

Improving weather forecasts by means of HPC solutions: the LEXIS approach in the 2020 Bitti flood event

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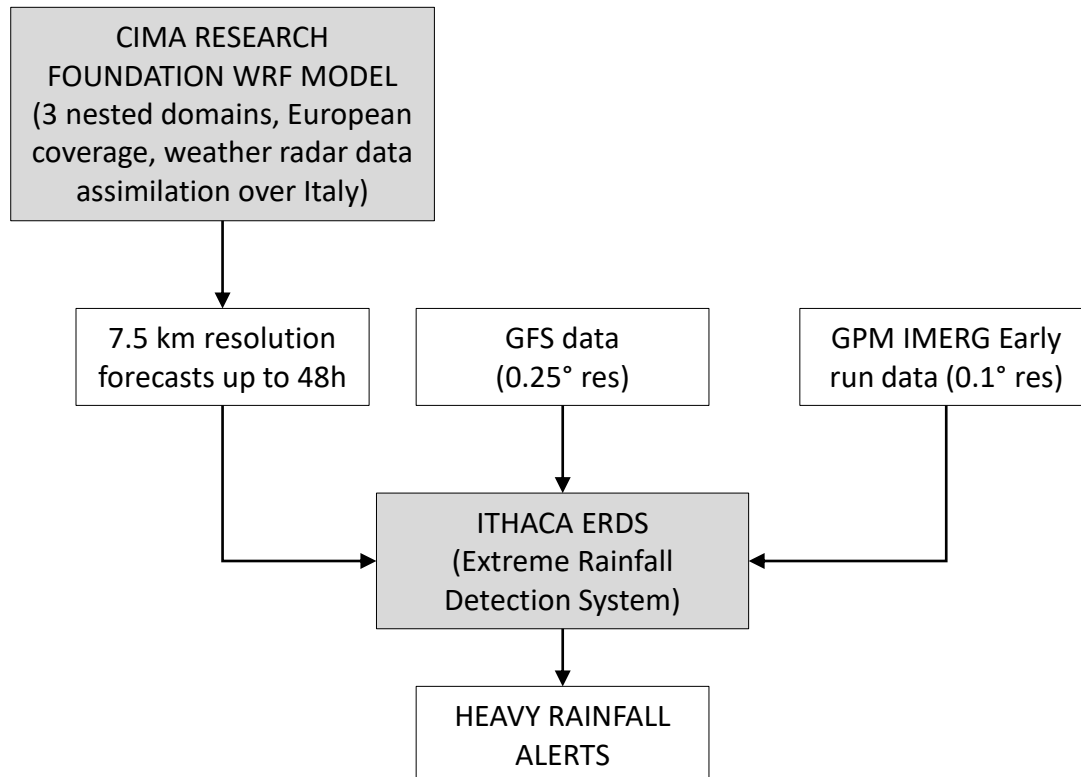
SCREEN CAPTURE
WELCOME

THE LEXIS PROJECT

Large-scale EXecution for Industry & Society H2020 project



THE WRF – ERDS WORKFLOW



THE CASE STUDY: SARDINIA (ITALY), 27 – 29 NOVEMBER 2020

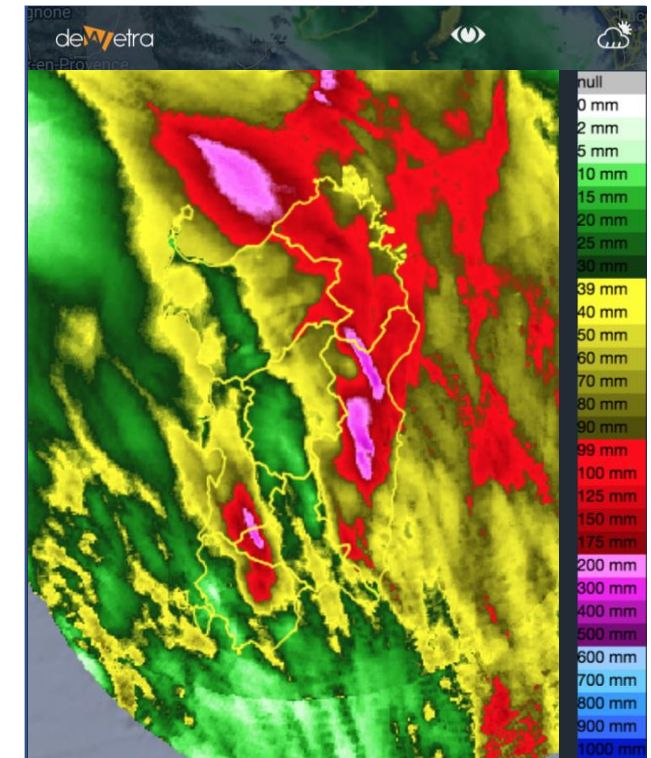
This convective event significantly impacted the eastern areas of the Sardinia island.

Daily rainfall depths:

- 500.6 mm recorded at Oliena;
- 446.4 mm recorded at Dorgali;
- 328.6 mm recorded at Bitti.

During the 28th, the town of Bitti (Nuoro province) was hit by a severe flood event.

Weather radar + rain gauge →



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SCREEN CAPTURE
WELCOME

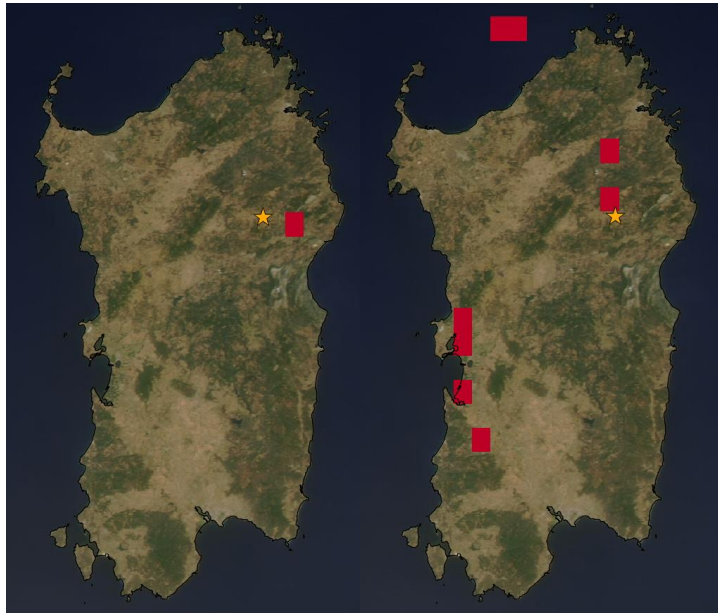
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THE ALERTS



GPM data

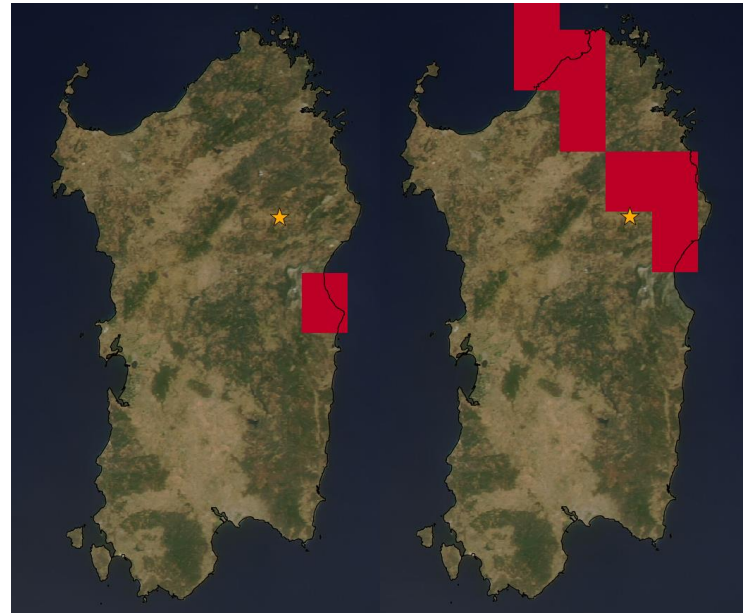
GPM data

28/11/2020
05:00 UTC

28/11/2020
09:30 UTC

24h aggregation interval

12h aggregation interval



GFS data

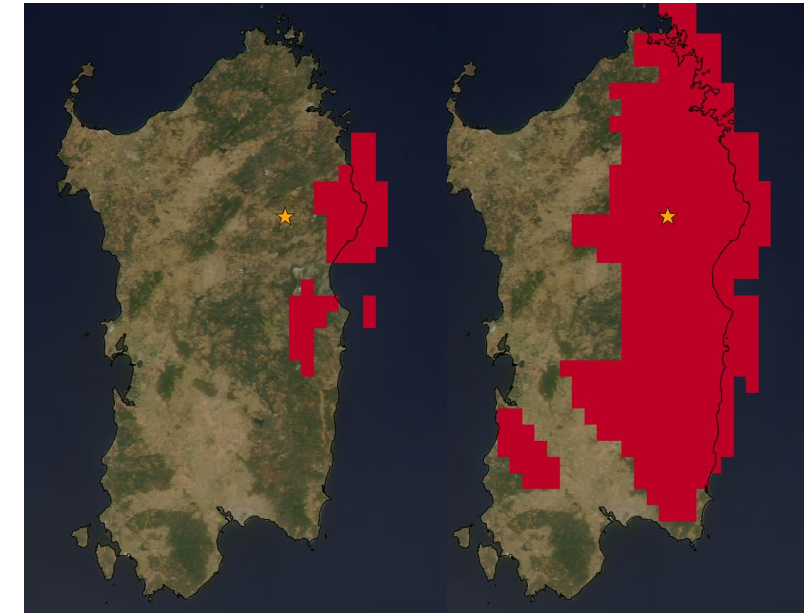
GFS data

27/11/2020
12:00 UTC

28/11/2020
00:00 UTC

24h forecast

12h forecast



WRF data

WRF data

27/11/2020
00:00 UTC

27/11/2020
00:00 UTC

24h forecast

48h forecast

OTHER CASE STUDIES

- TUSCANY (JUNE 2020) + SICILY (JULY 2020) - Mazzoglio P., Parodi A., Parodi A., Bovio L., Martinovic J. Heavy rainfall identification within the framework of the LEXIS Project: The Italian case study. 101st American Meteorological Society Annual Meeting, 2021.
- CALABRIA (NOVEMBER 2020) – Mazzoglio P., Ajmar A., Parodi A., Bovio L., Parodi A., Pasquali P., Martinovic J. The WRF-ERDS workflow in the November 2020 Calabria flood event. ASITA Conference, 2021. Conference proceeding in publication.