

Sea-level indicators as a constraint for GIA

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One constraint for the inference of mantle viscosity and reconstruction of the last glaciation is the variation of Holocene sea level. A measure of this variation is the interpretation of sea-level indicators (SLIs). Sea-level indicators are fossil samples indicating the former sea-level height from their depositional conditions. Usually they are picked up and interpreted by geologists and, so, appear spread in literature covering several disciplines like archaeology, ecology, glaciology and palaeontology. For geophysical purpose, compilations exist spread in review articles where partial informations of the respective SLIs are listed. Due to the different significance of the fossil samples the interpretation in terms of sea-level height often depend on the individual description of the published material and demands a careful revisiting when using these data. Mining the available literature, we are constantly extending a database of SLIs. The data are stored in an SQL data-base system where not only basic features like location, age and height of the derived former sea level are stored but also the kind of material and further information provided for the individual sample. This choice of storage enables a more systematic interpretation and statistical analysis of the available information. This is mandatory considering the total amount of at the moment more than 10,000 SLIs. In this talk, the different kinds of SLIs are presented and it will be discussed how they can be used to infer the sea-level variations during the last glacial cycle.