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Pan-European Coastal Erosion and Accretion: translating incomplete data and information for coastal reslience assessments

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EMODnet has changed the face of the European marine data landscape and is developing tools to connect national data and information resources to make them easily available for multiple users, for multiple purposes. Building on the results of EUROSION, an EU-project completed some ten years ago, EMODnet-Geology has been compiling coastal erosion and sedimentation data and information for all European shorelines. Coverage is being expanded, and data and information are being updated. Challenges faced during this compilation phase are posed by a) differences between parameters used as indicators of shoreline migration, b) restricted access to third-party data, and c) data gaps. There are many indicators of coastal behaviour, with inherent incompatibilities and variations between low-lying sediment and cliffed rock shorelines. Regionally, low data availability and limited access result in poor coverage. With Sentinel data expected to become increasingly available, it is time to invest in automated methods to derive coastal-erosion data from satellite monitoring. Even so, consistency of data and derived information on coastal erosion and accretion does not necessarily translate into usability in pan-European coastal-zone management. Indicators of shoreline change need to be assessed and weighted regionally in light of other parameters in order to be of value in assessing coastal resilience or vulnerability. There is no single way to portray coastal vulnerability for all of Europe in a meaningful way. A common legend, however attractive intuitively, results in data products that work well for one region but show insufficient or excessive detail elsewhere. For decision making, uniform products are often not very helpful. The ability to zoom in on different spatial levels is not a solution either. It is better to compile and visualize vulnerability studies with different legends, and to provide each map with a confidence assessment and other relevant metadata.