"Fukushima - How Its Radionuclides Will Affect Pacific Ecology and Public Health"

ABSTRACT
The tsunami that engulfed the Fukushima nuclear reactor complex in Japan in 2011 continues to release radiation into the Pacific Ocean. What are the health risks and how far across the ocean do the radionuclides traverse? We evaluated the release of radioactivity from the failed Fukushima nuclear power plant in Japan into the Western Pacific Ocean and the subsequent bioaccumulation of select radionuclides in marine animals. We found that cesium-134 and cesium-137 were accumulated in all plankton samples and also in Pacific bluefin tuna. The tuna transported the two cesium isotopes from the western Pacific around Japan to waters off California and Mexico. We further evaluated the dose that the tuna and other marine animals get from Fukushima and compared this with naturally occurring radionuclides present in the ocean. We also assessed the public health concerns relating to this radioactivity and compared the doses and impacts that humans would get from eating these tuna to doses they would get from other common sources. The radionuclides are also considered as possible tracers of migration of bluefin tuna and other large migratory species that regularly swim thousands of miles across the Pacific.

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