

JERICO-RI: Progress for hydrography and transport products in Europe



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## JERICO-NEXT

Joint European Research Infrastructure network for Coastal Observatories Novel European eXpertise for coastal observaTories

Topic #4: Hydrography & 4D characterization of trans-boundary hydrography and transport Topic#6: Operational Oceanography and forecasting

## The Nazaré Canyon (W Portugal)

- One of the largest submarine canyons of the European margin.
- In 2009: The Nazare Canyon Observatory MONICAN, a real-time monitoring infrastructure, led by IH
- High resolution model (HOPS) with data assimilation :
  - To assess the importance of the monitoring system components
  - For better understanding :canyon's impacts on the shelf and on some of the main along slope flows, such as the Iberian Poleward Slope Current or the Mediterranean Water flow.



Topography (m) & real-time monitoring systems.

Shadowed bands: navigation corridors

Berlengas and Farilhões Islands: protected areas





Salinity & current: simulation + assimilation of CTD profiles.

Inside the Nazaré Canyon upper section (the part that cuts the shelf and upper slope) bottom intensified internal tidal motions promote a strong mixing between the Mediterranean Water and the North Atlantic Deep Water below. The saltier (and warmer) water plume that emerges from the canyon mouth is transported along the slope potentially affecting the deep layers in other regions along the lberian slope.



Acknowledements; The JERICO-NEXT project (www.jerico-ri.eu) has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement No 654410 and LIFE-LEMA project (LIFE1<u>5 ENV/ES/000252).</u>