

**Figure 1.** Location map showing uneven distribution of epicenters interpreted to be Wadati-Benioff earthquakes beneath the Cascadia subduction boundary colored by depth range. Earthquakes compiled from ANSS (1975–2009) and CNSN (1985–2009) catalogs based on Juan de Fuca slab model shown in Figure 4a. Transverse Mercator projection, WGS 84 standard parallel  $-128^{\circ}$ , centered at 46.8°,  $-128^{\circ}$ , with standard parallel rotated 3° clockwise of vertical (plate boundaries from *Wilson* [2002]).