

# 2nd EuroSea Tide Gauge Network Workshop

## Status and challenges of in situ sea level measurements from tide gauges

4-5 May 2023, Hybrid event

Venue: Puertos del Estado, Avda. del Partenón, 10, 28042 – Madrid

<https://us02web.zoom.us/j/87678847231?pwd=d04vU04xVW1CTjBvRzQyYmNZZ2lnQT09>

### Draft annotated Agenda

**Thursday 4 May, 10:30 to 19:00 CEST**

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10:30 – 11:00

- **Angela Hibbert** (NOC, EuroGOOS Tide Gauge Task Team): *Welcome to the Workshop, EuroGOOS Tide Gauge Task Team activities (10 min)*
- **George Petihakis** (HCMR, Greece, EuroGOOS): EuroSea project: recent progress in European observing networks

### **Session 1: Status and future possibilities of GNSS-IR technique**

11:00 – 12:00

*Chair: Andrew Mathews*

**Keynote:** Simon Williams: GNSS-IR principles and examples of application (30 min)

- *F. Ariel Oreiro: Advances in the use of low cost smartphones as water level gauges through GNSS-IR technique (15 min)*
- TBC

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## **Session 2: Global overview of networks, datasets and data portals (I)**

12:00 – 13:00

*Chair: Angela Hibbert*

Keynote: Andrew Mathews: International programs and data portals (30 min)

- *L. Testut:* A new tool for analysis of tide gauges in different data portals (15 min)
- *P. Gurdebeke:* The AMDK tide gauge network (Flanders, Belgium): A status update (15 min)

13:00 – 14:00 *Lunch time*

## **Session 2: Global overview of networks, datasets and data portals (II)**

14:00 – 15:00

- *O. Roaldsdotter Ravndal:* The Norwegian tide gauge network: status and ongoing expansion of the network (15 min)
- *D. Al-Houti:* KisRise tidal gauge setup in the Northern Arabian Gulf – Kuwait (15 min)
- *G. Jordá:* Implementation of a low-cost ultra-dense tide gauge network in the Balearic Islands (VENOM network) (15 min)
- *A. Thomson:* UK Environmental Agency national tide gauge network (NTGN) (15 min)

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## **Session 3: Automatic quality control and data processing (real time and delayed mode)**

15:00 – 16:30

*Chair: Laurent Testut*

Keynote: Begoña Pérez Gómez. GLOSS Recommendations and QC Manual (30 min)

- *I. Medugorac:* Quality control and data processing of hourly sea levels in delayed mode – an example from Croatia (station Bakar) (15 min)

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- *J. Lin-Ye*: Delayed-mode reprocessing of in situ sea level data: the experience of the Copernicus Marine Service (15 min)
- *Latapy*: Quality control of digitized data from sea level data archaeology projects (15 min)
- *M. Hegland Halvorsen*: Automatic quality control of the Norwegian Mapping Authority's tide gauge network (15 min)

16:30 – 17:00 *Coffee break*

### **Session 3: Automatic quality control and data processing (real time and delayed mode) (continuation)**

17:00 – 19:00

*Chair: TBD*

- *Haktan Keskin*: On the Control of TUDES Sea Level Data (15 min)
- *B. Pérez Gómez*: Data flow, qc and data processing at Puertos del Estado REDMAR network (15 min)

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17:30 – 19:00

### **Training / demonstration session applying existing software packages to challenging timeseries and examples**

- Metadata issues: TG metadata inventories in GLOSS and EuroGOOS
- SELENE software
- Others?

Wrap-up and recommendations from first day sessions

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**Friday 5 May 09:00 – 13:30 CEST**

**Session 4: Case studies based on tide gauge data**

09:00 – 11:00

*Chair: Guy Westbrook*

Keynote: Francisco Calafat: Quantifying the sources of sea-level changes in the Mediterranean Sea through tide gauge and altimetry observations (30 min)

- J. Villalonga: Observational study of the global meteotsunami generated after the Hunga Tonga – Hunga Ha’apai Volcano eruption (15 min)
- P. Woodworth: A Study of 10 Tide Gauge Records from the River Clyde and Its Estuary in Western Scotland (15 min)
- H. Sande Borck: New extreme water levels for the Norwegian coast (15 min)
- F. Raicich: An analysis of extreme sea level events extracted from the hourly Trieste time series (1905-2022) (15 min)
- S. Morucci: Facing storm surges and flooding events in Venice (15 min)
- J. Ramos-Alcántara: Mediterranean coastal sea level reconstruction based on tide gauge observations (15 min)

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11:00 – 11:30 *Coffee break*

**Session 4: Case studies based on tide gauge data (continuation)**

11:30 – 12:00

*Chair: Guy Westbrook*

- T. Taskjelle: Decimeter differences in water level between 26GHz and 80GHz radars (15 min)
- M. Hernández González: Sea level variability and trends in the Cuban archipelago (15 min)

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## **Round-up session**

12:00 – 13:30

*Chair: Begoña Pérez Gómez*

- Produce recommendations based on the outputs and discussion in the different sessions
- Discussion on points raised in the meeting and inputs from the attendants
- Any other business
- Closing

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