

The following application was submitted to the MARGINS Office:

Name:

Michael Marden

Category: Research Scientist

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Statement of interest:

For the past 18 years I have lived and undertaken much of my research in the Waipaoa catchment. My early research efforts were largely concerned with issues of erosion and the influence of vegetation in ameliorating erosion processes, giving me a good understanding of the drivers of slope failure (predominantly mass movement) and sediment generation in the soft-rock terrain of the headwater reaches of the Waipaoa catchment. In latter years my interest and focus has been to compile a database of the remnants of Holocene and Quaternary river terraces throughout the Waipaoa catchment dating back to c.100 000 years (Isotope Stage 5). It is from these databases that an understanding of the relative roles of climatic and tectonic drivers, in the evolution of this basin, is emerging; and, from which sediment fluxes in space and time for the entire catchment will be able to be generated. Much of this effort has been in association with research colleagues who will be attending and !
presenting aspects of this work at the MARGINS workshop.

Short resume:

Abbreviated resume

Ph.D Massey University (Geology/Earth Sciences), 1984

Years as a practising researcher: 18

Professional positions held: (years, position, institution, activity)
July 1992 - Scientist, Landcare Research, forest hydrology, mass movements and rehabilitation, geomorphic mapping and landscape reconstruction, and technology transfer to land-users and managers and planners.
1985-1992 Scientist, Land-Use Impacts Section, Forest & Wildlands Ecosystems Division, Forest Research Institute, Ministry of Forestry.
Present research/professional speciality:

- C Mass movement (translational landslides, earthflow and gully development) -exotic forest relationships.
- C Species biomass and root zone processes in exotic and native forest.
- C Sediment budgets and paleo-landscape reconstruction.

Major publications (in the last five years)

Regional landscape reconstruction

De Rose, R.C.; Gomez, B.; Marden, M.; Trustrum, N.A. 1998. Gully erosion in Mangatu Forest, New Zealand, estimated from digital elevation models. *Earth Surface Processes and Landforms* 23,1045-1053.

Berryman, K.; Marden, M.; Eden, D.; Mazengarb, C.; Ota, Y.; and Moriya, I (2000): Tectonic and paleoclimatic significance of Quaternary river terraces of the Waipaoa river. East coast, North Island, New Zealand. *New Zealand Journal of Geology and Geophysics*, 2000, Vol 43: 229-245.

Eden, D.; Palmer, A.; Cronin, S.J.; Marden, M.; Berryman, K.R. (2001): Dating the culmination of river aggradation at the end of the last glaciation using distal tephra compositions, eastern North Island, New Zealand. *Geomorphology*, V.38, 133-151.

Gomez, B.; Banbury, K.; Marden, M.; Trustrum, N.; Peacock, D. H.; Hoskin, P. J. (In press): Gully erosion and sediment production: Te Weraroa Stream, New Zealand. Berryman, K.; Marden, M.; Palmer, A.; Wilson, K.; Mazengarb, C.; Litchfield, N. (in prep): The post-glacial downcutting history in the Waihuka tributary of Waipaoa river, Gisborne District, New Zealand, and implications for tectonic and landscape evolution.

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ABSTRACT

Title:

Authors:

Abstract:

Wish to include graphics:

Server protocol: HTTP/1.0

Remote host: cache2.kc.net.nz

Remote IP address: 202.27.195.196