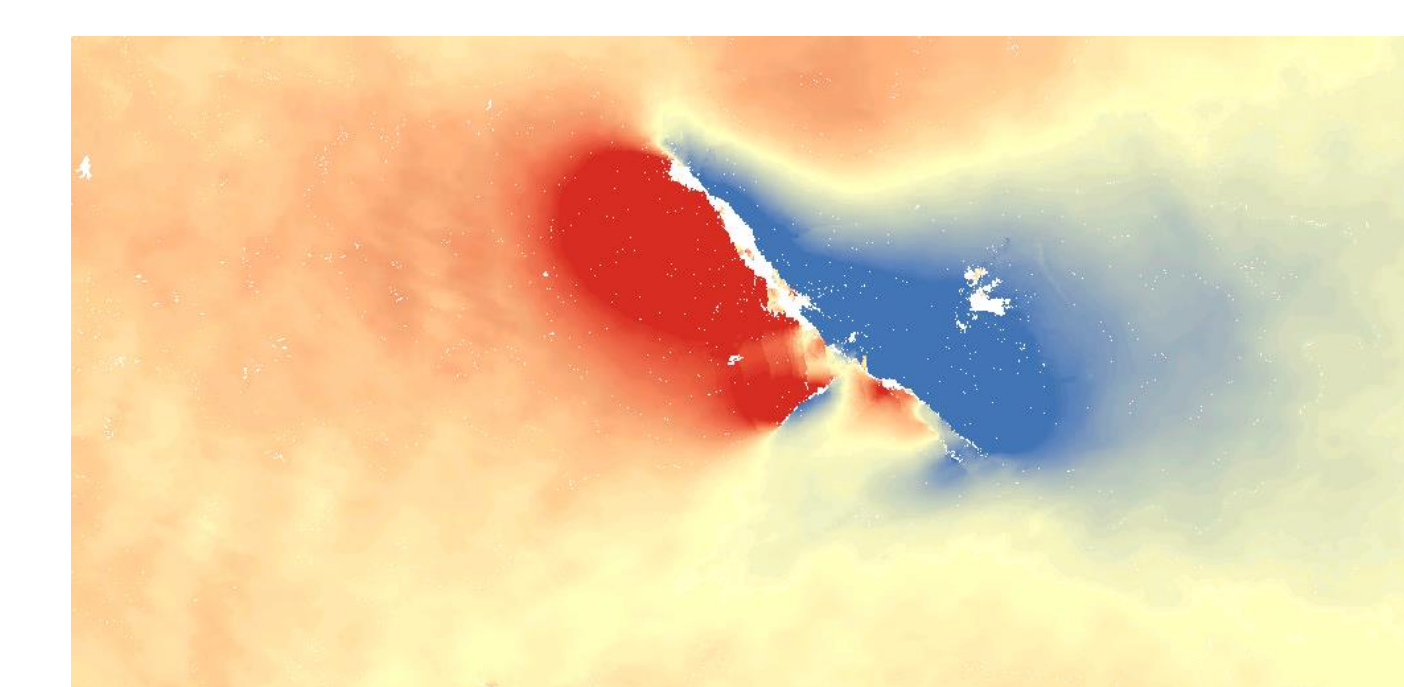
- Resolution: 30m
- SAR-based change detection
- When combine with infrastructure data these products can show potentially damaged or flooded assets



California Earthquake – July 2019

SAR-based analysis like the one below tell scientists where and how much the earth's surface moved as a result of an earthquake or other event.

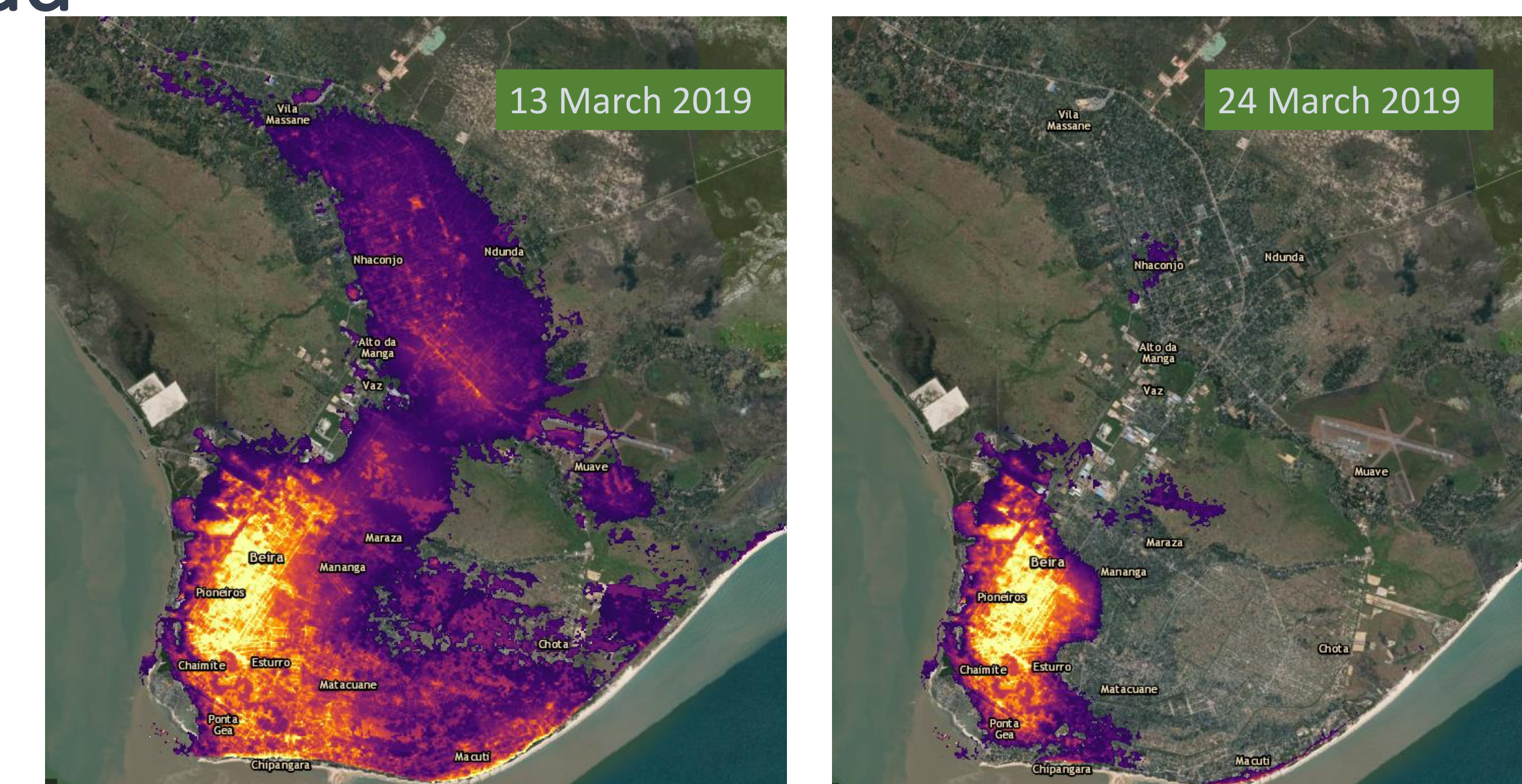
- Application of 3D contouring within GIS software is better able to communicate changes and impact to the decision maker and non-scientists alike



Looking Ahead

Tropical Cyclone Idai hit the coast of Mozambique in Eastern Africa in early March of 2019, causing widespread and deadly floods, power outages and displacing thousands of people.

- Images show the 30 m Black Marble HD product that is under development



The VIIRS-Day Night Band sensor aboard the Suomi-NPP satellite and now NOAA-20 gives a nightly view of the city-lights and other anthropogenic light sources around the globe when cloud-free conditions exist.

- NASA's Black Marble team at Goddard Space Flight Center is refining a product derived from these data that would allow for the quantitative use of the measured radiance information over an area to assess for missing light by correcting for the influence of the moon and other atmospheric effects that can "add" light to the scene
- This has the potential to give first responders and groups monitoring recovery information about areas most damaged, or monitoring the return to normal

Conclusions and Contact Information

The Disasters Mapping Portal is always looking for ways to improve and grow to meet the needs of the public, stakeholder communities and anyone interested in understanding on how Earth Observation information, combined with NASA science and know-how, can improve all elements of the Disaster Management Cycle.

For more information, please visit the Disasters Mapping Portal at maps.disasters.nasa.gov
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