

European Commission





Annual report on the flood events for 2022 in Bulgaria

Assoc. prof. PhD eng. Snezhanka Balabanova, PhD eng. Georgy Koshinchanov, PhD Eng. Vesela Stoyanova, PhD Eng. Silviya Stoyanova, PhD Eng. Valeriya Yordanova National Institute of Meteorology and Hydrology Bulgaria

Overview of the alerts for Bulgaria for 2022:

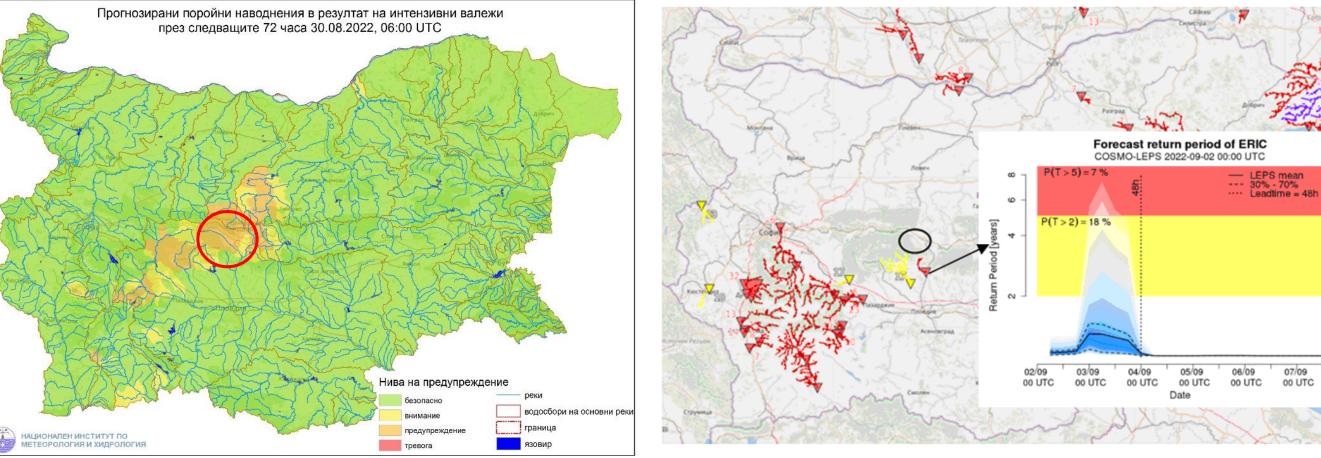
- Received alerts:
 - ✓ EFAS Formal Flood Notification: on June 9th for Iskar river;
 - ✓ EFAS Informal Flood Notifications:
 - for the period 8-11 June 8 (mainly for rivers in North Bulgaria; 1 for Maritsa River; 1 for Mesta River) - on August 21st – Maritsa river

Event on August 22nd

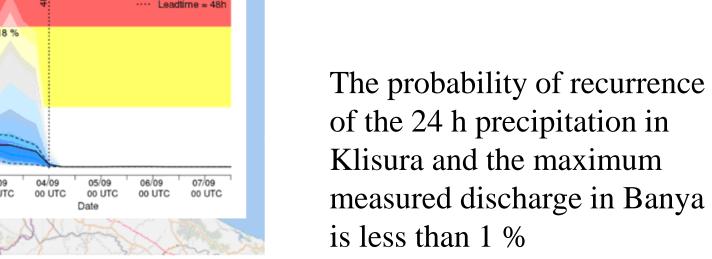


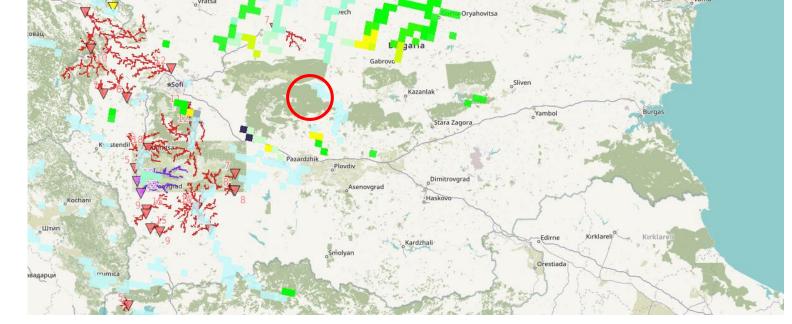
- ✓ EFAS Flash Flood Notification:
- on November 20th for Blagoevgrad and Montana Regions;
- on December 10th for Smolyan, Blagoevgrad, Pazardjik, Kyustendil, Sofia Regions;
- True forecasted flood events by EFAS:
 - ✓ For the period 8-11 June there were flash floods and flood events but the type of notifications and places sent to us are not correct:
 - There was flood event in the mountainous part in Ogosta river basin (no notifications for the region);
 - There was flash flood in Veliko Tarnovo Region (Yantra river Basin) and there is informal flood notification for that region.
- Missed alerts:
 - ✓ Event on 02-03 September, Plovdiv Region (Stryama Basin);
 - ✓ Events on August 22nd and 23rd in Plovdiv Region Karlovo (Maritsa Basin);
- False alerts:
 - ✓ June 9th False Formal Flood Notification for Iskar River Basin
 - ✓ August 21st False Informal Flood Notification;
 - ✓ November 20th false Flash Flood alarm for Blagoevgrad and Montana Region;
 - ✓ December 10th for Smolyan, Blagoevgrad, Pazardjik, Kyustendil, Sofia Regions.

Event on 2-3 September

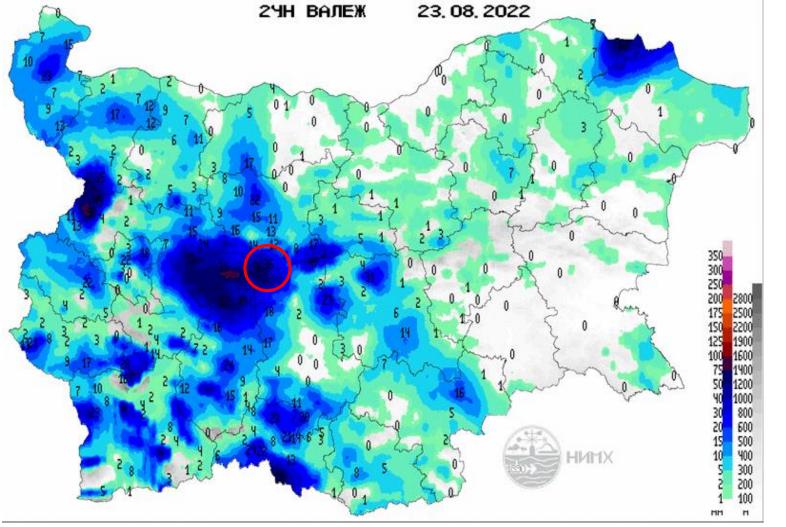


Forecast of EFAS 02.09.2022 Forecast of flash floods with ALADIN Model 30.08.2022





EFAS forecast 20.08.2022

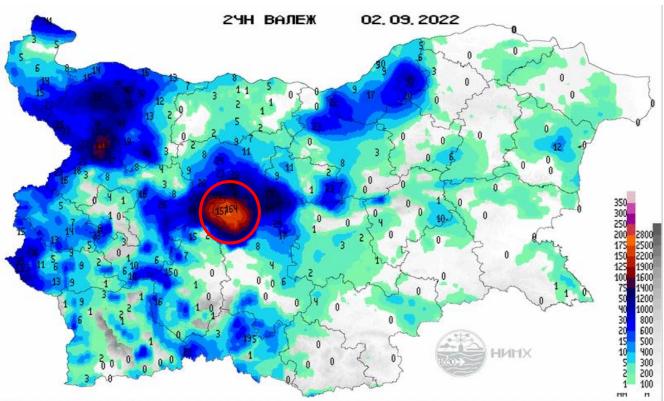


Total precipitation on August 23rd for Karlovo station: P 24h - 90 mm monthly normal - 61 mm P 3h - 77 mm P 1h - 65 mm

Aerial distribution of 24h rainfall distribution for the period until 7:30 local time 23.08.2022

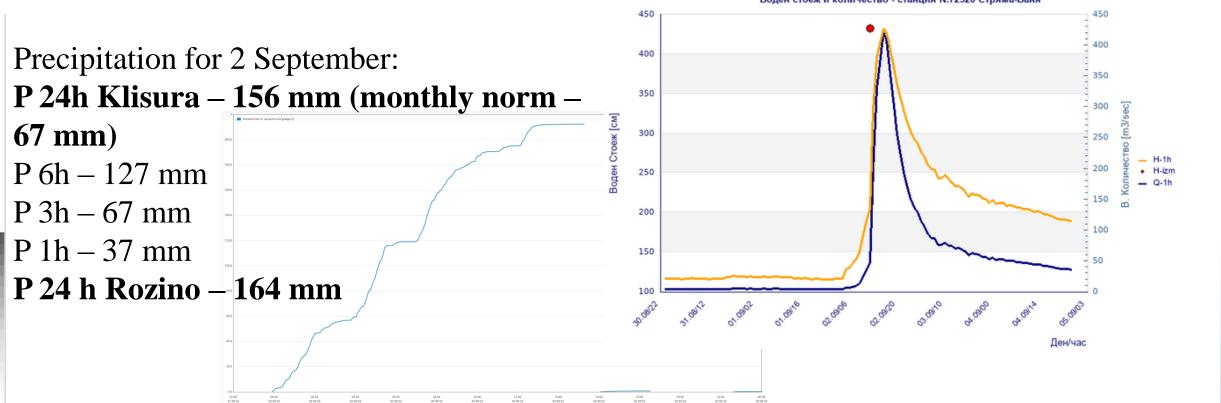
Flood event consequences:





Aerial distribution of 24h rainfall for the period until 7:30 local time 02.09.2022





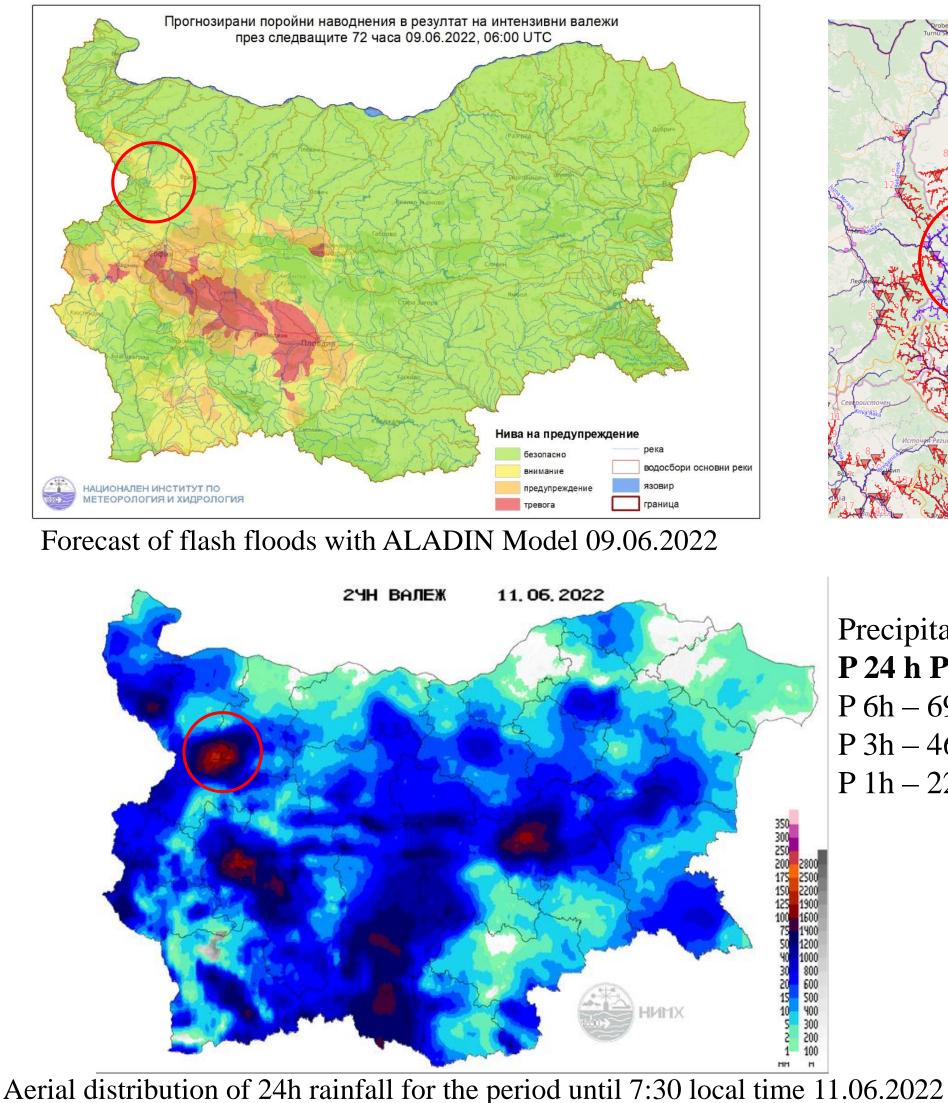
Flood event consequences

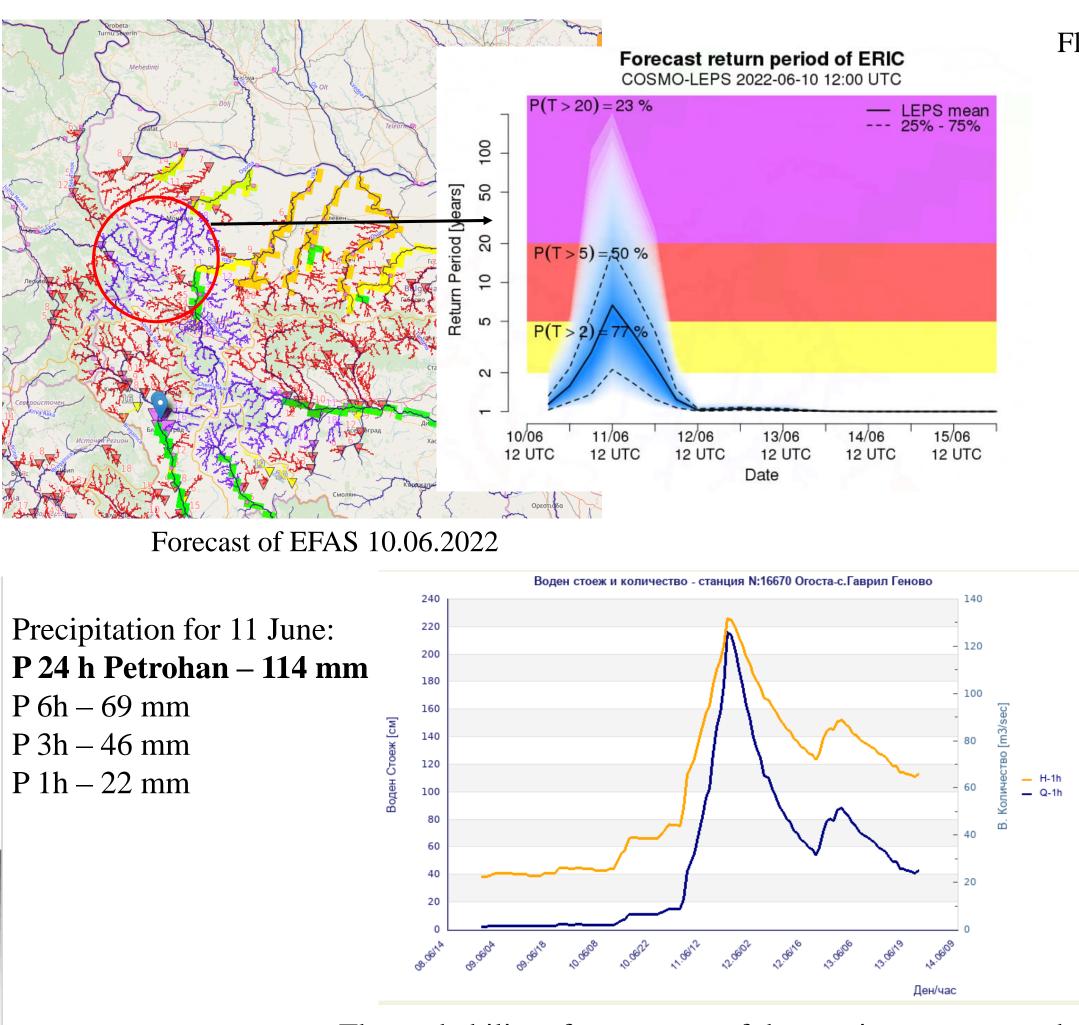
The estimated damages are for more than 30 mln EUR in the 7 villages Karlovo of municipalities. There are 342 destroyed houses, 60 cars vanished, 150000 m² street pavement is destroyed, 7 bridges are compromised. There are damages on 3 kindergardens, and 3 community centers

The most affected building is the High School for Railway Transport. The river flow came out of its bed and damaging streets and houses.



Event on June 11th





Flood event consequences:

The probability of recurrence of the maximum measured discharge in Gavril Genovo is around the 2-3 %



