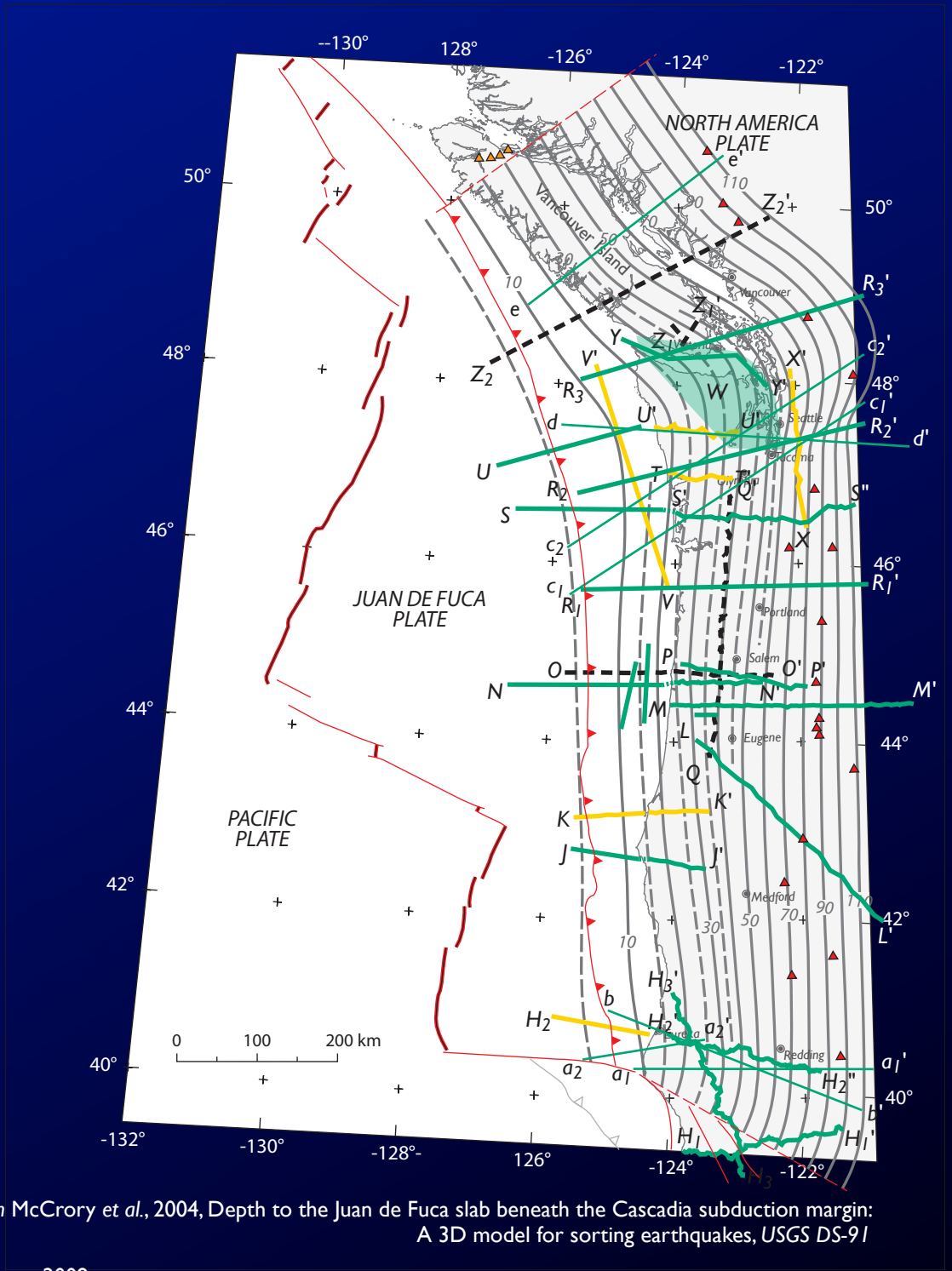
LOCATION OF DATA USED TO CONSTRUCT SLAB-DEPTH SURFACE

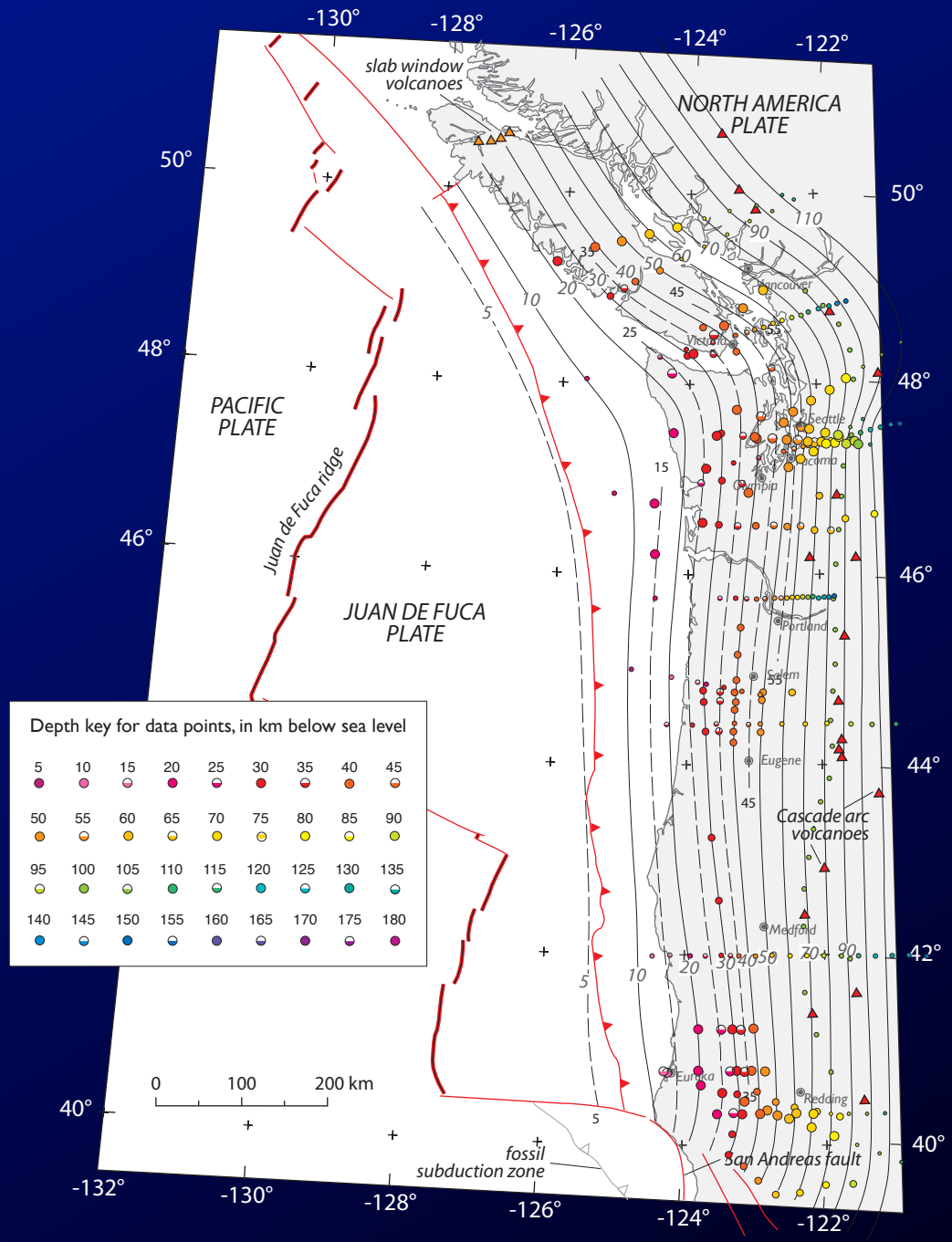
published model includes available constraints through ~2003



Modified from McCrory *et al.*, 2004, Depth to the Juan de Fuca slab beneath the Cascadia subduction margin: A 3D model for sorting earthquakes, *USGS DS-91*

DATA POINTS USED TO CONSTRUCT SLAB SURFACE IN »

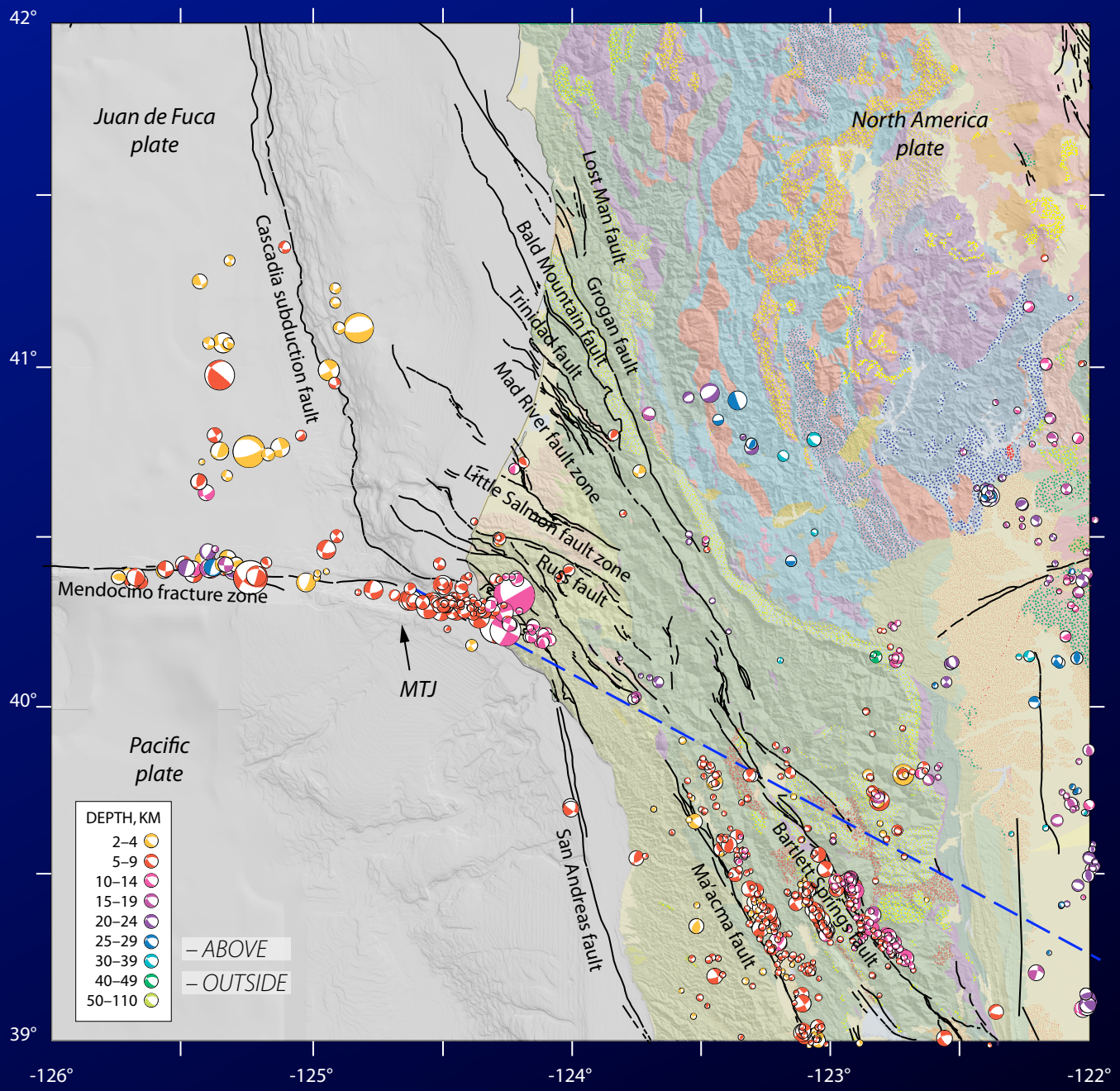
McCrory *et al.*, 2004, Depth to the Juan de Fuca slab beneath the Cascadia subduction margin: A 3D model for sorting earthquakes, *USGS Data Series 91*



REVISIONS CURRENTLY UNDERWAY

slab surface too deep in parts of northern California

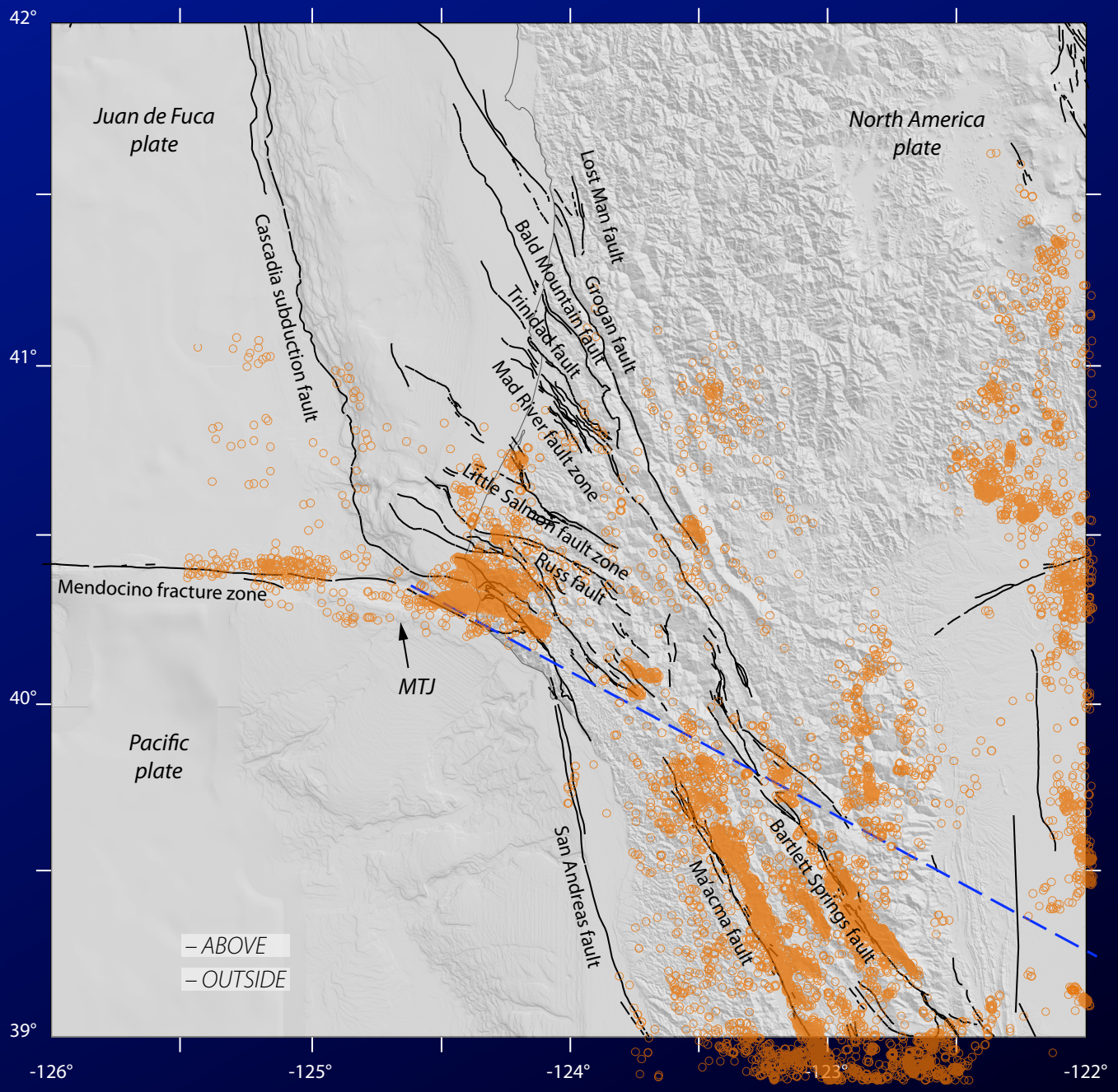
» slab mechanisms leaking through



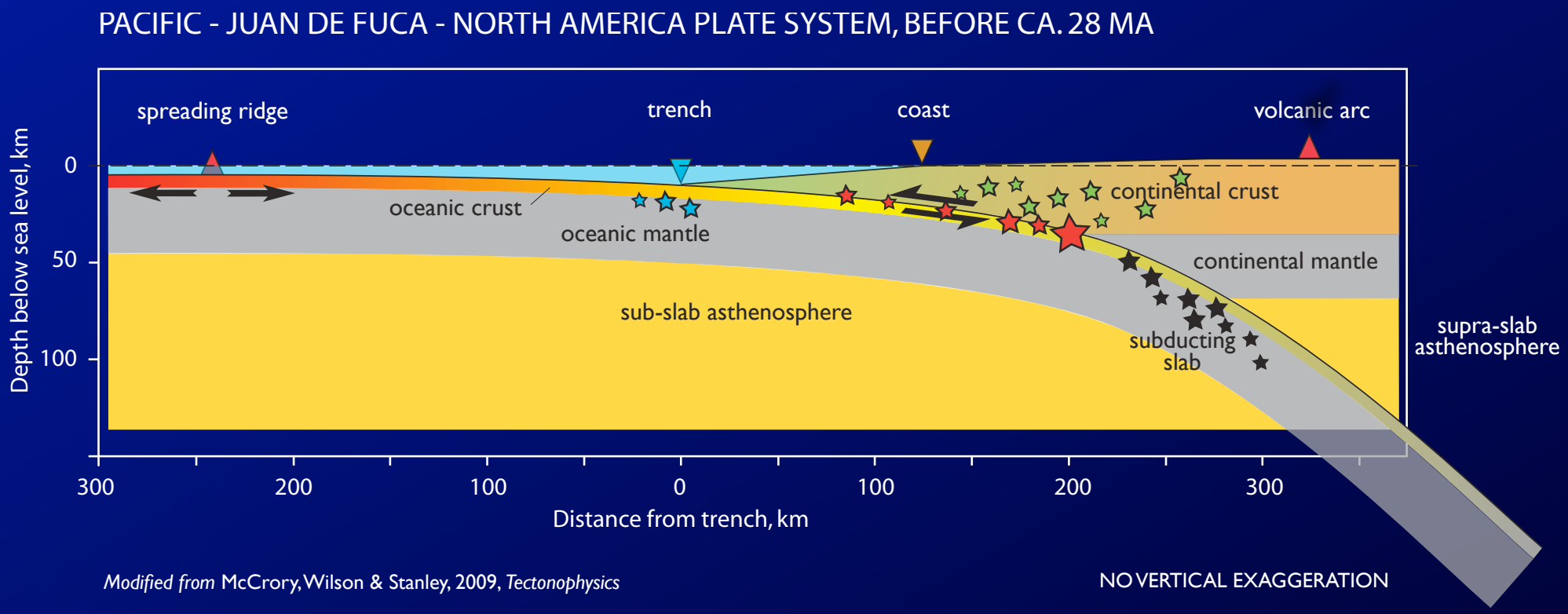
Modified from Pollitz *et al.*, 2009, Remarks on interseismic deformation in the western Unites States, *to be submitted to JGR*

REVISIONS CURRENTLY UNDERWAY

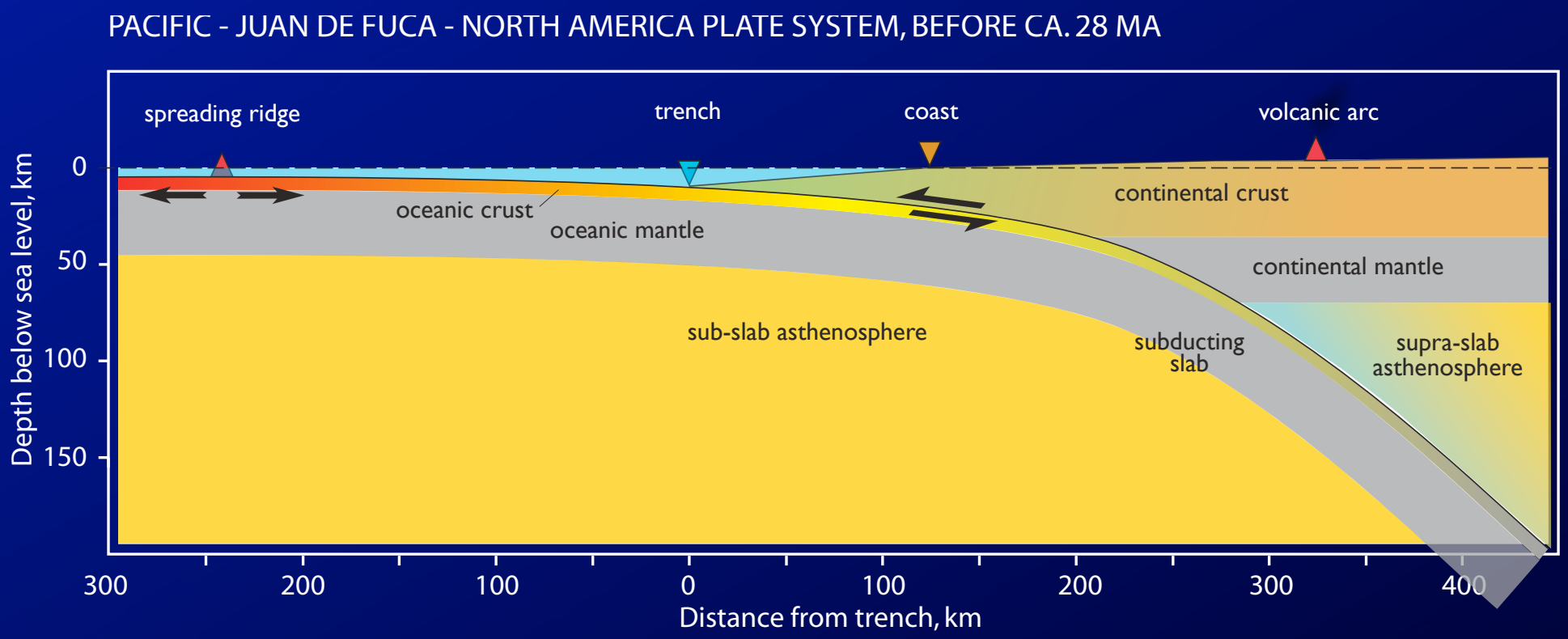
using 1983-2004 NCSN DD catalog to update slab surface in northern California



Seismicity from Waldhauser and Schaff., 2008, *JGR*



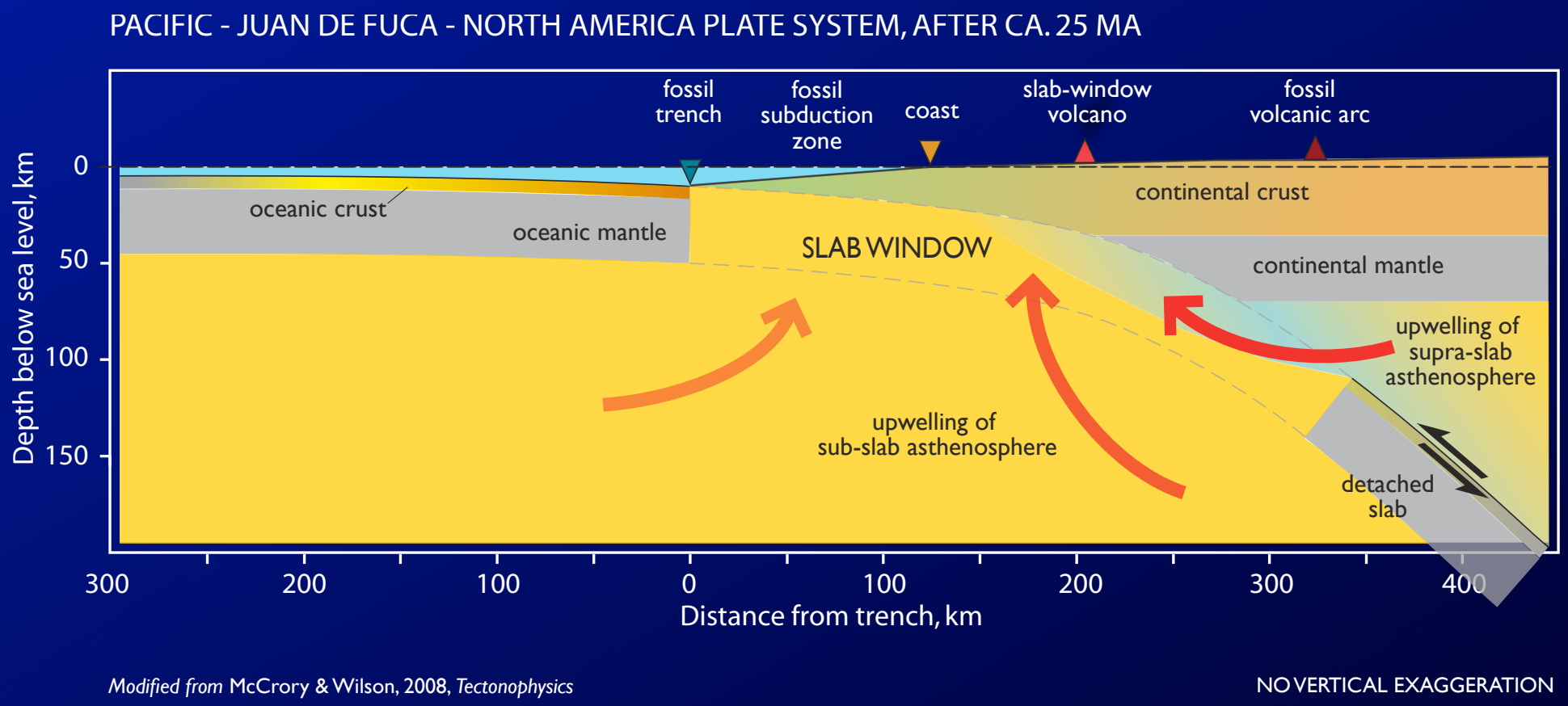
side view of a subduction boundary



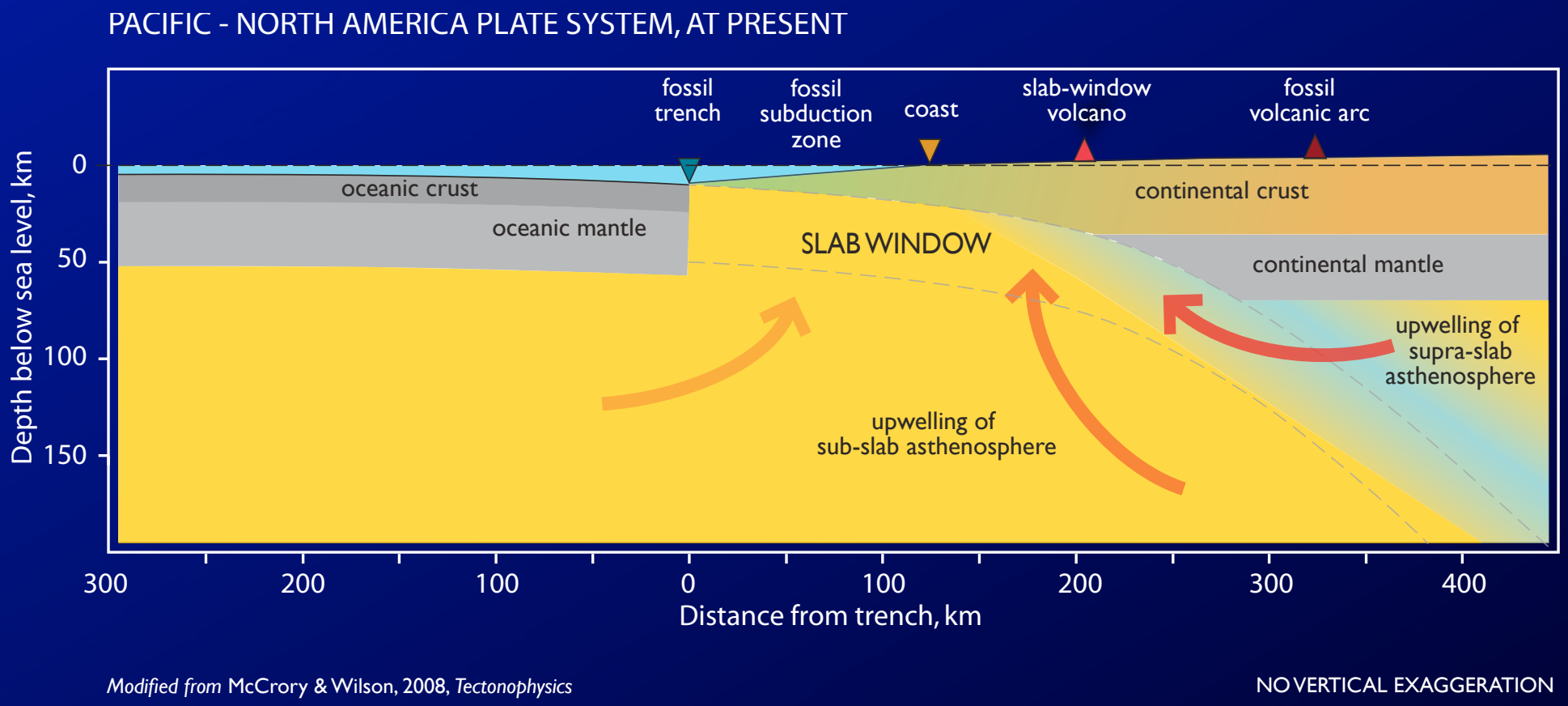
Modified from McCrory & Wilson, 2009, *Tectonophysics*

NO VERTICAL EXAGGERATION

SIDE VIEW OF CALIFORNIA SUBDUCTION BOUNDARY BEFORE FORMATION OF A SLAB WINDOW



SIDE VIEW OF CALIFORNIA CONTINENTAL MARGIN AT NORTH EDGE OF SLAB WINDOW



Modified from McCrory & Wilson, 2008, *Tectonophysics*

NO VERTICAL EXAGGERATION

SIDE VIEW OF CALIFORNIA CONTINENTAL MARGIN AT MODERN MENDOCINO TRIPLE JUNCTION

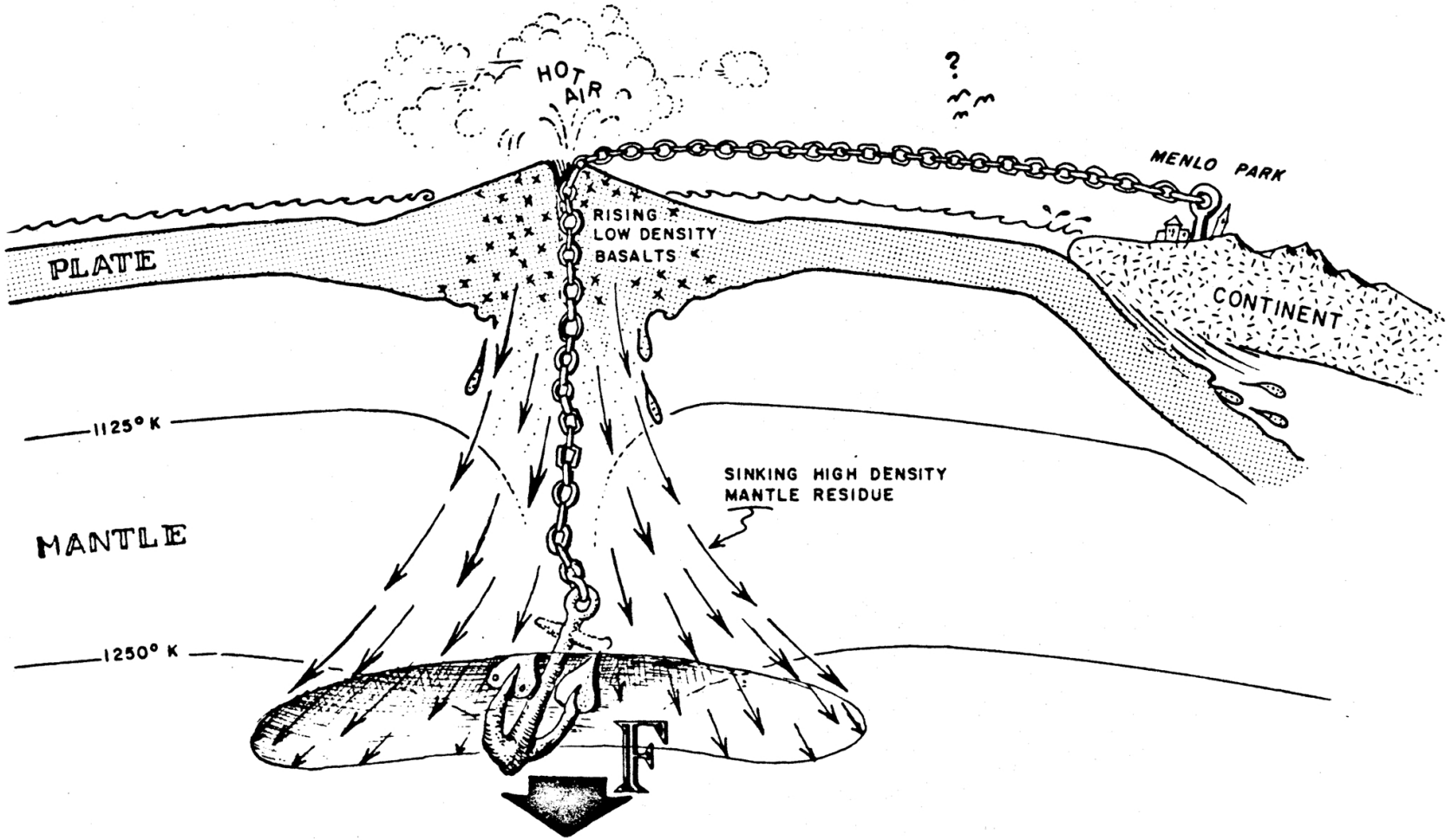
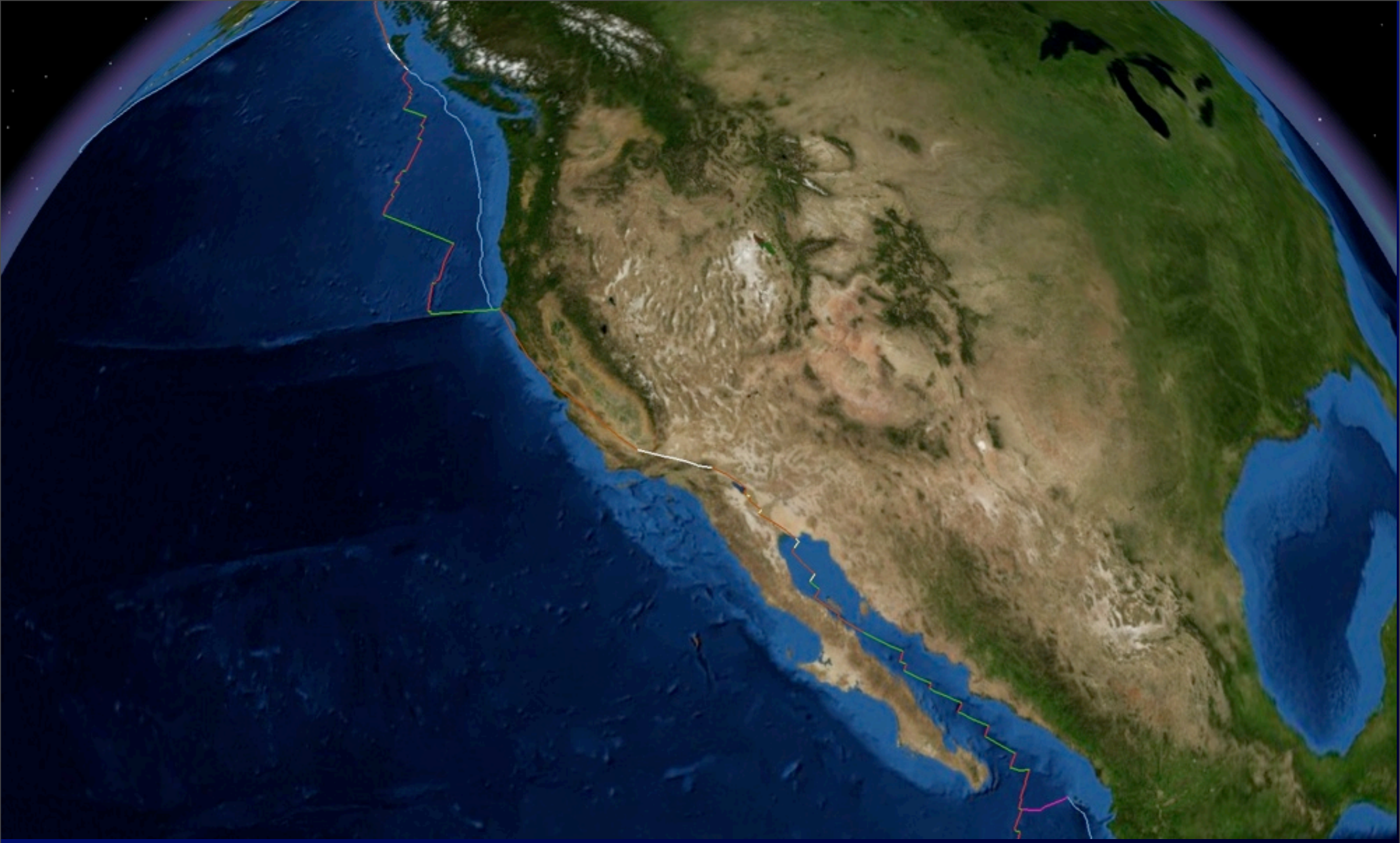


Fig. 2. Gravitational anchor theory, showing the origin of Hawaii [*Shaw and Jackson*, 1973]. According to this hypothesis, even the motion of California can be explained (although the motions of Californians remain as mysterious as ever).

Cartoon from Holden & Vogt, 1977, *Eos*.




INTO THE FUTURE