

**FACTORS AFFECTING MARINE DEBRIS DEPOSITION  
AT FRENCH FRIGATE SHOALS, NORTHWESTERN HAWAIIAN  
ISLANDS, 1990-2006**

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Data on the amount and type of small debris items deposited on the beaches of the Hawaiian Islands National Wildlife Refuge Tern Island station, French Frigate Shoals were collected over 16 years. We calculated deposition rates and investigated the relationship among deposition and year, season, El Niño and La Niña events from 1990-2006. In total 52,442 debris items were collected with plastic comprising 71% of all items collected. Annual debris deposition varied significantly (range 1116-5195 items) but was not influenced by season. Debris deposition was significantly greater during El Niño events as compared to La Niña events. Although often deduced to influence floating marine pollution, this study provides the first quantitative evidence of the influence of El Niño/La Niña cycles on marine debris deposition.