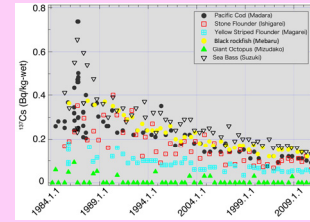
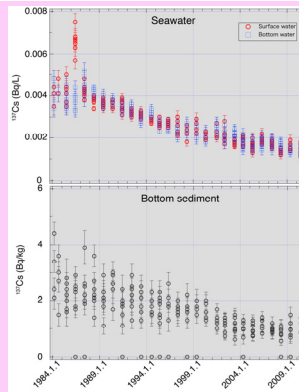


Monitoring of Radionuclides in the Waters off Fukushima and Nearby Prefectures, Japan

¹³⁷Cs in Seawater, Sediment and Fish prior to the Accident

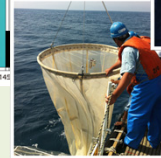
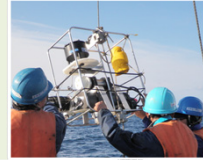
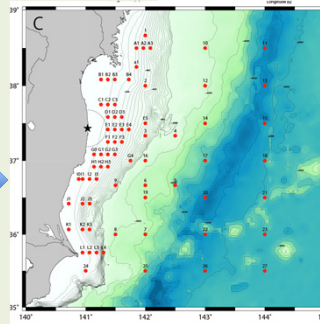
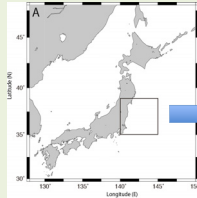
Since 1984, Marine Ecology Research Institute (MERI) have been monitoring the coastal areas for radionuclides in proximity to nuclear power plants all over Japan under the contract with the Japanese Ministry of Education, Sports, Science and Technology (MEXT). The monitoring includes seawater (surface and bottom waters), sediment, and fishes.

The ¹³⁷Cs concentrations in seawater and sediments have been almost constant to be 0.0016 ± 0.0002 Bq/L and 0.87 ± 0.41 Bq/kg, respectively, for 5 years prior to the accident. Those in fishes were in a range from 0 to ca 0.2 Bq/kg depending on species.



Monitoring the Waters

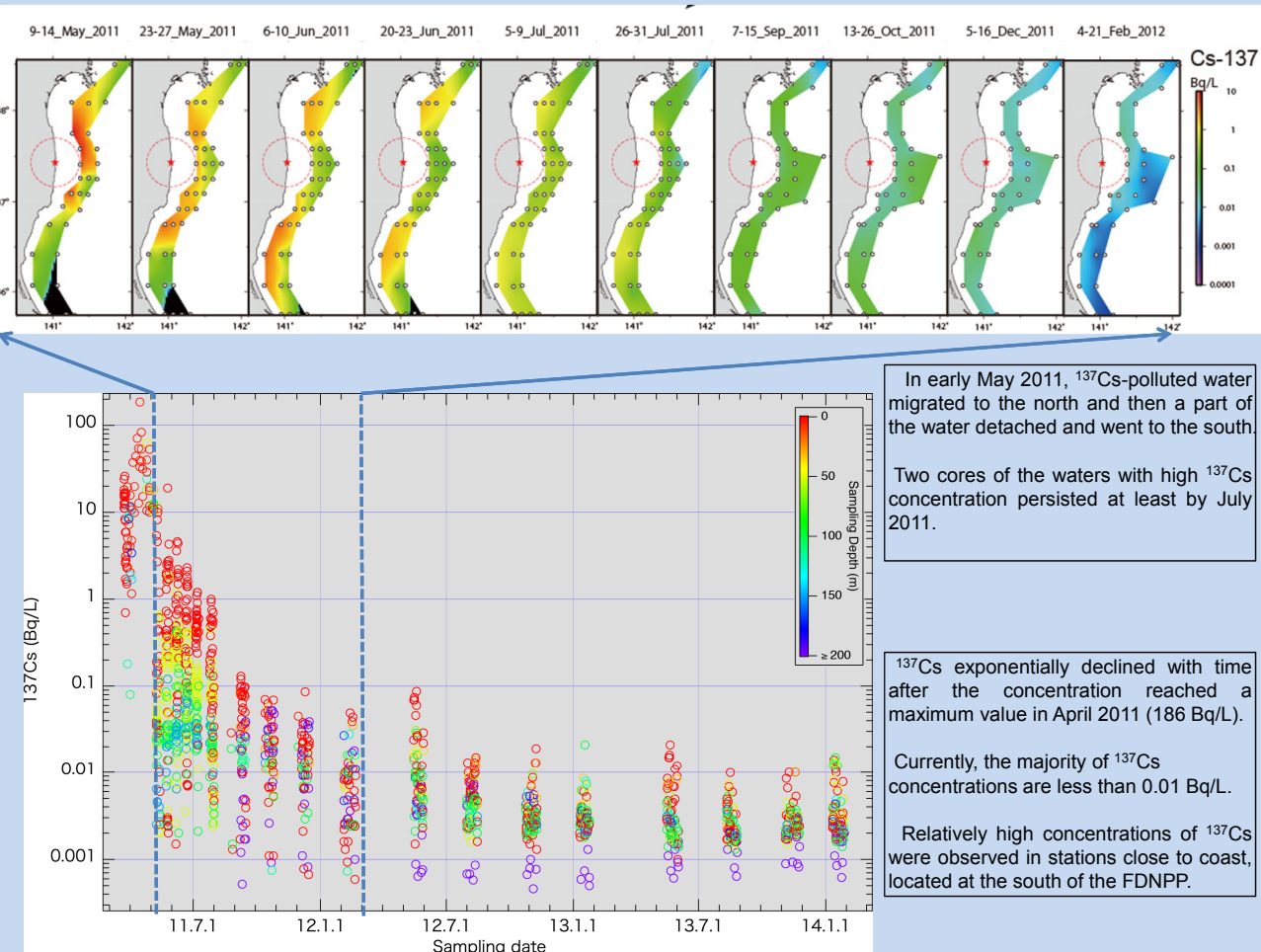
Immediately after the Fukushima Daiichi Nuclear Power Plant (FDNPP) accident in 2011, MEXT launched an additional monitoring program to survey the accident's impact in the waters off Miyagi, Fukushima, and Ibaraki Prefectures. In April 2013, the program was taken over by the Nuclear Regulation Authority (NRA).



Sampling sites

Sites by number in the eastern part of the monitoring area are surveyed twice a year and the rest of the sites four times a year. A black star on the map indicate a site of the FDNPP.

¹³⁷Cs in Seawater



In early May 2011, ¹³⁷Cs-polluted water migrated to the north and then a part of the water detached and went to the south. Two cores of the waters with high ¹³⁷Cs concentration persisted at least by July 2011.

¹³⁷Cs exponentially declined with time after the concentration reached a maximum value in April 2011 (186 Bq/L). Currently, the majority of ¹³⁷Cs concentrations are less than 0.01 Bq/L.

Relatively high concentrations of ¹³⁷Cs were observed in stations close to coast, located at the south of the FDNPP.