Topic: Magnetotellurics

- Several minute delay setting up computers
- Discussed Hill 2009 Paper
  o Figure 1
    ▪ Discussed source of data for contours
    ▪ Perhaps previous data (Egbert & Booker)
    ▪ Seems to be a lot of interpretation for northern part, as main array is in southern part and only one station/measurement is in the northern part
    ▪ Not much data displayed in area of dense array to southwest
    ▪ Cut out size and scale do not appear to be exact with regional map. Sloppy?
  o Figure 2
    ▪ Same Model – Different shading colors. Confusing
    ▪ Data shown in W. and S. portions not included in Figure 1 (i.e. no deep blue)
    ▪ Skew angle represents change just E of Mt. St. Helens, which indicates a potential magma source located between the three volcanoes
  o Figure 3
    ▪ Color coding: Red = High conductivity
    ▪ Figure shows reservoir, but NOT deeper reservoir source
    ▪ Perhaps longer period source would reveal source.
  o Figure 4
    ▪ Reservoir not clear/strong (i.e. not deep red)
    ▪ Inconsistent with Figure 3? Maybe data sensitivity issue
    ▪ Red at surface E of Adams. Potential water table?
- Discussed Patro 2008
  o Figure 2
    ▪ Figure summarizes main point of entire paper
    ▪ Used seismicity study to generate left figure & compared to their data. It agrees.
    ▪ Discussed Seletzia placement and apparent slab dip placement/angle.
  o Figure 3
    ▪ Depth of peak similar for each province
    ▪ High conductivity at lower crust can potentially mask lower mantle
    ▪ Does C2 in Patro relate to Hill 2009 findings? It is possible, but wavelengths used in two studies not compatible, Hill data located between 2 Patro stations.
What is C1? Huge area. Paper says that this may be the result of magmatic underplating from Basin and Range extension.

- Compared the two papers. Patro starts to build image, but not much interpretation. Hill has more interpretation.
- Closed by exploring ideas on short timescale changes in MT results. Could you map a small scale fluid flow with MT?