

Chapter 12

Additional Figures

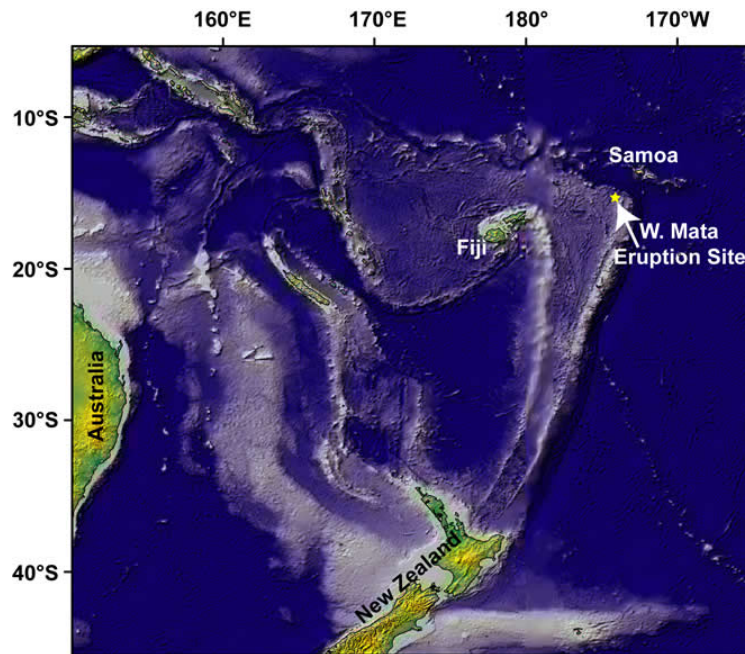


Figure OS12.1. Location of West Mata Volcano in the Lau Basin, south of the Tonga Trench. Image from <http://www.pmel.noaa.gov/vents/laubasin.html>.

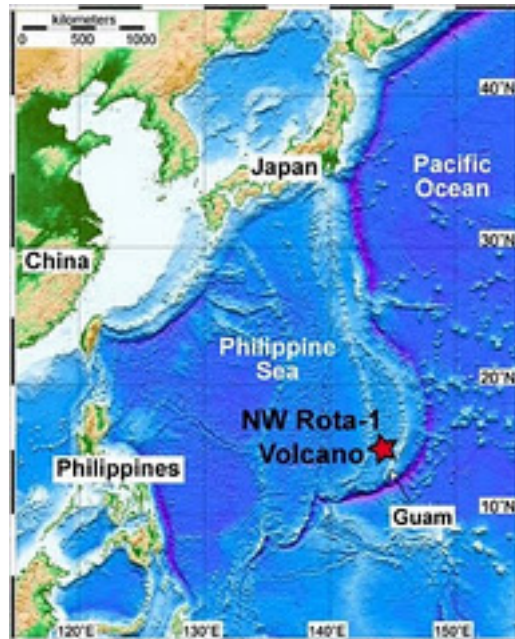


Figure OS12.2. Location of NW Rota-1 volcano near the Mariana Trench. Image from <http://nwrota2010.blogspot.com/>.

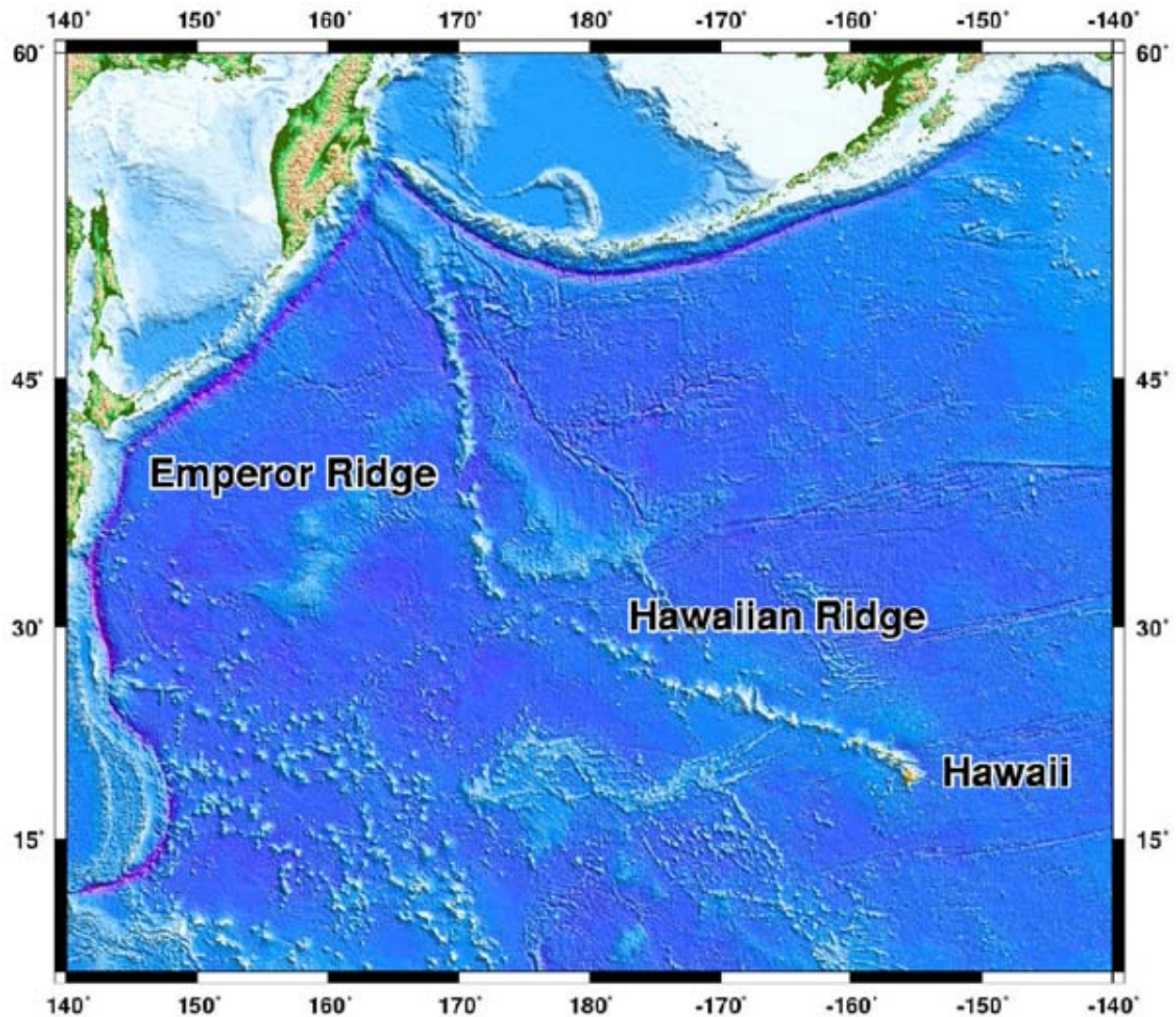


Figure OS12.3. The Hawaiian-Emperor seamount chain as it would look if there were no water in the Pacific Ocean. Only the Hawaiian islands are now above sea level; at one time in its life cycle, each seamount was likely an island. Image from http://oceanexplorer.noaa.gov/explorations/05stepstones/background/geologic_history/geologic_history.html.

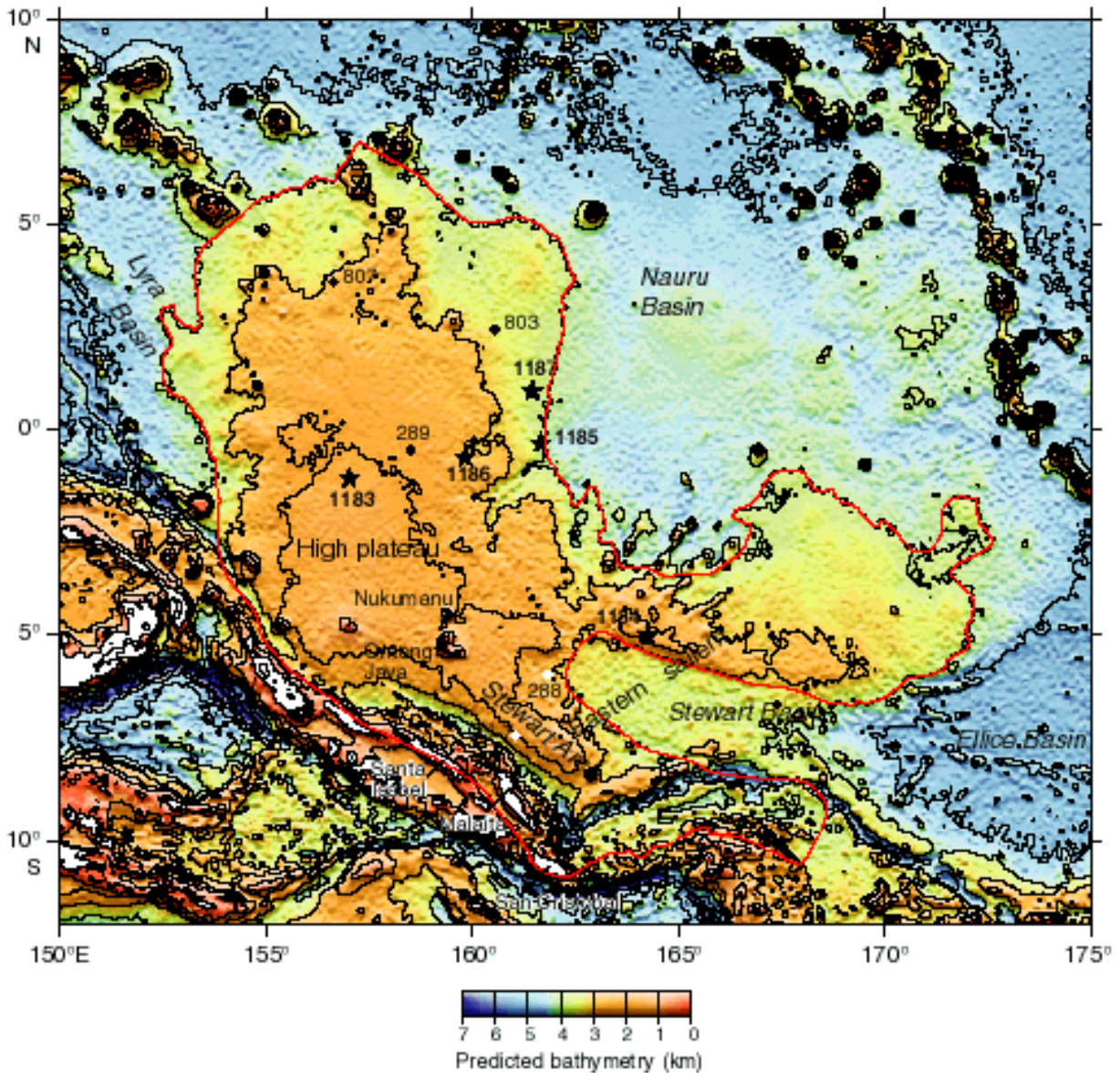


Figure OS12.4. Location of the Ontong Java Plateau, outlined in red. Numbered diamonds and stars indicate positions of drill holes from either the Deep Sea Drilling Program (DSDP) or the Ocean Drilling Program (ODP). Bathymetric contour interval is 1000 m. From ODP Leg 192 Logging Report (http://www.ldeo.columbia.edu/BRG/ODP/ODP/LEG_SUMM/192/fig1.html).

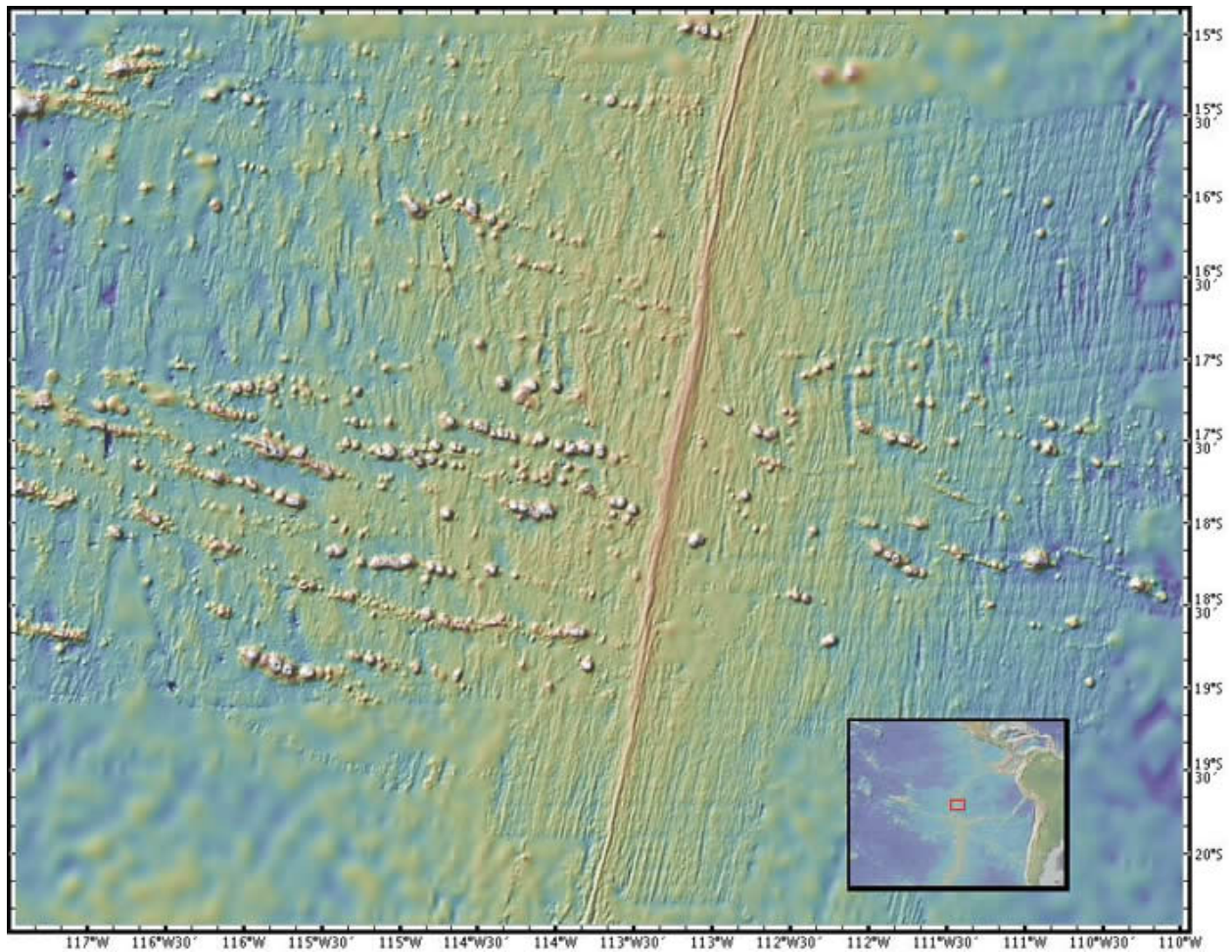


Figure OS12.5. Color version of Fig. 12.1 in Chapter 12 text. Bathymetry from the East Pacific Rise near 17°S, with north at the top; false illumination from upper left corner. Blues represent deep water and reds and white are shallower water. Note the seamounts that are found off-axis, and many are in “chains” that were probably fed from a leaky axial magma chamber and rifted off-axis. See <http://media.marine-geo.org>; modified from Ryan *et al.* (2009).

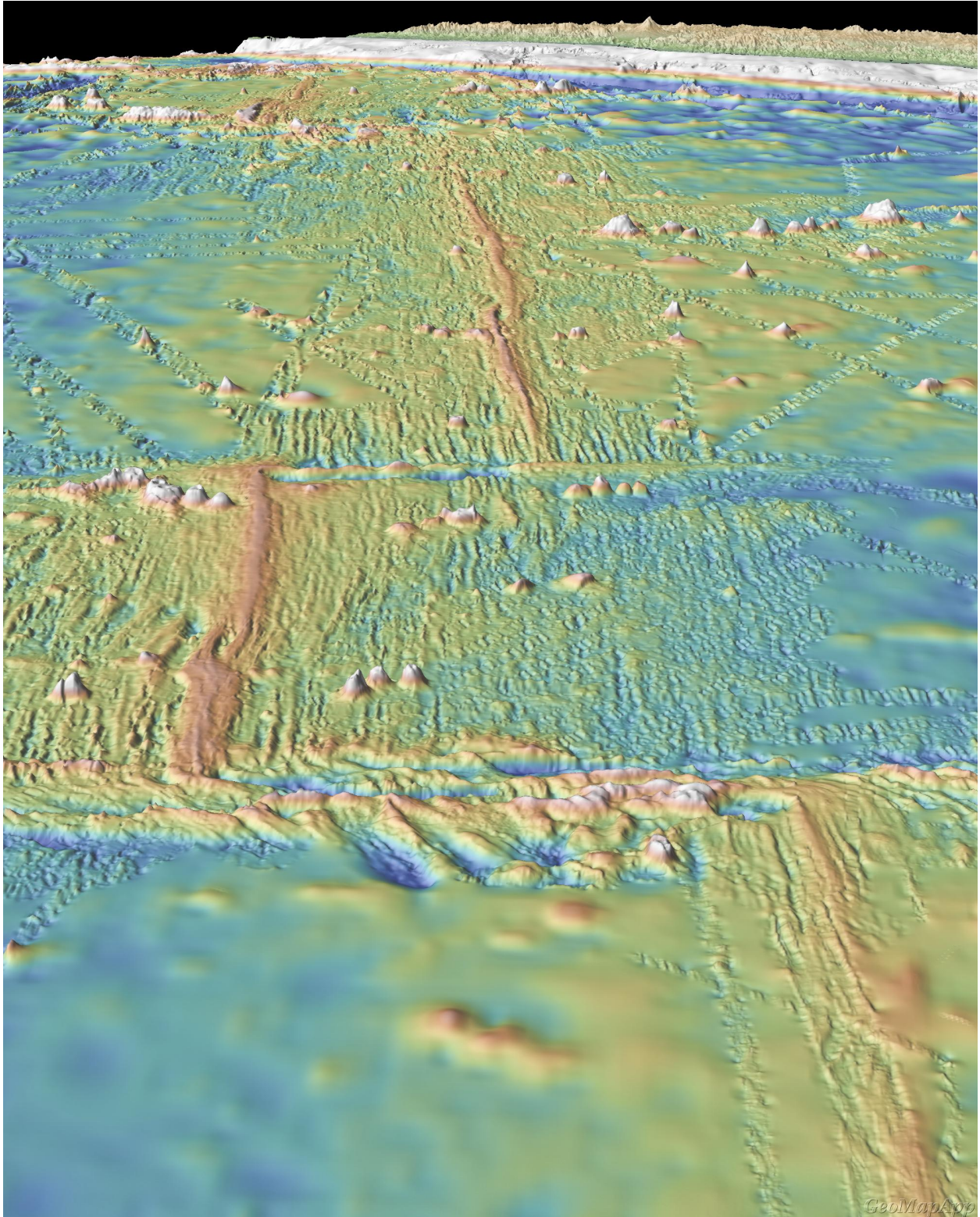


Figure OS12.6. Color version of Fig. 12.2 in text. A perspective view north from 7°N along the East Pacific Rise; whites and reds are shallow water, blues are deep water. Note how the two east-west trending transform faults offset the ridge near the center of the image. See <http://media.marine-geo.org>; modified from Ryan *et al.* (2009).

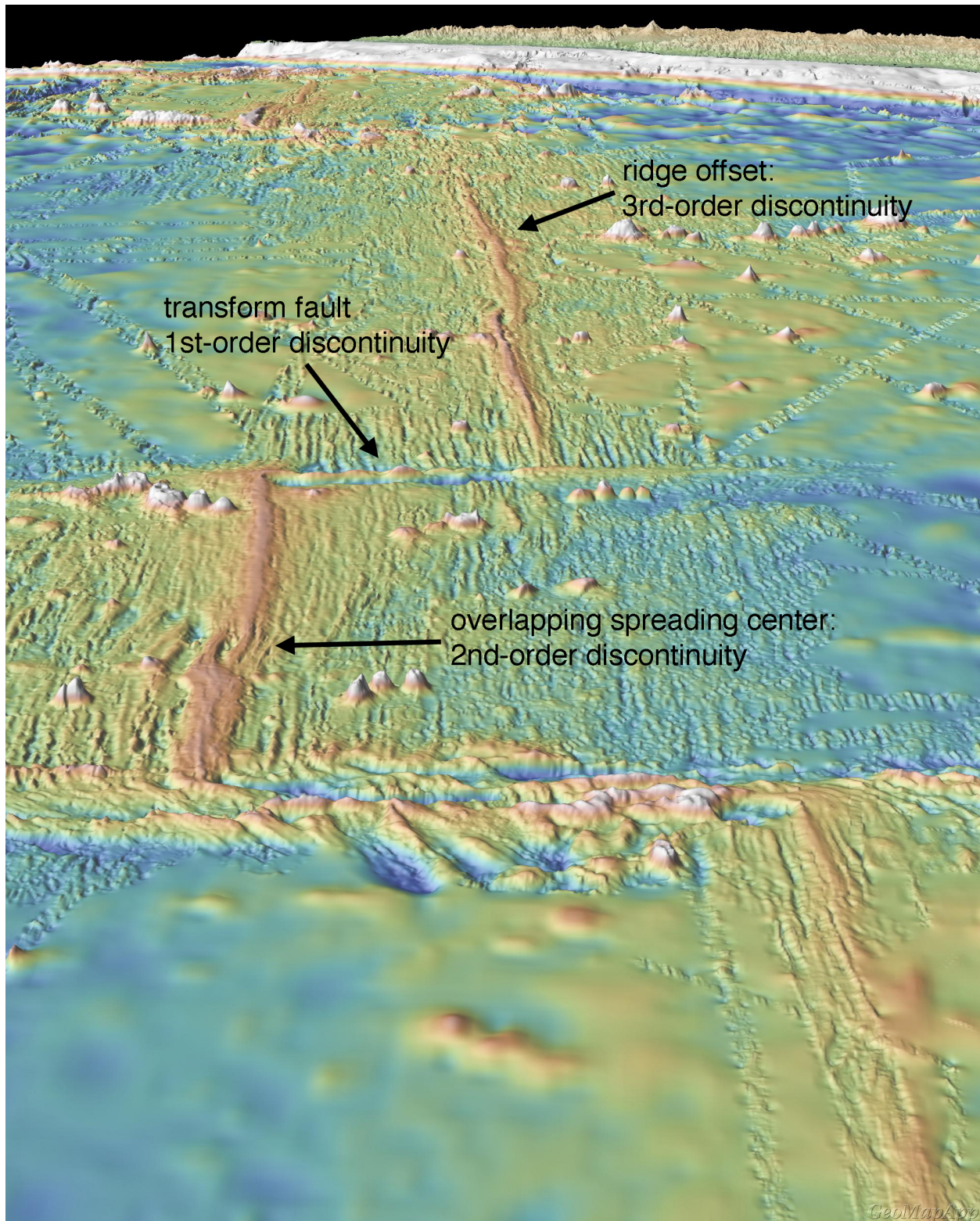


Figure OS12.7. Color version of Fig. 12.3 in text. Same bathymetric map as shown in Fig. OS12.6, with 1st-, 2nd-, and 3rd-order discontinuities labeled. See <http://media.marine-geo.org>; modified from Ryan *et al.* (2009).

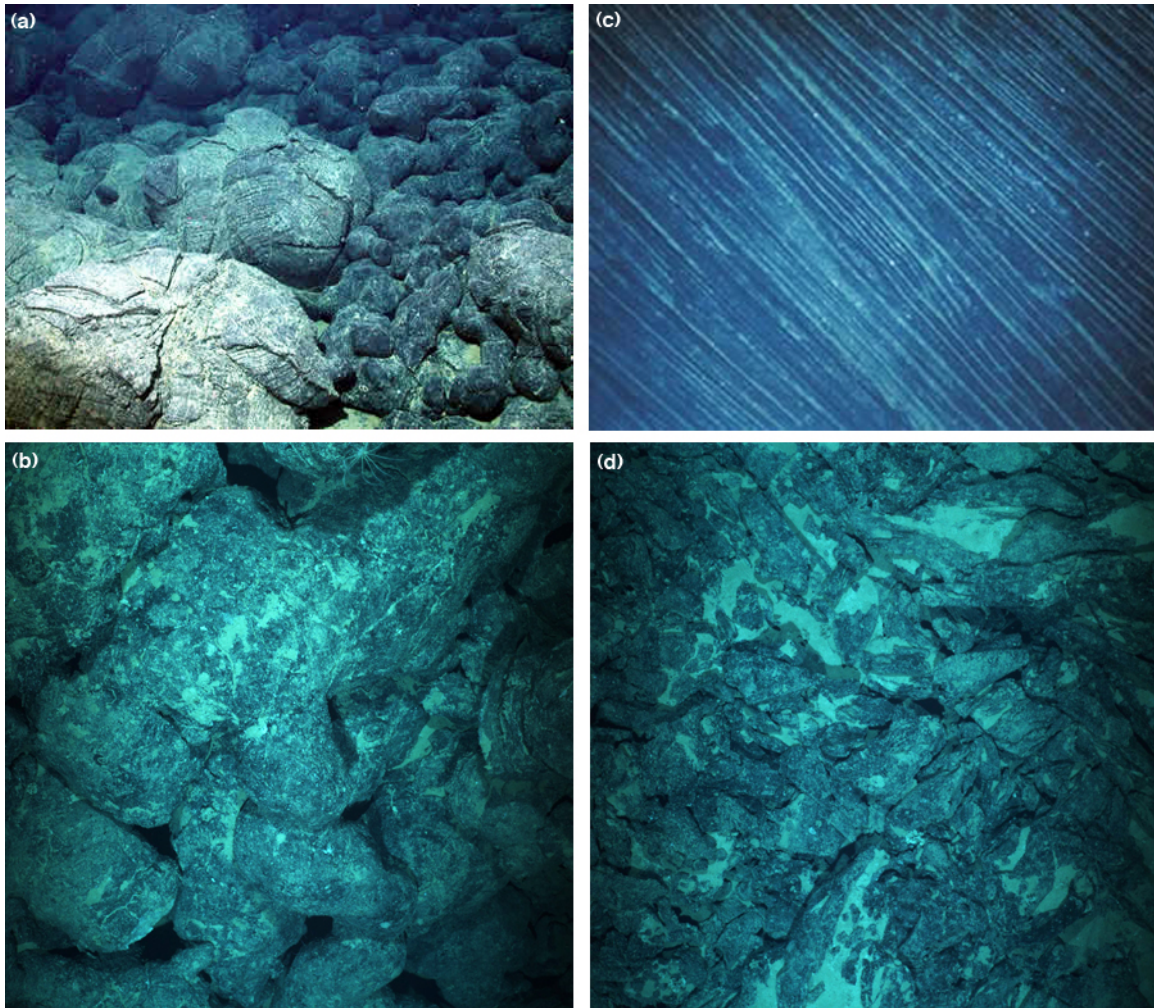


Figure OS12.8. Color version of Fig. 12.4 in text. (a) Lava pillows (foreground; gray) and small lobes (right side of the image; dark) from the floor of Axial Volcano caldera in the Juan de Fuca Ridge. Image width is ~2 m. Image from <http://www.pmel.noaa.gov/vents/nemo/logbook/images/aug09-lava.html>. (b) Lobate lava flow from the Galapagos spreading center; yellowish sediment appears in pockets on the surface. Image width is ~2 m. Image #cTOW-20100319-073119-0000253.jpg collected using TowCam (Fornari, 2003) during the GRUVEE cruise; courtesy of J. Sinton. (c) Lineated sheet flow from the Juan de Fuca Ridge; image width ~1 m. Individual lineations have a 1–3 cm wavelength; light-colored sediment fills the troughs between adjacent lineations. Image courtesy of the PMEL NOAA Vents Program” <http://www.pmel.noaa.gov/vents/nemo/explorer/concepts/sheetflow.html>. (d) Jumbled submarine lava flow from the Galapagos spreading center; low-lying areas are filled in with yellowish sediment. Image width ~2 m. (Image # cTOW-20100319-071039-0000129.jpg collected using TowCam (Fornari, 2003) during the GRUVEE cruise; courtesy of J. Sinton.)



Figure OS12.9. Color version of Fig. 12.6 in text. Lava pillar (<2 m tall) from the Axial Volcano caldera on the Juan de Fuca Ridge. This pillar was generated during an eruption in 1998. Image courtesy of PMEL NOAA Vents Program:
<http://www.pmel.noaa.gov/vents/nemo1999/logbook/cal062799/>.