

2014 Fellow, the American Geophysical Union



Gary Egbert

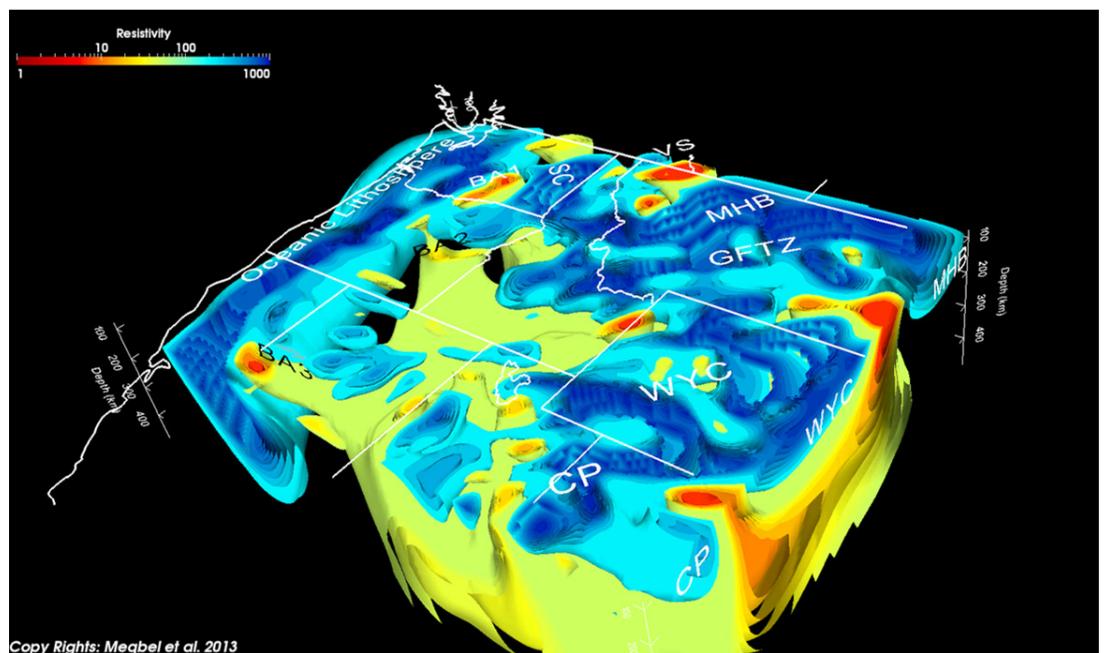
Professor,
Geology and Geophysics

Egbert has been named a 2014 Fellow of the American Geophysical Union (AGU). This year, 62 fellows representing less than 0.1 percent of overall membership were named for their scientific eminence, a major breakthrough, a major discovery, paradigm shifts and/or sustained scientific impact.

Egbert is a geophysicist and oceanographer whose studies range from ocean tides to electromagnetic imaging of the solid Earth. In one pioneering study, he and his colleagues used satellite altimetry data to show that ocean tides lose significant energy over rough topography in the open ocean. These results imply that the tides may provide an important source of mechanical energy for vertical ocean mixing, and large-scale heat transport in the ocean – processes which are critical to Earth's climate.

In his work in magnetotellurics (MT), he has developed novel data processing and inversion methods that are used widely by researchers in this field worldwide. His work on applying these methods to Earthscope MT array data has provided the first large-scale three-dimensional images of electrical conductivity variations in the crust and mantle of the western US, shedding new light on the distribution of fluids and melt in tectonically active areas such as Yellowstone, and on the physical state and composition of the upper mantle.

Egbert earned his Ph.D. from the University of Washington in 1987. He will be recognized on Dec. 17 at AGU's annual conference in San Francisco.



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Three-dimensional image of electrical resistivity in the upper mantle beneath the northwestern USA, obtained from analysis of Earthscope MT data.

"It has been great fun to work in two rather distinct areas of geophysics—certainly no chance for boredom! I have been lucky to stumble into some great problems, and to have the opportunity to work with outstanding colleagues, mentors, post-docs and students."

– Gary Egbert