Using near-surface observations to probe subduction and mantle dynamics

Subduction zones are sites of extreme topography, volcanism, and earthquakes. By coupling cutting-edge geodynamic models with observations, we will develop a global understanding of how subduction processes are reflected in what we can observe at the surface. Available projects deal with scales that span from individual subduction zones to Earth’s global system, and observations ranging from global topography to the types of rocks exhumed to the surface at individual subduction zones.

Evolution of slab pressure-temperature (P-T) conditions in the model shown on the left. (Underlain are P-T conditions derived from exhumed rocks.)