

Traces of Radiocesium in Indonesian Waters and Lands as an Indicator of Nuclear Weapon Testing Activities

Wednesday, 21 June 2023 10:00 (1 minute)

The spread of radiocesium traces is strongly influenced by the circulation of wind and ocean currents around Indonesia. Seawater from the Pacific Ocean that enters into the Indonesian marine water area could distribute Cs-137 from the Fukushima release. Monitoring results show that the concentration of Cs-137 on the west coast (West Sumatera, Bangka Island, North and South Java, and Madura) ranges from 0.12 to 0.66 Bq/m³. The effects of seasonal winds can affect the quantity of trace radiocesium around Indonesia, the influence of currents from the Pacific Ocean when entering the ITF can wash away radiocesium originating from the Pacific Ocean, especially in the eastern coast area (north and south Sulawesi, Lombok Strait, Flores Sea) ranges from 0.12 to 0.39 Bq/m³. The results obtained are similar, as well as at other points, where no radioactivity of Cs-134 was found at all. According to (IAEA, 2005), the ratios of Cs-134/Cs-137 can be used to identify anthropogenic radionuclide sources in the marine environment. The ratio was 0. Therefore, the results of our study indicate that the radiocesium input was from global fallout.

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Session Classification: Lightning talks: P2.5, P4.1, P4.2, P4.3

Track Classification: Theme 2. Events and Nuclear Test Sites: T2.5 Historical Data from Nuclear Test Monitoring