



From Science to Story: Unlocking Ocean Knowledge Through Visualization

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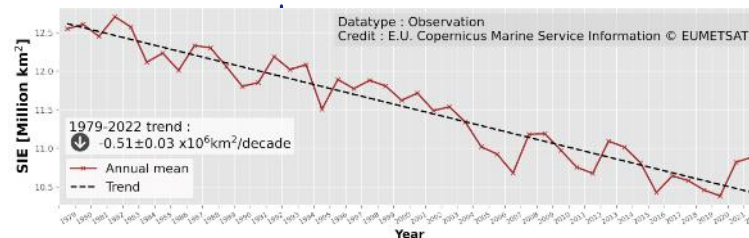
Science Communications Officer

@ Mercator Ocean International



What and why?

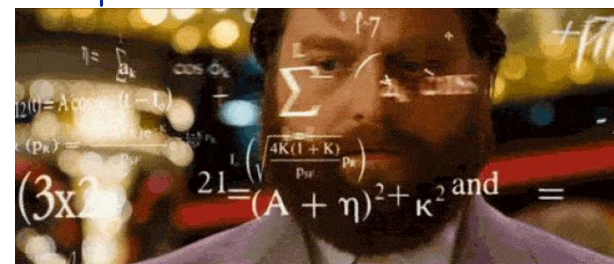
- Graphical representation
- To improve understanding of a complex message





Making ocean knowledge available

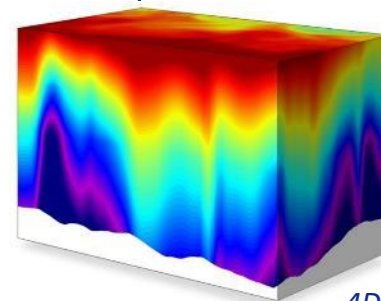
- Science is complex
- If taken out of context visualisations can be misleading
- Data visualisation helps convey messages to different audiences



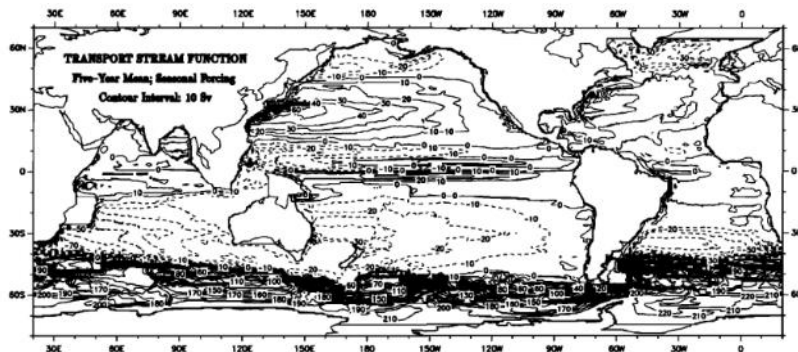


$$\rho \left(\frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} \right) = -p + \nabla \cdot \mathbf{T} + \mathbf{f}$$

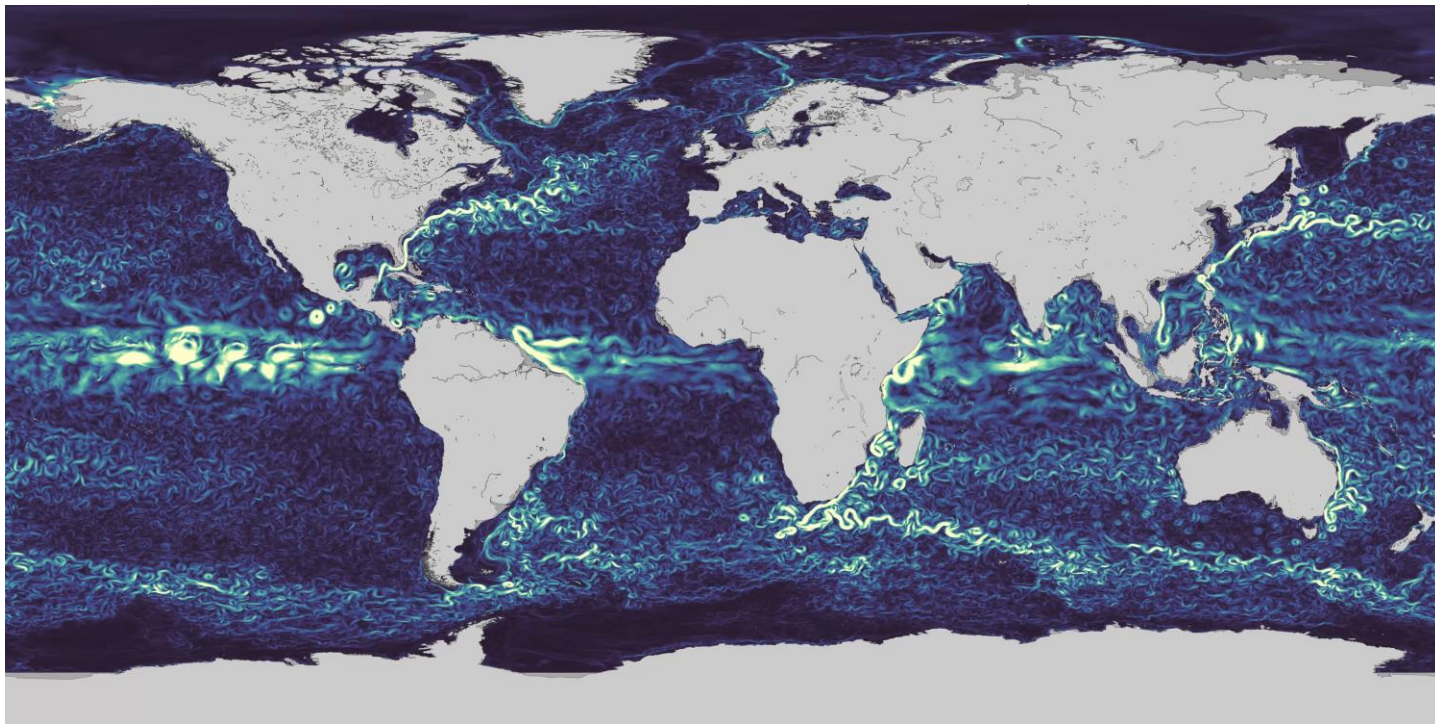
Mathematical representation of ocean physics



*4D
representation*

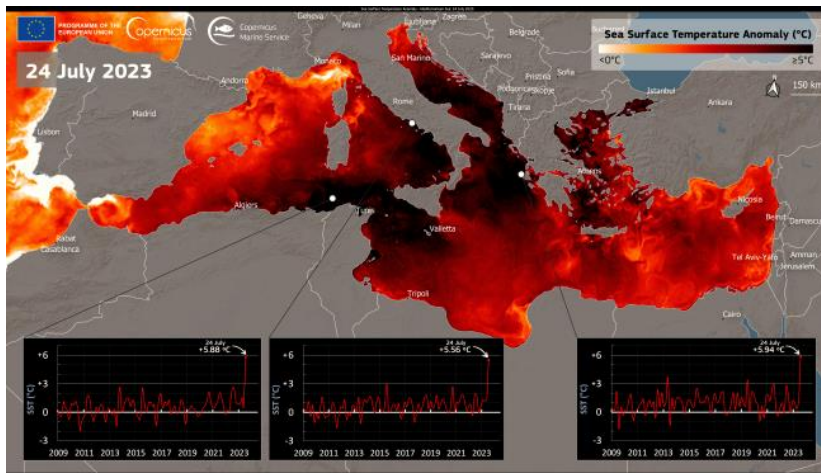


*Visualization of Ocean circulation
Stemtner et al. 1992*

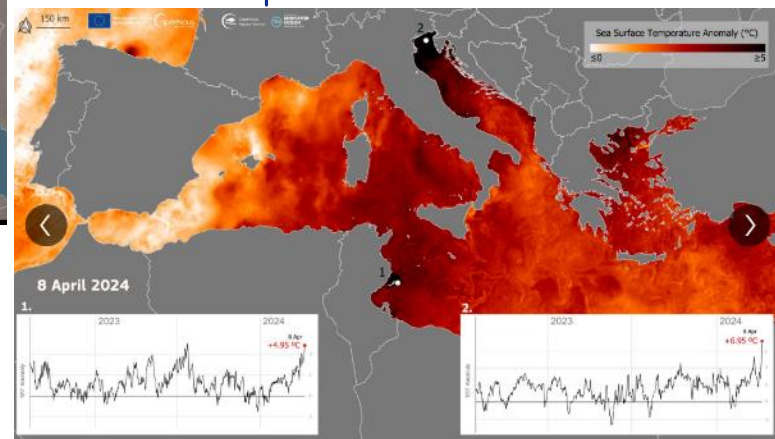


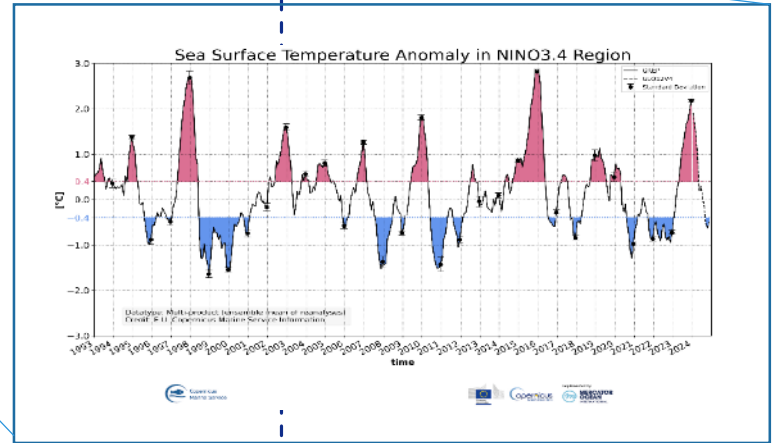
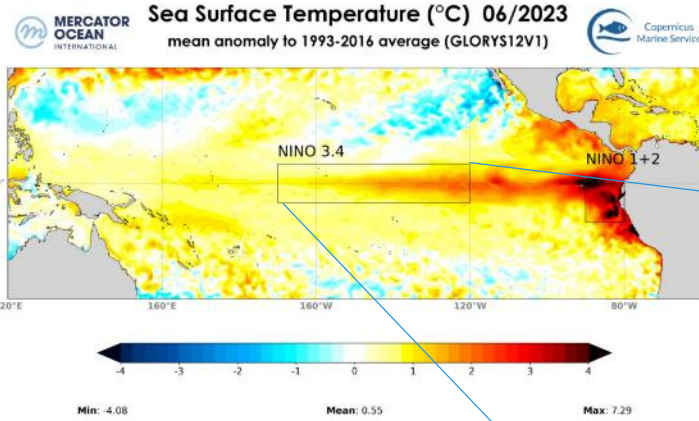


In the Mediterranean Sea



Sea Surface Temperature Anomaly

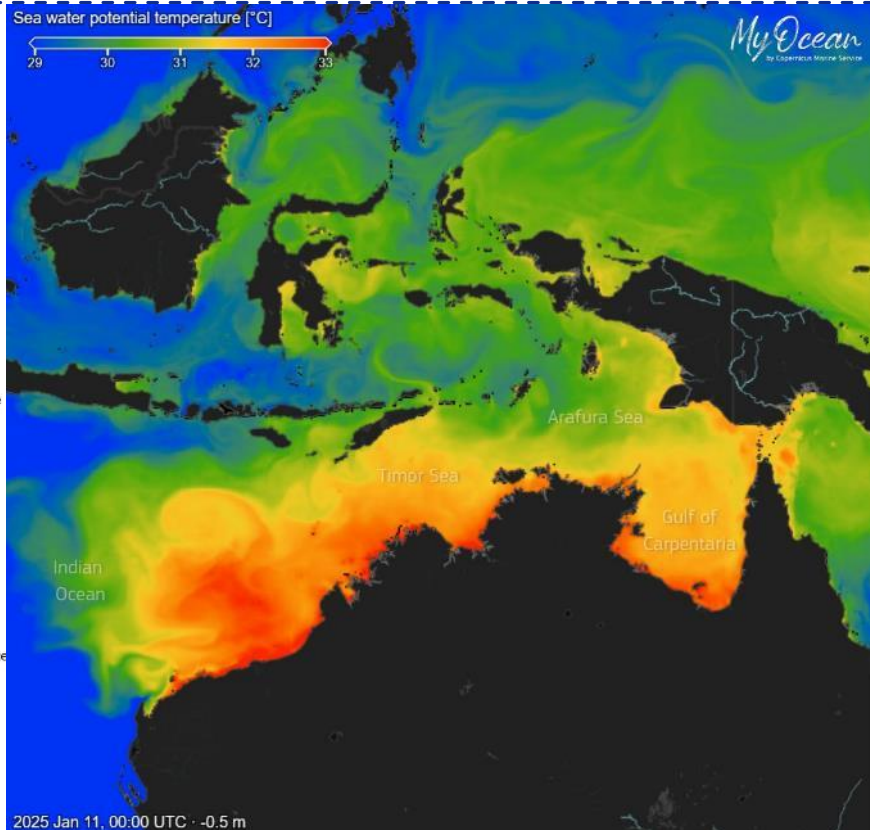
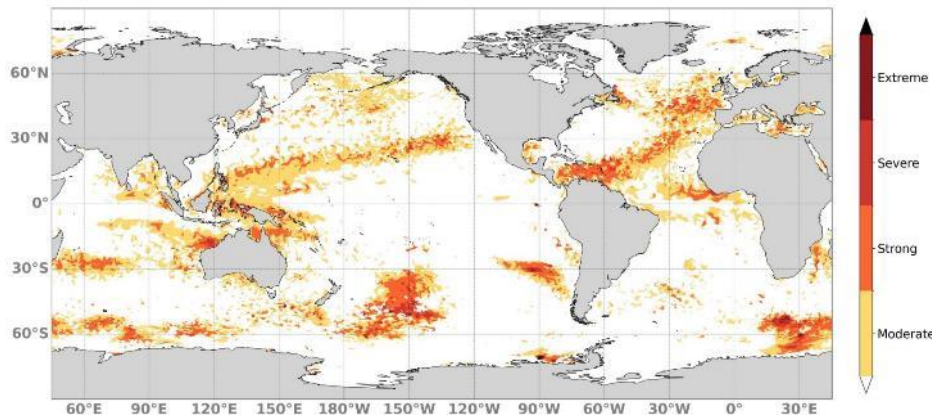






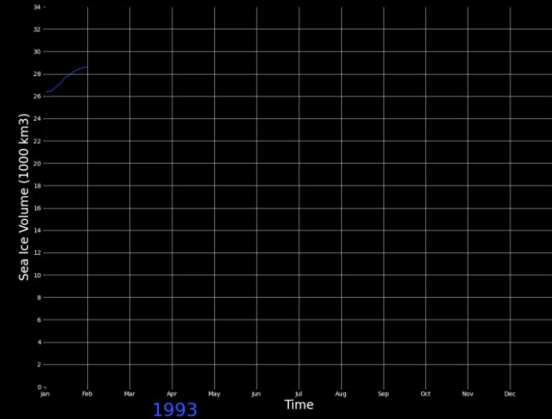
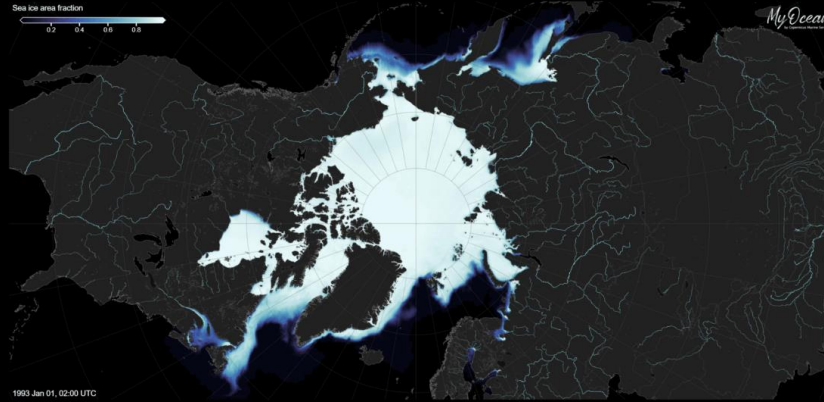
Marine Heatwave Category Map - 2025-01-18

Data: GLO12V4 forecast



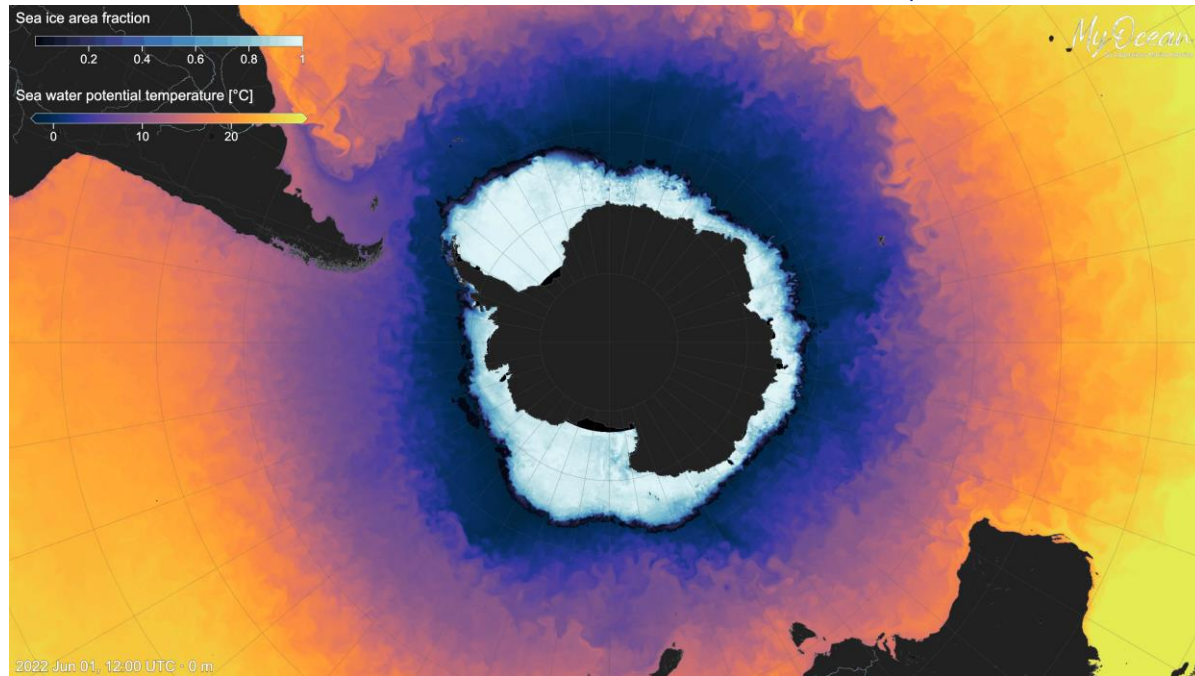


Arctic Sea Ice Volume from 1993 to 2023





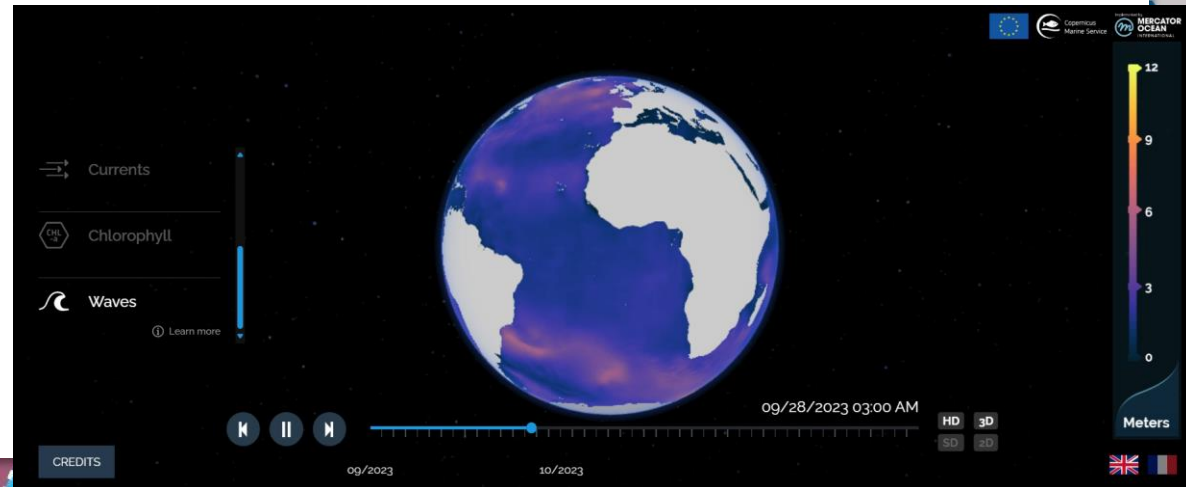
Antarctic Sea Ice





Challenges in DataViz

- Access to scientific data without knowledge
- Data format
- Language / accessibility





Thank you !