1-Chatham Strait oblique. See Figure 2.13 of *Active Faults of the World* (AFW). Chatham Strait is the straight body of water at S end of image; a fault controlling the orientation may be active. NW corner of long triangular island is marked by Peril Strait fault. The linear feature across the inlet to N is the Fairweather fault, which sustained an earthquake in 1958 of M 7.9 (Plafker et al., 1978, *Canadian Jour. Earth Sci.15*:805-816). The Fairweather fault continues S offshore as the plate-boundary Queen Charlotte fault. To N, Fairweather fault bends to left as the faults of the Chugach-St. Elias Mountains (Figure 2.5). To N, the isolated range is the Wrangell Mountains, containing young volcanoes. Farther N, the Denali fault, source of an earthquake of M 7.9 in 2002, curves to left. Image by Dr. William A. Bowen, California Geographical Survey (http://geogdata.csun.edu), California State University Northridge. For Alaska collection, go to http://130.166.124.2/alaska\_panorama\_atlas/index.html.

2-Denali oblique. See Figure 2.9. View SE. Denali fault is more prominent at E edge of image, where its slip rate is higher. Alaska Range on S side of fault includes Mt. McKinley (Denali), highest point in North America. Body of water in upper right is Cook Inlet; city of Anchorage is at the end of the peninsula between the two fjords. Lowland between there and Alaska Range underlain by Susitna Basin. The mountains northeast of Anchorage are the Chugach Mountains; Talkeetna Mountains are east of Susitna Basin. Image by Dr. William A. Bowen, California Geographical Survey (http://geogdata.csun.edu), California State University Northridge.

3-aeq00001.jpg. Uplifted sea floor at Cape Cleare on Montague Island in Prince William Sound in the area of the greatest recorded tectonic uplift on land (33 feet) accompanying the 1964 earthquake. The very gently sloping flat rocky surface with the white coating which lies between the cliffs and the water is about a quarter of a mile wide. The white coating consists of the remains of calcareous marine organisms that were killed by desiccation when the wave-cut surface was lifted above high tide during the earthquake. Figure 11, *USGS Prof. Paper 541*. See USGS Photographic Library at <http://libraryphoto.cr.usgs.gov/cgi-bin/search.cgi?search_mode=exact&selection=Alaska+Earthquake+1964|Alaska+Earthquake|1964>

4-aeq00010.jpg. The Hanning Bay fault was reactivated during the 1964 earthquake, one of only three examples of crustal faulting accompanying a subduction-zone earthquake. Its trace is marked by a ten- to 15-foot high bedrock scarp which trends obliquely across the field of view from the right foreground to the left background. The fault trace lies between the uplifted wave-cut surface that is coated white by desiccated calcareous marine organisms and borders the open ocean and the area of brown sand and silt in the cove. The ground northwest of the fault (on the right) was displaced upward as much as 16 feet with respect to the ground southeast of the fault during the earthquake, but both sides of the fault were uplifted with respect to sea level due to general tectonic uplift of the region. The fault plane dips steeply northwest or is vertical. View is southwest along the Hanning Bay fault scarp on southwest Montague Island in Prince William Sound. From USGS Photographic Library referenced above.

5-aeq00012.gif. Alaska Earthquake March 27, 1964. The zone of fresh earth (*nastri di faglia*) and landslide at the foot of this hillside on Montague Island marks the southwest-trending Patton Bay fault, which was reactivated during the earthquake. The northwest side of this vertical fault (on the left) was displaced upward as much as 8 feet with respect to the southeast side. There was, in addition, 9 feet of associated upwarping of the upthrown (northwest) block, so that total vertical displacement across the entire fault zone was 17 feet. The view is northeast. From USGS Photographic Library referenced above.

6-aeq00005.gif. Muskeg-covered pre-earthquake marine terrace on Middleton Island at an altitude of 110-125 feet. It is one of five uplifted terraces on the island, and a surf-cut rock platform exposed between the base of the sea cliff and the new high tide level is a sixth terrace formed by uplift of about 11 feet during the Alaska earthquake of 1964. Whereas other surfaces uplifted during the earthquake subsequently subsided, Middleton Island continued to uplift, suggesting that the uplift was related to a crustal blind fault, not the subduction zone. The white specks are seagulls. Photo was taken near 7-foot tide stage, April 4, 1964. Figure 36, *USGS Prof. Paper 543-I*; Figure 4-A, Circular 491.

7-CastleMtn.f.AK. Aerial view westward along the Castle Mountain fault. North side is upthrown; ground is better drained, allowing the growth of birch trees along scarp. Downthrown side marked by bogs too acidic to allow growth of birch trees; these bogs show abundant evidence of liquefaction. Photo by Peter Haeussler, USGS.

8-Totschunda fault, JPG. Aerial view of right-lateral fault that ruptured during the Denali earthquake of 3 November 2002. Photo by Peter Haeussler, USGS.

9-Susitna Gl thrust.JPG. Initial rupture in Denali earthquake of 3 November 2002 was on a reverse fault at the west end of the rupture. Photo by Peter Haeussler, USGS. See Crone et al., 2004, *Seismol. Soc. America Bull. 94*:S5-S22.

10-AJC Chisto02 and 04.jpg. Denali fault ruptured the Chistochina Glacier in the 3 November 2002 earthquake. Aerial views by A.J. Crone, USGS.

11-Pipeline Crossing-after.jpg. The Trans-Alaska Pipeline, from the Prudhoe Bay oil fields to the Gulf of Alaska, was designed to survive an earthquake on the Denali fault, which it crosses (shown in red; cf., Woodward-Lundgren and Assoc., 1974, summary report, Appendix A-3). The 3 November 2002 Denali earthquake of Mw 7.9 was accompanied by a displacement of 5.5m horizontal component and 1.3m vertical component. Because of safeguards recommended by a team headed by engineering geologist Lloyd Cluff, which included a section of pipe that could slide in the event of a surface-rupturing earthquake, there was no loss of oil. The figure shows the pipeline immediately after the earthquake along with its pre-earthquake configuration, shown in yellow.