

Source process of tsunamis caused the 1994 Rabaul eruption

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We investigated tsunami deposits associated with the 1994 volcanogenic tsunamis of Rabaul, Papua New Guinea. The tsunami deposits are preserved as sand or characteristic pumiceous sand layers sandwiched by tephras from Vulcan and Tavurvur Volcanoes. After the chronological studies, it inferred that tsunami was not generated by the first small phryoclastic flow from Vulcan Volcano though it entered into the sea, but generated several times by larger flows during the following Plinian eruption stage of the volcano. Tsunami run-up heights estimated from the deposit distribution are about 5m around the Matupit Island near Rabaul. Those are quite consistent with other evidences such as eyewitness accounts and numerical simulation results.