

From Pleistocene to Present: Obsidian Sources in West New Britain, Papua New Guinea

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ABSTRACT. Artefacts made of obsidian derived from outcrops in the Talasea area of West New Britain, Papua New Guinea, have been found on archaeological sites dating from the late Pleistocene up to the present day and extending over about 8,000 km from west to east of Talasea. The research described here examines the nature of past obsidian exploitation at the Talasea sources and forms part of a larger project on the history of human settlement and resource use in West New Britain. Two aspects of this work are reported here: field studies of the source exposures around Talasea, and the fine-grained discrimination between the sources through PIXE-PIGME ion beam analyses of their chemical compositions.

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In the Bismarck Archipelago of Papua New Guinea obsidian flows of archaeological significance occur in Manus Province on Manus and Lou Islands, and in West New Britain Province around Talasea on the Willaumez Peninsula and at Mopir on Hoskins Peninsula (Fig.1). The obsidians from these areas can be distinguished from each other on the basis of differing chemical compositions (Key, 1969; Smith, 1974; Smith *et al.*, 1977; Duerden *et al.*, 1979, 1980, 1987; Ambrose *et al.*, 1981; Bird & Russell, 1976; Bird *et al.*, 1981a, 1981b, 1988; Fullagar *et al.*, 1989).

Talasea obsidian has been recovered from archaeological sites throughout the western Pacific,

extending over about 8,000 km from Sabah in the west (Bellwood & Koon, 1989) to Fiji in the east (Best, 1987). Much of this distribution is associated or contemporary with Lapita pottery (Green, 1979; Kirch & Hunt, 1988). It was also transported, along with obsidian from Mopir (Specht & Hollis, 1982), within New Britain (Specht *et al.*, 1981) and to neighbouring New Ireland (Allen *et al.*, 1989) in the late-terminal Pleistocene between 19 kya and 11 kya. It is only at a much later date, apparently coinciding with the appearance of Lapita pottery in the region, that obsidian from the Manus area appears in New Ireland sites (Allen *et al.*, 1989; Ambrose, 1976; Ambrose & Duerden, 1982; Ambrose *et al.*, 1981;