

Interactive map of sea level changes launched

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A new interactive map that allows users to explore changes in sea level worldwide over five decades has been launched by the UK's Permanent Service for Mean Sea Level (PSMSL).

The PSMSL, operated by the National Oceanography Centre under the auspices of the International Council for Science, is the global databank for sea-level change information. Established in 1933, it is largely thanks to PSMSL's dataset that we are able to assess the sea-level changes of the last century.

The Anomalies Map, generated from a [worldwide network](#) of tide gauges, demonstrates how sea level varies from year to year when compared with the long-term average at a particular site, calculated over the period from 1960 to 1990. Moving a slider along the time line at the bottom of the map shows how, at some locations, sea level can vary by over 20 centimetres from year to year.

On first loading the web page showing the sea level anomalies, the background trend at each tide gauge is not removed, so a majority of the early years shown (the 1950s) are dominated by blue colours showing negative anomalies and the later years by red colours showing positive anomalies as the average [global sea level](#) rises.

There are some notable exceptions to this pattern; for example, the land along the Baltic coasts of northern Sweden and Finland is uplifting as the Earth continues to recover from the collapse of the large ice sheets that covered the region during the [last ice age](#). This causes sea level,

measured by tide gauges, to decrease. Thus, the anomalies in that region go from red to blue over the time span of the data. This background trend can be removed at each site, using a tick box below the map.

The trends can be explored more thoroughly using the PSMSL's Trend Explorer released earlier this year.

PSMSL's Director, Dr Lesley Rickards, said: "This map lets users see how the estimate of a constant change in time or, in other words, a trend, for each tide gauge record depends upon the period of the data used in the calculation. Zooming out to show the world, it becomes clear that the vast majority of the sites are red, indicating a [sea level](#) rise."

It is interesting to note the change in geographic coverage of the data over time. By choosing the entire time span available - from 1900 to 2010 - users can observe the lack of data covering this period in the Southern Hemisphere and western Pacific. More data is available if the start date is moved up to 1950, but unfortunately there is still a lack of geographic coverage in the Southern Hemisphere.

More information: PSMSL's Mean Sea Levels Anomalies Map can be found at: www.psmsl.org/products/anomalies

and the Trends Explorer at: www.psmsl.org/products/trends

Provided by National Oceanography Centre, Southampton

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