

How Did Large Submarine Volcanic Eruptions During the Holocene Influence Ocean Productivity? Searching for Tephra Layers in Core Samples Downwind of the Ryukyu, Izu-Bonin and Tonga- Kermadec arcs

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Marine productivity drives chemical cycles, fuels ocean life, and lowers carbon dioxide in the atmosphere. In this project, we examine the connection between volcanic eruptions and marine productivity in nearby ocean waters. First, we constructed maps in GeoMap App to identify sediment cores downwind of the Ryukyu, Izu-Bonin and Tonga-Kermadec arcs. Next, we inspected the core photos for visible tephra layers in these cores. Initial results indicate that these cores do not have visible ash layers suitable for testing the effect of volcanism on biological productivity. From this research, we recommend further study on ash layers from HungaTonga and La Palma to investigate productivity-volcanism connections.