Notes on Paper Schaeffer and Lebedev, 2015 “Global Heterogeneity of the Lithosphere and Underlying Mantle: A Seismological Appraisal Based on Multimode Surface-Wave Dispersion Analysis, Shear-Velocity Tomography, and Tectonic Regionalization

* Such cluster-based regionalization of tomographic models provides not only a novel means of classifying and characterizing the upper mantle structure identified by an individual model.
* Separate regions through shear-speed models split into k=6 arbitrary sets such that intra-cluster variance is minimized.
* Cluster types and geographic distribution not predetermined but result directly from the minimization.
* Split into same regions as Haas, 2020: young oceans, intermediate oceans, oldest oceans, continental phanerozoic regions, Precambrian fold belts, cratons.
* Regionalization computed from the model SL2013SV.
* Can do regionalization by either surface-wave tomographic models, with no a priori information or by using compilations of a priori geologic and geophysical information. Largely similar usually only vary in oceanic regions between younger and intermediate regions.
* Regionalization sorts all locations around the globe into six clusters according to shear-wave speed profiles at 30-350km depths beneath them. Get density values from correlating to wave velocity and can create Moho models from this.