



Sea level and extreme waves in the Last Interglacial: open questions and research directions

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The Last Interglacial (LIG, ~125 ka) was the last period in Earth's history when sea level was higher and ice sheets were smaller than today. This time is often regarded as an imperfect analog for a future warmer climate. Despite decades of research on geological proxies for Last Interglacial sea levels and climate, there are still numerous open questions. For instance:

- (1) Was the LIG characterized, at least in the North Atlantic, by storms more intense than today? Besides the frequently-cited evidence in the North Atlantic, is there evidence of LIG extreme storms elsewhere?
- (2) Can we use paleo sea level proxies to understand the magnitude and intensity of past coastal processes such as waves and tides?
- (3) How well does field data support the possibility of a late-LIG sea level rise? And a mid-interglacial sea level fall?
- (4) How does uncertainty in the contributions of GIA, tectonics and earth dynamic topography contributes to the total uncertainty on peak LIG eustatic sea level estimates?

We will address the four points above, focusing on the challenges that coastal geologists and earth modelers are facing as they research new approaches to improve what we know from the last warmer world.