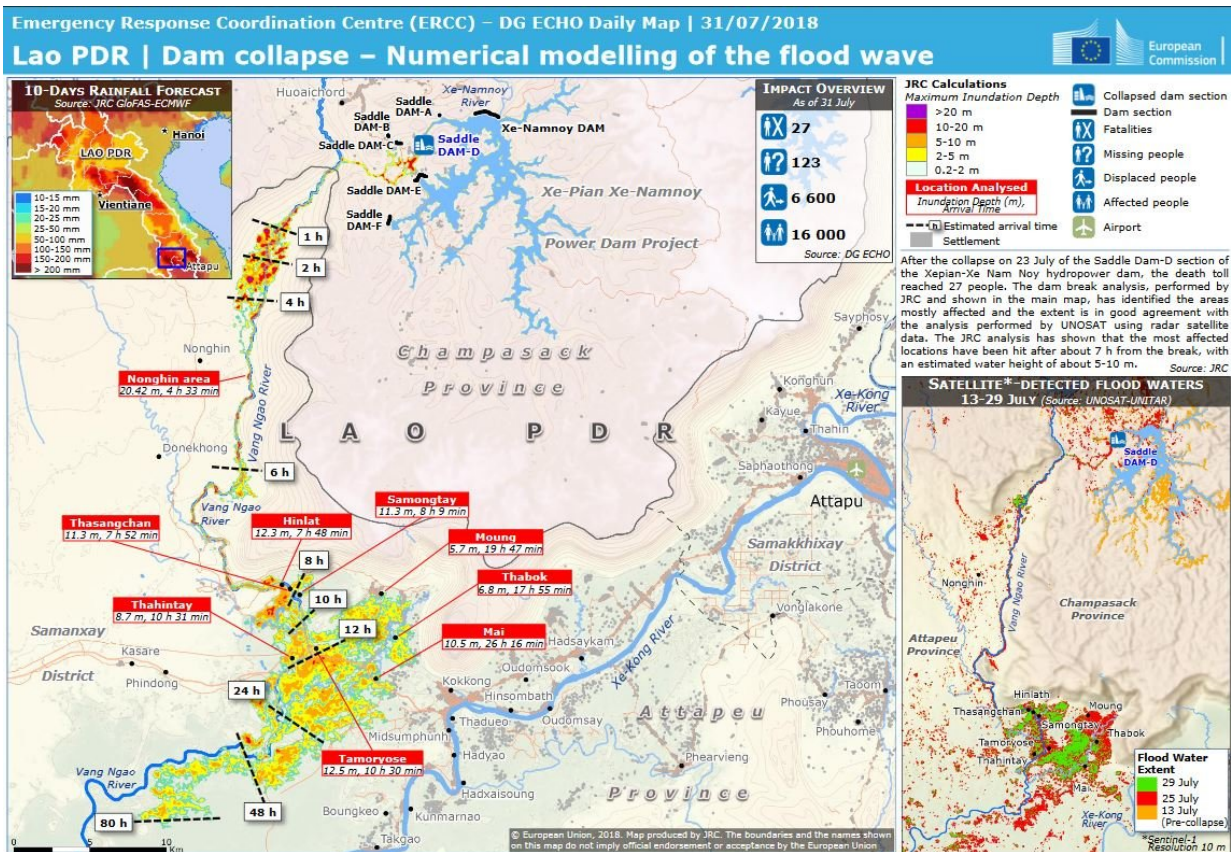


# JRC analysis assists response to Laos dam collapse

August 3 2018



The ERCC Daily Map gives an overview of the extent of the flooding. Credit: EU 2018

Scientists have carried out a dam break analysis to assist with emergency response efforts following catastrophic flooding in the Mekong Delta.

Extensive flooding occurred on 23 July, downstream from one of the dams of the Xe-Pian Xe-Namnoy Power Project, currently under construction in the south of the Lao People's Democratic Republic.

The flood was due to the failure of the dam as a result of heavy rains that affected the area over the previous week.

The event caused flash flooding in many villages of the Sanamxay district (Attapeu Province), causing casualties and damage to homes.

According to media (as of 30 July), there are at least 27 dead, over 100 people missing and 16,000 affected. Search and rescue operations are still ongoing.

The European Commission has mobilised €200,000 (LAK 1,958,800,000) in emergency relief for the families most affected.

The JRC has followed the situation since the beginning of the event with the creation of situation maps and analysis reports for the European Commission's Emergency Response and Coordination Centre (ERCC), in collaboration with UN services and under the framework of the GDACS initiative (Global Disasters Alerts and Coordination System).

JRC scientists carried out a dam break analysis, with the numerical simulation of the water discharge from the dam, propagation along the downstream valleys and inundation of the flatter areas.

The scientists identified the areas most affected and the propagation dynamic of the released wave.

By comparing this with radar satellite images provided by UNOSAT, scientists could confirm the quality of their estimations, despite the fact that distinguishing between monsoon/tropical storm rainfall contribution

and dam break contribution is not easy.

Their analysis shows that the most affected locations were hit after 7 hours from the break.

The estimated water height was about 5-10 m and therefore consistent with images of people at the top of their buildings.

A first report on the event was published on 25th July. An updated version of the report, containing the simulation results was published on 30th July.

## **Background information**

The JRC analysis of the event was performed using the computer code HyFlux2, developed to analyse tsunamis, storm surges from tropical cyclones and, occasionally, dam break events.

The role of the JRC in the Emergency Management is characterised by the development of situation maps, dedicated analyses and production of emergency reports in case of important events, in support to the ERCC.

The ERCC has shared the JRC analysis with the international disaster management community through the relevant coordination and information channels.

The ERCC, operating within the European Commission's Civil Protection and Humanitarian Aid Operations department, was set up to support a coordinated and quicker response to disasters both inside and outside Europe, using resources from the countries participating in the EU Civil Protection Mechanism.

In this particular case, the ERCC requested an analysis of the event that

was occurring in Laos and within six hours the JRC produced the first report.

Provided by European Commission Joint Research Centre

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