



## **Mid-Pliocene (~3 Ma) relative sea level markers around the world: searching for eustasy.**

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PLIOMAX (PLIOcene MAXimum sea level) is a five-year research project that aims to increase the accuracy of global sea level estimates for the mid-Pliocene warm period. To achieve its goals, PLIOMAX has organized several field expeditions to identify, measure and date relative sea level markers of mid-Pliocene age from around the globe, and built a network of collaborators expert in different geographic areas and disciplines. In this work we present field data obtained from South Africa, Australia, Italy, Argentina and the US East Coast. In these areas we sampled, measured and dated geological facies related to mid-Pliocene sea level. Most areas yield information on 3 Ma sea levels with an accuracy of few decimeters. In presenting our dataset, we will show how we address the following questions, including: how can we obtain accurate measurements in the field? What is the accuracy of the markers we measure in indicating past relative sea levels? To which point can we trust older literature data? We then show how the elevations of relative sea level markers obtained in the field must be corrected to obtain an estimate of eustatic sea level. These corrections use models of glacial isostatic adjustment and dynamic topography. We discuss uncertainties linked to these models as well as the main issues that are still separating us from obtaining a robust estimate of maximum eustatic sea level during the mid-Pliocene warm period.