



DFO Flood Event 4410

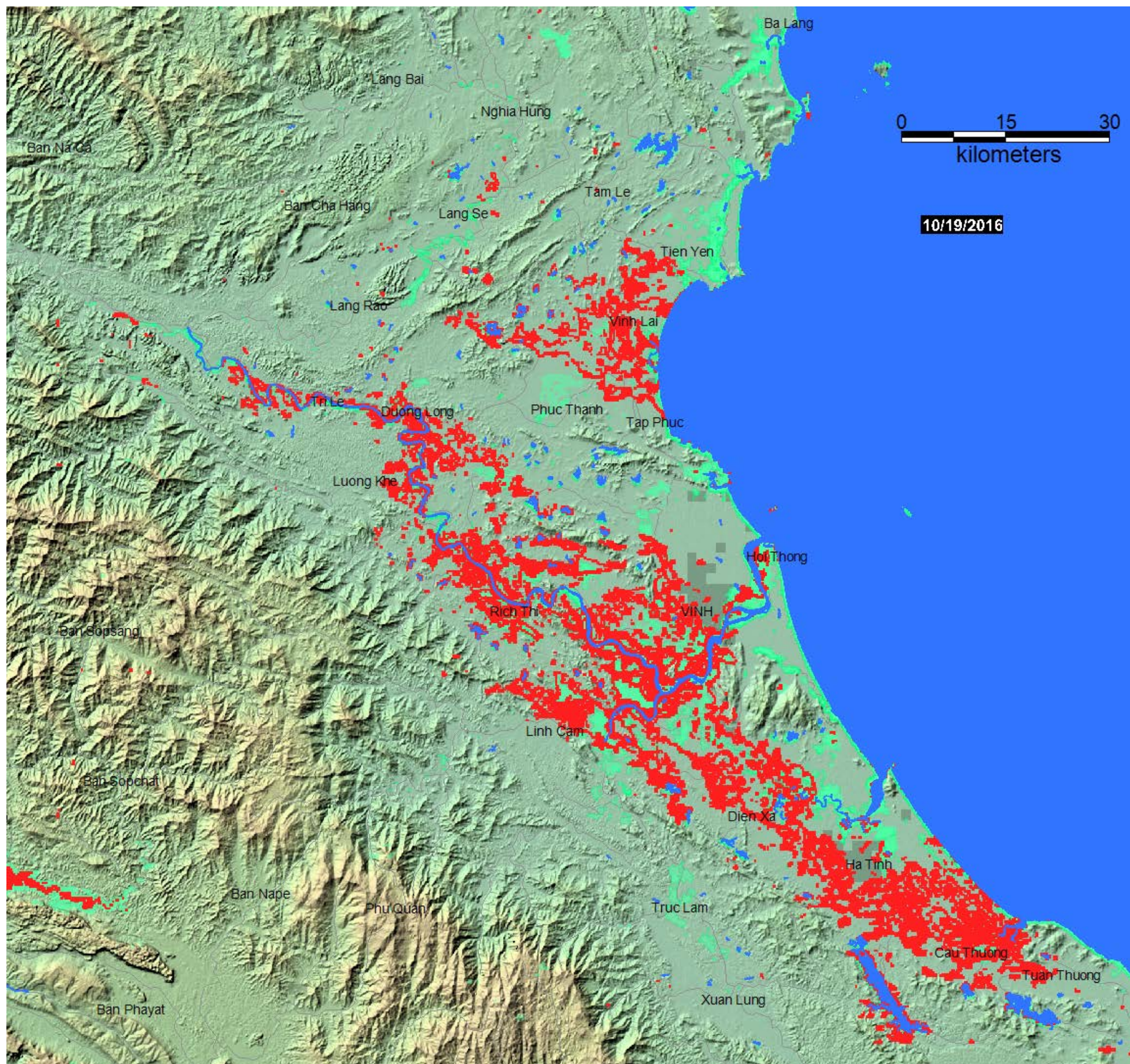
(Updating and revisions continue as flood event evolves; termination date shown here when coverage ends)

[pdf version](#)

Vietnam Flooding, October 5-19, 2016

Flood Map (Central Vietnam, North)

Red colors are flood water during past 14 days from MODIS 250 m data. Green is previous flooding, 2000-present. Dark blue is permanent surface water

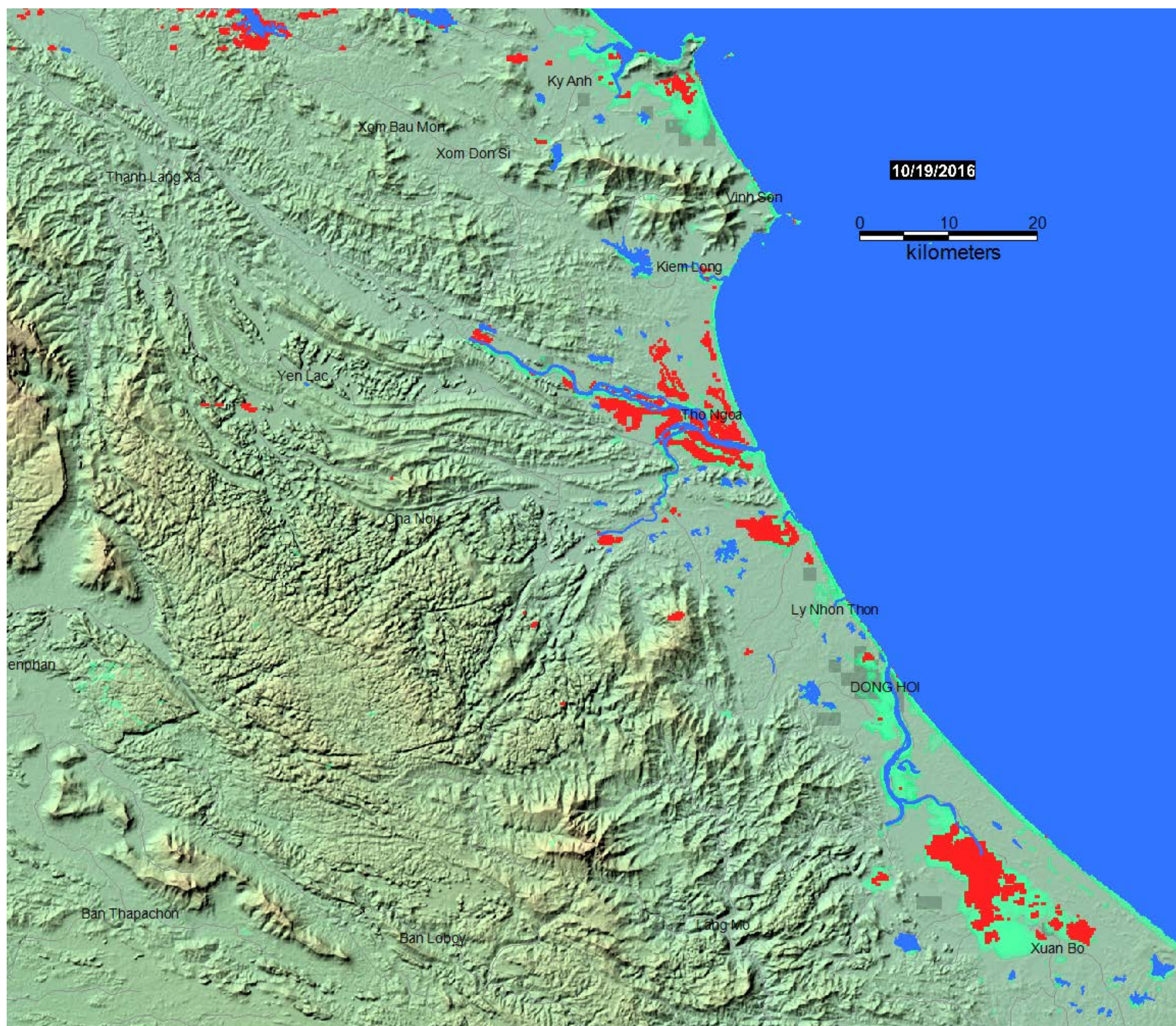


[Geotif version](#)

[Google Earth kmz version](#)

Flood Map (Central Vietnam, South)

Red colors are flood water during past 14 days from MODIS 250 m data. ***Green*** is previous flooding, 2000-present. ***Dark blue*** is permanent surface water

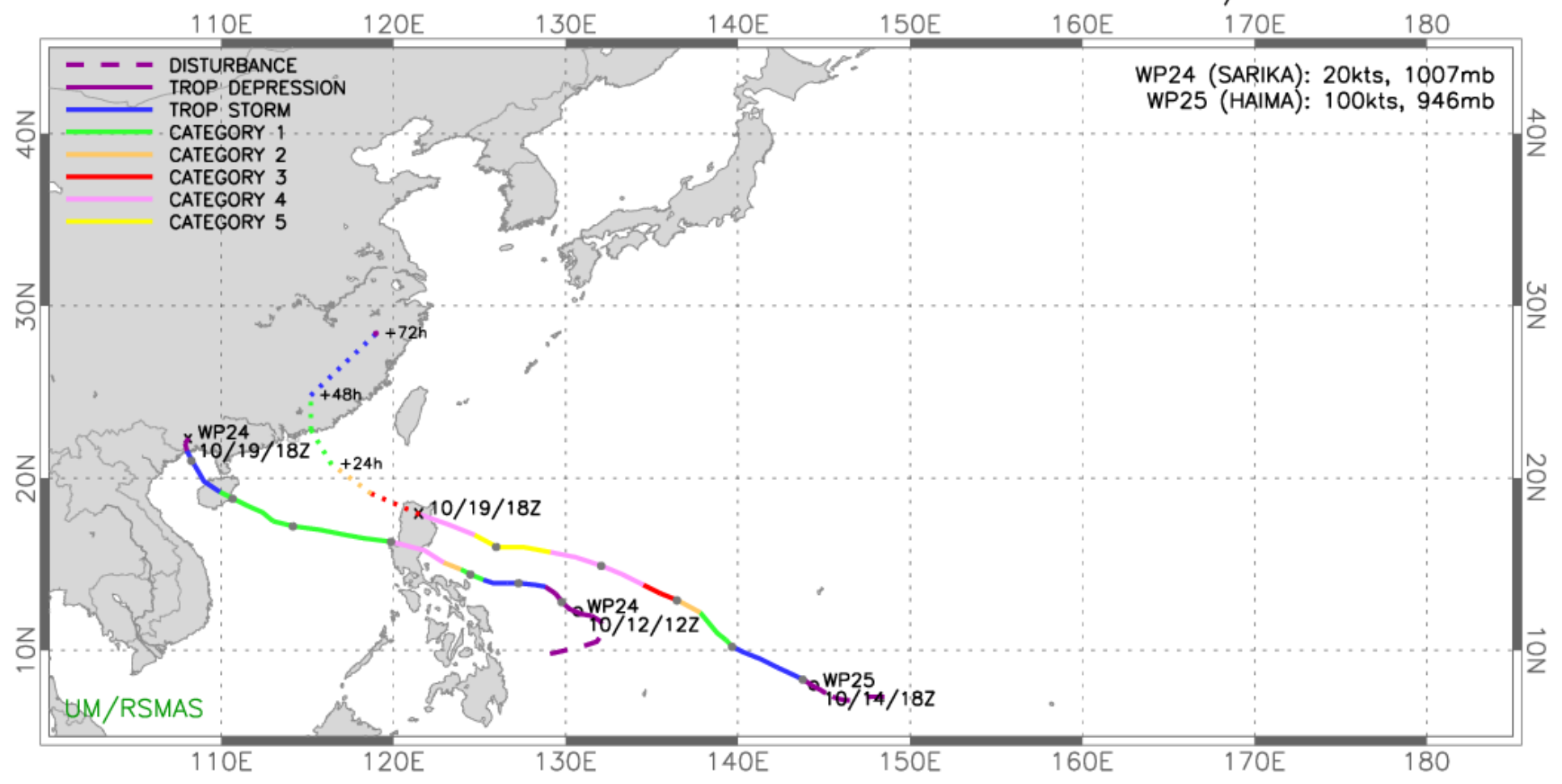


[Geotif version](#)

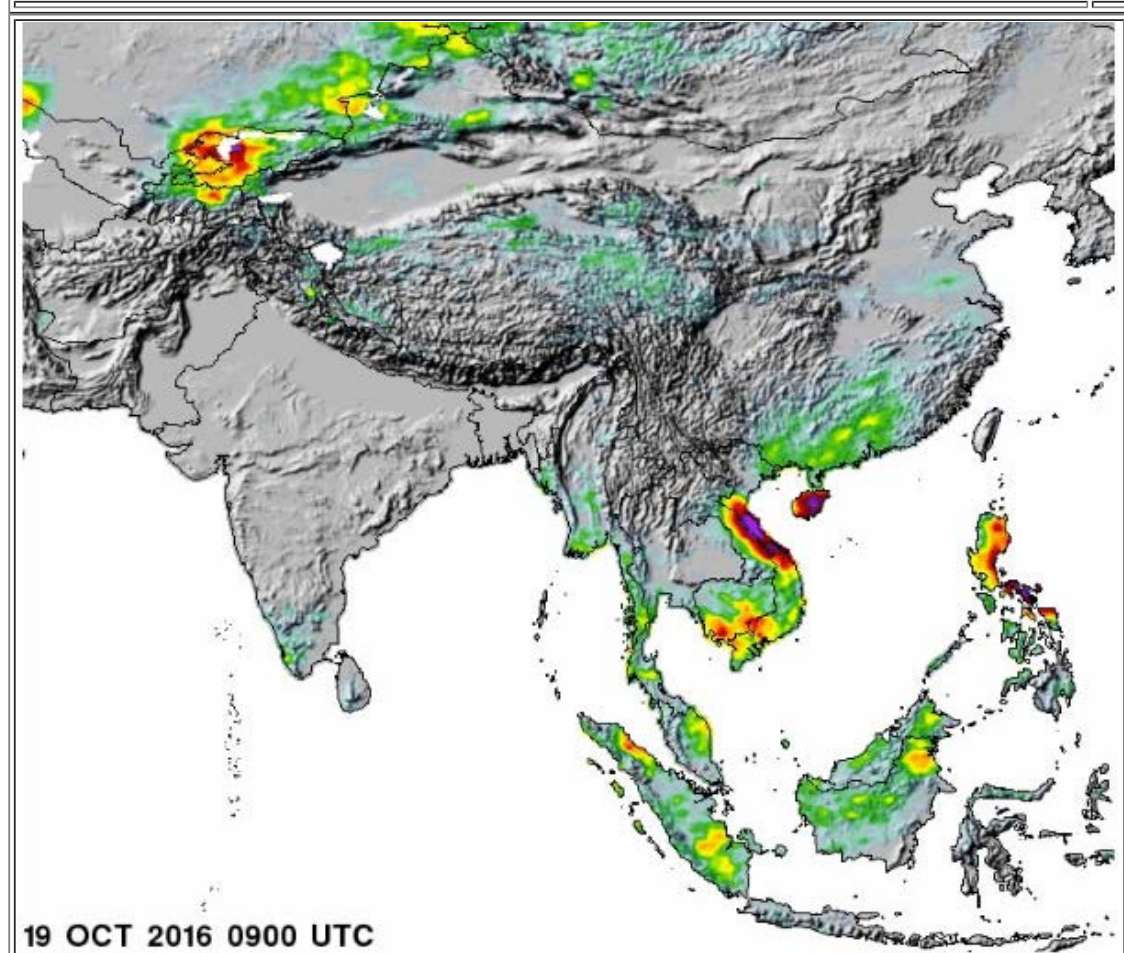
[Google Earth kmz version](#)

Nearby Tropical Storm Track: from [Brian McNoldy at the University of Miami](#)

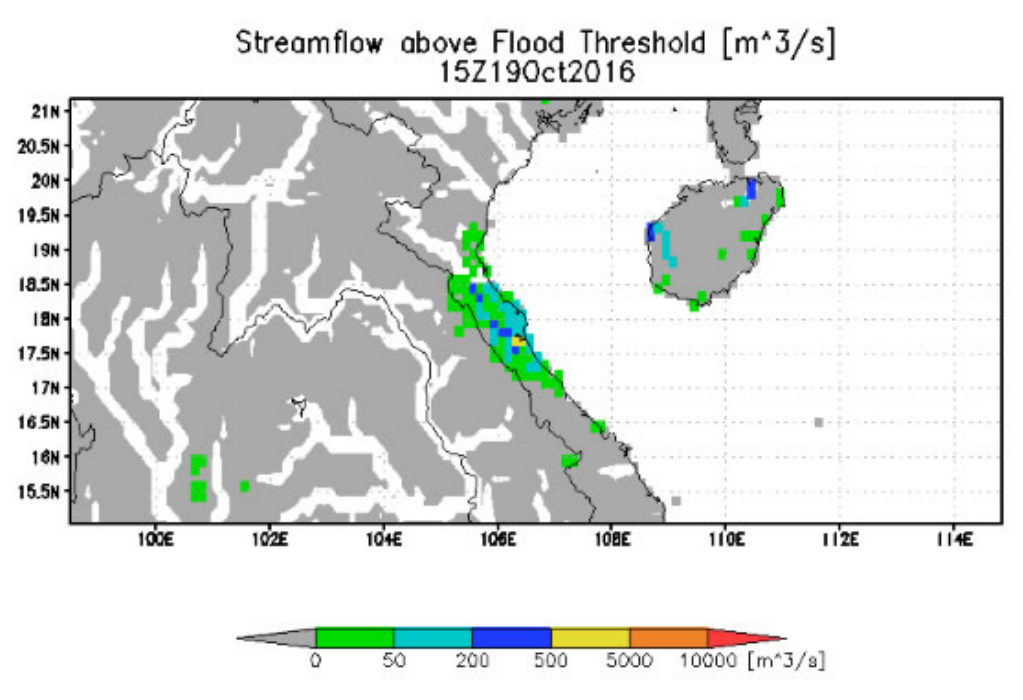
NORTHWEST PACIFIC TROPICAL CYCLONE ACTIVITY – UPDATED 10/19 2200 UTC



FOR INFORMATION PURPOSES ONLY... NEVER USE FOR LIFE AND DEATH DECISIONS!
Forecast positions are from the Joint Typhoon Warning Center



Satellite 7 day precipitation from NASA [GSEC](#)



NASA/University of Maryland [Global Flood Monitoring System \(GFMS\)](#)

Explanation

Event Reporting:

The Flood Observatory maintains a [Global Active Archive](#) of large flood events, 1985 to present. It is available to the public in both spreadsheet and GIS formats (both formats together provide the complete Archive). New events are entered into this archive each week. As of the end of 2015, there were 4319 events; each has a unique archive number.

Event Mapping:

In some cases, severe or damaging floods become the focus of Observatory inundation mapping. As part of collaborations with other organizations, and the [Global Flood Partnership](#), the Observatory's maps and data are made available to the public. With attribution, they can be used freely, including for commercial purposes, under the terms of the [Creative Commons Attribution 3.0 Unported License](#). Geotif versions and GIS files are also provided for these maps through the links below. This event is selected for Observatory production of map and GIS data products. This web page and associated image and map (GIS) files are the permanent Flood Observatory record of this event.

This Event:

[This Flood List link provides a summary.](#) According to Flood List: "At least 24 people have died in flooding in Central Vietnam after a period of heavy rain triggered by a tropical depression. Vietnam's Disaster Management Center (DMC) says that severe weather has affected the provinces of Ha Tinh, Nghe An, Quang Binh, Quang Tri and Thua Thien Hue since Thursday, 13 October, 2016. The deaths occurred in Nghe An (2), Ha Tinh (2), Quang Binh (18) and Thua Thien Hue (2). At least 5 other people are reported as missing and a further 18 injured. As of 16 October, DMC reported that around 100,000 houses have been flooded across the affected provinces: Thanh Hoa (30), Nghe An (2,835), Ha Tinh (24,158), Quang Binh (71,251) houses, Quang Tri (1,589). At least 7 houses have been completely destroyed, 6 in Hue and 1 in Quang Tri. Roads and railway lines have also been damaged or blocked, causing widespread travel disruption. Traffic came to a standstill on some major roads and national highways and dozens of trains stranded. Over 1,500 hectares of rice fields and 9,485 hectares of crops have been flooded. Rivers DMC reported that levels of many rivers in Ha Tinh, Quang Binh have seen similar levels to the flooding of 2007 and 2010. •Gianh River, Mai Hoa, Quang Binh – 9.20 m •Kien Giang River, Lishui, Quang Binh – 3.53 m •Thach Han River, Thach Han, Quang Tri – 5.29 m "

Caution:

Floods in hilly or mountainous regions are difficult remote sensing targets and not always observable. Also, cloud cover or heavy vegetation may restrict the ability to capture peak inundation everywhere. The maps may not illustrate all areas of flooding, and cloud and terrain shadows may be misclassified and falsely mapped as flood water. Finally, due to the relatively coarse resolution of MODIS 250 m bands, some areas mapped as flooded may include smaller parcels of dry land and many small areas of flooding may not be detected and mapped.

Suggested citation:

Brakenridge, G.R., Kettner, A.J., Slayback, D., and Policelli, F., date accessed, "DFO Flood Event 4410", Dartmouth Flood Observatory, University of Colorado, Boulder, Colorado, USA, <http://floodobservatory.colorado.edu/Events/2016Vietnam4410/2016Vietnam4410.html>

Image Data Sources:

The Land Atmosphere Near-real-time Capability for EOS ([LANCE](#)) system provides daily NASA MODIS data at 250 m spatial resolution. Landsat 8 data, if used, are provided by the [U.S. Geological Survey Hazards Data Distribution System](#). Landsat 8 is jointly managed by NASA and the United States Geological Survey. VIIRS data are processed to flood maps by a NOAA-supported project at George Mason University and are provided courtesy Dr. Sanmei Lei. COSMO-SkyMed synthetic aperture radar (SAR) data, when used, are provided by the Italian Space Agency (ASI) as a contribution to the [CEOS Flood Pilot](#). Sentinel SAR data, when used, are provided by the European Space Agency. NASA EO-1 satellite tasking and data are provided by Stuart Frye and colleagues at the NASA Goddard Space Flight Center. MODIS data beginning in year 2012 are based on an automated product provided by the MODIS NRT Flood project at the [NASA Goddard Space Flight Center](#).

GIS Data Sources:

Non-automated, MODIS-based .shp or MapInfo GIS files supporting this Flood Event Map are located in a map sheet folder [here](#) together with any other high resolution (using Landsat 8, EO-1, etc) GIS files.


[Click here](#) for access to the automated daily MODIS-derived .shp file GIS record (record commences in 2011). Choose appropriate 10 deg x 10 deg map sheet directory and appropriate dates; longitude and latitudes refer to upper left map sheet corner.

Related Data:

[Global Flood Monitoring System](#) (GFMS) displays, if provided, are from the University of Maryland. Reference: Wu, H., R. F. Adler, Y. Tian, G. J. Huffman, H. Li, and J. Wang (2014), Real-time global flood estimation using satellite-based precipitation and a coupled land surface and routing model, *Water Resour. Res.*, 50, doi:10.1002/2013WR014710. [Global Flood Awareness System](#) (GloFAS) displays, if provided, are from the European Commission Joint Research Centre and the European Centre for Medium-Range Weather Forecasts. Reference: Alfieri, L., Burek, P., Dutra, E., Krzeminski, B., Muraro, D., Thielen, J., and Pappenberger, F.: GloFAS – global ensemble streamflow forecasting and flood early warning, *Hydrol. Earth Syst. Sci.*, 17, 1161-1175, doi:10.5194/hess-17-1161-2013, 2013.

Support provided by:

The Disasters Program of NASA Applied Sciences to the University of Colorado. GPM and AMSR-2 satellite microwave data for River Watch specially processed first within GDACS at the Joint Research Center of the European Commission. DFO participates in the Global Flood Partnership.

Visitors  US 2	
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(counting since October 19, 2016)

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