SafeSwim: Protecting swimmers, surfers and beachgoers

Powered by SUEZ

Science & Innovation

Coastal Services

Overview

SafeSwim is an innovative service developed by the center Rivages Pro Tech of SUEZ with the support of Copernicus Marine National Collaboration Program to empower coastal authorities to maintain beach swimming safety in accordance with EU regulations. By leveraging data from the Copernicus Marine, Climate, and Land Services, SafeSwim delivers accurate, real-time assessments of wave-related risks at local beaches.

The SafeSwim tool is designed to protect swimmers, surfers and beach goers. The service provides local authorities and lifeguards with real-time decision-support information, enhancing beach activity management all year round. It integrates historical incident data and lifeguard observations with high-resolution downscaling hydrodynamic modeling, powered by Copernicus Services. This modeling offers localised insights into wave conditions and rip current risks, enabling proactive safety measures.

Authorities can use SafeSwim to inform beachgoers about current and wave conditions, issue targeted warnings, and optimise lifeguard deployments. This improves decision-making, user

warnings and resource allocation, ultimately enhancing beach safety. Additionally, by incorporating sea level rise projections, SafeSwim supports long-term beach swimming safety strategies, helping authorities adapt to future challenges.

SafeSwim offers tangible benefits, including enhanced safety, improved decision-making, efficient resource use, EU regulation compliance, and increased public trust. Developed by the center Rivages Pro Tech of SUEZ in close collaboration with the Anglet lifeguards and municipality, this service utilizes cutting-edge data to address real-world challenges, ensuring beaches remain safe and enjoyable all year.

The service uses several key Copernicus Marine products including the Atlantic-Iberian Biscay Irish-Ocean Physics Analysis and Forecast, Atlantic-Iberian Biscay Irish- Ocean Wave Analysis and Forecast, contributing to its effectiveness.

This Use Case was funded by the Copernicus Marine Service National Collaboration Programme 2021-2028.

Products used

Copernicus Marine products

- Global Ocean Waves Analysis and Forecast
- Global Ocean Waves Reanalysis
- Atlantic-Iberian Biscay Irish- Ocean Wave Analysis and Forecast
- Atlantic -Iberian Biscay Irish- Ocean Wave Reanalysis
- Atlantic Iberian Biscay Irish Ocean- In-Situ Near Real Time Observations
- Atlantic- European North West Shelf- Ocean InSitu Near Real Time

Copernicus Climate Change products

- Water level change indicators for the European coast from 1977 to 2100 derived from climate projections
- Water level change time series for the European coast from 1977 to 2100 derived from climate projections

Benefits for users

- Enhanced safety: Real-time information about wave conditions and rip currents helps protect beach goers.
- Improved decision-making: Data-driven insights support better beach management practices.
- Efficient resource use: Optimized deployment of lifeguards and targeted warnings ensure effective use of resources.
- Compliance with EU regulations: Helps authorities meet legal safety standards.
- Increased public trust: Reliable information fosters trust among beach goers.
- Adaptive management: Incorporates sea level rise projections for long-term safety strategies.
- User-friendly information: Clear and actionable beach condition updates for the public

Useful links

SUEZ EAU website

Water uses cases | Coastal Hub