

Marker-tephras for the chronological study of tsunami deposits along the Pacific coast of Eastern Japan

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Tephra are effective markers for chronological studies of tsunami deposits along the Pacific coast of Eastern Japan. Because the information on marker-tephras in the tephra catalog of Japan and its surrounding area (Machida and Arai, 2003) is only basic, this author describes the detailed characteristics of some important tephra for their identifications.

The Kikai-Akahoya ash (K-Ah), one of representative widespread marker-tephras on the Japanese Islands, erupted 7.3 ka from the Kikai Caldera, covering most of the Pacific coastal area of Eastern Japan. Towada-Chuseri tephra (To-Cu, ca.6.0 ka), Towada-a tephra (To-a, 915 A.D.) and Baegdusan-Tomakomai ash (B-Tm, the 10th century A.D.) are markers in the northern Tohoku area. To-Cu and To-a cover the southern Tohoku area, as well. Tephra erupted from Numazawa, Asama and Haruna volcanoes are useful in the southern Tohoku area. They are Numazawa Lake tephra (Nm-N, ca.5.0 k.y.BP), Haruna-Futatsudake-Shibukawa tephra (Hr-FA, the early 6th century A.D.), Haruna-Futatsudake-Ikaho tephra (Hr-FP, the middle of the 6th century A.D.) and Asama-Kasukawa tephra (As-Kk, 1128 A.D.).

Likewise, tephra from Asama and Haruna volcanoes are useful for chronological studies of tsunami deposits in the Kanto area. They are Asama-C tephra (As-C, the latter half of the 3rd century A.D.), Hr-FA, Asama-B tephra (As-B, 1108 A.D.) and Asama-A tephra (As-A, 1783 A.D.). Tephra from Fuji, Amagi, Izu-Oshima, Niijima and Kozushima volcanoes are distributed in the southern Kanto area. As a scoriaceous tephra has difficulty in identification, it is also necessary to check its stratigraphic relationships with silicic marker-tephras, archeological and historical data and radiocarbon ages.

Machida, H. and Arai, F. (2003) Atlas of tephra in and around Japan. Unie. Tokyo Press, 336p.

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