

Will Planet Earth become Planet Ocean?

75 years of monitoring sea level change

Press conference: Tuesday 15 April, 9:00-10:00

Session: IS 48 - Observations and Causes of Sea Level Change: A Session to Mark the 75th Anniversary of the Permanent Service for Mean Sea Level, Wednesday 16 April, 10:30-19:00, Lecture Room 4, [Programme >>](#)

Global sea level is expected to rise in this century between 18 and 79 cm according to the IPCC 4th Assessment (allowing for uncertainty in the dynamic instability of ice sheets). It seems that this dramatic trend is set to continue beyond the 21st century, making the field of research concerned with measuring sea level change more important than ever.

Although interest in rapid climate change is relatively recent, the measurement of global mean sea level has taken place for the last 75 years. Established in 1933, the Permanent Service for Mean Sea Level (PSMSL) is the global data bank for long term sea level information from tide gauges, with information from approximately 2000 stations worldwide.

Sea level change is caused by a combination of factors. The most well-known are the thermal expansion of the ocean and the melting of ice sheets and glaciers. However, factors such as changes in ocean circulation, and variations in mass loads on land (e.g. ice, land water) are also important. All these factors alter the Earth's gravitational field and hence sea level. The impacts at the coast depend as much on changes in land level (measured by advanced geodetic techniques such as GPS and Absolute Gravity) as on changes in the ocean level itself.

Inevitably, research into sea level rise and variability spans many areas of science (oceanography, glaciology, hydrology, geology, geodesy, geophysics etc.). In this interdisciplinary session, the focus will be on celebrating the PSMSL's 75 years, on the wide range of uses of the data gathered by the PSMSL, on complementary techniques for measuring sea level, and on new scientific insights.

In the press conference we shall concentrate on:

1. the PSMSL-75 celebrations,
2. new scientific and technical developments at POL with regard to tide gauges,
3. the potential for exploiting space gravity for sea level studies,
4. and the development of the global sea level and tsunami networks.

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