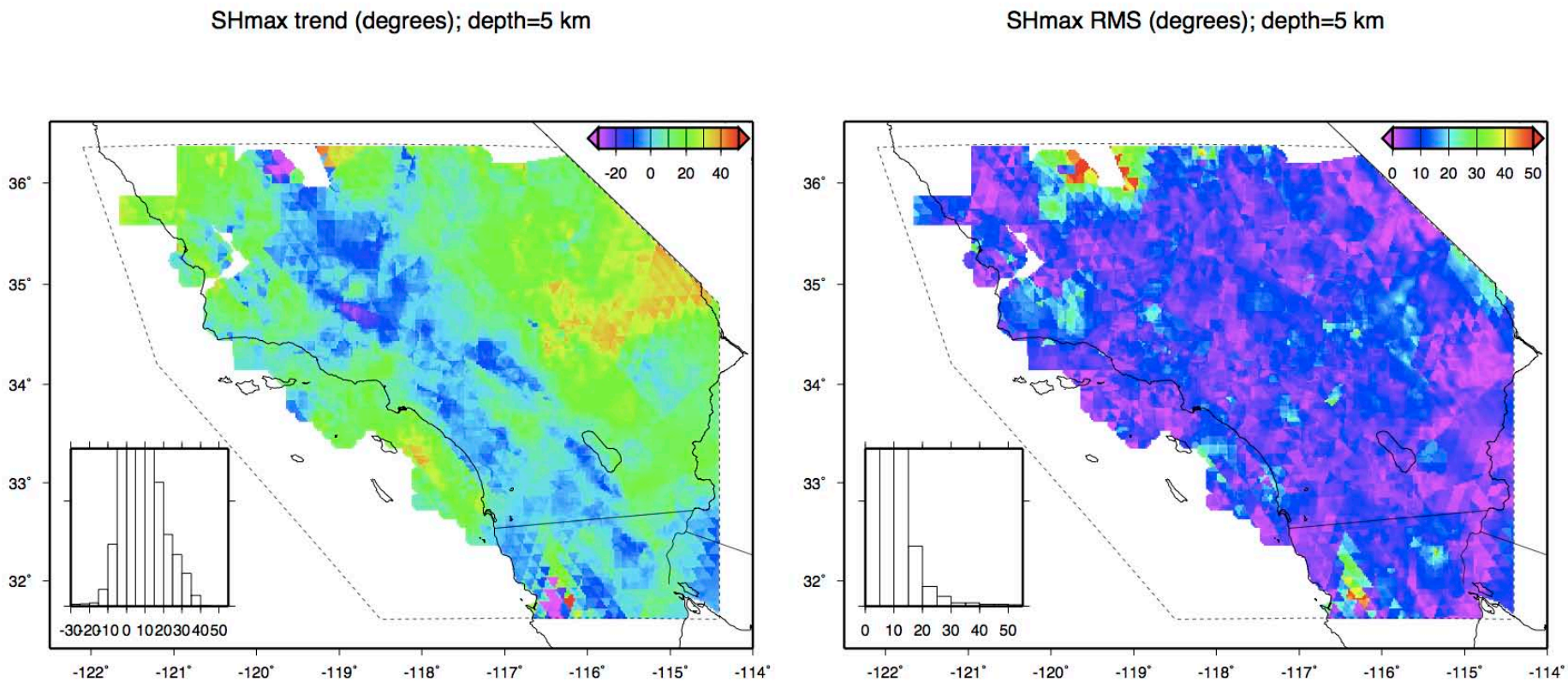
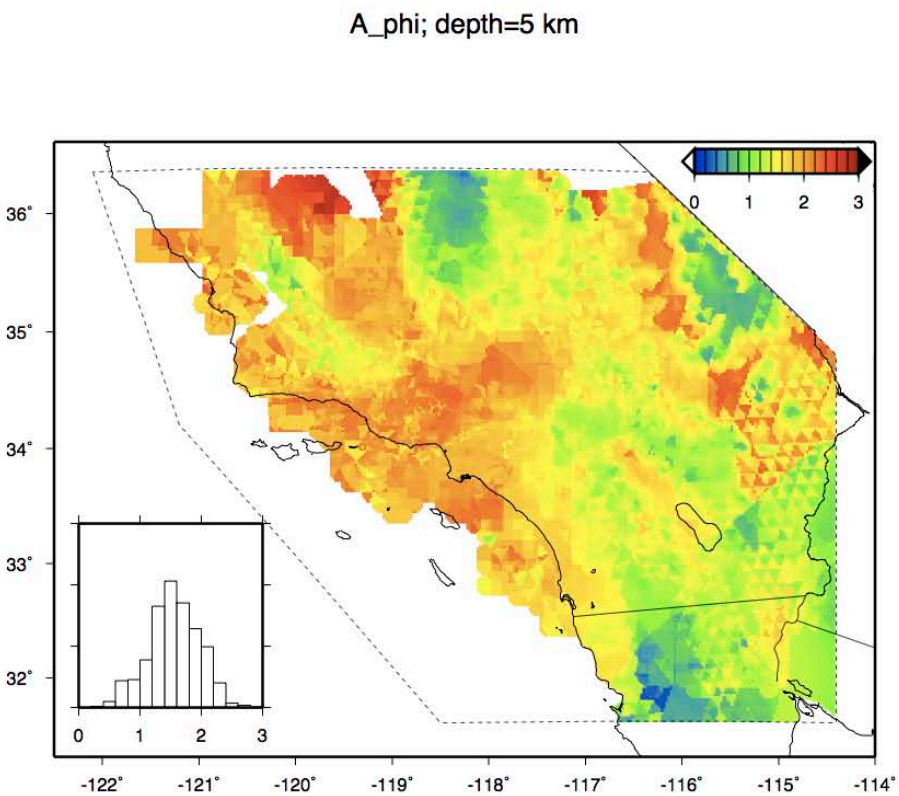
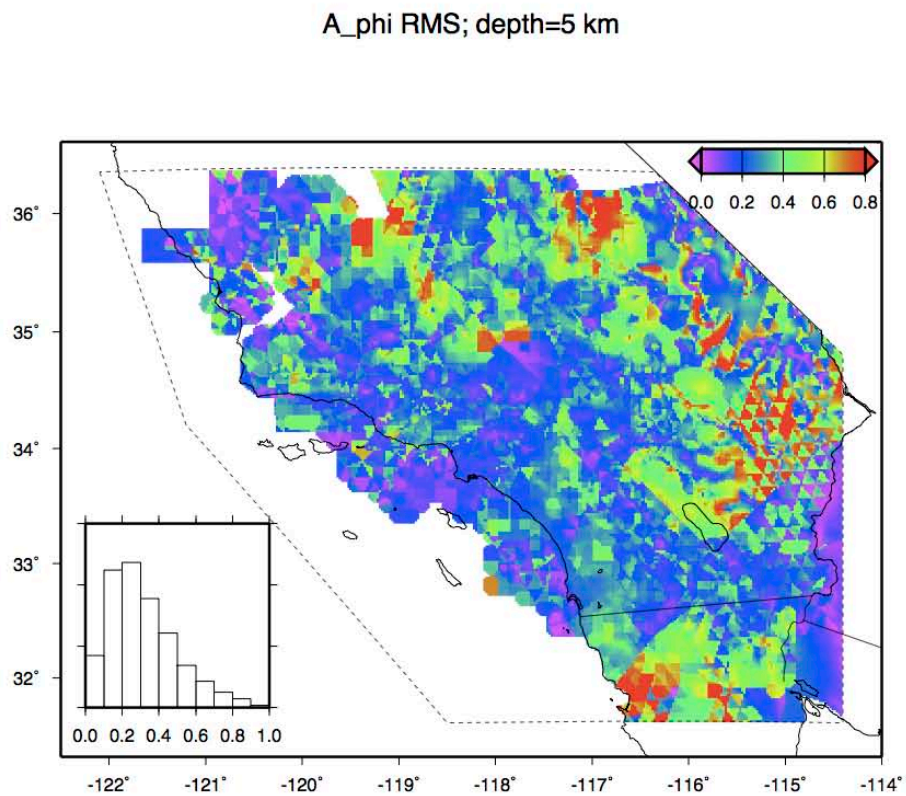
Average Stress Model: average normalized deviatoric stress tensor.



* Average of Bird SHELLS, Hardebeck FM, Luttrell & Sandwell, and Yang & Hauksson models.

Average Stress Model: average normalized deviatoric stress tensor.





phi=(σ2-σ3)/(σ1-σ3)

Aphi=phi 0-1 : normal faulting (σ1 most vertical)

Aphi=2-phi 1-2 : strike-slip faulting (σ2 most vertical)

Aphi=2+phi 2-3 : reverse faulting (σ3 most vertical)

Discussion: Reconciling Branches:

Branches:

1) DATA – focal mechanisms, borehole measurements (add industry data?), WSM (how do we collaborate with them?), shear wave splitting in crust (compile), relevant geology data (compile)…
2) Data-based stress models (e.g. focal mechanism inversion, …)
3) Physical models (there are more models out there, need to solicit them)
4) Stressing rate models (add UCERF3 deformation models, at what stage?)

What issues need to be reconciled within these branches?

Develop a web tool:

1) Access all models/data, build average models (with L2- or L1-norm and hit count) from selected models, compare models with data, compare models with each other, smooth on different scales, add heterogeneity, …

Discussion: Validation:

1) Compare models against data (and against each other?)

2) Develop physical constraints: minimum stress from topography, GPE, earthquake stress drops…

3) Test model predictions: predicted rake on faults, predicted vertical deformation…