



EXPLORE EARTH

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Earth Information System (EIS)

Monthly Highlights
August 2023

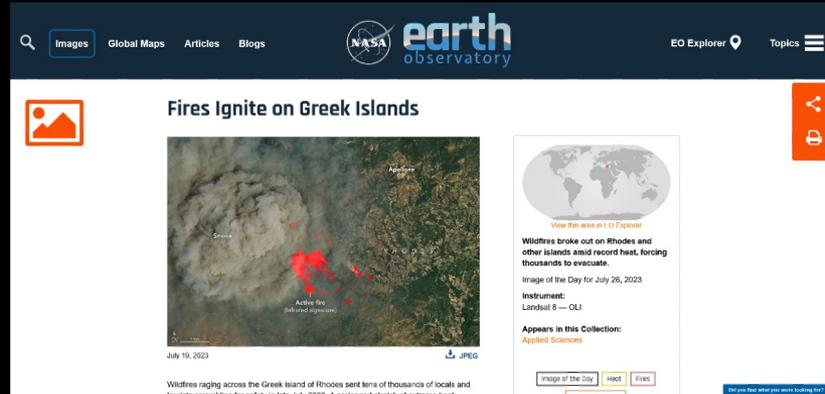


<https://www.earthdata.nasa.gov/eis>

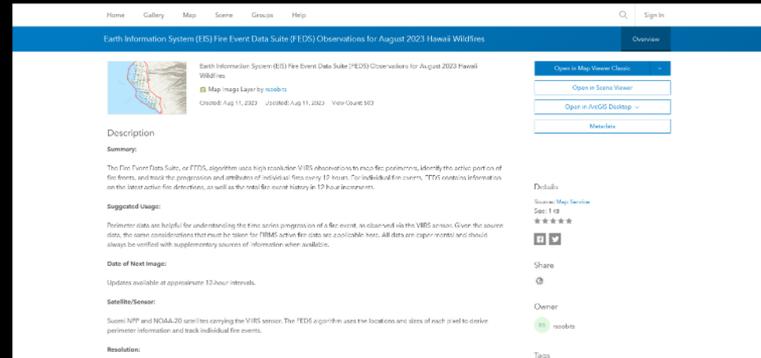


While EIS Fire is working on expanding our fire event tracking algorithm (FEDS) in regions expected to be impacted by the strengthening El Nino (e.g., Indonesia, Amazon Basin) we have also responded to fire events outside those domains, such as the wildfires impacting the Greek island of Rhodes (Jul 2023), Hawaii (Aug 2023), and Canada.

Available in 12-hour increments, the FEDS data illustrate the time series progression of fire spread during an event.



EIS Fire team members Eli Orland and Tess McCabe contributed to a July 19 Earth Observatory article



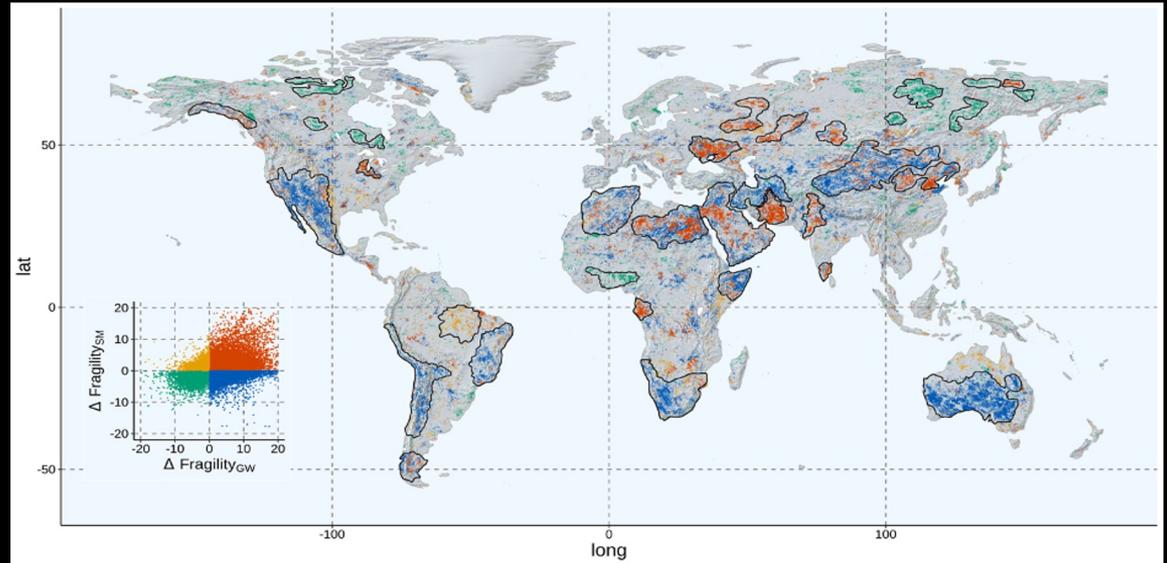
FEDS perimeters available in the NASA Disasters portal



Disentangling human-caused land surface changes on drought propagation

Drought propagation from the meteorological to hydrological phases is controlled by land surface properties. Human changes in the land surface can further alter drought propagation and make the hydrologic cycle more *fragile* to deficits in atmospheric water (*Fragility* is defined as a function of the number of drought instances, their severity, and duration).

EIS synthesis uncovers the spatial distribution of fragility in soil moisture and groundwater. The analysis shows that in many places (e.g., Western U.S.) groundwater resources have become more fragile such as due to human management practices agriculture.



Spatial distribution of groundwater and soil moisture fragility regimes. The inset map shows thresholds for the map delineation (Red colors indicate areas where soil moisture and groundwater are becoming fragile under droughts; Blue where groundwater is fragile, but not soil moisture, Orange – soil moisture is fragile, but not groundwater; Green – where neither groundwater or soil moisture is fragile)

EIS Engagements and Outreach in August

Organization/ Meeting	Date(s)/Location	Thematic Area	Outcome
El Nino Working Group	August 16/ Virtual	All	Sharing outputs on Earth system processes across thematic areas for improved understanding of impacts
Terrestrial Ecology Program/ EIS presentation and discussion	August 31/ Virtual	Water, Fire	Potential ½ day meeting to continue discussions
NASA Acres/ EIS presentations	August 21/ Virtual	Ag, Water	Follow-on meeting to evaluate NLDAS model outputs as GEOGLAM and AGMET Indicator inputs, and vice versa