

# Coastal Altimetry

## Summary

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- Continuity in satellite altimetry observations for 30+ years has enabled a range of coastal and marine decision support applications for societal benefit in a growing number of areas by both public and private sector
- The ocean/coastal thematic data product from FDR4ALT project provides a seamless transition between the open ocean and the coast from Envisat and ERS-1/2
- ICESat-2 provides valuable ocean topography information at distances <10km from the coast
- The assimilation of multi-missions 5 Hz significant wave height reveals significant positive impact on high resolution wave forecast, particularly for near the coastal areas
- ERA5 reanalysis wet path delay estimates have the best compromise between precision and stability and should be adopted for climate studies (e.g., estimating sea level trends) whenever observations are not available.
- Sea surface height anomaly estimates from instrumental arrays in the Deep-ocean Assessment and Reporting of Tsunamis (DART) project agree with independent observations from altimetry and tide gauges in regions with strong winds with a significant period within 2 to 10 days during passing cyclones.