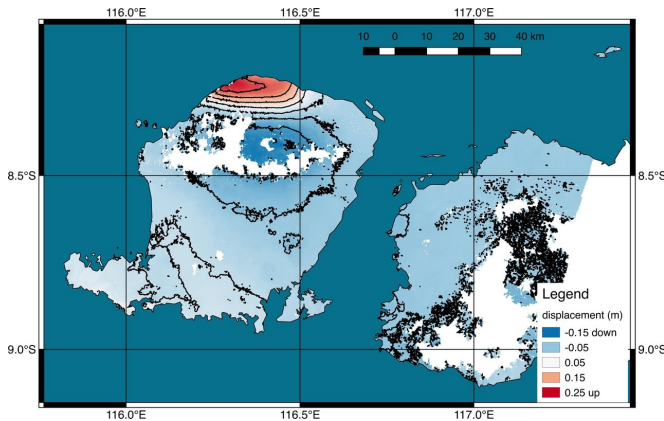


# New satellite map shows ground deformation after Indonesian quake

9 August 2018, by Esprit Smith



Scientists with NASA/Caltech's Advanced Rapid Imaging and Analysis project (ARIA) used new satellite data to produce a map of ground deformation on the resort island of Lombok, Indonesia following a deadly, 6.9 magnitude earthquake on August 5. Credit: NASA/JPL-Caltech/Copernicus/ESA

Scientists with NASA/Caltech's Advanced Rapid Imaging and Analysis project (ARIA) used new satellite data to produce a map of ground deformation on the resort island of Lombok, Indonesia, following a deadly 6.9-magnitude earthquake on August 5.

The false-color map shows the amount of permanent surface movement that occurred, almost entirely due to the quake, over a 6-day period between satellite images taken on July 30 and August 5.

From the pattern of deformation in the map, scientists have determined that the [earthquake](#) fault slip was on a fault beneath the northwestern part of Lombok Island, and it caused as much as 10 inches (25 centimeters) of uplift of the ground surface. White areas in the image are places where the radar measurement was not possible, largely due to dense forests in the middle of the

islands.

Through these maps, NASA and its partners are contributing important observations and expertise that can assist with response to earthquakes and other natural or human-produced hazards.

The deformation map is produced from automated interferometric processing of [synthetic aperture radar](#) (SAR) data from the European Union's Copernicus Sentinel-1A and -1B satellites using the JPL-Caltech ARIA data system. The European Space Agency operates the Sentinel-1A and -1B satellites.

**More information:** This and similar products were developed in support of the NASA Disasters Program. More information on them and on the Disasters Program is available at the following links:

[disasters.nasa.gov/lombok-indo...esia-earthquake-2018](https://disasters.nasa.gov/lombok-indo...esia-earthquake-2018)  
[disasters.nasa.gov](https://disasters.nasa.gov)

More information about ARIA is available here: [aria.jpl.nasa.gov/](https://aria.jpl.nasa.gov/)

Provided by NASA

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