Receiver function studies at the foot of the world

An exponential increase in human activity over the past century has lead to rapid global climate change, the scale of which has yet to be determined. At the forefront of the concerns is the general behavior of the West Antarctic Ice Sheet (WAIS), considered to be generally unstable and at risk of rapid disintegration, though true model parameters are thus far unconstrained. Through the POLENET project, a multi-national joint GPS and seismic instrumentation effort of West Antarctica, we aim to apply receiver function analysis to teleseismic data in order to determine parameters such crustal thickness, mantle and crustal velocities, and basal topography in order to allow for more precise modeling of isostatic rebound of the crust and melting rates of the WAIS.

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