



## **Recent activities of the EuroGOOS Tide Gauge Task Team: towards an European Tide Gauge Network linked to the global operational oceanography systems and GLOSS**

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There are more than 600 tide gauges in Europe and adjacent seas. These stations have been installed to measure coastal sea level for a wide range of applications and by different types of institutions. In 2015, the EuroGOOS Tide Gauge Task Team was established in order to bring together the tide gauge community in the region. The initiative aimed to foster collaboration by enhancing countries capacity and the development of the European Ocean Observing System (EOOS), under the umbrella of GLOSS, the Regional Operational Oceanographic Systems (ROOS's) in EuroGOOS and the new international programs of data exchange such as CMEMS, EMODnet or SeaDataNet.

From a questionnaire launched in 2016, more than half of the institutions and near 30% of the tide gauge stations in the region would be facing problems of funding in some way. Fulfilling adequate end-users requirements is important for the sustainability of the system. Therefore, since 2018 the group has focused on assessing the access to tide gauge data and derived products through existing data portals. Other topics of interest of the task team are the promotion of new sea level technologies, vertical land movement at the tide gauge stations or upgrade of data quality control, processing and interpretation of higher frequency tide gauge data.

Several actions aligned with the abovementioned objectives are now being undertaken in the framework of the EU HORIZON 2020 EuroSea project: ii) creation of a metadata inventory of european stations; ii) identify gaps/duplicity in data portals and propose a new strategy for data flow; and iii) assess/compile an on-line portal in PSMSL (Permanent Service for Mean Sea Level) of uplift/subsidence land data, including new Multipath Reflectometry of land-based Global Navigation Satellite Systems (GNSS-MR) technology for sea level measurements.

The 1<sup>st</sup> EuroSea Tide Gauge Network Workshop, open to the global tide gauge community, was held by videoconference on January 12-14, 2021, with more than 160 registered participants from all around the globe. The attendants exchanged information on recent activities through presentations on national experiences and sustainability issues, among other key topics. The event provided a valuable insight on the status and challenges of coastal sea level measurements at different nations and geographical regions. New recommendations and actions were proposed in order to improve existing data flow and the coordination between data aggregators and the data providers, while tackling efficiently the different applications of the increasing number of tide gauge stations.

Together with representatives of all data portals dealing with tide gauge data, an action plan has been designed and started to progress on the standardization of metadata and formats between the different programs. Three small technical subgroups have been established to work on i) review the definition of Tide Gauge Station and Site; ii) assignment of new unique identifiers in cooperation with OceanOPS ; and iii) agreement between data portals on minimum mandatory metadata with common vocabularies. A realistic approach will be followed starting with a subset of operational stations in Europe.