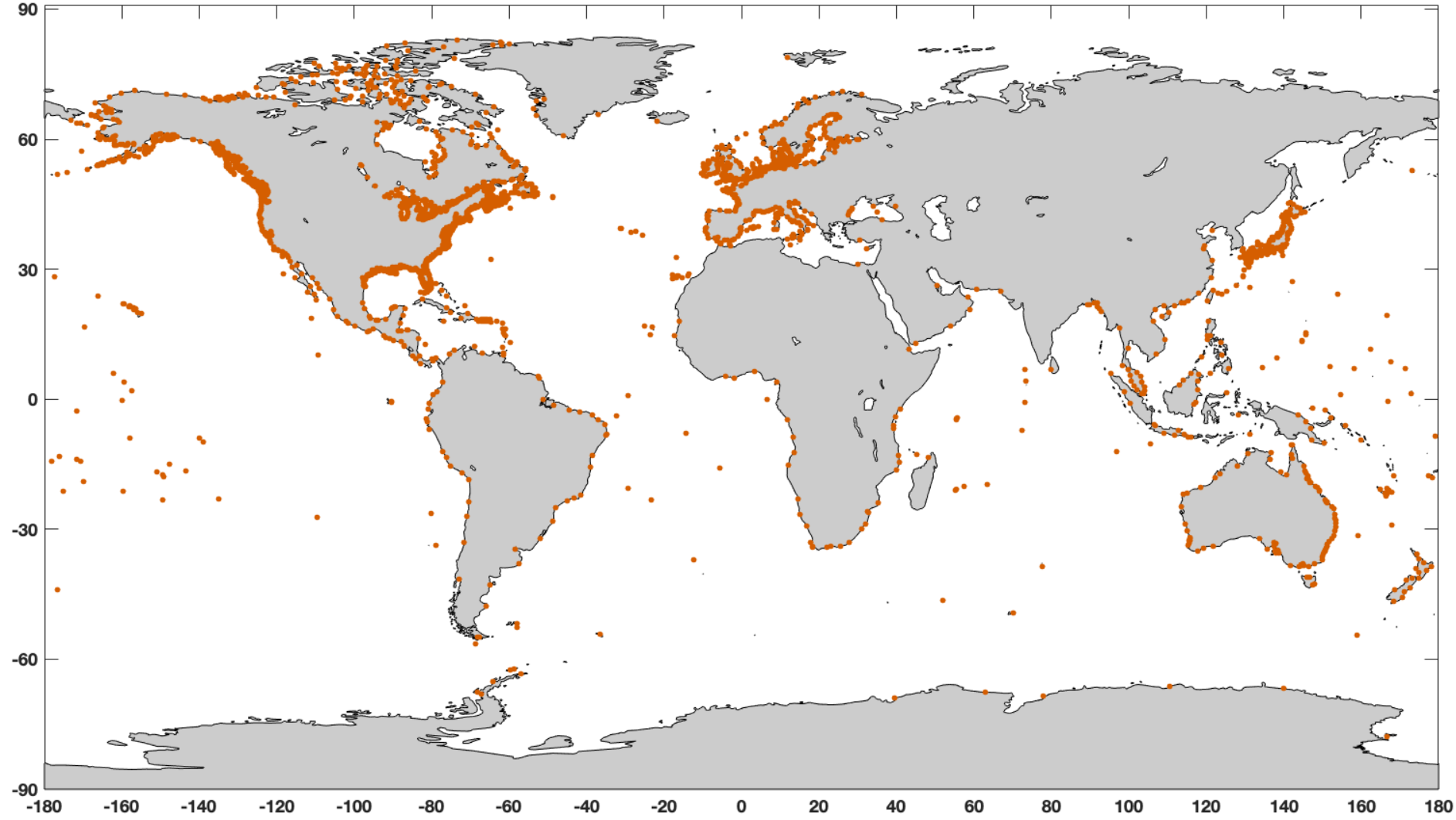
GESLA Version 3: A major update to the global higher-frequency sealevel dataset

Ivan D. Haigh, Marta Marcos, Stefan A. Talke, Philip L. Woodworth, John R. Hunter, Ben S. Hague, Arne Arns, Elizabeth Bradshaw, Philip Thompson

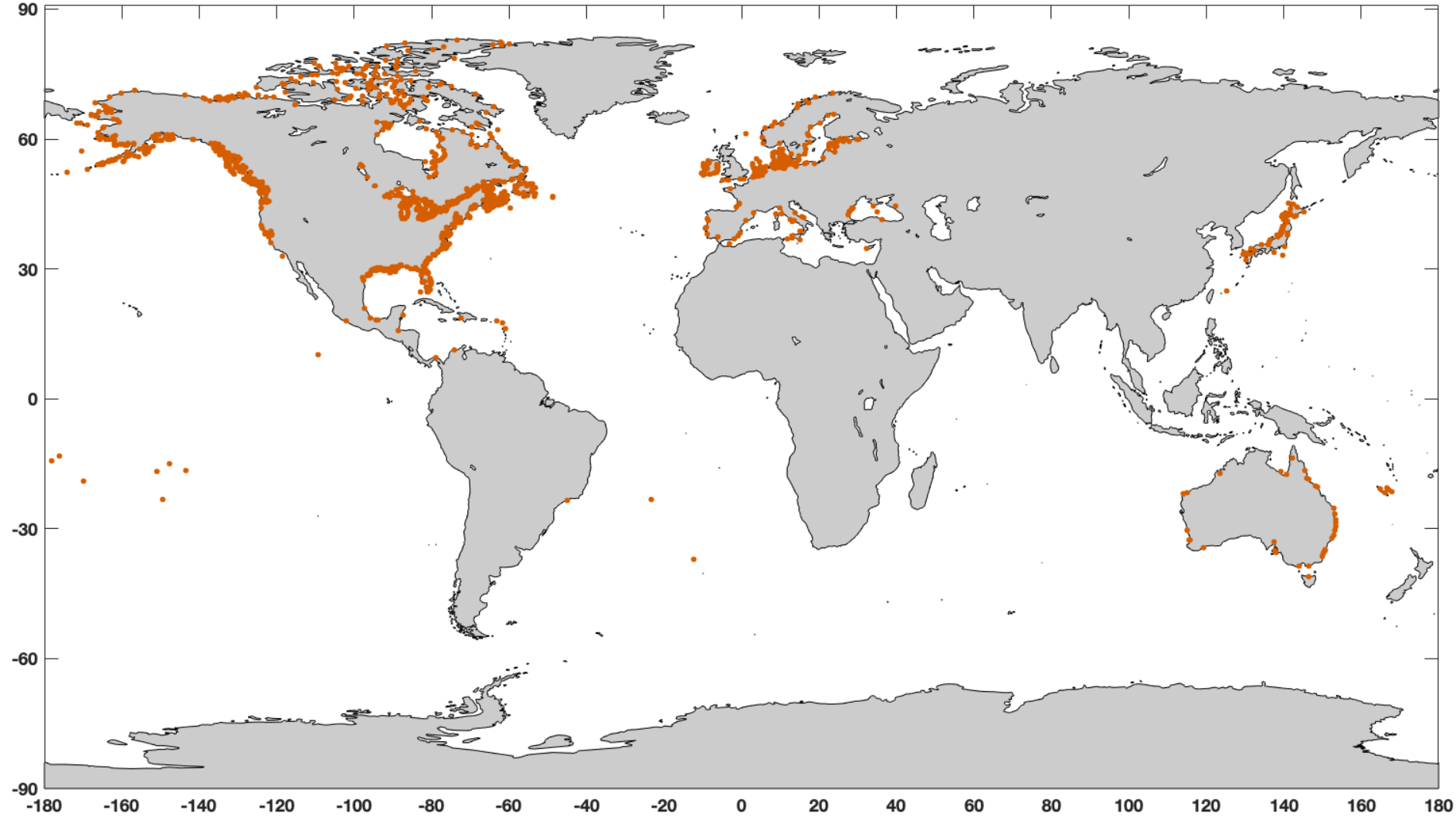
Geographical distribution

Released November 2021
91,021 years from 5,199 records

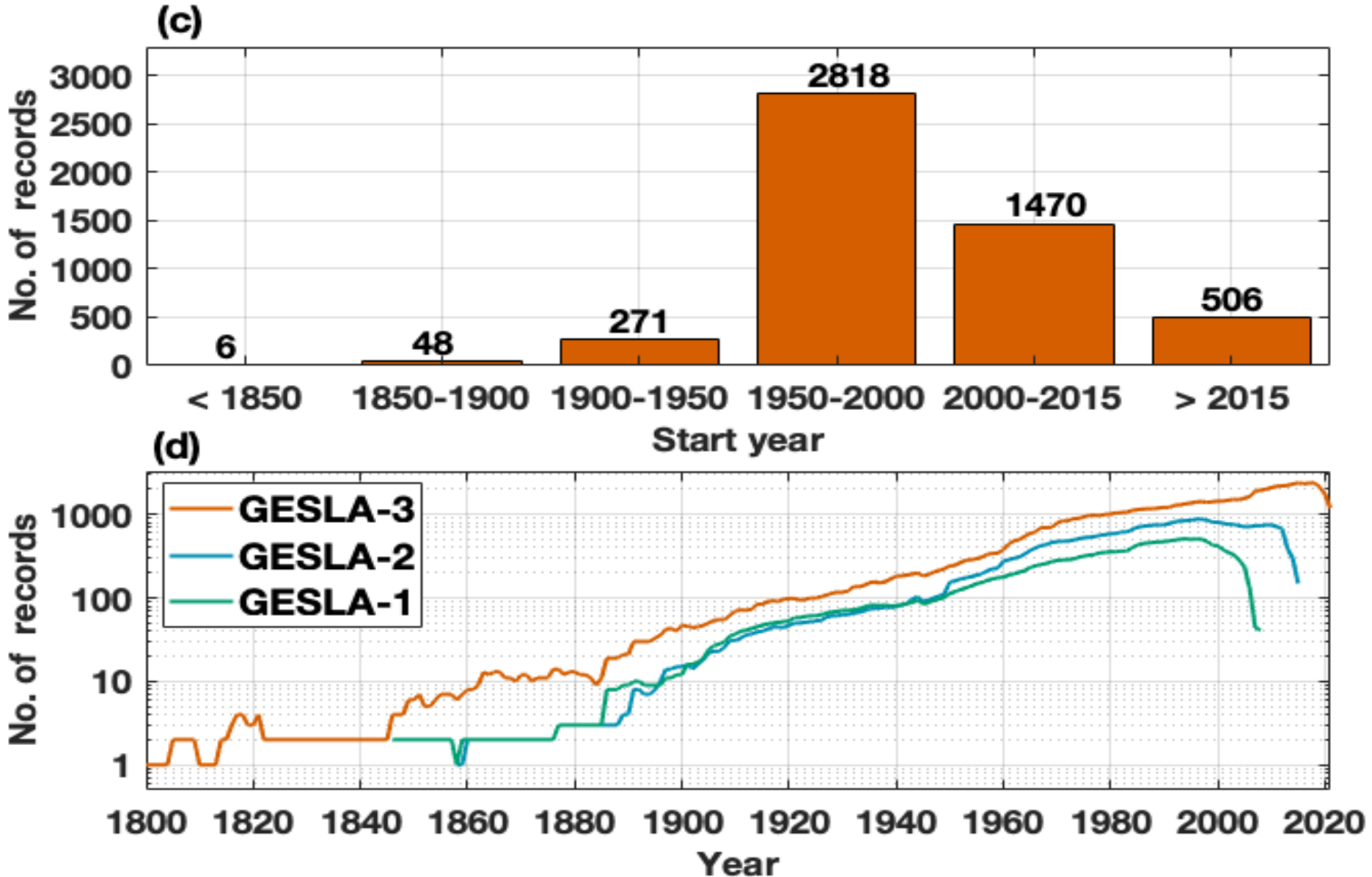


Geographical distribution

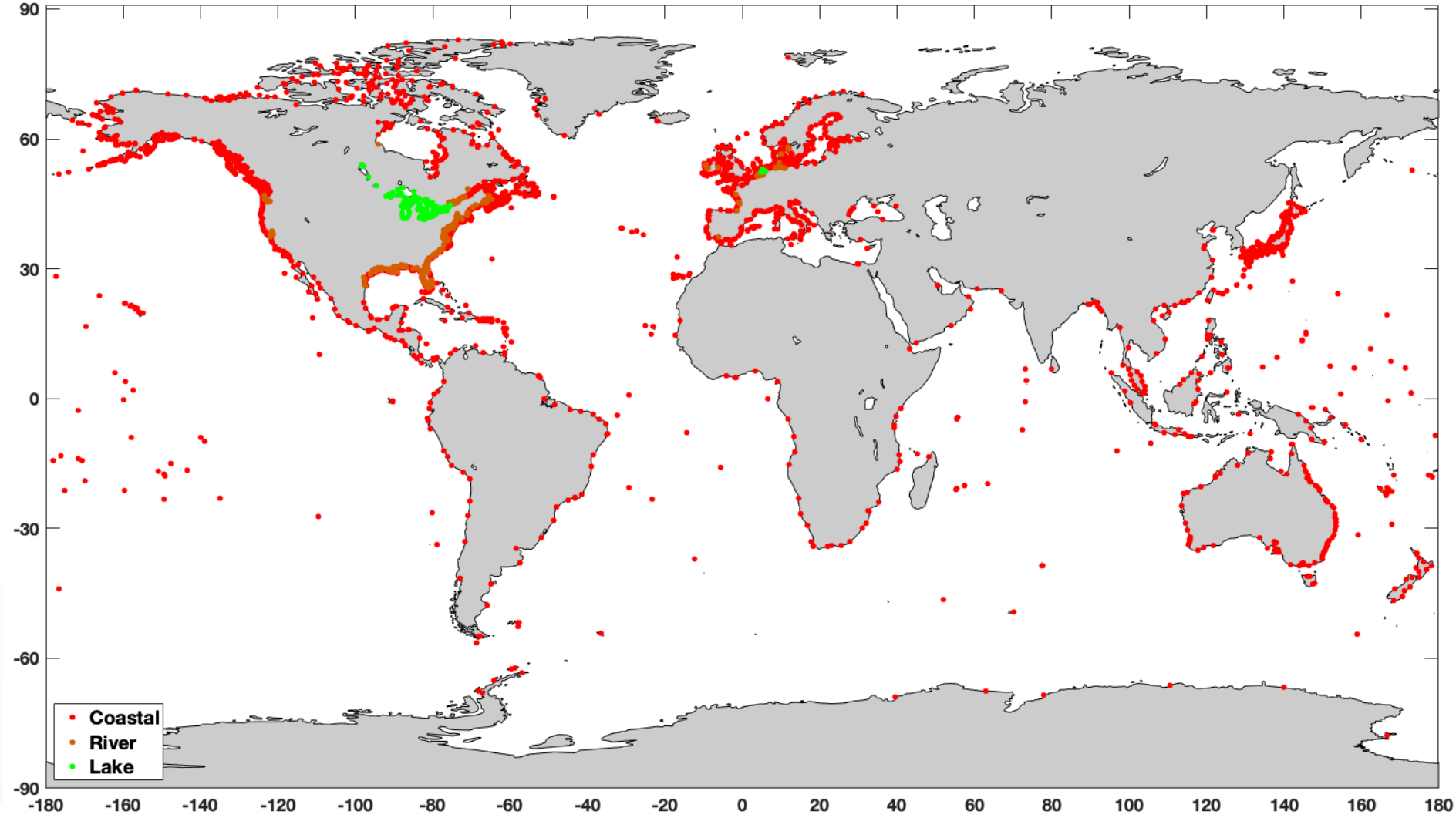
Stations in GESLA-3 that are more than 50 km from a station in GESLA-2



Temporal distribution



Coastal (4159); River (768); Lake (192)



We have a new web-site

GESLA

- Global Extreme Sea Level Analysis -

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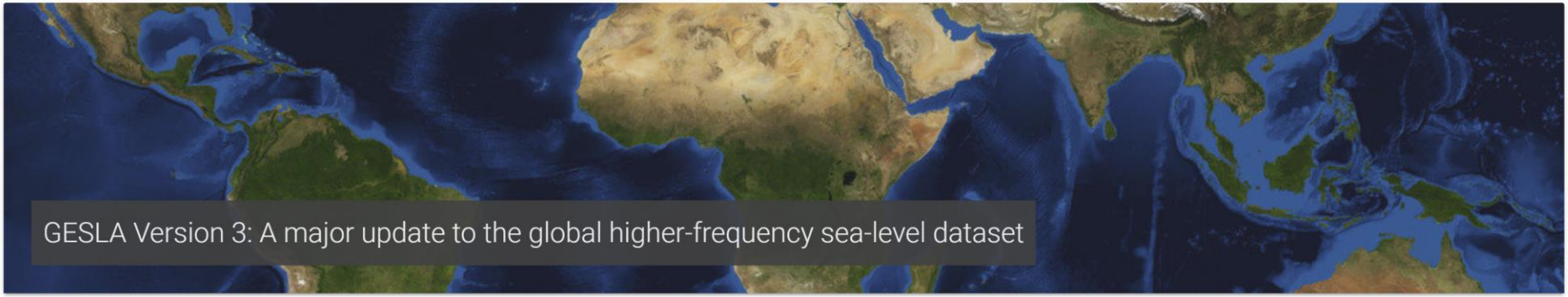
Home

Having access to high-quality sea-level measurements worldwide is vital for many oceanographic and coastal applications. The overall aim of the GESLA (Global Extreme Sea Level Analysis) project is to assemble as many higher-frequency (i.e. hourly or more frequent) sea level records as are readily available into a common format with consistent quality control flags to make it easier for researchers to maximize geographic density of data capturing tides, storm surges, extreme sea levels and other related processes on a global scale. GESLA is an official GLOSS (Global Sea Level Observing System) dataset.

License

- The entire GESLA-3 dataset can be freely used for research, but there are **some limits for users wishing to use the dataset for consultancy purposes**;
- Users wishing to use the records provided by **CV, UZ and CMEMS for consultancy purposes**, must contact these organisations to obtain permission first (or in the case of CMEMS the organisations that provided the data to them);
- Access to the data does not currently require authentication, so restricted data are open to all, and **we ask users to comply with the license conditions**.



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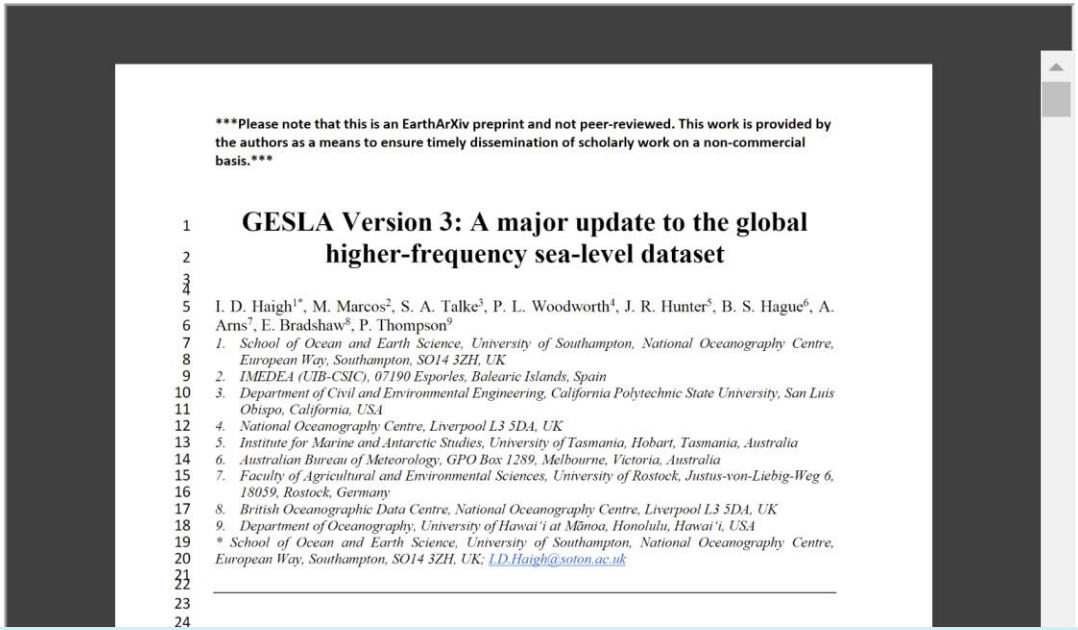

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Abstract

This paper describes a major update to the quasi-global, higher-frequency sea-level dataset known as GESLA (Global Extreme Sea Level Analysis). Versions 1 (released 2009) and 2 (released 2016) of the dataset have been used in many published studies, across a wide range of oceanographic and coastal engineering-related investigations concerned with evaluating tides, storm surges, extreme sea levels and other related processes. The third version of the dataset (released 2021), presented here, contains twice the number of years of data (91,021), and nearly four times the number of records (5,119), compared to version 2. The dataset consists of re... more