

# NASA Earth Science Disasters Program Tropical Cyclone Response

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# Web Mapping Portal

The screenshot displays the NASA Disasters Program web mapping portal. At the top, the title "NASA Disasters Program" is visible, along with social media icons and a logo. Below the title are navigation tabs: "Near Real-Time Dashboard", "Recent Products", "Tropical Cyclone Dashboard" (which is selected), "Response Locations", and "Print App". A search bar with the placeholder text "Find address or place" is located above the map. The map itself shows a satellite-style view of the tropical region, with a color scale indicating precipitation or other meteorological data. On the right side, a "Layers" panel is open, listing various data layers with checkboxes. The "Active Hurricanes (NHC)" and "Precipitation Accumulation - 1 Day (NASA GPM IMERG)" layers are checked. At the bottom of the map, there is a coordinate display showing "27.174 8.919 Degrees" and a footer with logos for Esri, NOAA/NOS/OCS nowCAST, and NOAA/NWS/NCEP, and the text "POWERED BY esri".

**NASA Disasters Program**

Near Real-Time Dashboard   Recent Products   **Tropical Cyclone Dashboard**   Response Locations   Print App

Find address or place

Layers

- Active Hurricanes (NHC)
- Radar Base Reflectivity (NOAA)
- Precipitation Accumulation - 30 Minutes (NASA GPM IMERG)
- Precipitation Accumulation - 1 Day (NASA GPM IMERG)
- Precipitation Accumulation - 7 Days (NASA GPM IMERG)
- World Traffic Service (Esri)
- Live Stream Gauges (USGS)
- Flood Detection - 1 Observation Image, Daily (NASA MODIS)
- Flood Detection - 2 Observations Composite, Daily (NASA MODIS)
- Flood Detection - 3 Observations Composite, Daily (NASA MODIS)
- Global Landslide Nowcast (NASA, updated every 3 hours)
- Soil Moisture - Top 10cm, Daily (CONUS Only NASA LIS)

27.174 8.919 Degrees

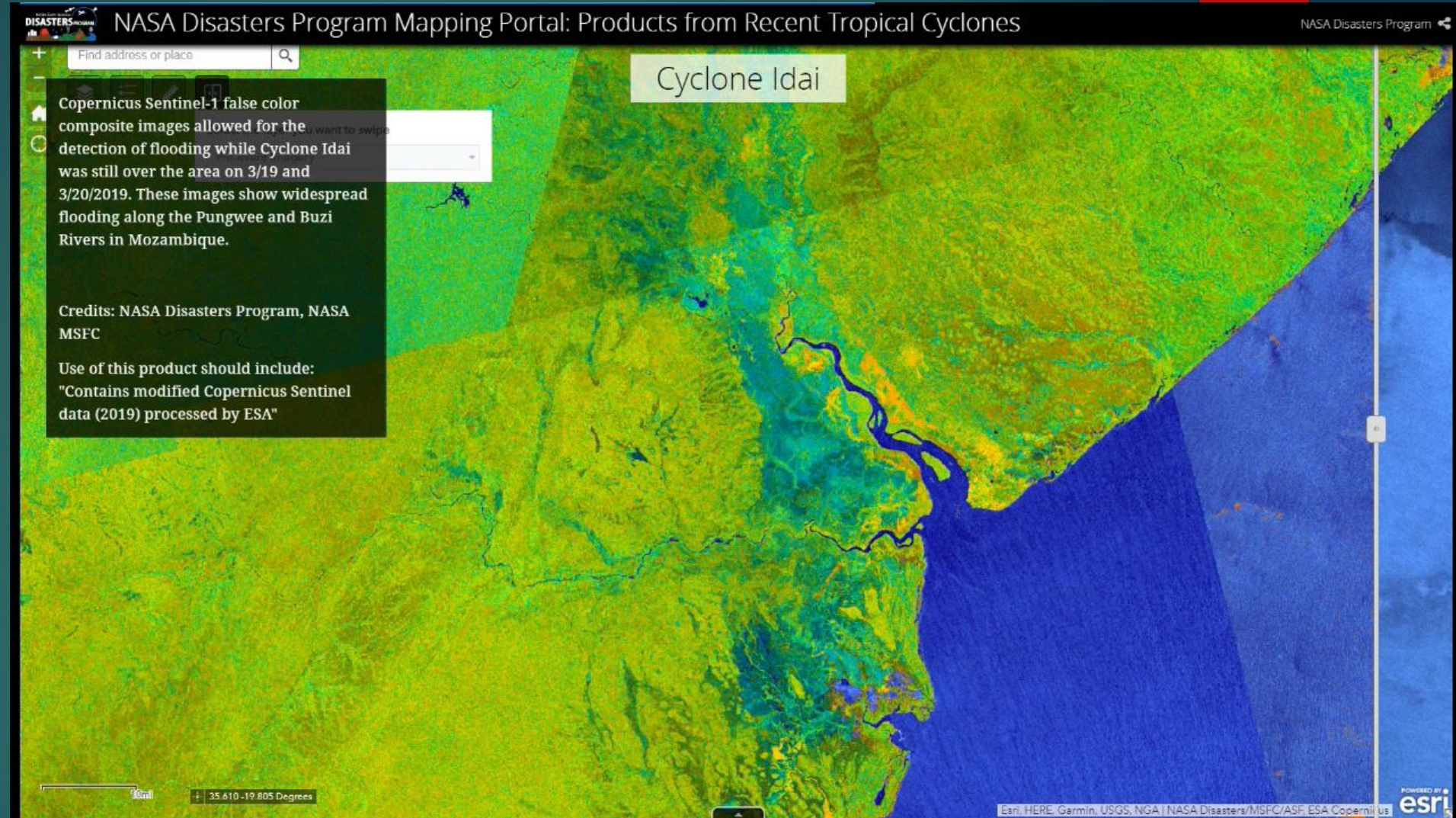
Esri | NOAA/NOS/OCS nowCAST, NOAA/NWS/NCEP, and ...

POWERED BY esri



# SAR False Color Composite Example Shown: Cyclone Idai

- Quick turnaround
- Resolution: 30m
- Useful for water detection
- Sources: Sentinel-1, ALOS-2, IceEye, Radarsat-2

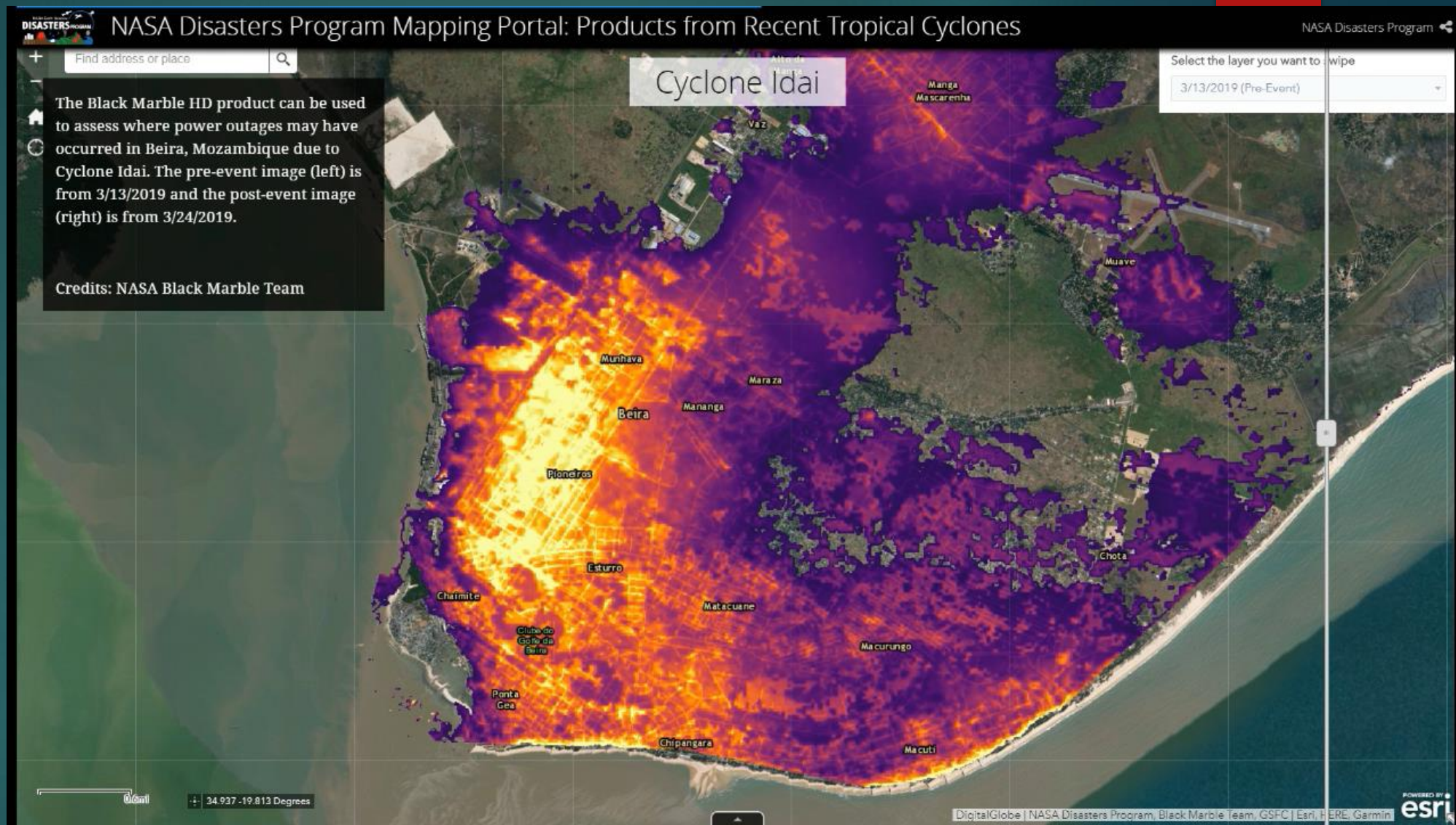




# Black Marble HD

Example Shown: Cyclone Idai

- Higher latency
- Resolution: 30m





# Story Maps

## Example Shown: Hurricane Dorian


- Tell the disaster's story
- Show what is possible with NASA products
- Highlight notable products and disaster impacts

**NASA Products for Hurricane Dorian 2019**

Home - ISS Imagery | A Peek Beneath The Clouds | Loss of Vegetation | Reduction of Lights in the Bahamas | Heavy Rainfall | Damage and Flood Proxy Maps | CYGNSS Wind Speed

Hurricane Dorian became one of the strongest storms in Atlantic history, impacting the Bahamas and much of the Southeastern coast of the United States. Browse the tabs of this story map to learn more about how NASA data is being used throughout this event.

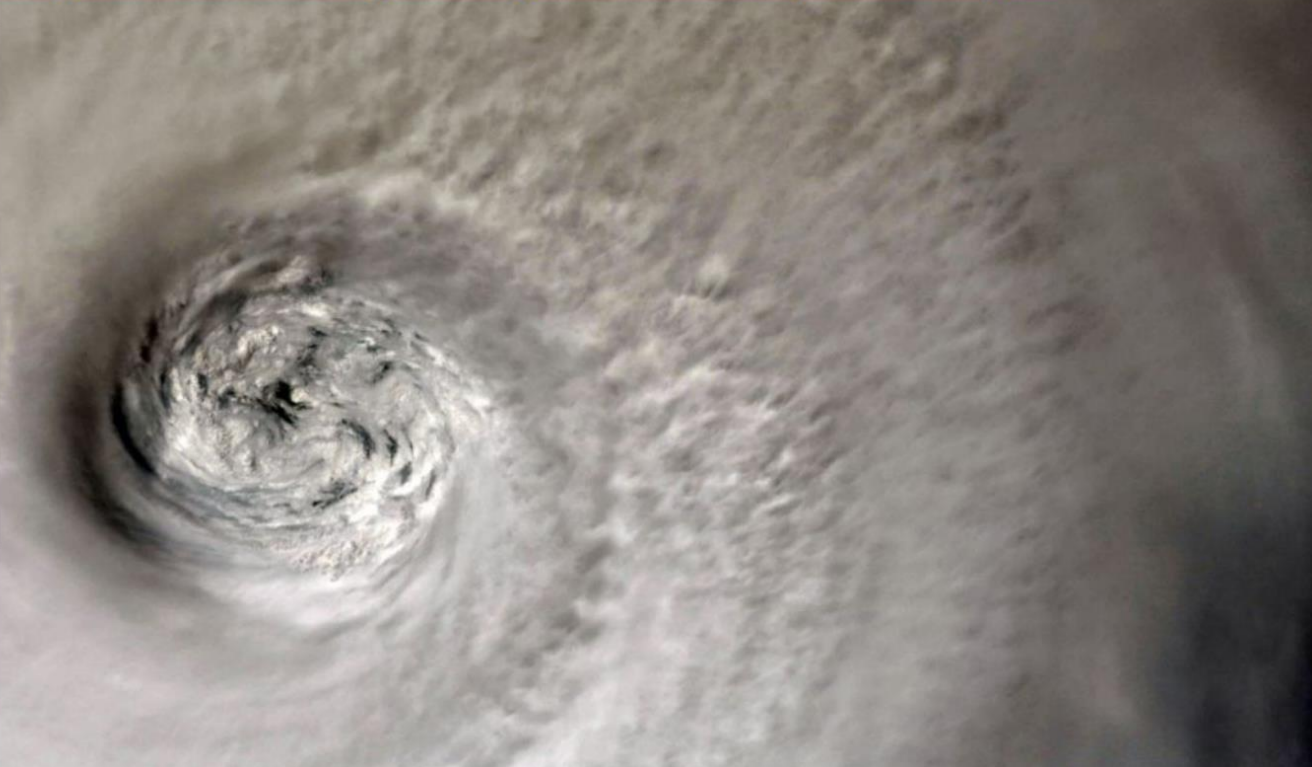
These images of Hurricane Dorian were captured by astronaut Christina Koch on the International Space Station on 9/2/2019. The image to the right shows a close up of Hurricane Dorian's eye.



Hurricane Dorian captured by astronaut Christina Koch on-board the International Space Station, September 2, 2019

[#HurricaneDorian](#) as seen from [@Space\\_Station](#) earlier today. Hoping everyone in its path stays safe. [pic.twitter.com/6vejLDPIJF](https://pic.twitter.com/6vejLDPIJF)

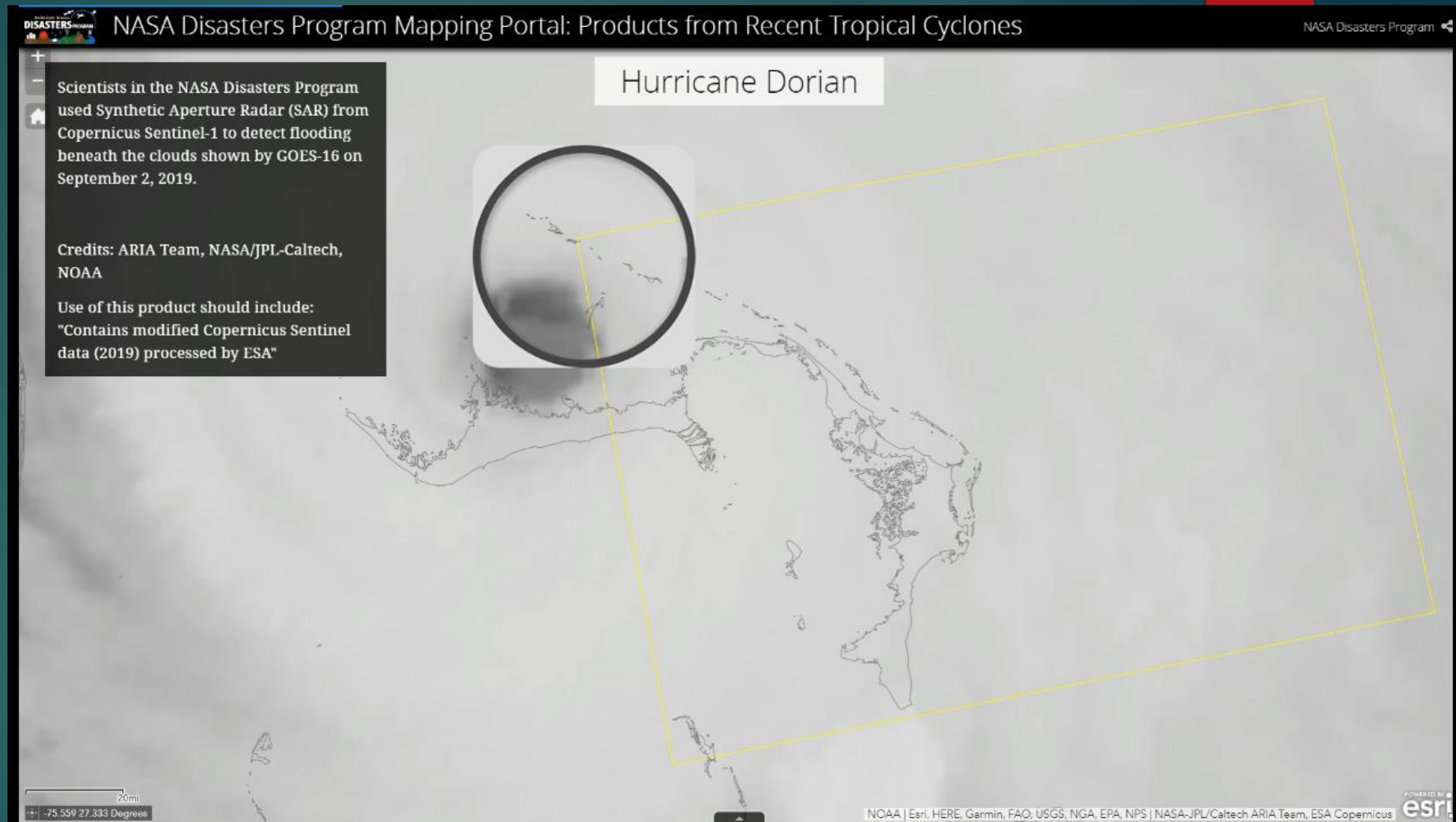
— Christina H Koch (@Astro\_Christina) [September 2, 2019](#)



# Interactive Widgets and Web Apps

Example Shown:  
Hurricane Dorian

- Help explain products
- Show ways to use data

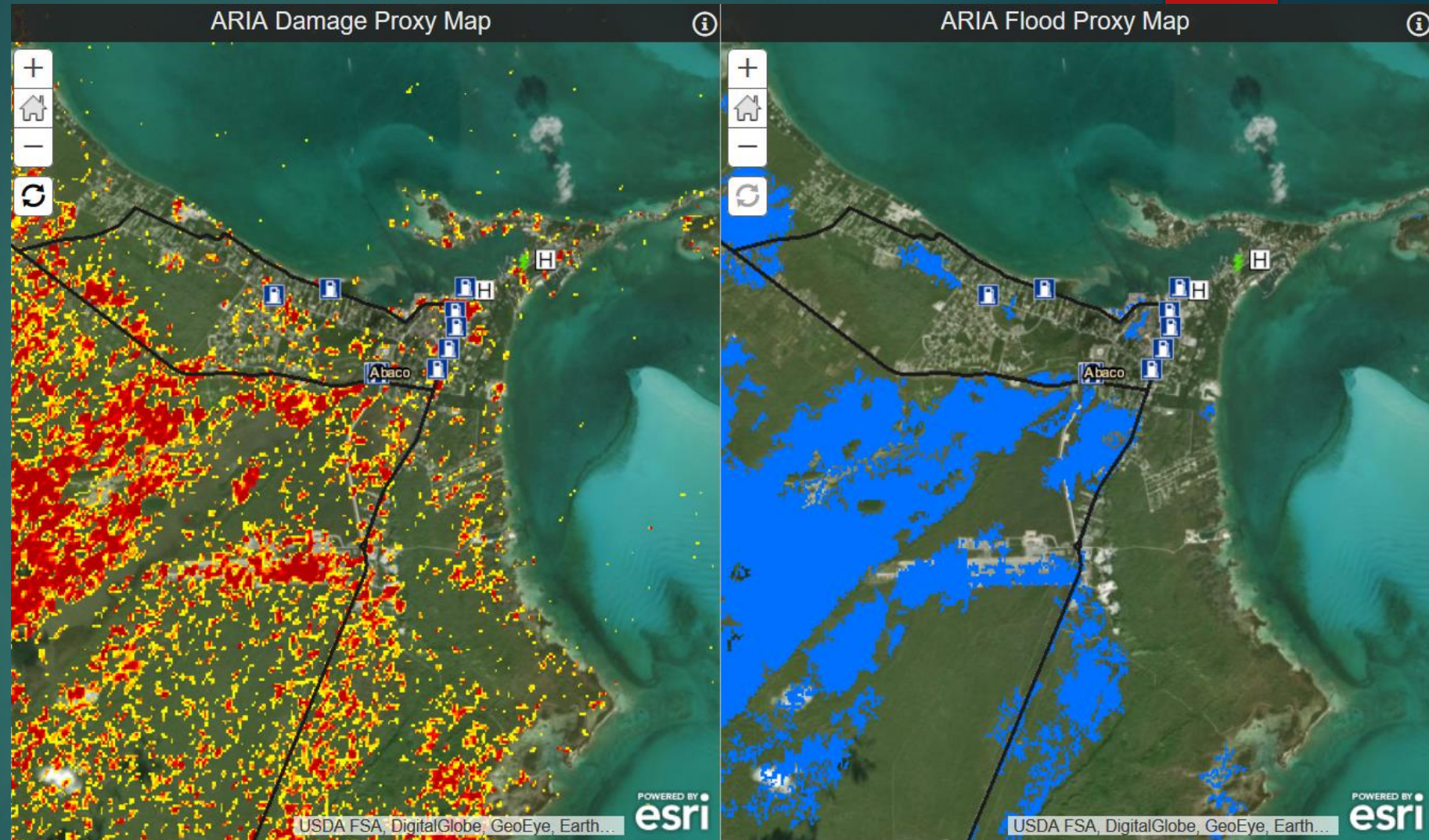




# Show What Is Possible

Example Shown:  
Hurricane Dorian

- Damage and Flood Proxy Maps
- Resolution: 30m
- SAR-based change detection
- Combine with infrastructure data to show potentially damaged or flooded assets





# Near Real-Time Products

- Global unless noted otherwise
- FIRMS Active Fire Points (MODIS, VIIRS)
- Global Landslide Nowcast
- Flood Detection – 1, 2, 3 Observations (MODIS)
- Precipitation Accumulation – 30 min, 3 hour, 1 day (Global Precipitation Measurement)
- Soil Moisture – 3 day composite (SMAP)
- Evaporative Stress Index - weekly

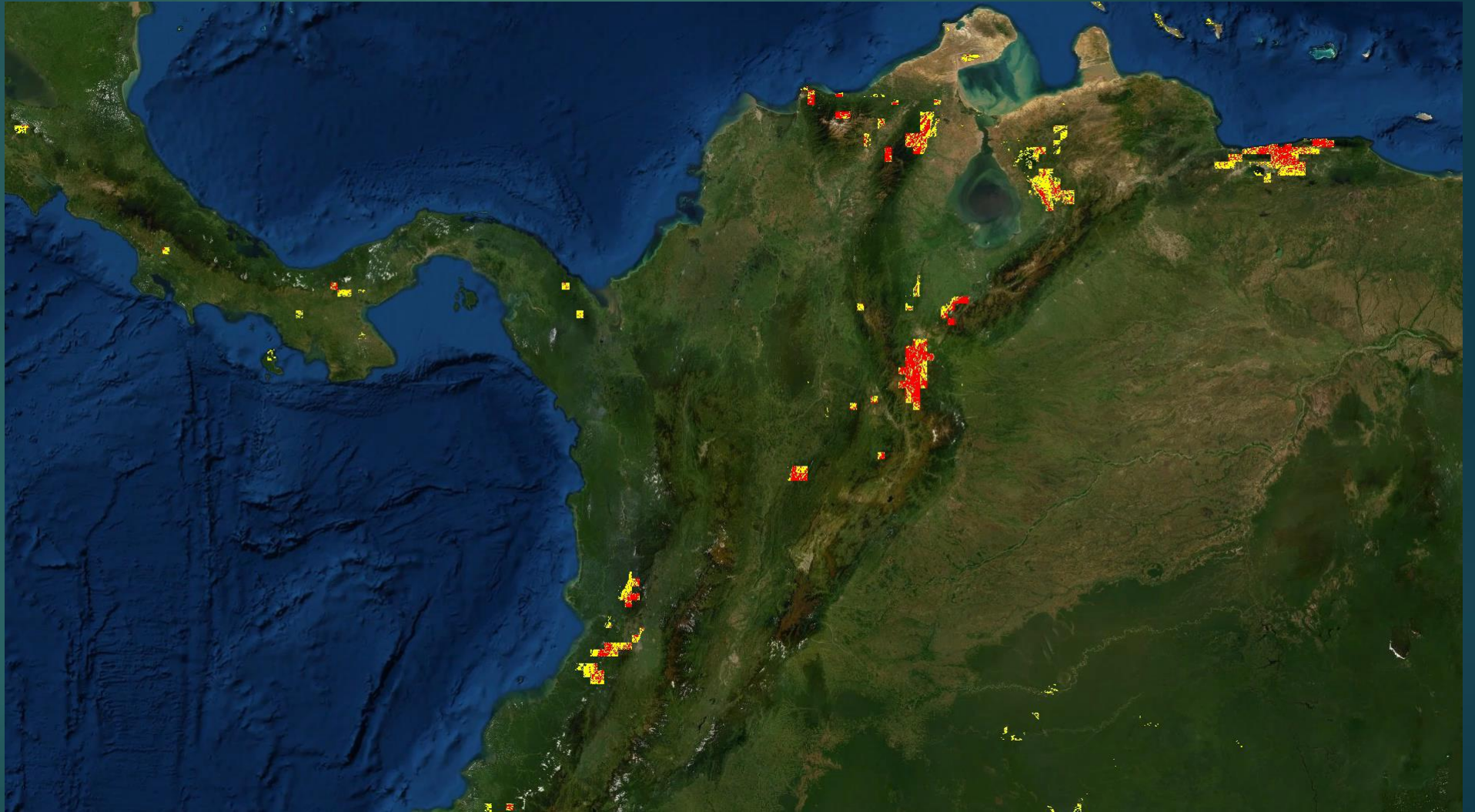
The screenshot displays the NASA Near Real-Time Products website interface. At the top, there is a search bar and the text "NASA Near Real-Time Products". Below this, a grid of 16 product cards is shown, each featuring a map thumbnail, a title, and a brief description of the product's capabilities and update frequency. The products include:

- FIRMS Active Fire Previous 7 days**: [Time-enabled] FIRMS Active Fire: previous 7 days, Update every 3 hours
- MODIS Flood (1D10S) 1 Day Composite**: [Time-enabled] Flood Detection 1 Observation Image, Daily, MODIS
- MODIS Flood (2020T) 2 Day Composite**: [Time-enabled] Flood Detection 2 Observations Composite, Daily, MODIS
- MODIS Flood 14 Day (14x3D30T) Composite**: [Time-enabled] Flood Detection 3 Observations 14 day Composite, Daily, MODIS
- MODIS Flood (3D30T) 3 Day Composite**: [Time-enabled] Flood Detection 3 Observations Composite, Daily, MODIS
- Global Flood Monitoring System (GFMS)**: [Time-enabled] Flood Inundation Map, Global Flood Monitoring System (GFMS), Updated Daily
- Global Landslide Nowcast 3 Hour Updates**: [Time-enabled] Global Landslide Nowcast (updated every 3 hours)
- Land Information Sys. Relative Soil Moisture**: [Time-enabled] Land Information System (LIS) Relative Soil Moisture: 10 cm \*CONUS Only\*
- Land Information Sys. Relative Soil Moisture**: [Time-enabled] Land Information System (LIS) Relative Soil Moisture: 2 m \*CONUS Only\*
- Global Precipitation Measurement (GPM) 1 Day Accumulation**: [Time-enabled] Precipitation Accumulation, "Early Run" 1 Day, Global Precipitation Measurement (GPM) IMERG
- Global Precipitation Measurement (GPM) 3 Hour Accumulation**: [Time-enabled] Precipitation Accumulation, "Early Run" 3 Hour, Global Precipitation Measurement (GPM) IMERG
- Global Precipitation Measurement (GPM) 30 min Accumulation**: [Time-enabled] Precipitation Accumulation, "Early Run" 30 Minute, Global Precipitation Measurement (GPM) IMERG
- Global Precipitation Measurement (GPM) 7 Day Accumulation**: [Time-enabled] Precipitation Accumulation, "Late Run" 7 Day, Global Precipitation Measurement (GPM) IMERG
- SMAP-Based Global Soil Moisture, 3 Day Composite**: [Time-Enabled] SMAP-Based Soil Moisture Product, 3 Day Composite
- Evaporative Stress Index, Weekly (NASA SERVIR)**: Evaporative Stress Index, Weekly (NASA SERVIR)
- Global Landslide Catalog Landslides Report**: Global Landslide Catalog (GLC) Landslide Locations (Referenced Layer)



# Landslide Nowcast

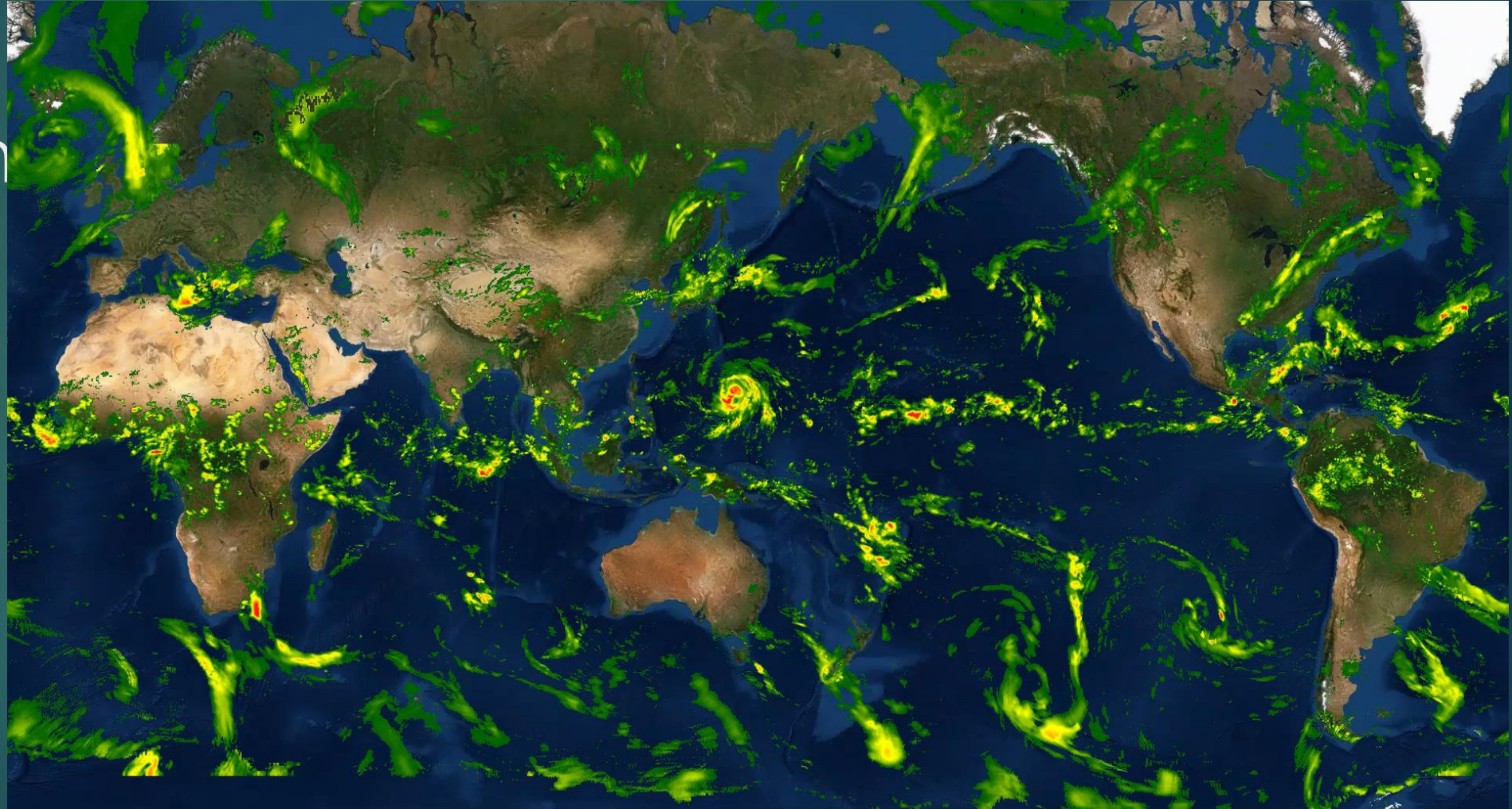
- Updated every 3 hours
- 30 min product
- Resolution: 0.1 degrees





# Global Precipitation Measurements

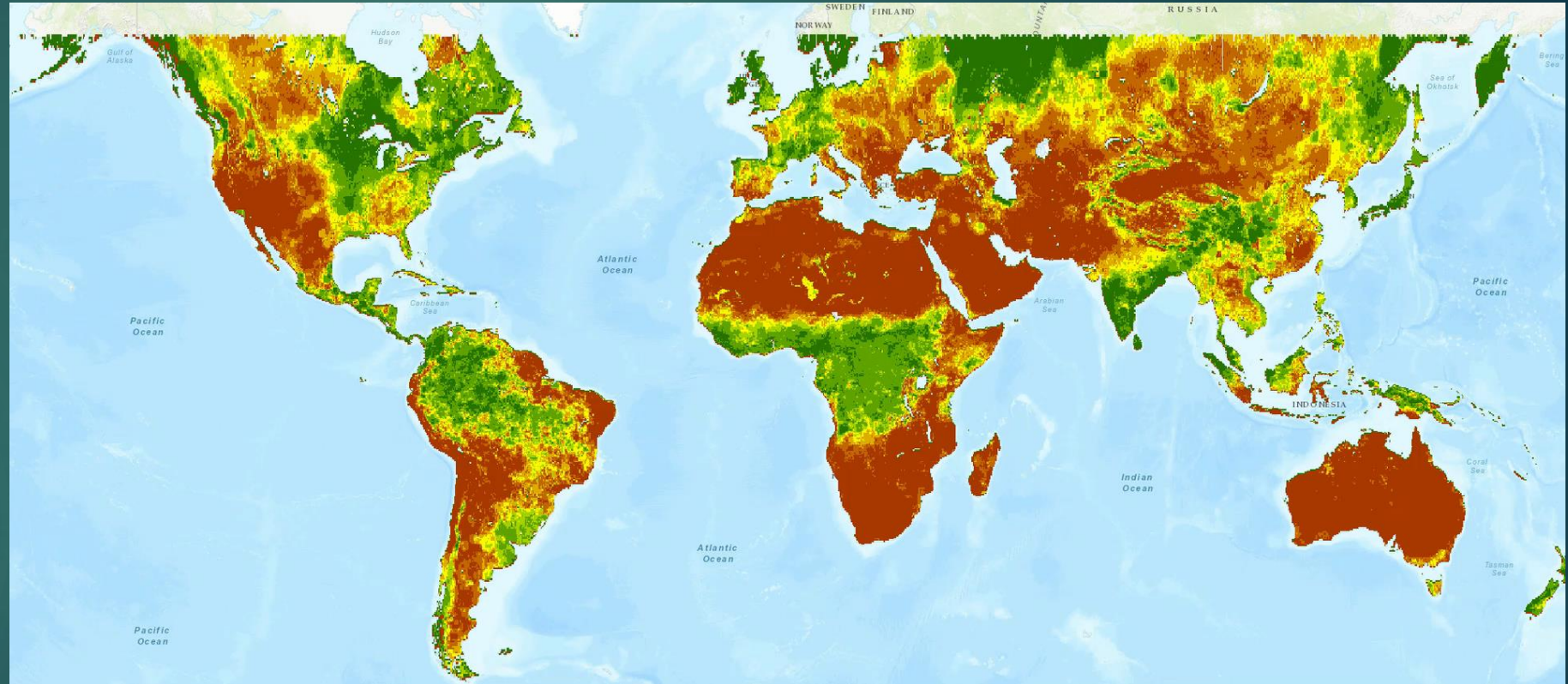
- Updated every 3 hours
- 30 min, 3 hour, 1 day, 7 day
- Resolution: 0.1 degrees





# Soil Moisture Products

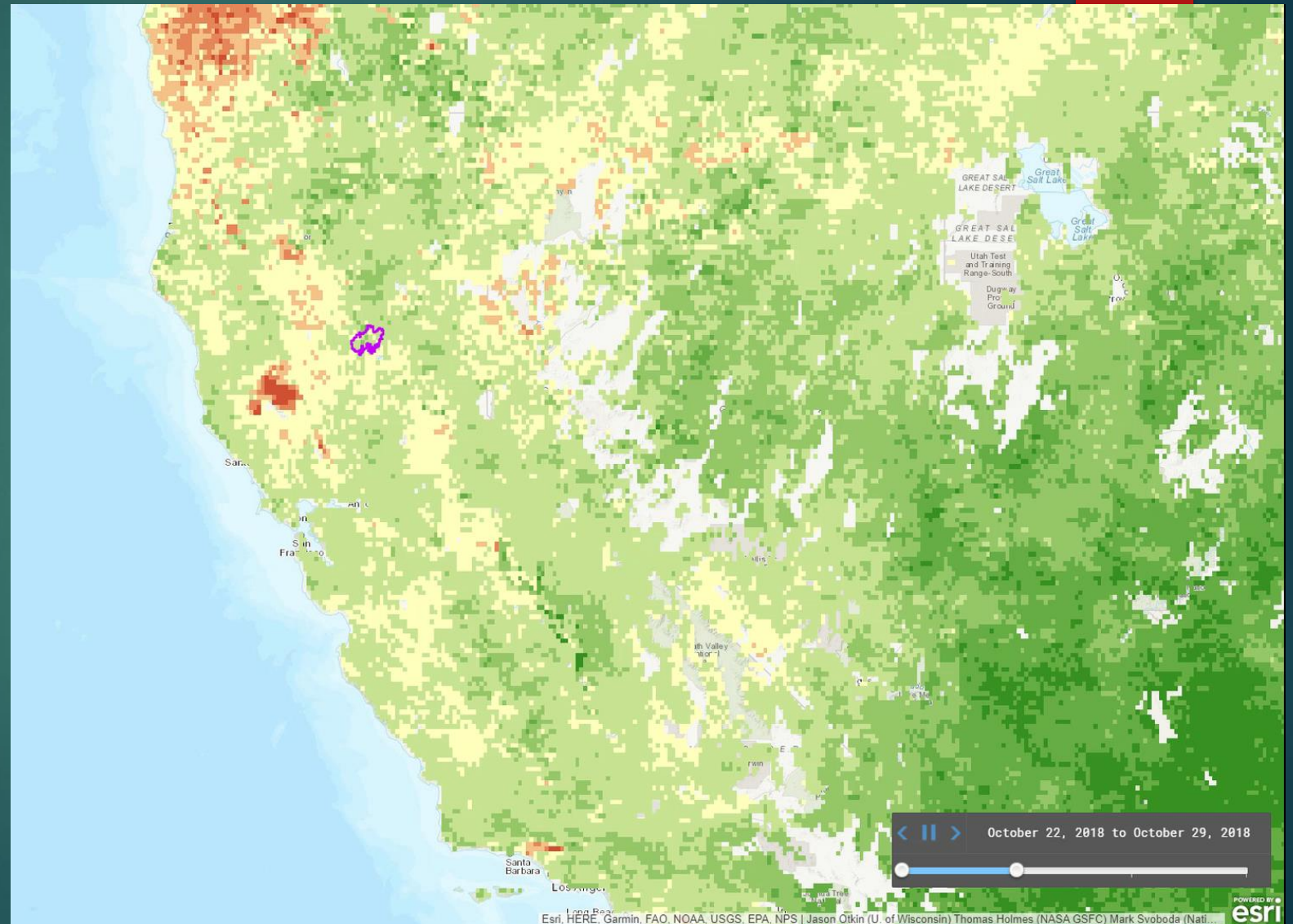
- SMAP
  - 3-day composite, updated every 3 days
  - Resolution: 0.25 degrees



# Evaporative Stress Index

## Example Shown: Camp Fire

- Weekly product
- Resolution: 5km





# ArcGIS Online

# Open Data

# AmeriGEO

Search

nasa disasters

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Filters

Only search in NASA ArcGIS Online

Item Type

- Maps
- Layers
- Scenes
- Apps
- Tools
- Files

Location

Date Modified

Shared

Status

Near-Real-Time Active-Fire and Post-Burn Support through NASA's UAVSAR derived data products

Web Mapping Application by NamedUser5

This project explored the viability of using polarimetric radar products from NASA's airborne Uninhabited Aerial Vehicle Synthetic Aperture Radar (UAVSAR) instrument to provide near-real-time-map products to on-the-ground fire responders.

Created: Jul 15, 2015 Updated: Jan 19, 2016 View Count: 376

NASA Products for the Midwest Flooding 2019

Web Mapping Application by jkirkend\_NASA

NASA Products for the Midwest Flooding 2019

Created: Mar 29, 2019 Updated: Jun 26, 2019 View Count: 234

Collaboration

Landsat-8 True Color Imagery for Hurricane Dorian 2019

Map Image Layer by jkirkend\_NASA

Landsat 8 True Color Imagery for Hurricane Dorian including pre-event imagery

Created: Sep 8, 2019 Updated: Sep 19, 2019 View Count: 409

Collaboration

VIIRS Black Marble Product for Hurricane Dorian

Map Image Layer by jkirkend\_NASA

VIIRS Black Marble Imagery for Hurricane Dorian including pre-event imagery

Created: Sep 8, 2019 Updated: Sep 20, 2019 View Count: 240

Collaboration

ARIA Flood Proxy Map (FPM) produced using Copernicus Sentinel-1, JAXA ALOS-2, ICEYE-X2

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NASA Disasters Mapping Portal

The Disasters Applications area promotes the use of Earth observations to improve prediction of, preparation for, response to, and recovery from natural and technological...

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Workforce Information Cubes for NASA

Workforce Information Cubes for NASA, sourced from NASA's personnel/payroll system, gives data about who is working where and on what. Includes records for every civil service...

image/png

Disasters Mapping Portal

The Disasters Applications area promotes the use of Earth observations to improve prediction of, preparation for, response to, and recovery from natural and technological...

HTML

NASA Hurricane Florence Group

The NASA Disasters Mapping Portal contains derived products for disaster response. The Disasters Applications area promotes the use of Earth observations to improve prediction...

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