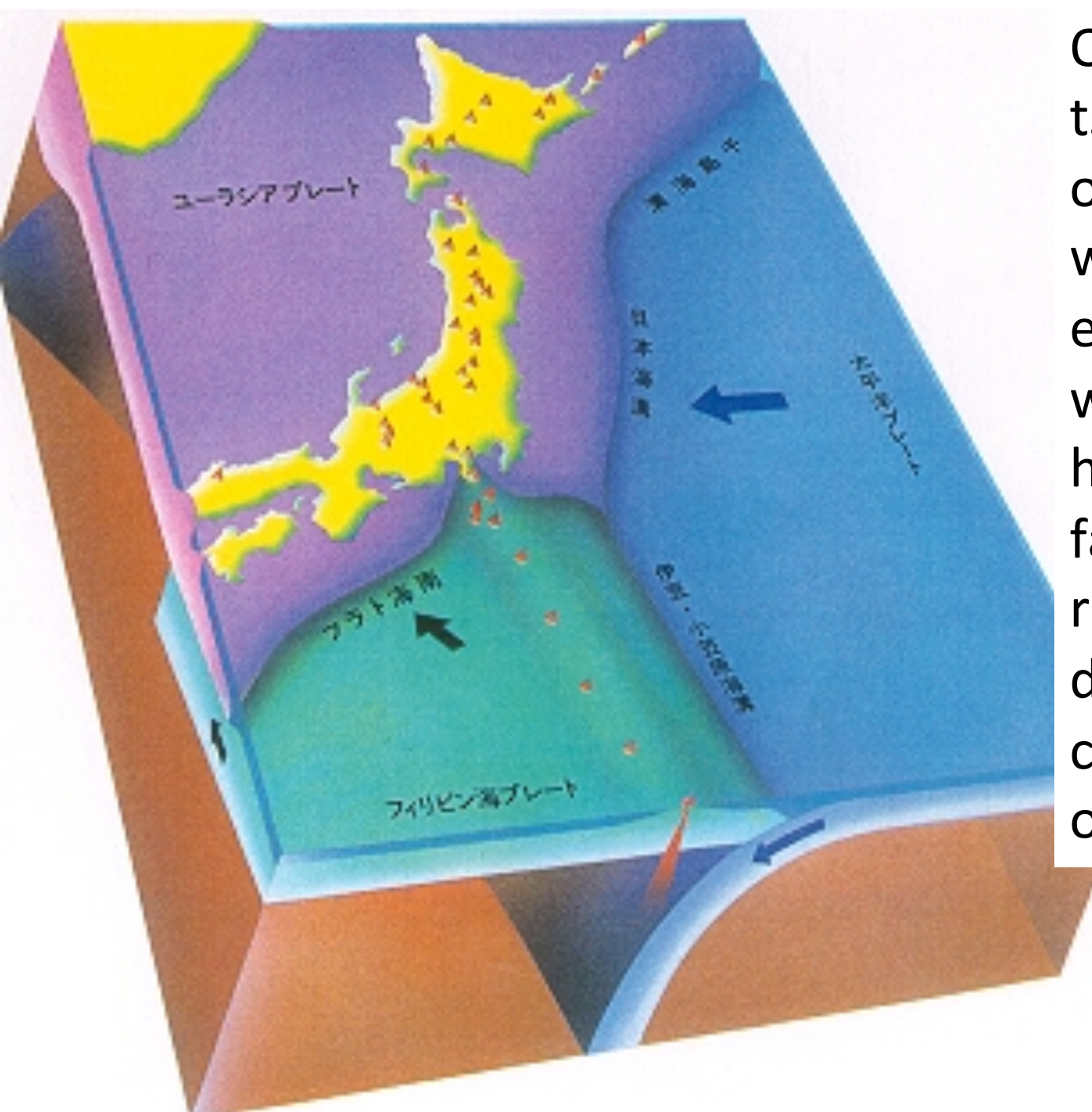


March 11, 2011 Earthquake and Tsunami

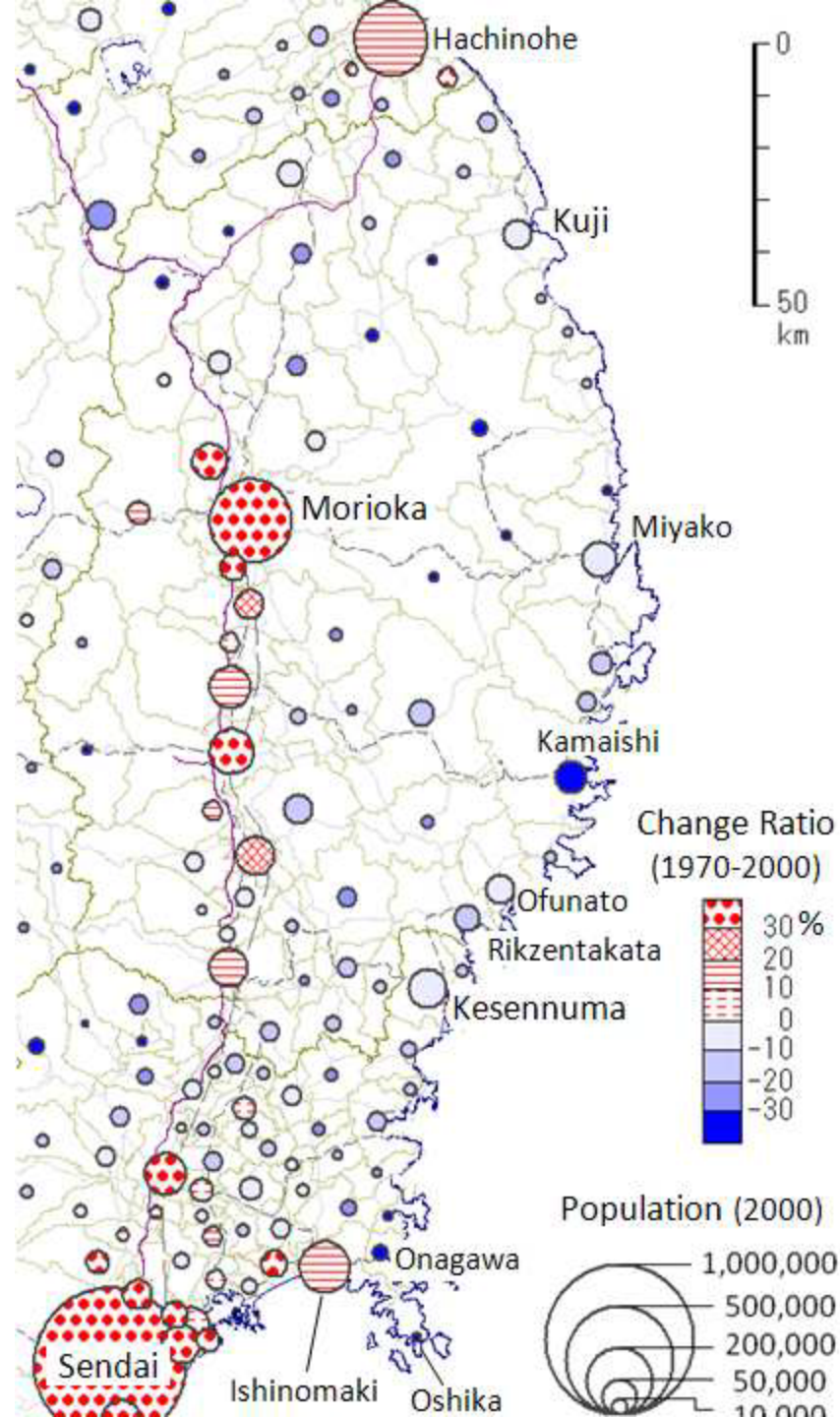
Sanriku Tsunami

Earth's Energy Unleashed As Tectonic Plates Shift

- Fifth largest recorded since 1900 and the biggest to hit Japan in 3 centuries
- Pacific plate moving at a speed of about 3 inches a year, slides under the Eurasian plate
- Motion of Pacific plate moving under the Eurasian plate caused massive uplift of the seafloor displacing water and causing 40-foot-tall tsunami.



On March 11 tsunami spilled over some sea walls and embankments washing cars, houses, farm, factories before reversing directions and carrying them out to sea.



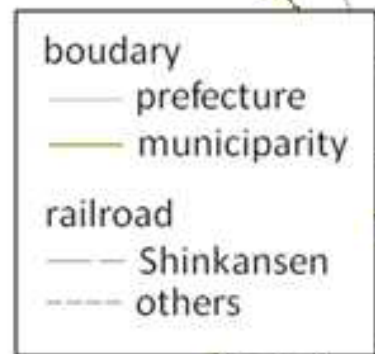
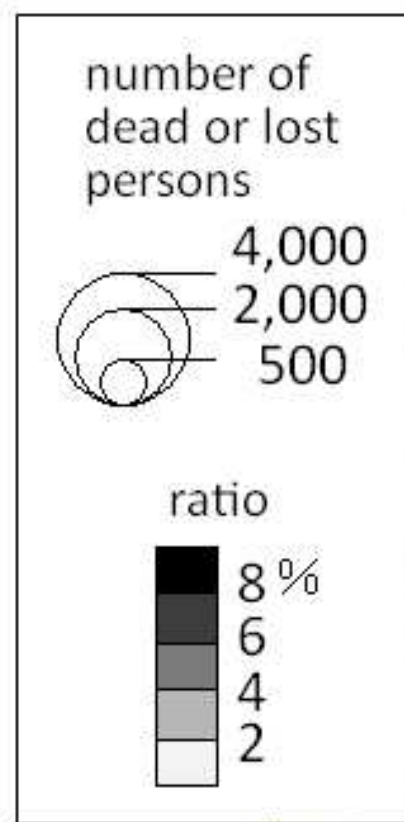
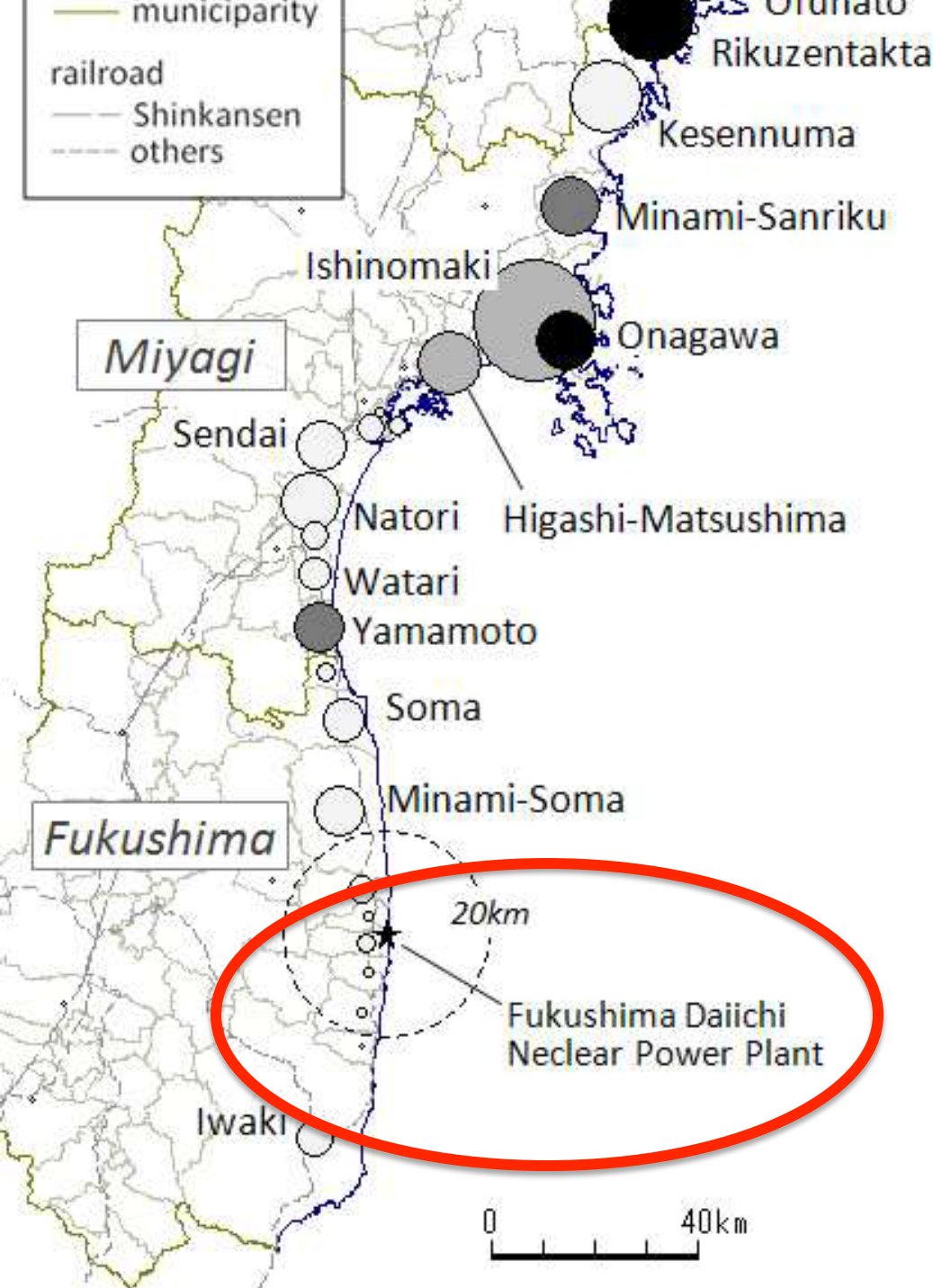






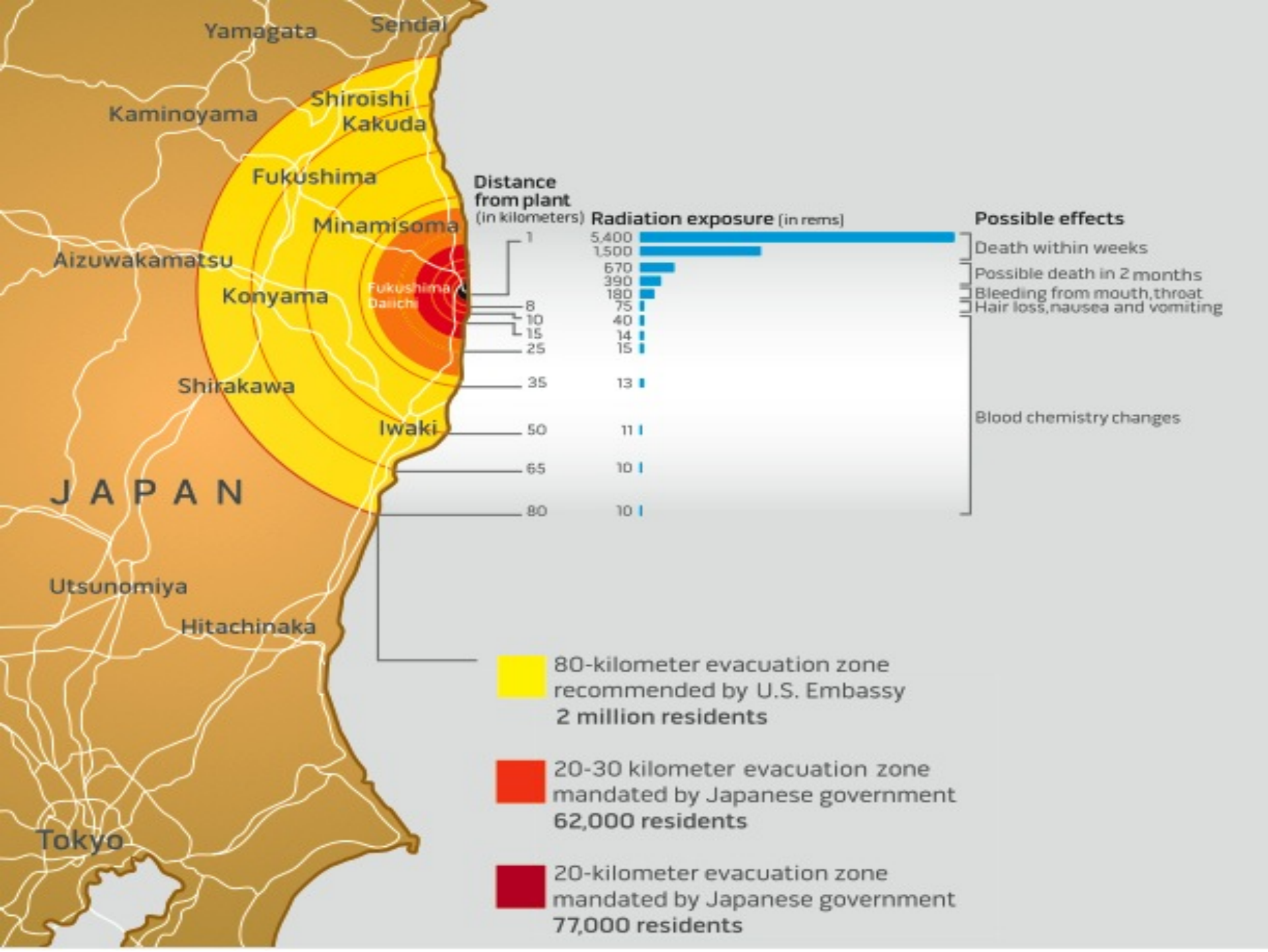






Impacts of the Quake and Tsunami

- Quake and tsunami claimed some 20,000 lives, destroyed more than 200,000 homes
- Damaged nuclear reactors, factories, disrupted supply chains, caused crippling power shortage.
- Nearly 23,000 hectares of farmland were flooded with salt water; more than 21,000 fishing boats lost.
- Caused about \$210 billion in economic damage; world's costliest disaster.

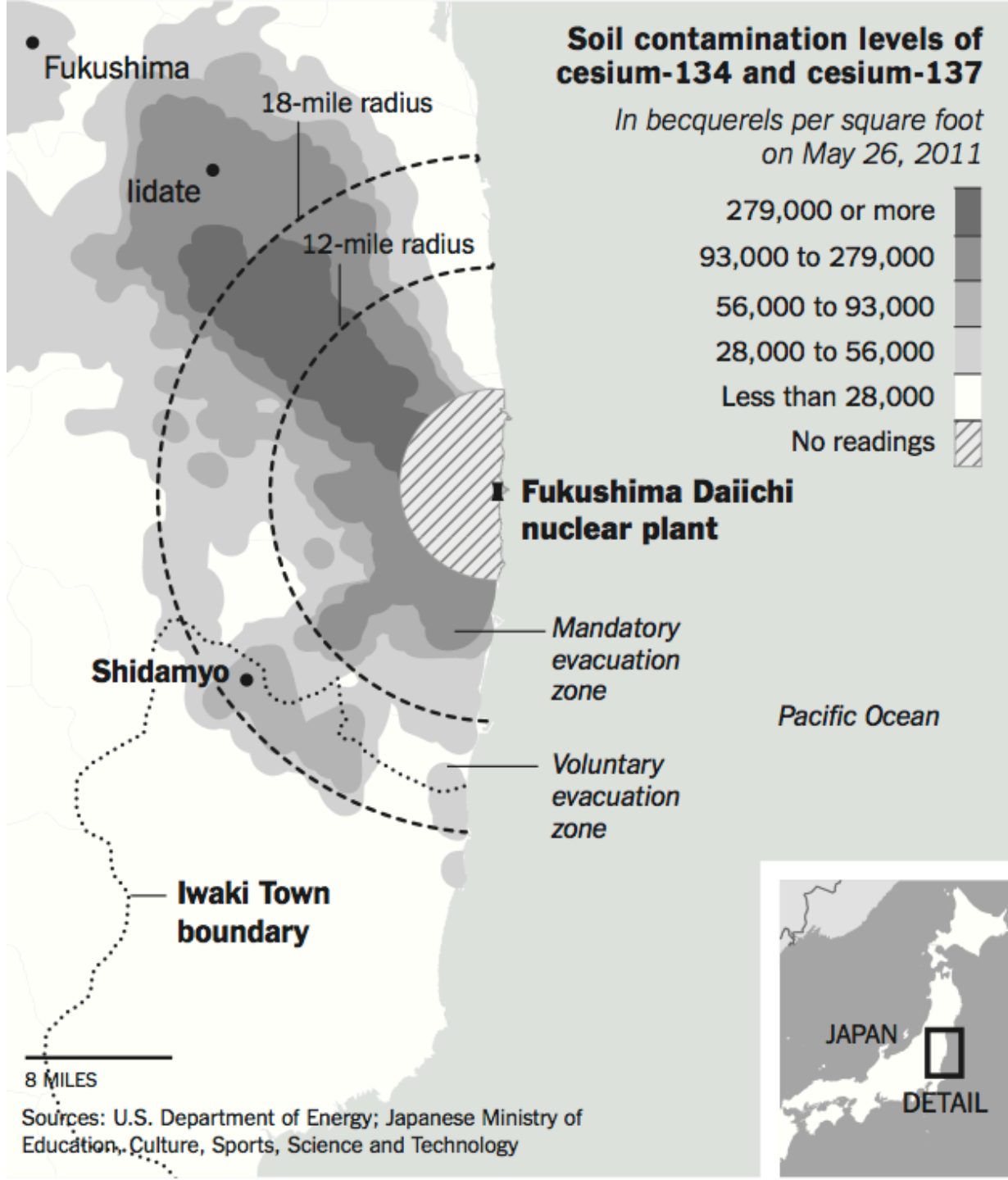


Radiation and Japan's Food Chain

- Radioactive cesium from damaged nuclear power plants contaminated beef, kicking off food scare.
- Some contaminated food including milk and spinach from Fukushima prefecture was caught before they reached store shelves
- Radioactive contamination in rice was found in Ibaraki prefecture, 90 miles south of Fukushima
- Tokyo's water supply contaminated with radiation

Soil contamination levels of cesium-134 and cesium-137

In becquerels per square foot on May 26, 2011



Sources: U.S. Department of Energy; Japanese Ministry of Education, Culture, Sports, Science and Technology

Rice Contamination

- Fukushima prefecture, showered with radiation in March, 4th largest rice-producing region in Japan
- Contamination has triggered sales ban of harvested rice (above 500 bequerels per kilogram)
- Cultivation banned in fields with soils above 5,000 bequerels of cesium per kilogram of soil.



