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A global data base for late-glacial and Holocene sea-level indicators

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During the strategy fund program SEAL (Sea Level Change: an Integrated Approach to its Quantification) of the Helmholtz Community of German Research Centers (HGF), a global data base for late-glacial and Holocene sea-level indicators (SLIs) was established at the GeoForschungsZentrum Potsdam (GFZ). The aim was to interpret sea-level variations on a global scale over the last 20,000 a with respect to glacial-isostatic adjustment (GIA), to infer the Earth's mantle viscosity and to predict the GIA contribution to the present-day sea-level rise (e.g. Hagedoorn et al., 2006) and gravity change observed by GRACE. In contrast to the standard information, such as position, age and former sea-level height characterizing a specific SLI, a more complete suite of information about each SLI is included in the data base. Its main advantage is that it allows a more sophisticated inference of former sea-level height from SLIs (e.g. Hagedoorn, 2005, STR 05/13 GFZ-Potsdam; Klemann & Wolf, 2007, PAGEOPH; Wolf et al., 2006, Surv. Geophys.).

The poster presents the status quo of the data base: The data consist at present of 14,000 SLIs which are stored in a relational data-base system and sorted with respect to geographical regions. It is based on compilations by Kevin Fleming (Far Field), Art Dyke (North America), Ian Shennan (Britain), Glushankova (Siberia) and additional compilations for Antarctica, Patagonia, Barents Sea and Fennoscandia based on a scrutiny of the relevant literature.