

European Pavilion

Digital Ocean

Nice | France
2 - 13 JUNE 2025

Taking the Pulse of
the Ocean

*From sea level
monitoring to coastal
flood risks warning*

11 June 2025

Inspire
sea level rise





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sea level rise



Claire

DUFAU

Collecte Localisation Satellites (CLS)



From sea level monitoring to coastal flood risks warning



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Sea Level is rising : which risks?

- Already intermittent flooding during high tides
- Temporary flooding during storms (more and more)
- Permanent flooding in some places

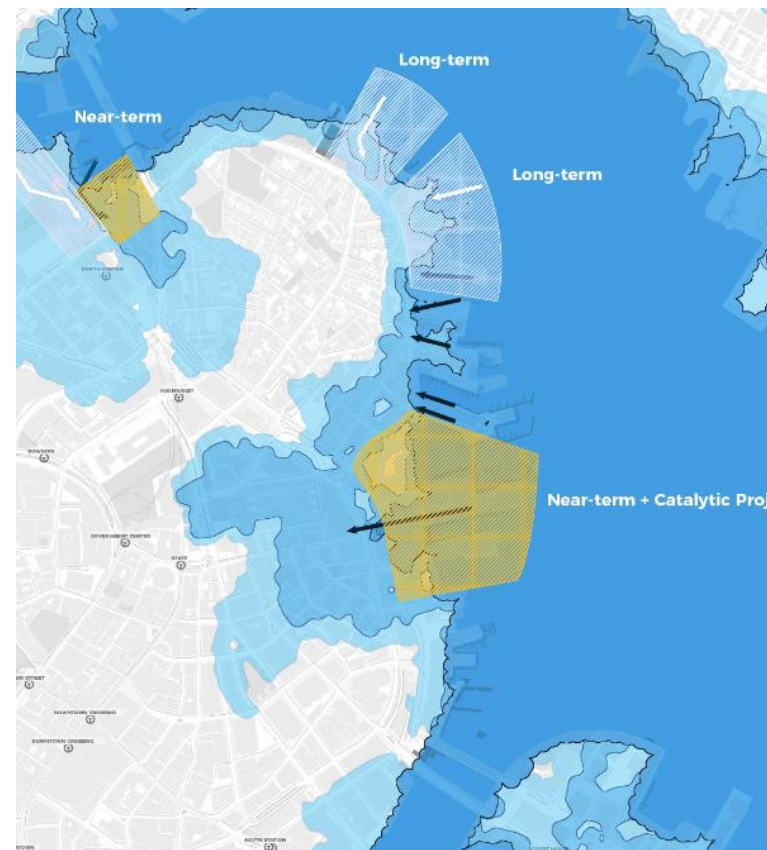


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How to action Sea Level Monitoring information?

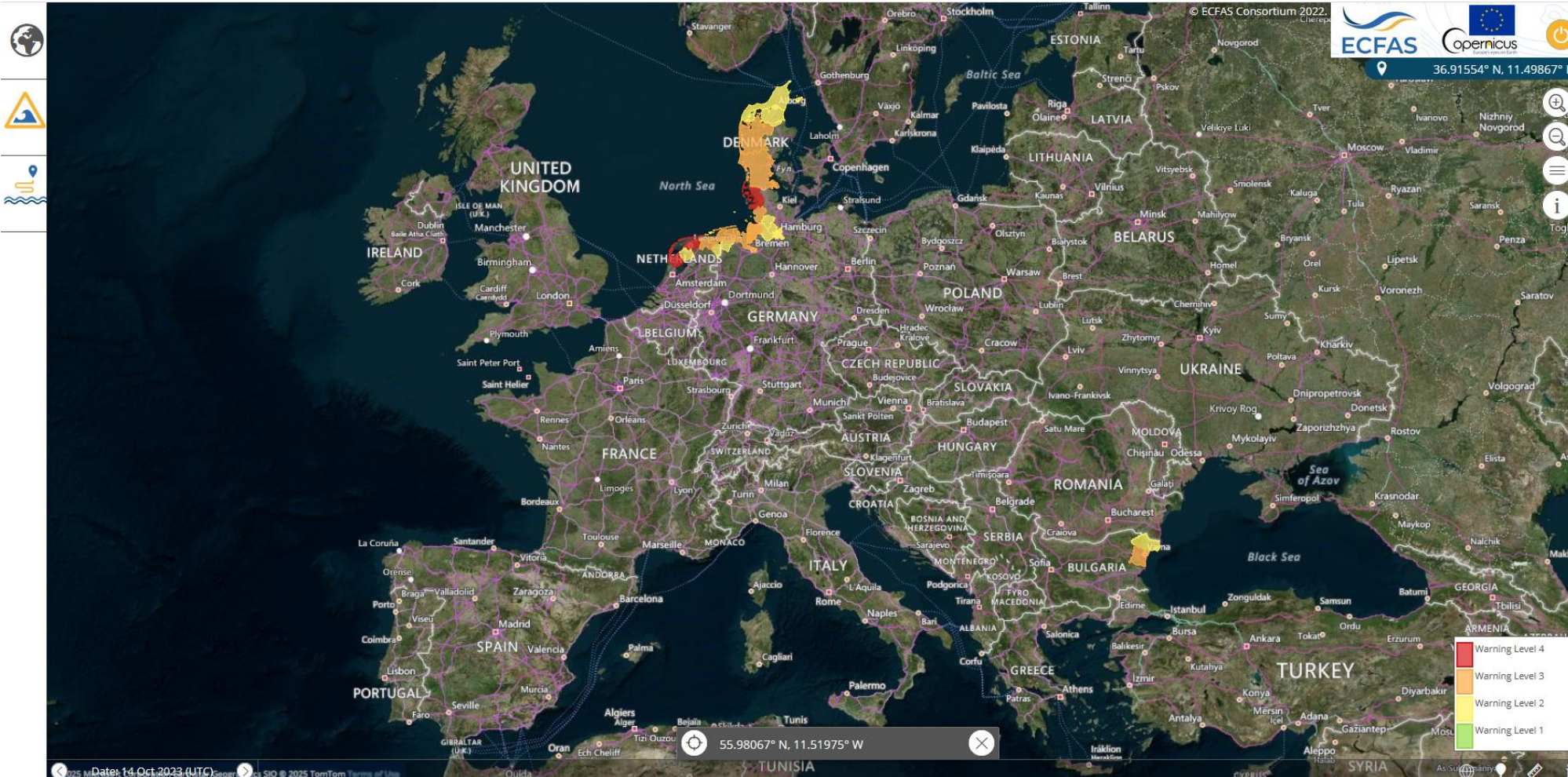


Climate Ready Boston

By translating
: Sea Level 5-days forecasts in **early warning**

Sea Level Rise trends for **Urban Planning**

Early warning at continent level

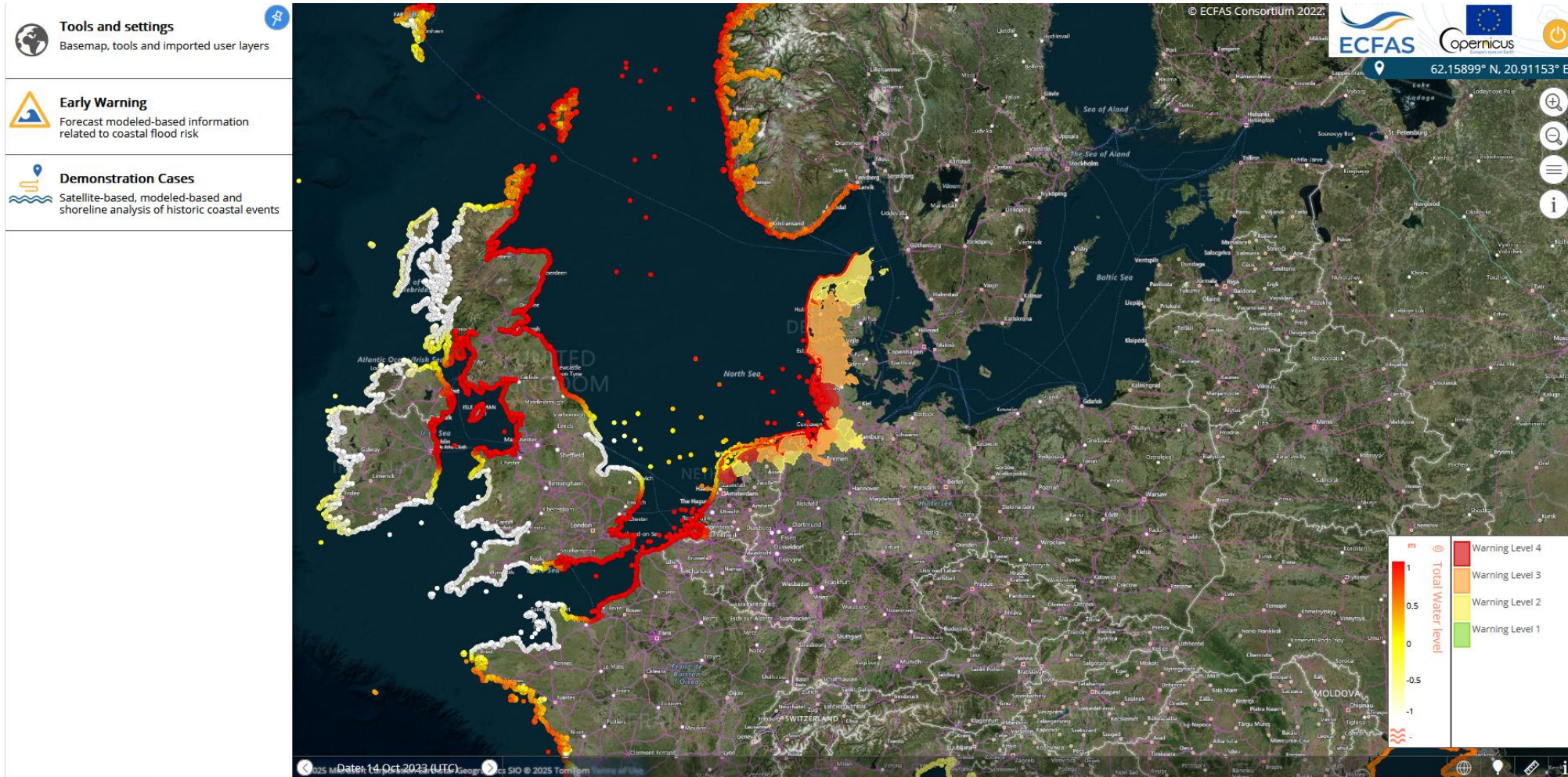


- Raise awareness (4 warning levels)
- Administrative areas

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Early warning at continent level

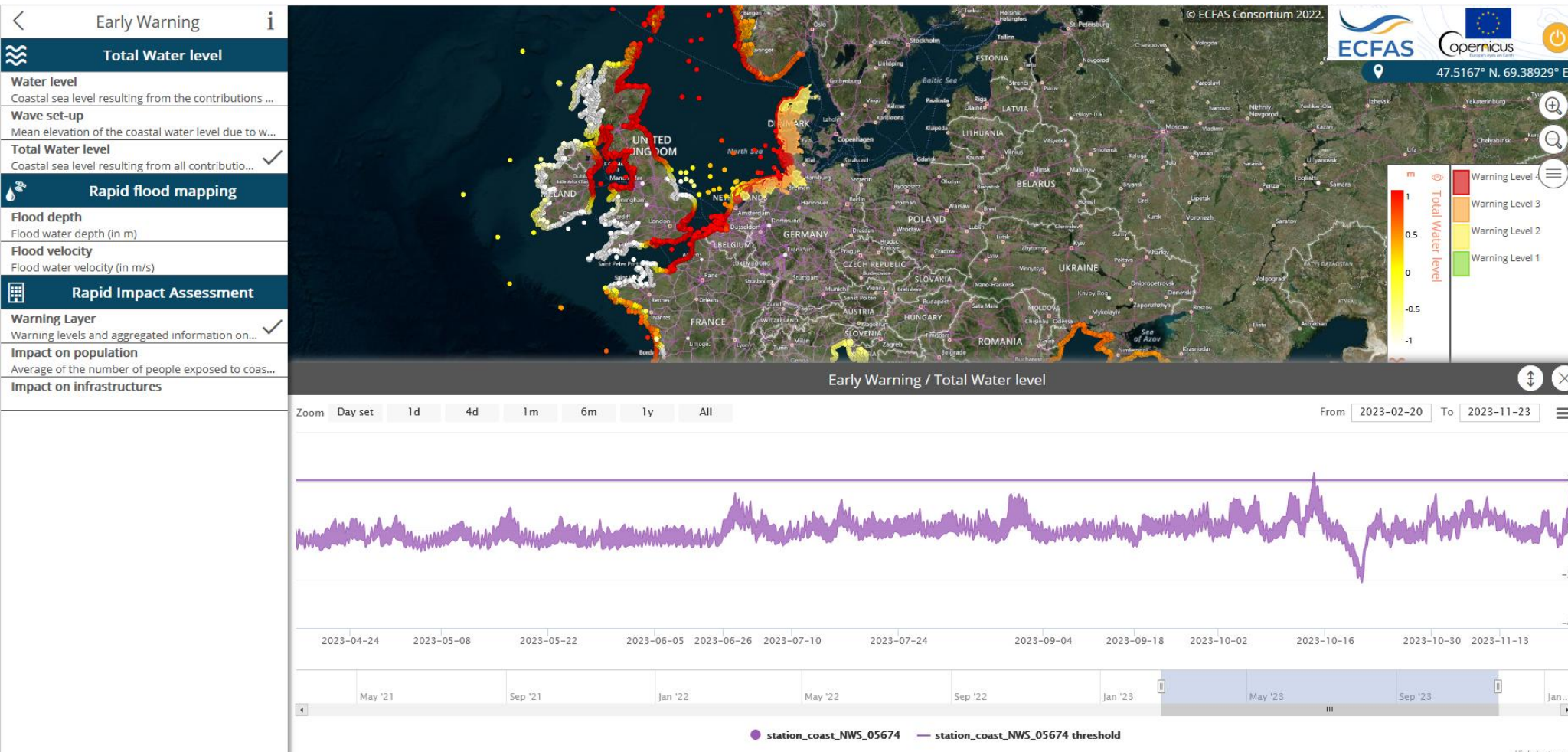


- Sea Level 5-days forecasts
- From real-time European ocean models
- Assimilating satellite observations

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Early warning at continent level

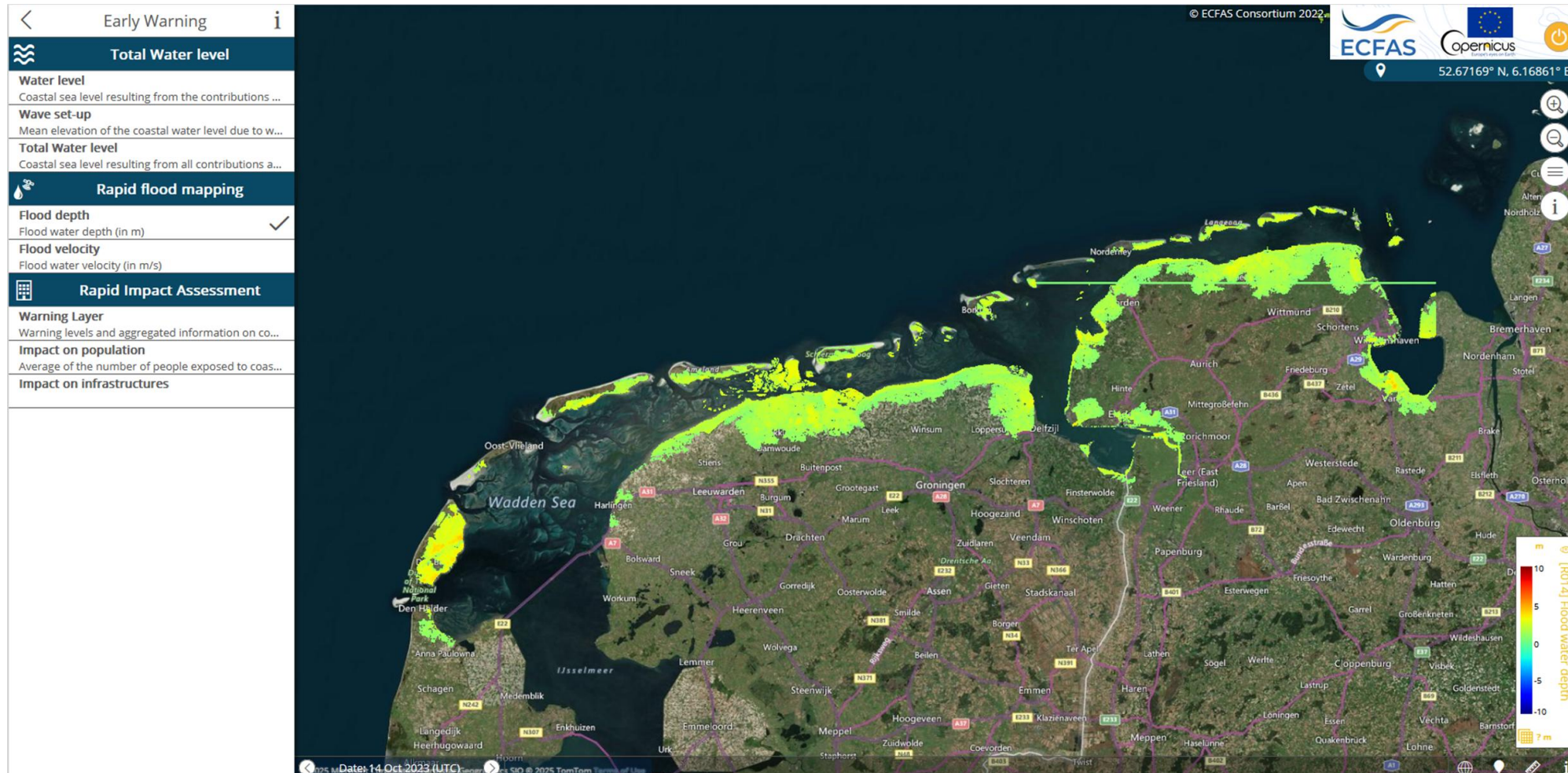


- Total water level close to the coastal zones
- Triggering warning

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Early warning at continent level



- Identify the impact areas
- Water level (flood depth) and velocity

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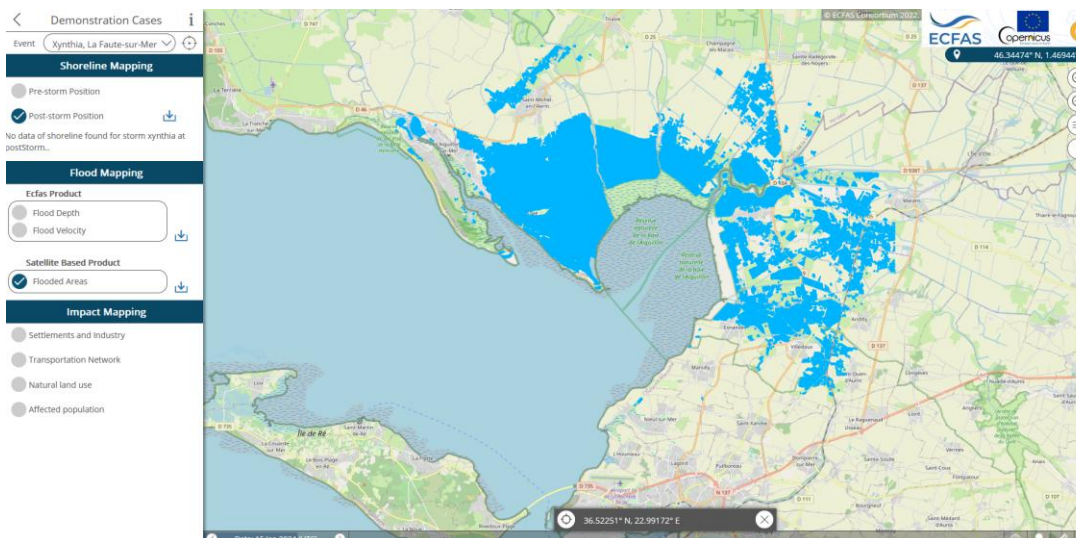
Impact on population



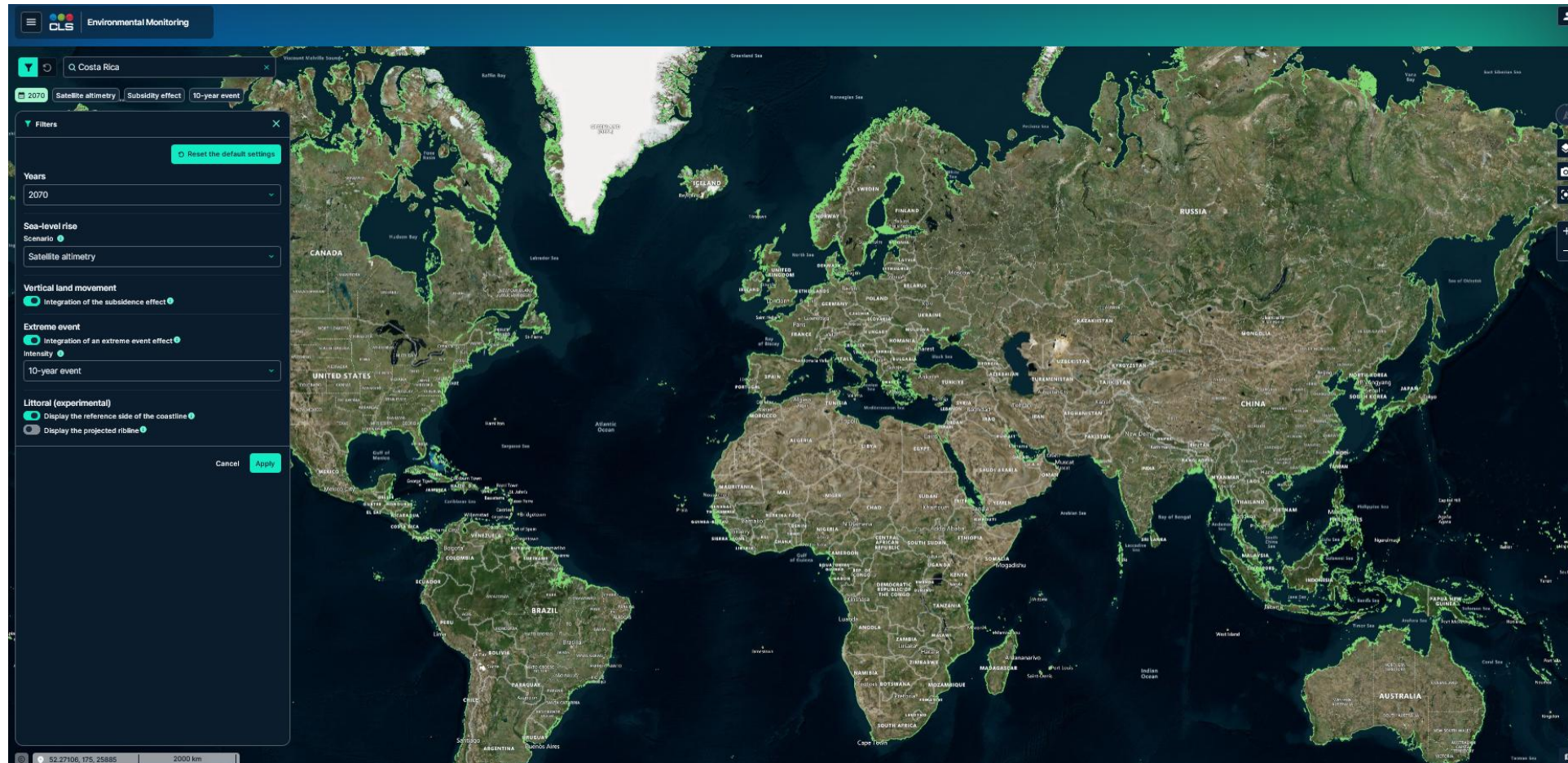
Impact on infrastructures



Flood mapping with satellites



Long-term Sea Level Rise impact

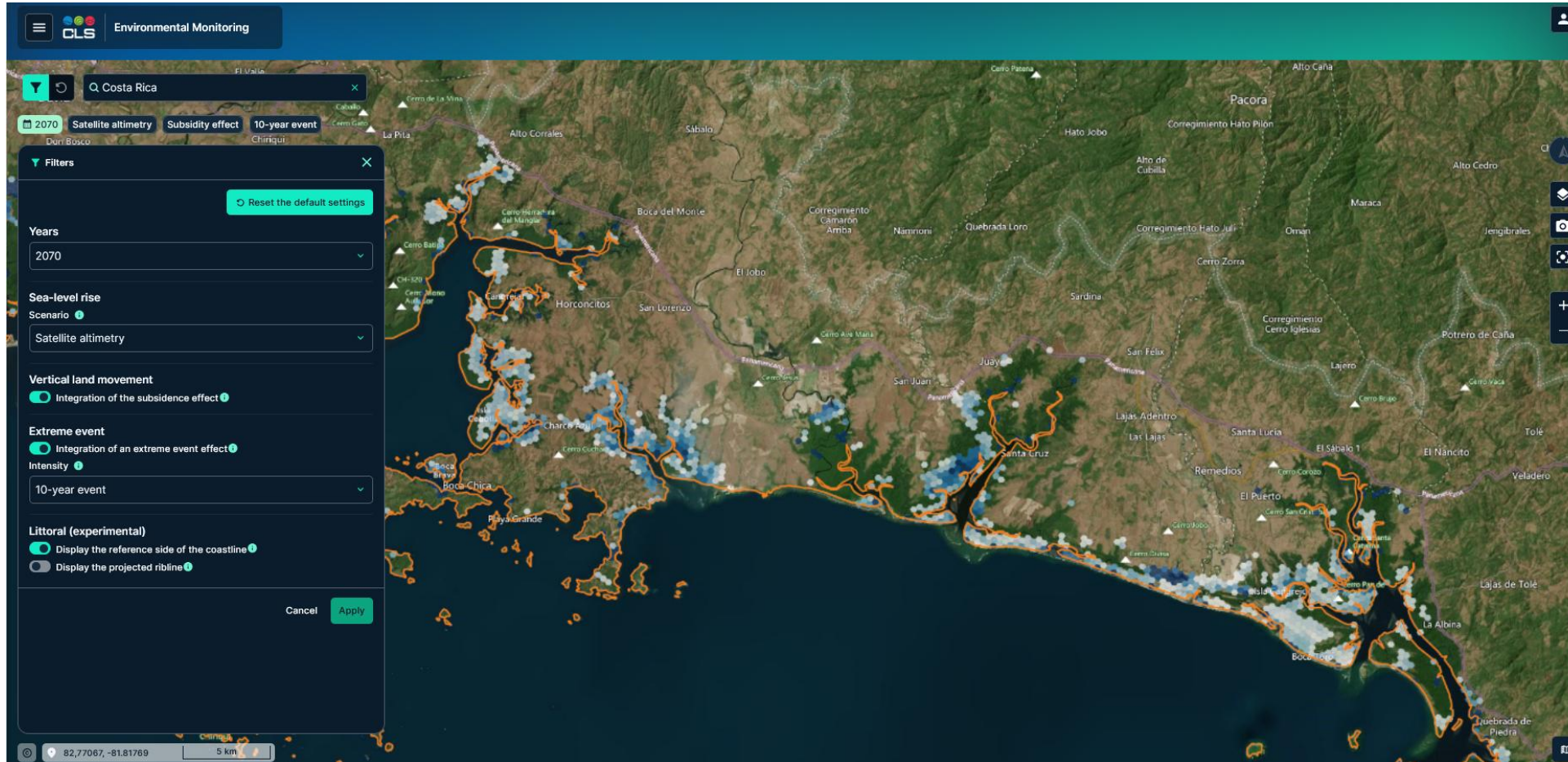


- First Assessment of future Coastal Flood hazards
- Permanent & temporary
- For every low-lying coastal areas

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Long-term Sea Level Rise impact



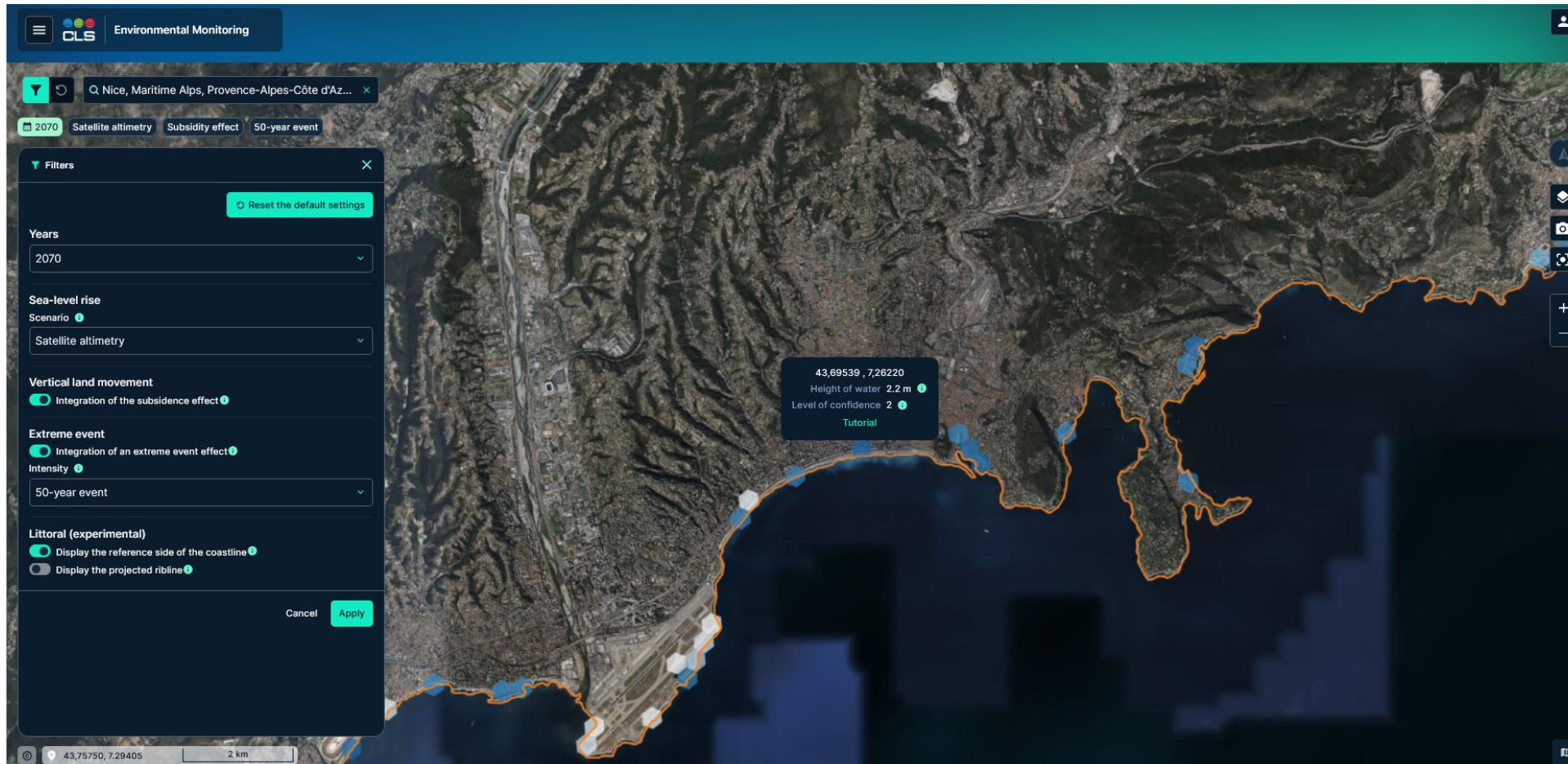
- From 2030 to 2100
- Sea Level Rise & Extreme Events effect (Storm surges)



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Long-term Sea Level Rise impact



- Adapted to raise awareness and pre-identify areas at risks



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Long-term Sea Level Rise impact



- Adapted to raise awareness and pre-identify areas at risks
- Fine tuning needed for supporting further urban planning decisions

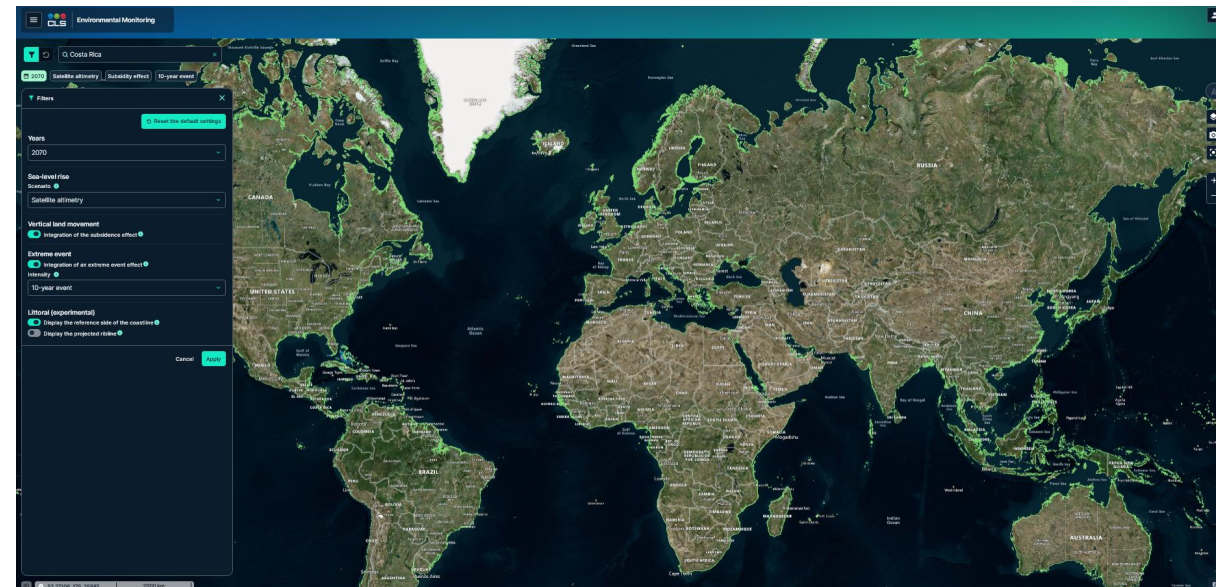
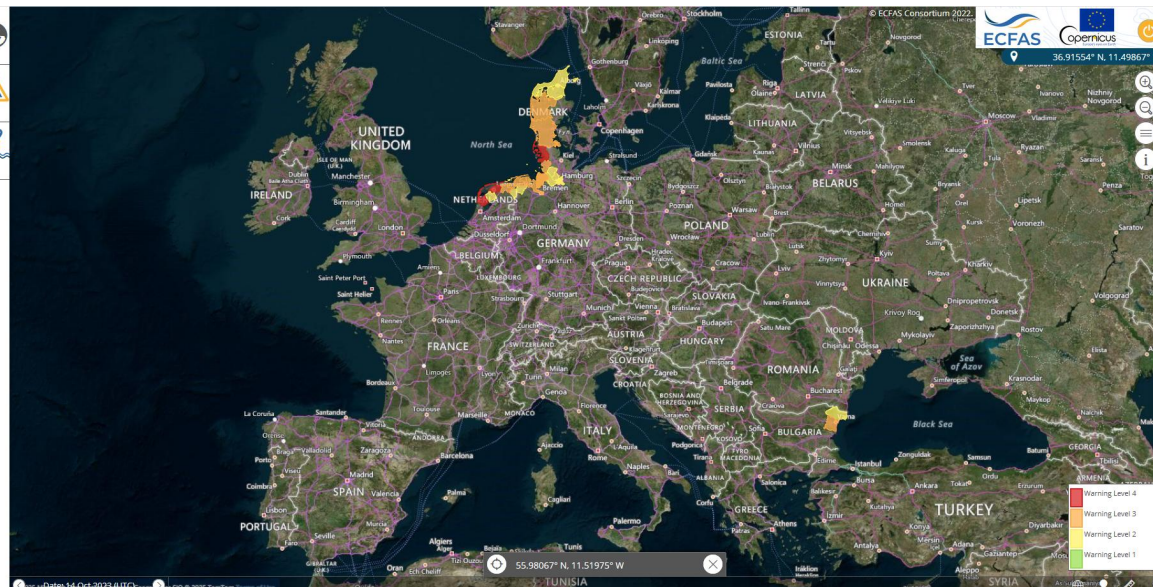


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Turning ocean knowledge into actionable tools in support to coastal communities





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Thank you !

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