

On-demand  
mapping



Rapid  
Mapping



Risk and Recovery  
Mapping

Early warning  
and monitoring



Floods



Fires



Droughts



# What's new & next for EFAS

*Vera Thiemig* on behalf of the entire EFAS team



Emergency  
Management

New EFAS / GloFAS framework contracts



## New EFAS/GloFAS framework contracts (2021-2027)

Overarching management and operational development

# *EFAS centre consortium*

### Procurement

- PIN: Dec 2020
- Call opened for application: end-Jan till mid-March 2021
- Evaluation: end-April 2021
- Award: July 2021



Computational  
centre



Dissemination  
centre



Hydrological  
data collection  
centre



Meteorological  
data collection  
centre



Emergency  
Management

# New EFAS/GloFAS framework contracts



## New EFAS/GloFAS framework contracts (2021-2027)

### Framework contract 3

### Framework contract 3:

### Framework contract 3

### Framework contract 2



Emergency  
Management

# New EFAS / GloFAS framework contracts



## New EFAS/GloFAS framework contracts (2021-2027)



### Extended user support

- User guide document
- organisation of a GloFAS Annual Meeting
- More webinars and user studies /surveys (also for GloFAS)



### Additional/improved data validation procedures/checks

- Hydro: repetitive values, negative discharges, etc.
- Meteo: seasonal, geographical location, neighbour stations



### More analytical service

- global flood analysis increased from weekly to daily
- Also feedback for informal notifications are being analysed



### Others

- Collection of water reservoir information & historical hydrological data at global level
- Share quality controlled hydro-meteorological data (incl. flag) back with original data provider

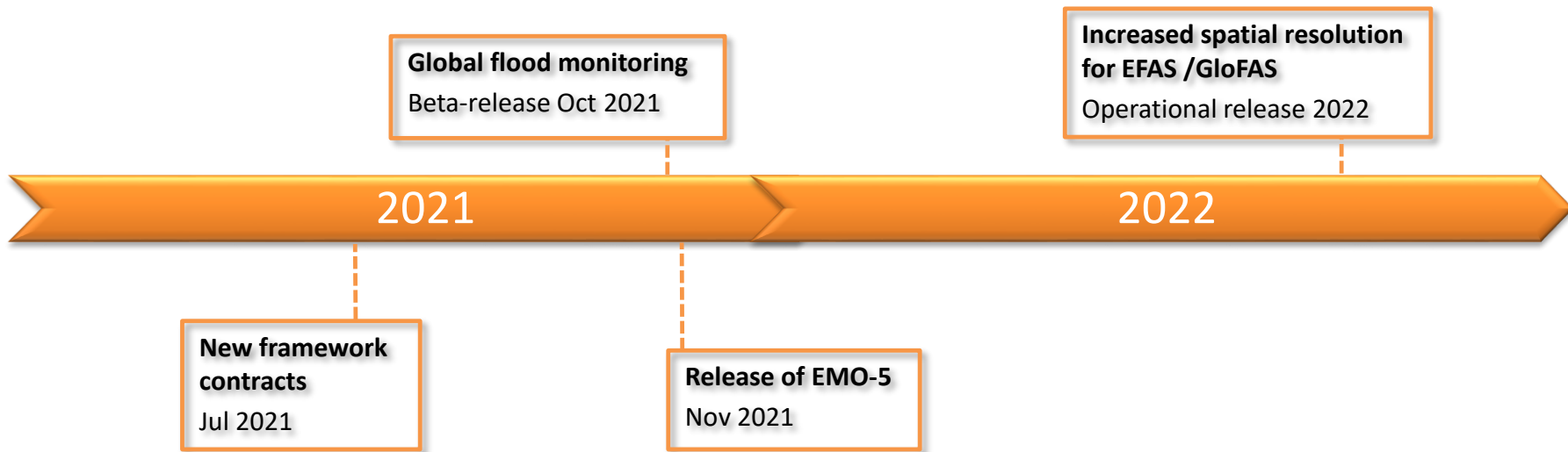


Emergency  
Management

# CEMS Evolution



## CEMS flood monitoring & forecasting





Emergency  
Management

# Global Flood Monitoring



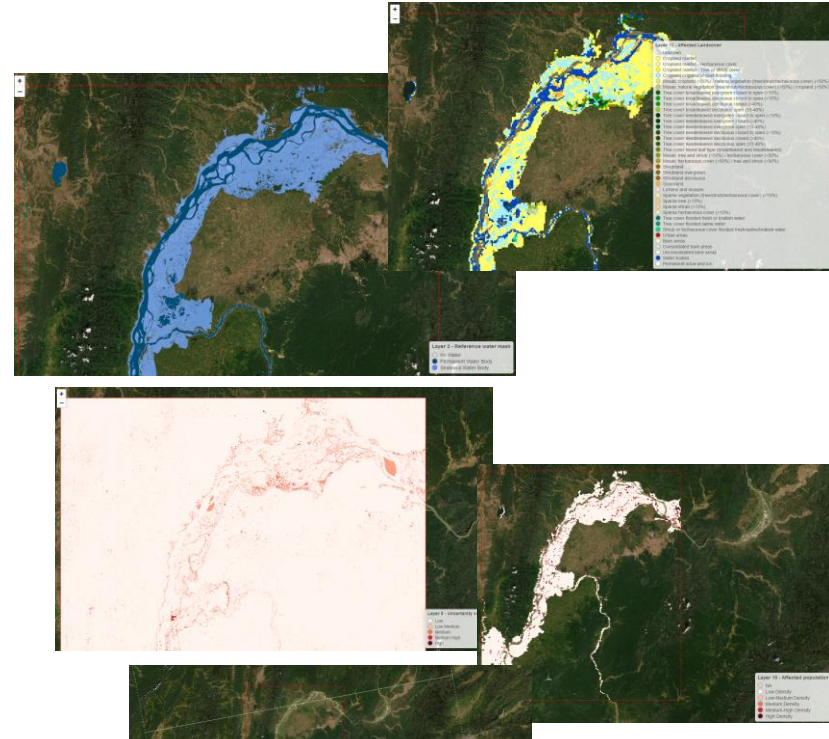
## Global automatic satellite-based flood monitoring (GFM)

*(integrated into EFAS/GloFAS website)*

- **Sentinel-1 based:** SAR enables all day and all weather flood monitoring
- High **spatial resolution of 20 m**
- **High timeliness of the product:** less than 8 hours between sensing and product delivery
- **High revisit frequency:** Europe ~ 1 – 3 days World ~ 3 – 14 days (to be further increased with Sentinel-1 C)

→ Beta release: October 2021

**“Everything you wanted to know about ... GFM”**  
*Tomorrow, 9:05-9:20 by Christian Briese*



## “Global Flood Monitoring”

*Tomorrow, 14:30-15:30 by “The Expert Flood Monitoring Alliance”*



Emergency  
Management

## Early Warning & Monitoring – Floods



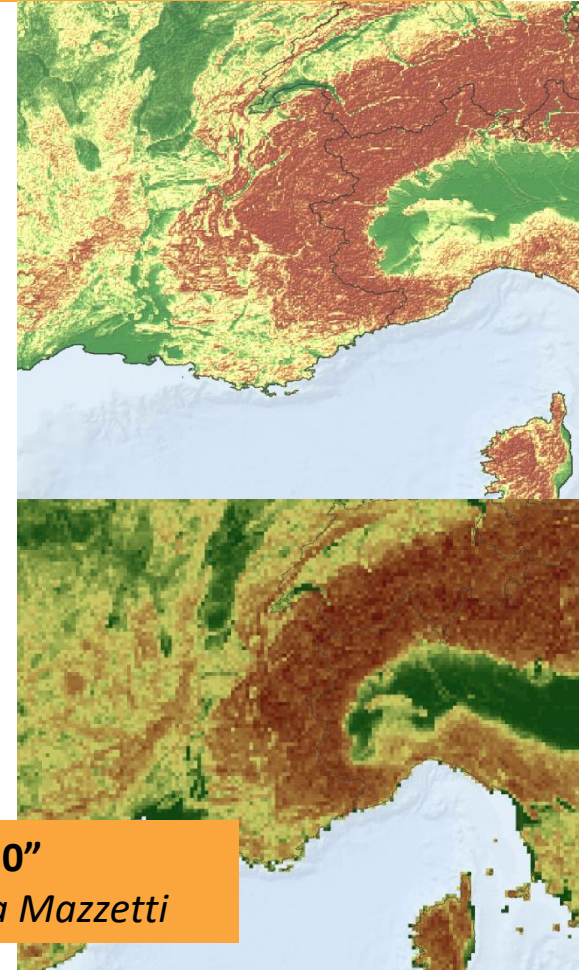
### European and Global Flood Awareness Systems (EFAS & GloFAS):

#### EFAS/GloFAS-next (increased spatial resolution)

- **For Europe:** from 5 x 5 km to **1 arcmin** (~1.8 x 1.8 km pixel size) resolution using WGS 84 projection system - ~2.8 fold increase in resolution with ~ 7.7 fold increase in pixels
- **Global:** from 0.1 degree to **3 arcmin** (~5.4 x 5.4 km pixel size) resolution
- **Static input maps completely re-done**, hydrological model will be newly calibrated
- Adjustment of the hydrological model
- Implementation timeline: 2022

**"A sneak preview at EFAS 5.0"**

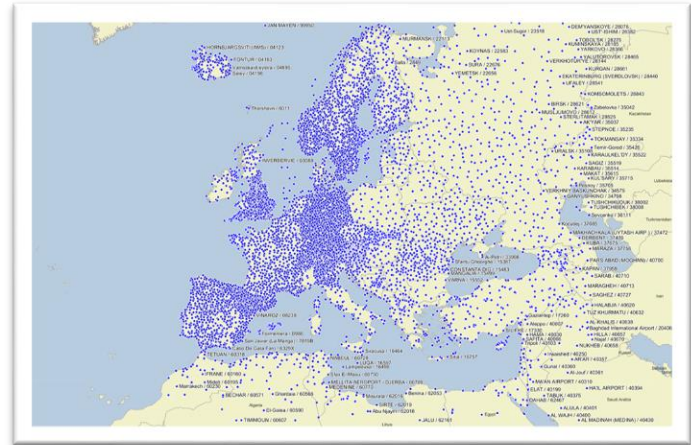
*Today, 10:05-10:30 by Cinzia Mazzetti*





## CEMS in-situ meteorological data collection centre

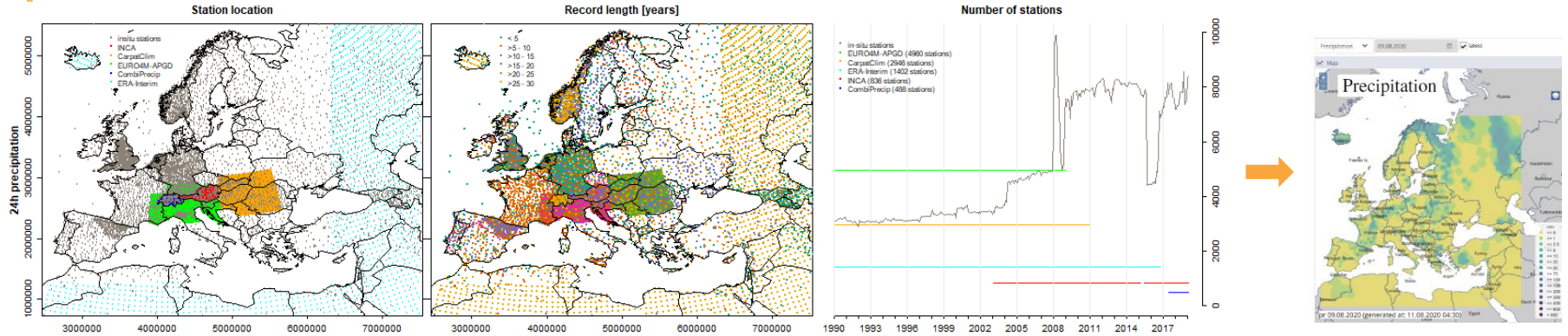
- **13 meteorological variables collected (NRT and historic):** precipitation, temperature, solar radiation, vapor pressure, wind speed, etc.
- **22 meteorological data providers**
- **44,641 meteorological stations**
- Service focuses on **Europe**
- **Quality controlled**
- **Processed: Standardised** (time stamp, unit)







## EMO-5: European Meteorological Observations (5 km)

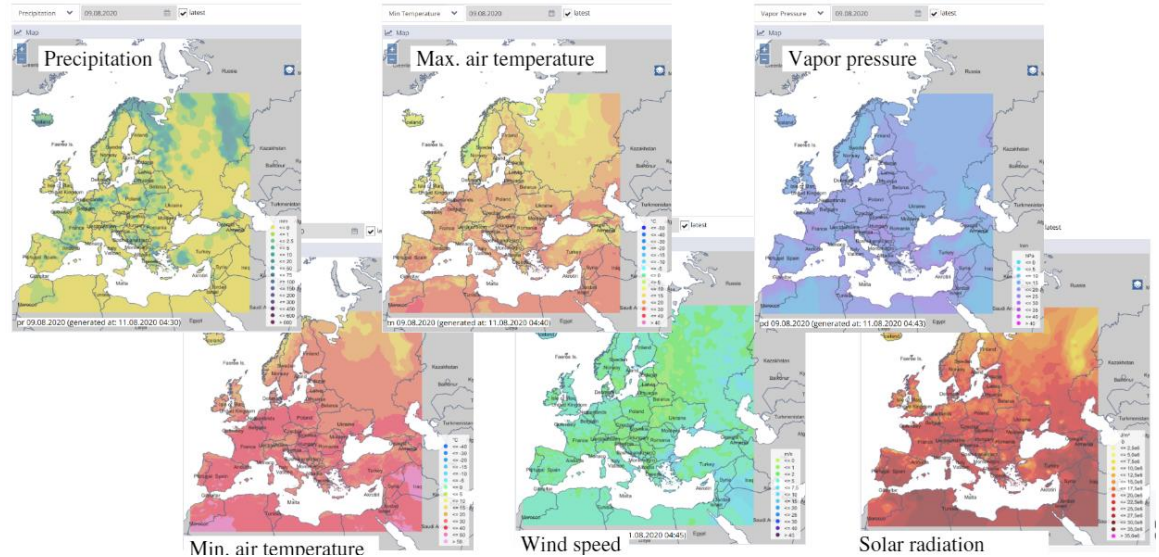


- **variables:**
  - Daily: precipitation, min./max. temperature, solar radiation, vapor pressure, wind speed
  - 6-hourly: precipitation, mean temperature
- **Spatially gridded:**
  - Spheremap



## EMO-5: European Meteorological Observations (5 km)

EMO-5 v.1 (1990 – 2019) for all 7 variables is available on the JRC Data Catalogue (from Nov. 2021)



Thiemig, V., Gomes, G.N., Skøien, J.O., Ziese, M., Rauthe-Schöch, A., Rustemeier, E., Rehfeldt, K., Walawender, J.P., Kolbe, C., Pichon, D., Schweim, C., Salamon: EMO-5: A high-resolution multi-variable gridded meteorological data set for Europe. Earth System Science Data [submitted]

# Thank you!



Rapid  
Mapping



Risk & Recovery  
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Floods



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