

COPERNICUS THEMATIC WORKSHOP

Asset Exposure & Vulnerability (CLMS)

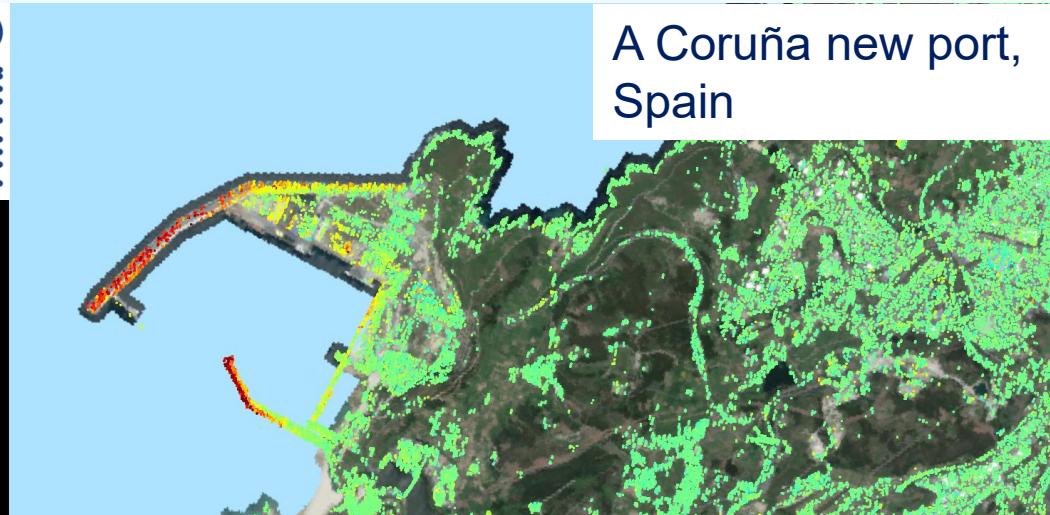
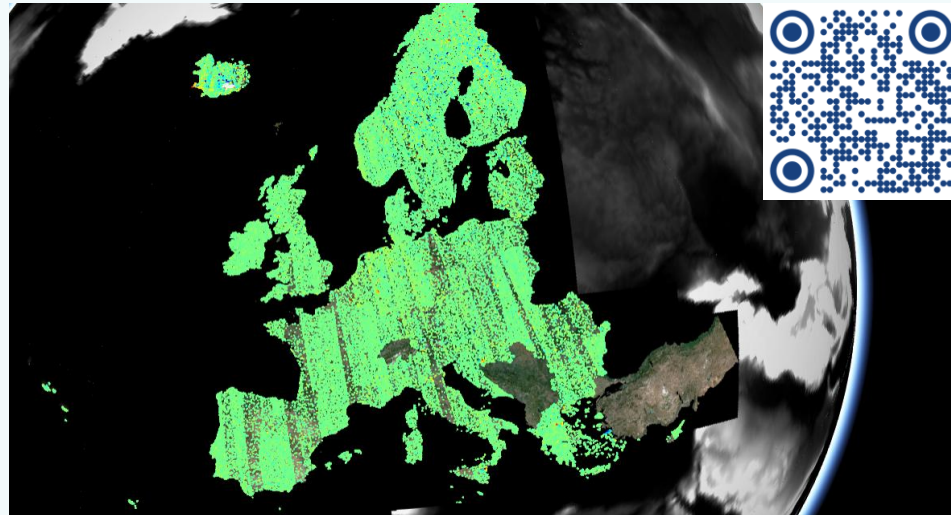
Usue Donezar

European Environment Agency

#EUSpace 

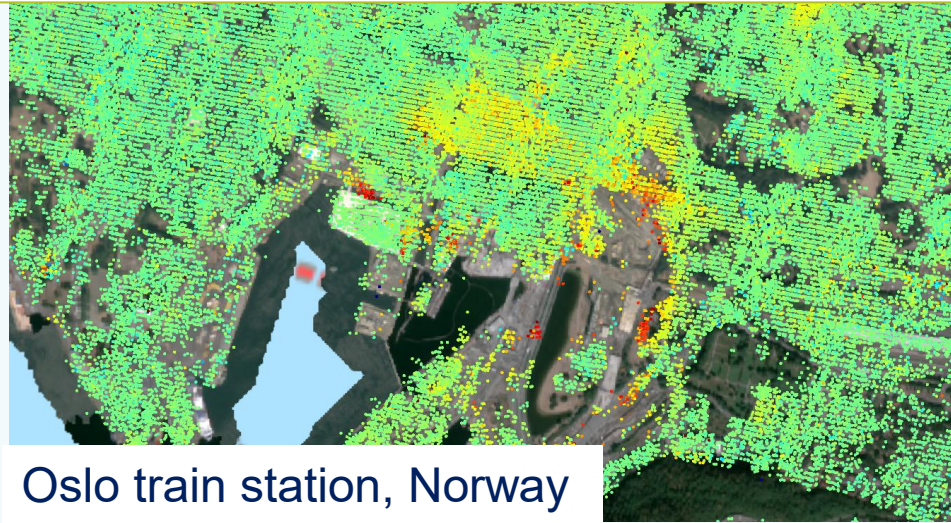
 Copernicus
Europe's eyes on Earth

EGMS and InSAR data for Urban Risk Mapping

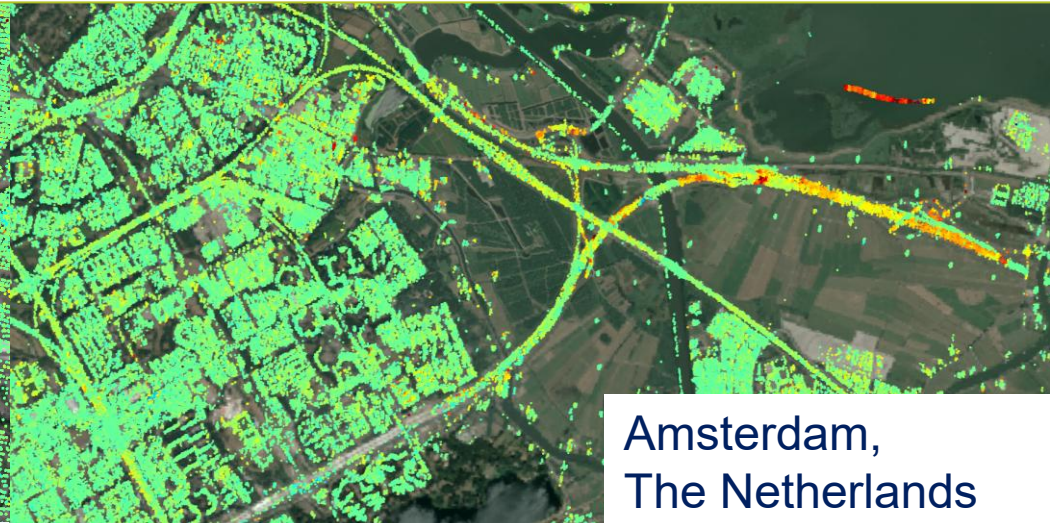


A Coruña new port,
Spain

EGMS is a support in the identification of urban areas experiencing ground motion

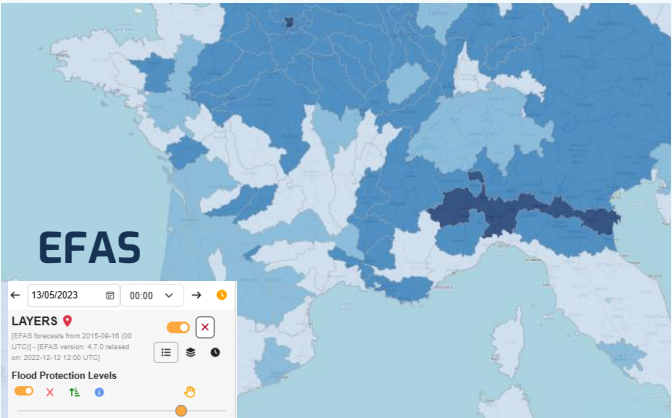
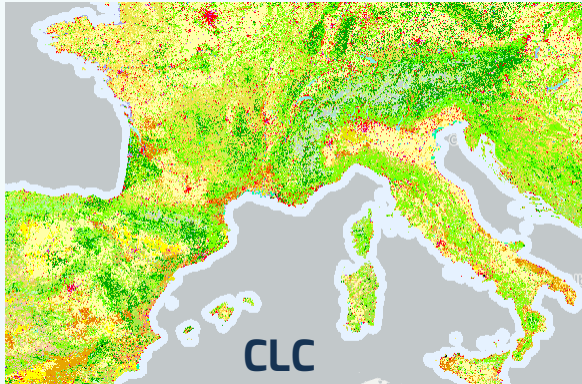


Oslo train station, Norway



Amsterdam,
The Netherlands

CLMS – Flood Risk Assessment



**Impact and Risk
CLMS + CEMS**

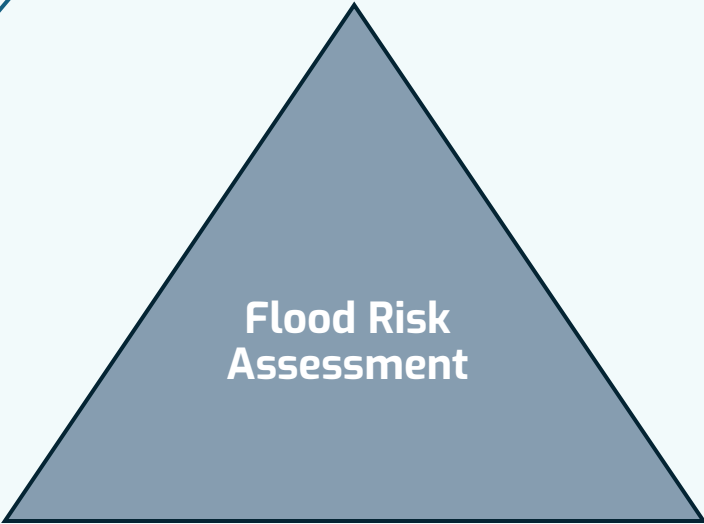
Exposure & Land surface information (CLMS)

Land Use / Land Cover

- CORINE Land Cover
- Global Land Cover
- HRL Forest Type

Vegetation

- HR CLMS Leaf Area Index (LAI)



Hazard & Forecasting (CEMS)

- EFAS (Europe) / GloFAS (Global): flood forecasting
- Global Flood Monitoring: near-real-time flood mapping
- On-demand mapping: rapid crisis response

CLMS – Flood Risk Assessment



Hydrological Modelling

Forecast-based impact assessment

Impact Assessment

- CLMS inputs into forecasting model
- **Global Land Cover (Land Use)**
 - **Corine Land Cover (Land Use)**
 - **Leaf Area Index (Vegetation Dynamics)**

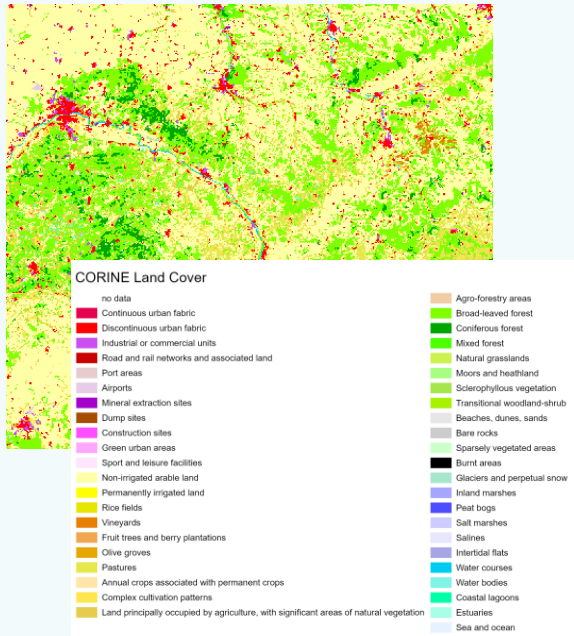
- Expected impacts before event
- Combination of:
 - **Flood Simulations (EFAS)**
 - **CLMS Land Use Data**

- Overlay flooded extent with land cover/land use data:
- Output Exmaples:
- % flooded agricultural land
 - Urban areas affected
 - Infrastructure exposure

CLMS Data- Land Cover / Land Use

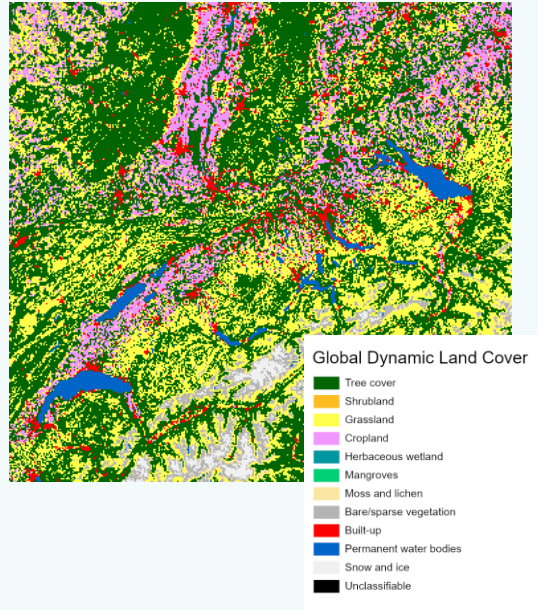
CORINE Land Cover

100m, 6-year



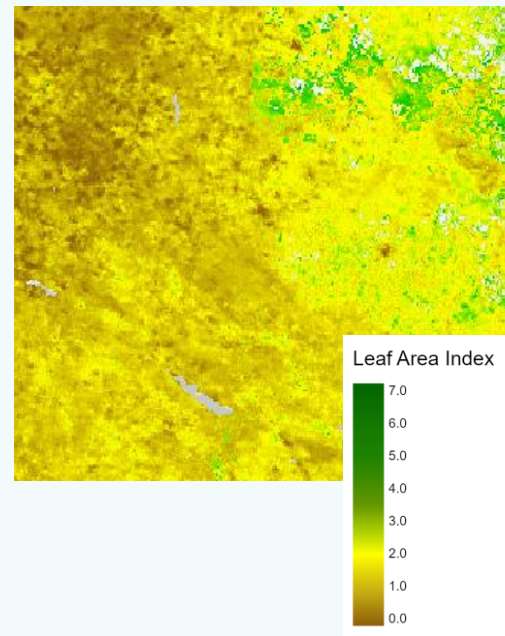
Global Dynamic Land Cover

10m, annual



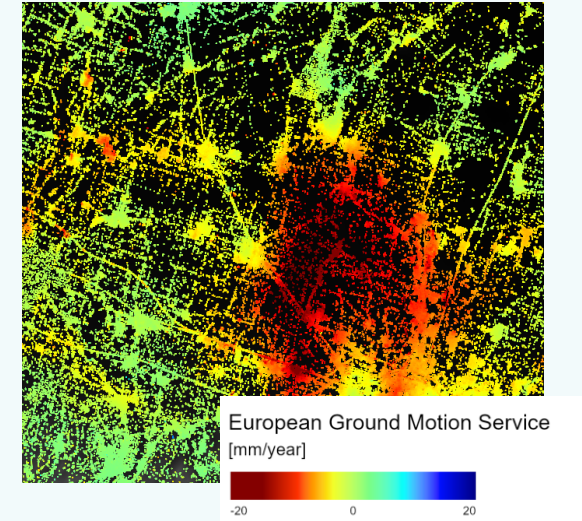
Leaf Area Index

300m, 10-daily



EGMS

20 x 5m, annual



Thank you!

Usue Donezar

Lead of CLMS, EEA



COPERNICUS THEMATIC WORKSHOP - CLIMATE RISKS FOR INSURANCE & FINANCE