



18<sup>th</sup> EFAS Annual Meeting, 28-29 September 2032, Offenbach, Germany Artemis Papapetrou (artemis.papapetrou@hnms.gr)

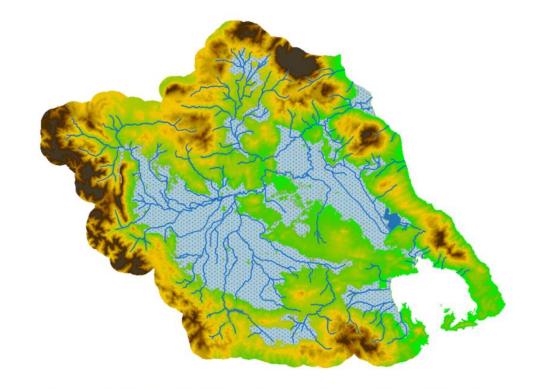
## DEVASTATING FLOODS IN THESSALY, GREECE 4-7 September 2023



# Plain of Thessaly- Pineios (main river basin)

Area of basin: 11.000 Km<sup>2</sup> River length 262 Km 5 main tributaries Enipeas (the biggest) 132 Km length many other small streams

Mean Annual Areal Precipitation: 680 mm Plain areas: 470 mm Mountainous areas: 1100 mm



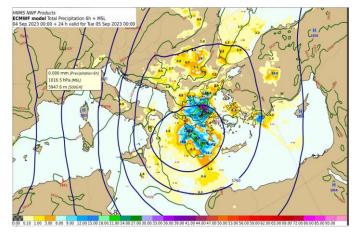
Εικόνα 3.2: Ζώνες Δυνητικά Υψηλού Κινδύνου Πλημμύρας (ΖΔΥΚΠ) περιοχής μελέτης

Topography of Thessaly Source: Ministry of Environment <u>https://floods.ypeka.gr/egyFloods</u> /



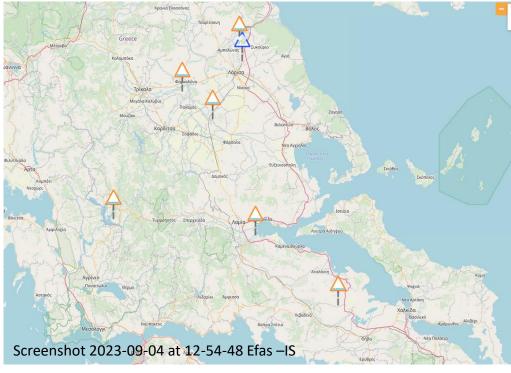
River Basin District Y∆ 08 (Thessaly) Source: Ministry of Environment https://floods.ypeka.gr/egyFloods /

## **Extreme Weather named Daniel 4-7/9/2023**



ECMWF model: total\_precipitation\_6h\_5 Sept 2023 00:00 UTC 50 mm in the core

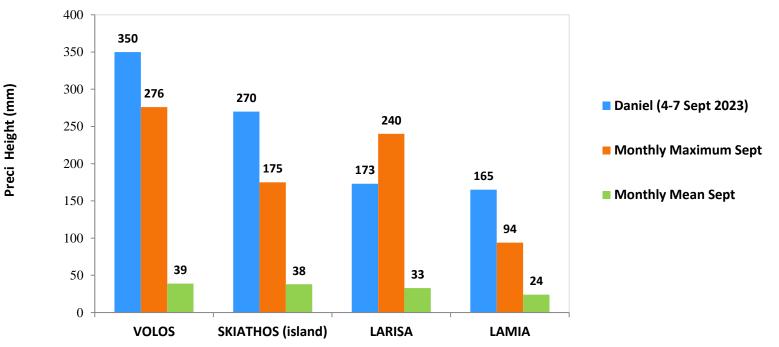




#### EFAS IS:

**Issued notifications:** 3 Informal for Pineios, Enipefs, Kaletzis 1 Flash Flood for Thessaly

### **Extreme weather Daniel 4-7/9/2023 in Thessaly**

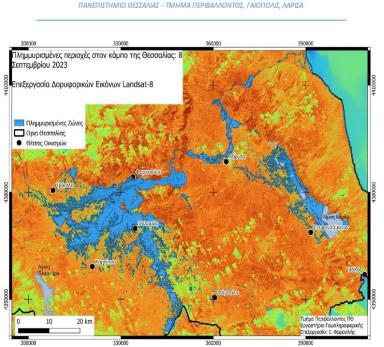


#### **Accumulative Precipitation Heights (HNMS stations)**

Characteristic: prolonged and intense rainfall particularly in 5 & 6 September 2023 (duration 24h for each day)

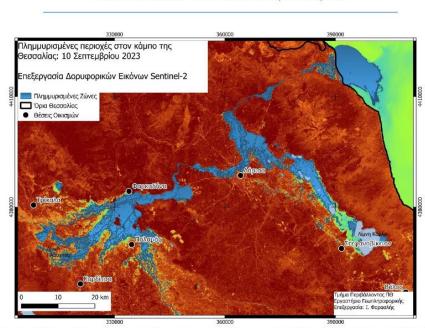
# **Mapping of Flooded Areas in Thessaly**

Satellite data from ESA-European Space Agency & USGS – United State Geological Survey





#### Map on 8/9/2023 Flooded area ~700 Km<sup>2</sup>



ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΙΑΣ - ΤΜΗΜΑ ΠΕΡΙΒΑΛΛΟΝΤΟΣ, ΓΔΙΟΠΟΛΙΣ ΛΑΡΙΣΑ

Εικόνα 4 Χαρτογράφηση πλημμυρισμένων εκτάσεων στον κάμπο της Θεσσαλίας, από τα δορυφορικά δεδομένα Sentinel-2

Map on 10/9/2023 Flooded area ~590 Km<sup>2</sup> The flooded water entered the sea 10 Km depth

Source: University of Thessaly https://env.uth.gr/

## **Very Significant Impacts**



Palamas town Source:https://www.news247.gr/



Mouzaki town Source: https://www.in.gr/

> Cover image: The flooded town of Palamas Source:https://www.news247.gr/

### ✓ 17 Casualties

✓ Enormous Economic damages: landslides, flooded towns and villages, infrastructure, agriculture, livestock, networks of transport, electricity, water supply etc.

Flood event assessment is in progress, it has not been completed yet

Thank you!