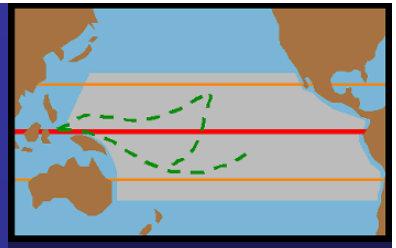
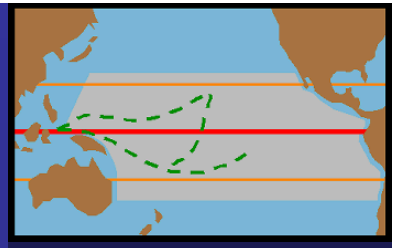


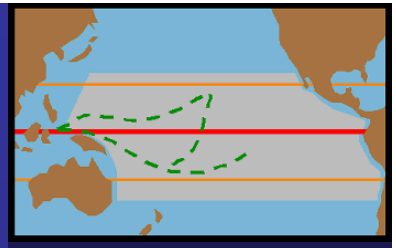
ISLAND ECOSYSTEMS
The PABITRA Project

Dieter Mueller-Dombois
University of Hawai‘i at Manoa

Marika Tuiwawa
University of the South Pacific at Suwa, Fiji

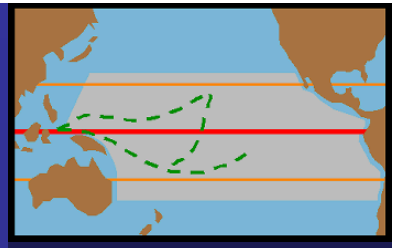


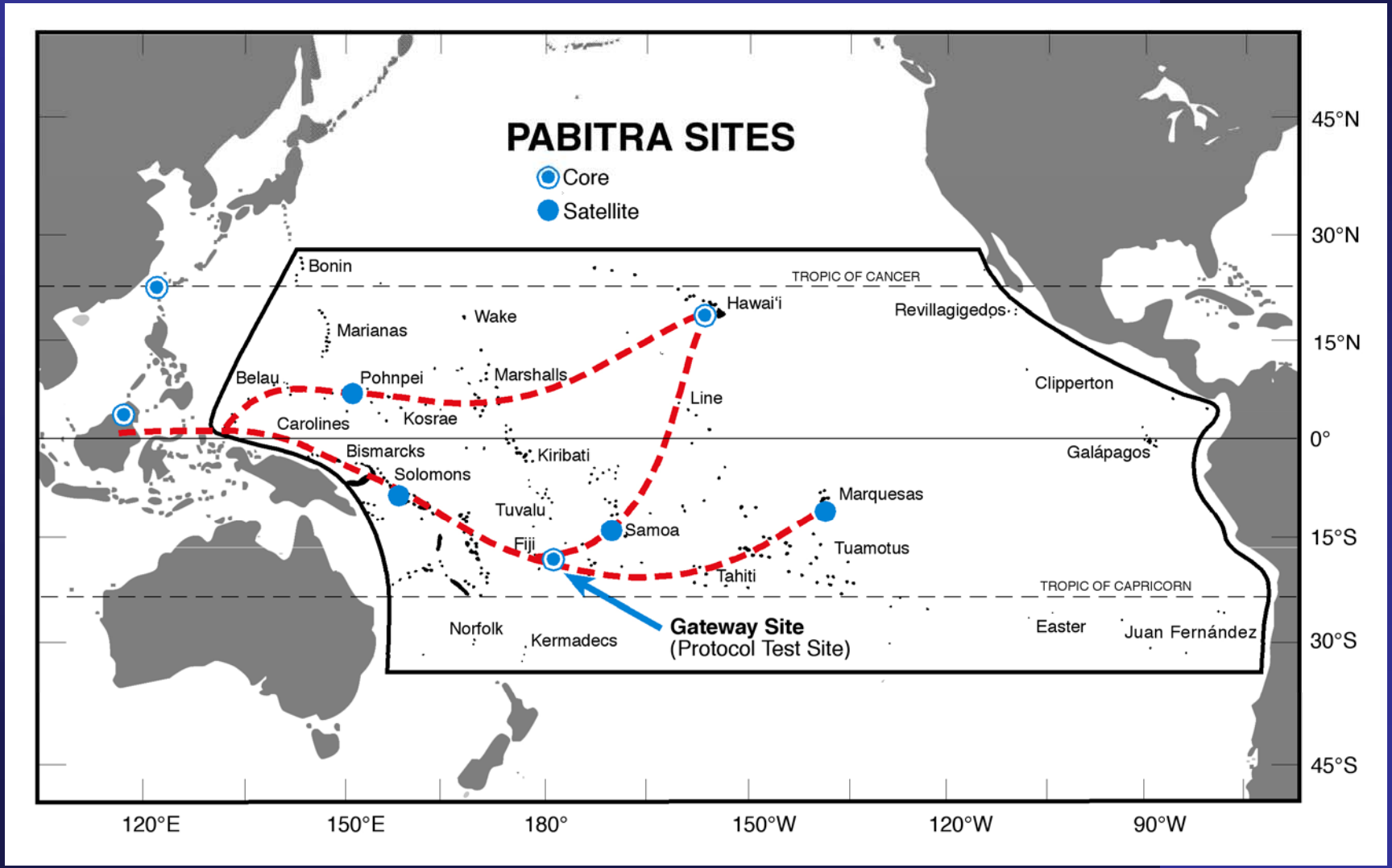
- PABITRA, the Pacific-Asia Biodiversity Transect, a network of island sites and scientists
- Project of the Pacific Science Association Biodiversity Task Force
- Started in Fiji 1997
- Sister Network of DIWPA since 1999 with compatible methodology

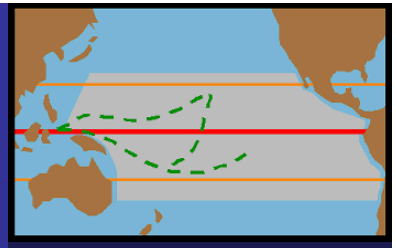


- DIWPA's geographic outline: the "Green Belt" and the "Blue Belt"
- PABITRA's geographic outline: the "East-West Island Belt" in the Tropical Pacific

The PABITRA Network

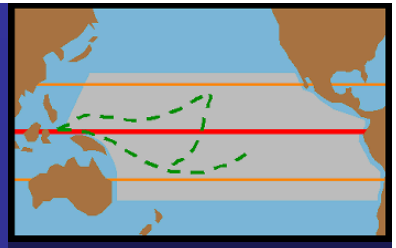


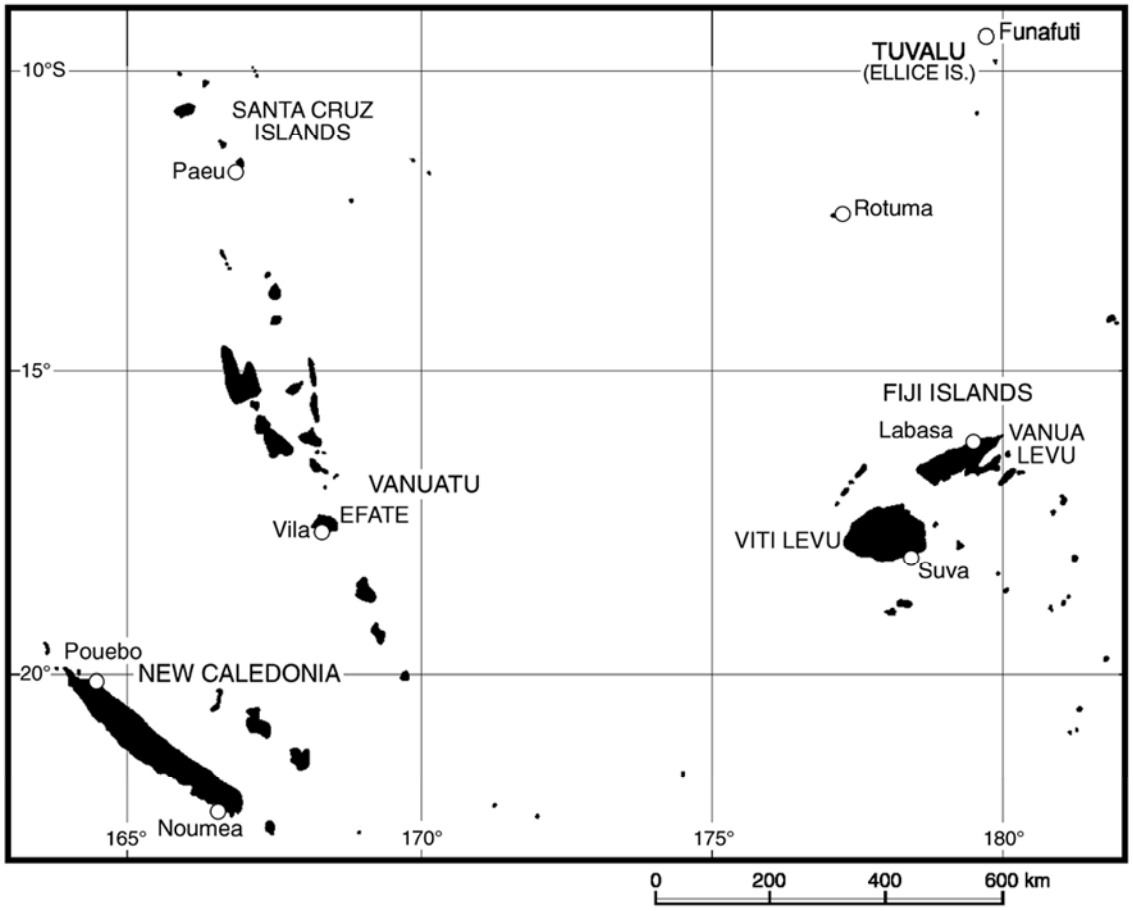


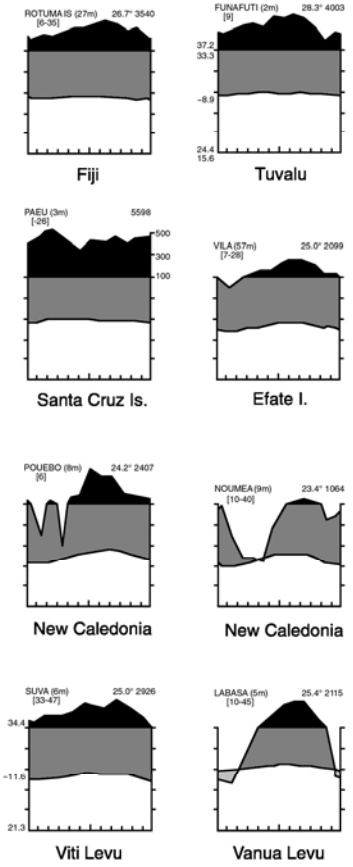


- For IBOY 2001-2002, the International Biodiversity Observation Year, PABITRA focused on Fiji
- Objective was to establish a broad mountain-to-coast landscape transect
- APN funding for capacity building
- Selection of seven biodiversity research sites

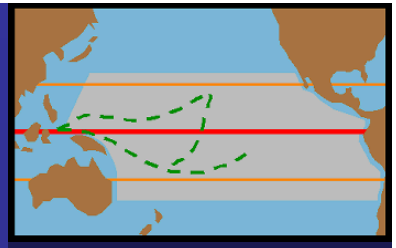
Eastern Melanesia

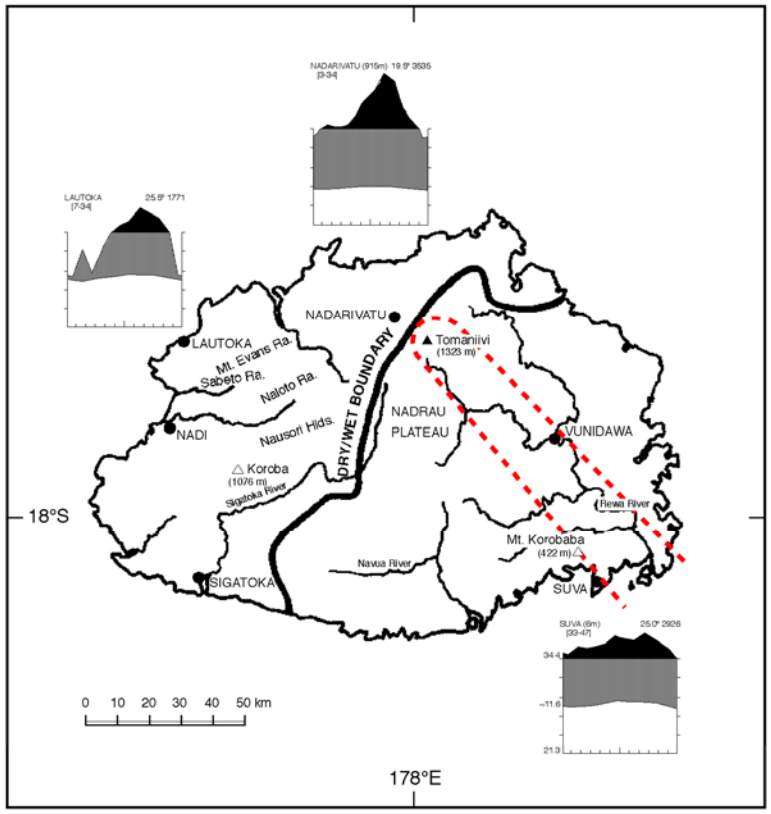






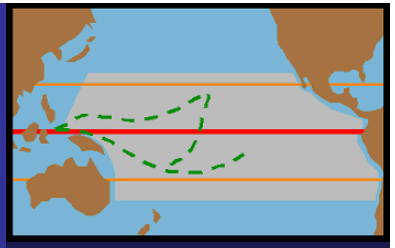
Viti Levu and PABITRA Gateway Transect



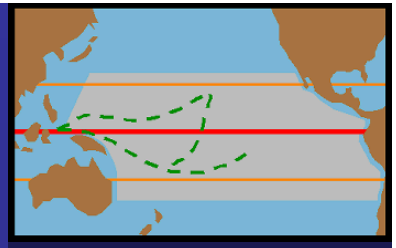


(D. Mueller-Dombois, 2000)

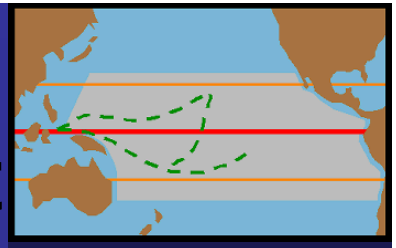
Preparation began February 2001

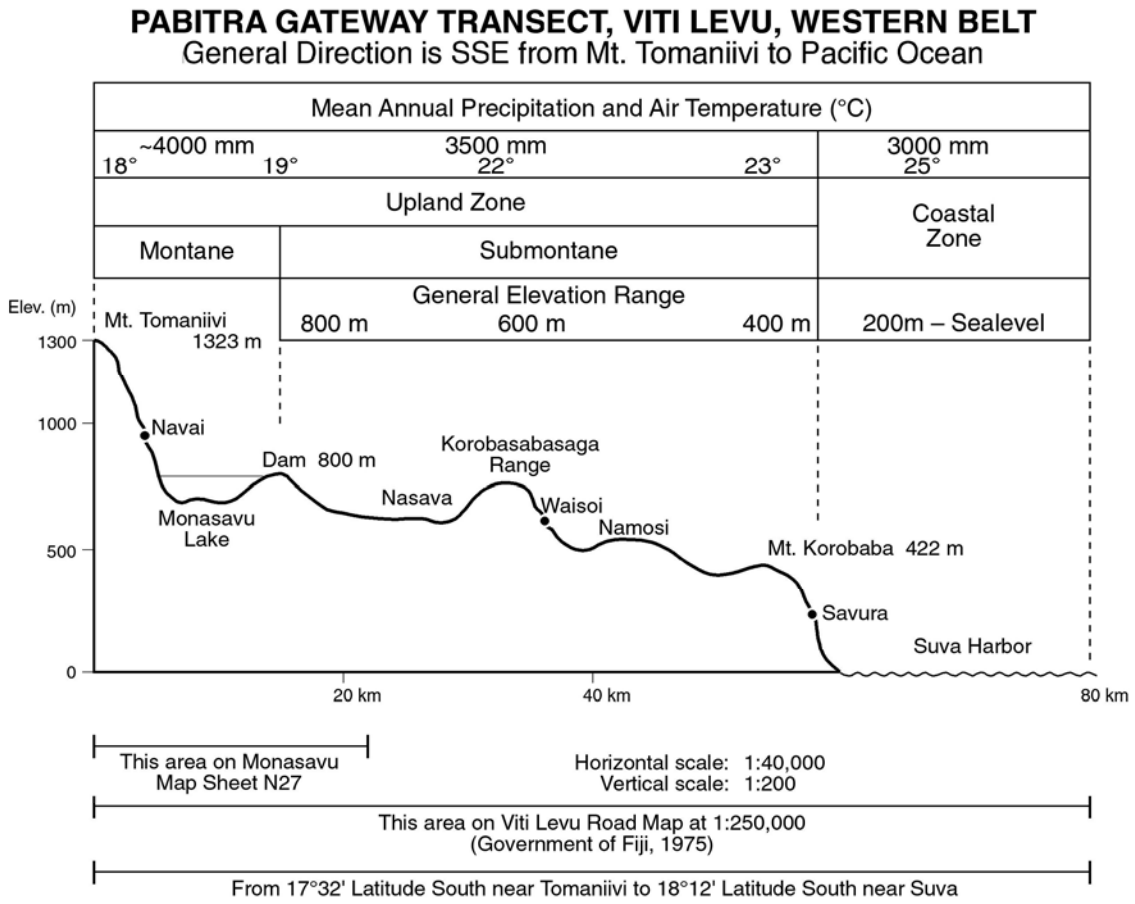


Montane Cloud Forest of Mabu Catchment, 1000m a.s.l.



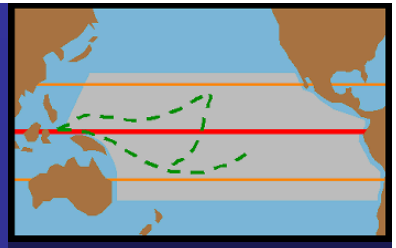
PABITRA Transect, Western Belt



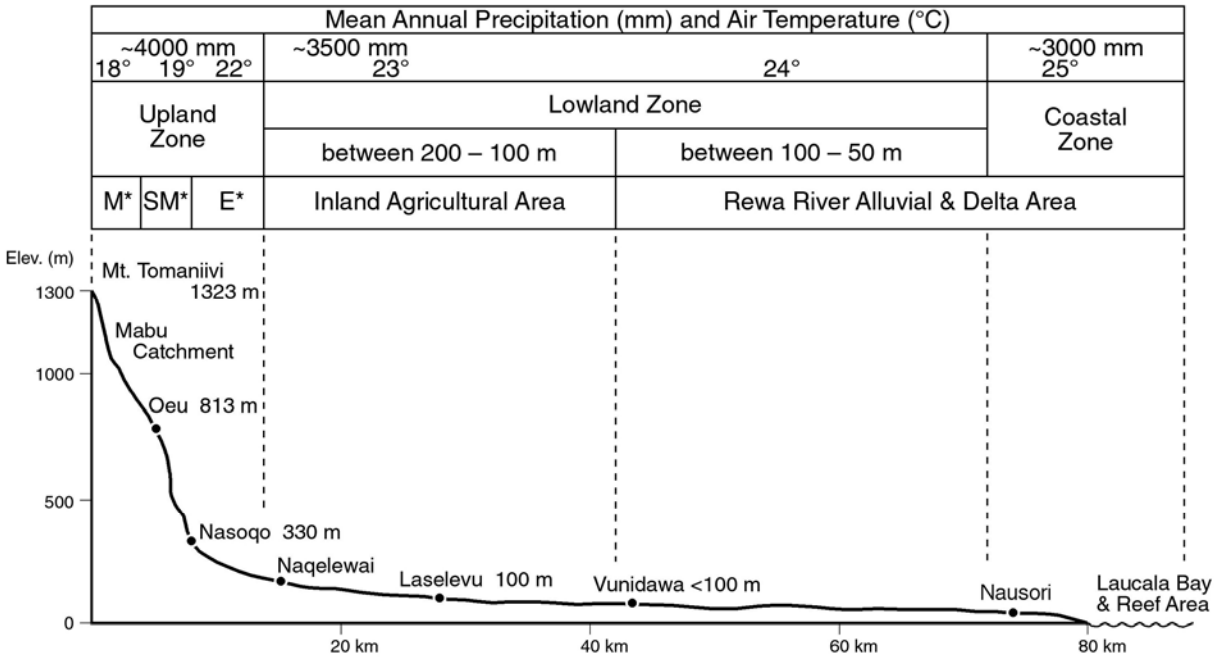


(D. Mueller-Dombois, 2002)

PABITRA Transect, Eastern Belt



PABITRA GATEWAY TRANSECT, VITI LEVU, EASTERN BELT
General Direction is SSE from Mt. Tomaniivi to Pacific Ocean



This area on Monasavu
Map Sheet N27 1:50,000

Horizontal scale: 1:40,000
Vertical scale: 1:200

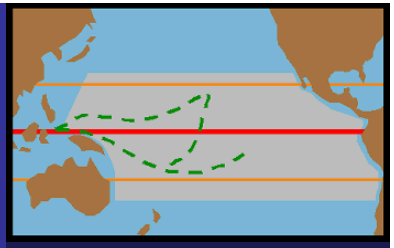
This area on Viti Levu Road Map at 1:250,000
(Government of Fiji, 1975)

From 17°32' Latitude in Southern Hemisphere to 18°12' near Suva

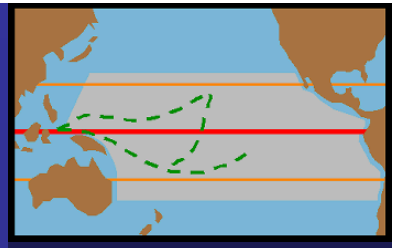
*Symbols: M=Montane, SM=Submontane; E=Ecotonal Subzones

(D. Mueller-Dombois, 2002)

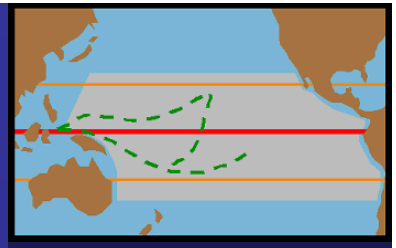
Initial Synthesis Meeting
July 2002



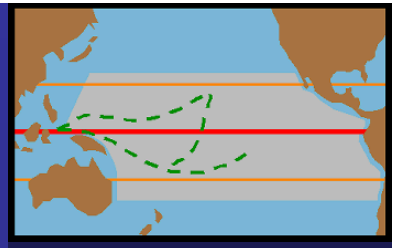
Joint Analysis Workshop, November/December 2002



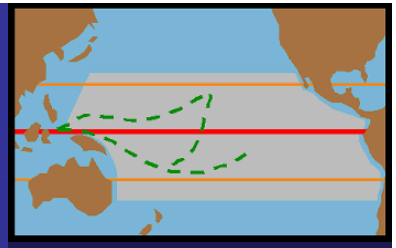
Outcome of Fiji Workshop



- 25 students received Certificates of Participation
- A fully illustrated, 69-page technical report
- A follow-up baseline flora and fauna survey by Fiji PABITRA Group

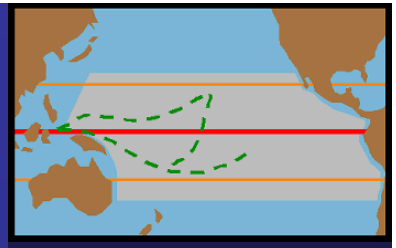


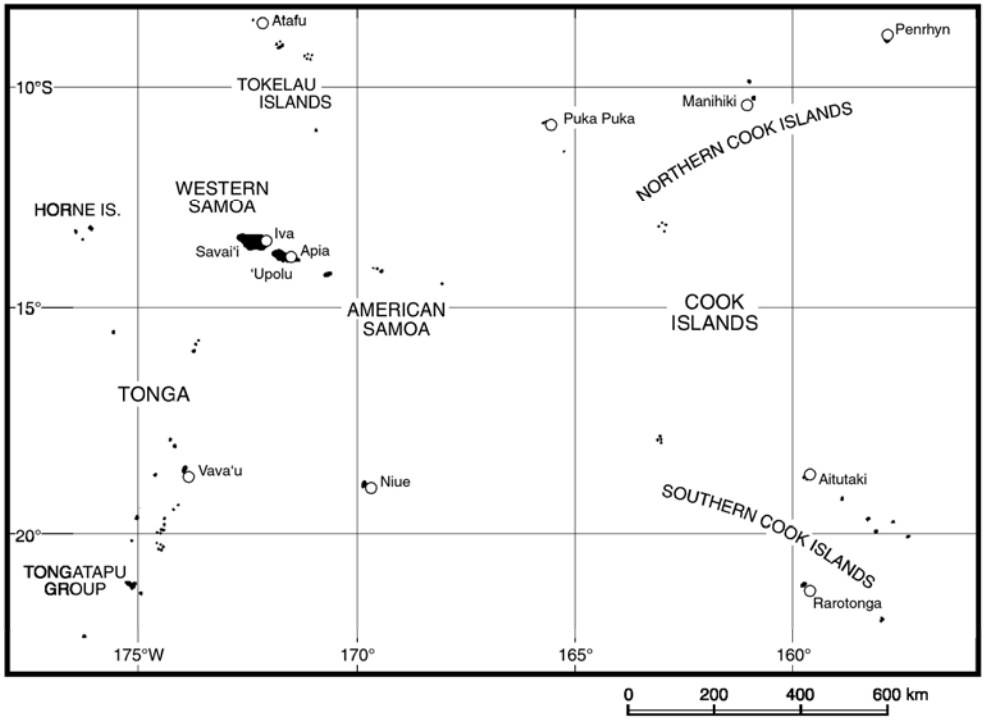
- A PABITRA Symposium at 20th Pacific Science Congress, Bangkok, March 2003
- Topic: Island Landscapes under Global Change
- Six PABITRA members from Fiji, plus others from Samoa, Eastern Polynesia, Micronesia, and Hawai‘i, in all 17 contributions

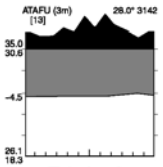


- In 2003 APN funding with focus on Samoa
- In June 2003 Initial Synthesis Meeting at NUS (National University of Samoa)
- From November 25 to December 5, 2003 JOINT ANALYSIS workshop in Samoa: Upolu and Savai‘i

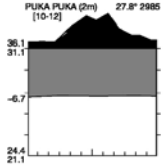
Western Polynesia Region with Samoa and Climate Diagrams



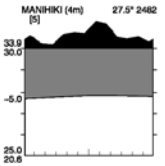




Tokelau Is.



Northern Cook Is.



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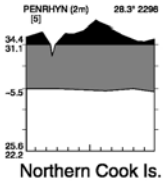

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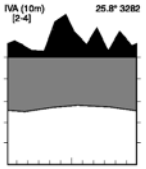
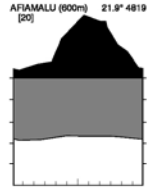
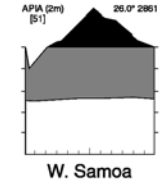


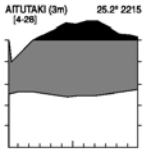
W. Samoa



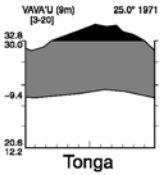
Upolu I.
(Inland Mtn. Station)



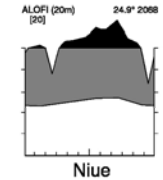
W. Samoa



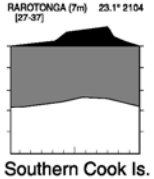
Southern Cook Is.



Tonga

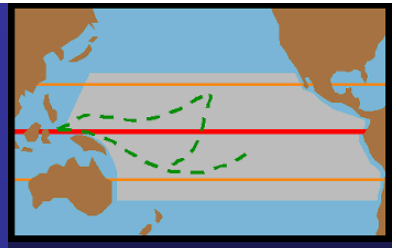


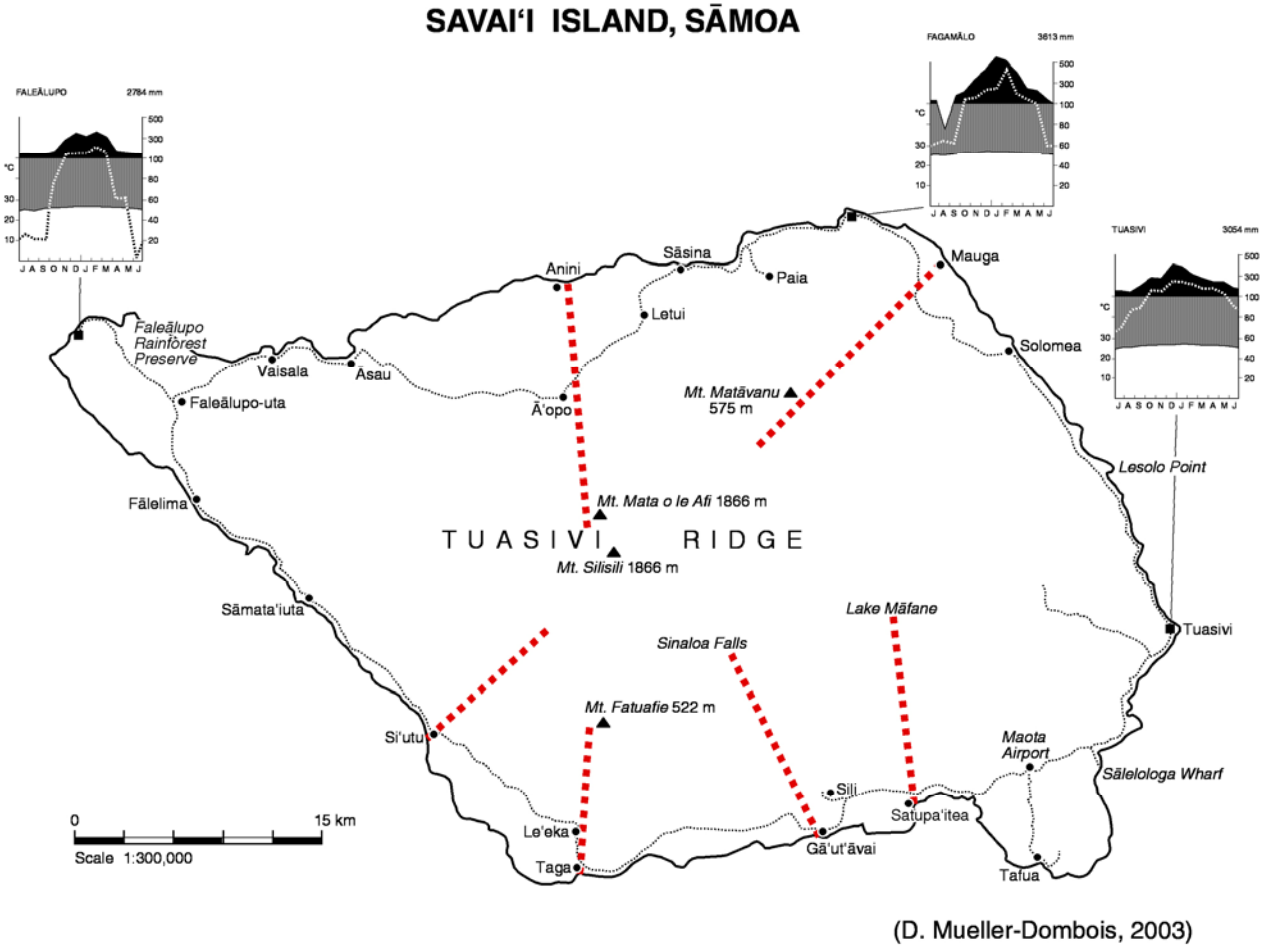
Niue



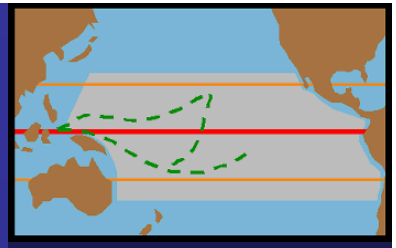
Southern Cook Is.

Savai‘i Island with PABITRA Transects and Climate Diagrams



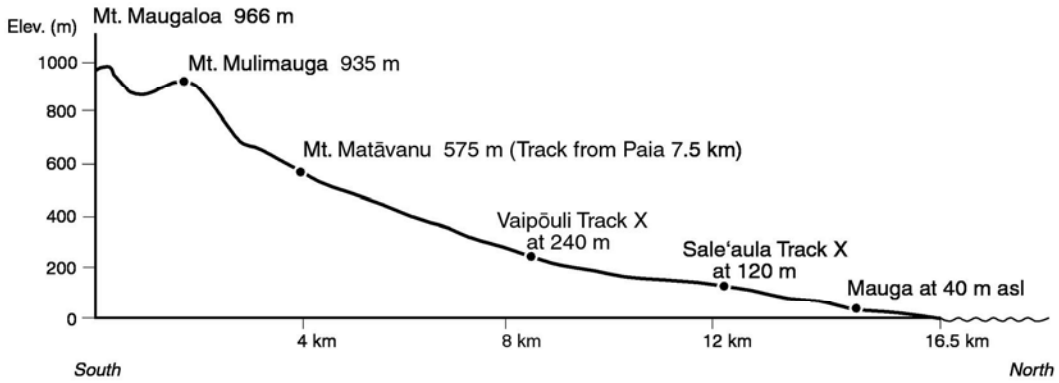


NE Savai‘i Topographic Profile



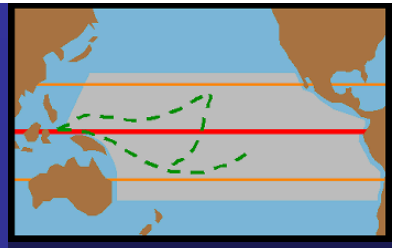
NE SAVAI‘I TOPOGRAPHIC PROFILE

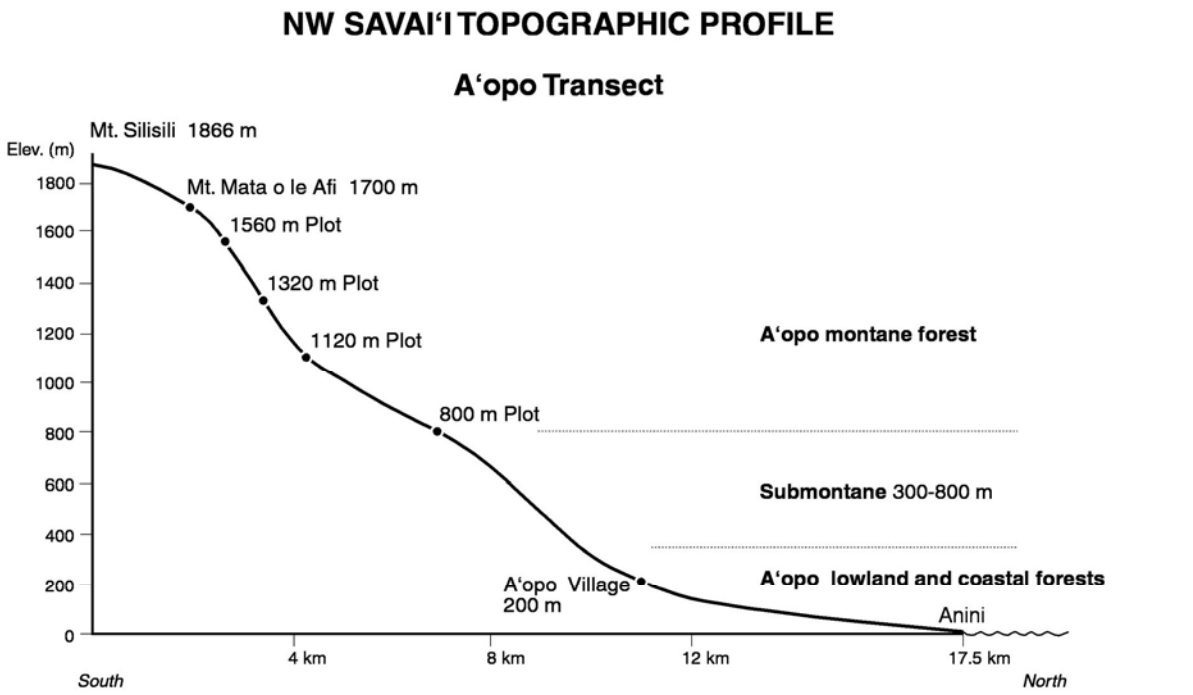
Matāvanu Flow Transect



(D. Mueller-Dombois, 2003)

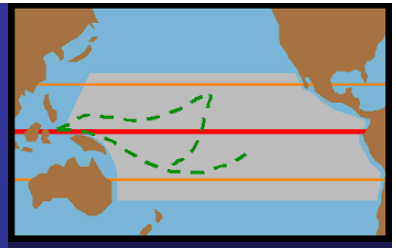
NW Savai‘i Topographic Profile





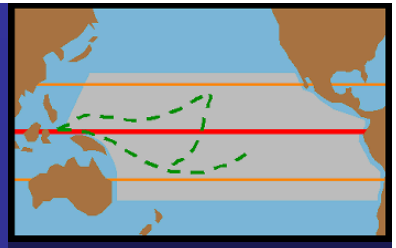
(D. Mueller-Dombois, 2003)

Hands-on Introductions to:

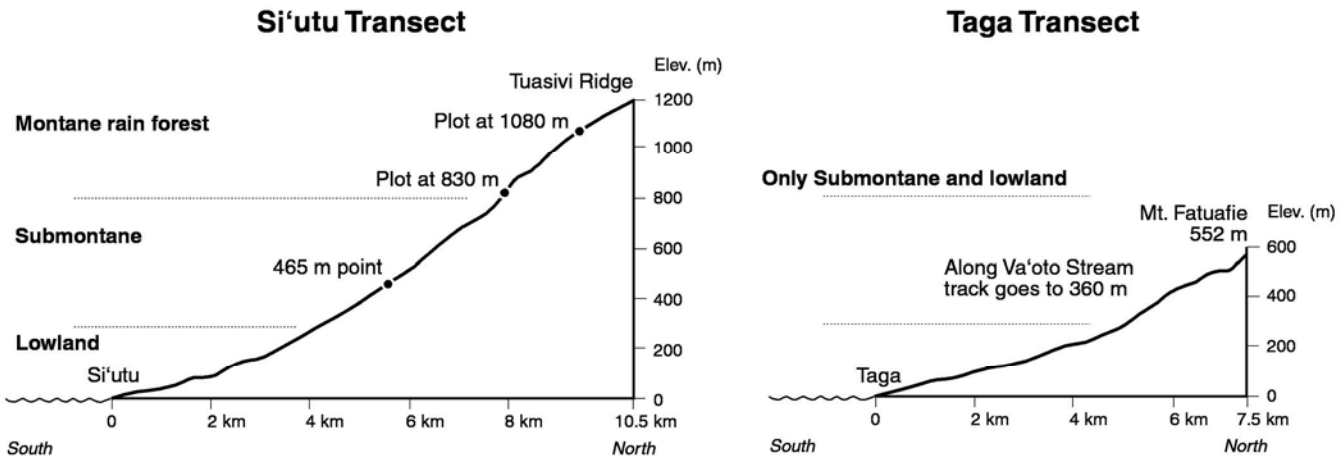


- Relevé method
- Count-plot method
- Point-centered quarter method
- GPS (Geographic Positioning System)
- Arthropod trapping
- Climate-diagram method (from existing data)
- Climate measures (for new data)

SW Savai‘i Topographic Profile

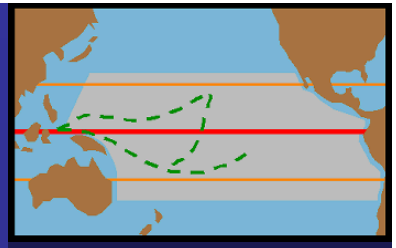


SW SAVAI‘I TOPOGRAPHIC PROFILES



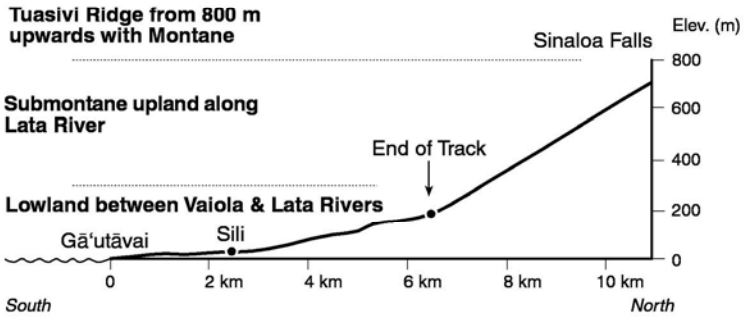
(D. Mueller-Dombois, 2003)

SE Savai‘i Topographic Profiles

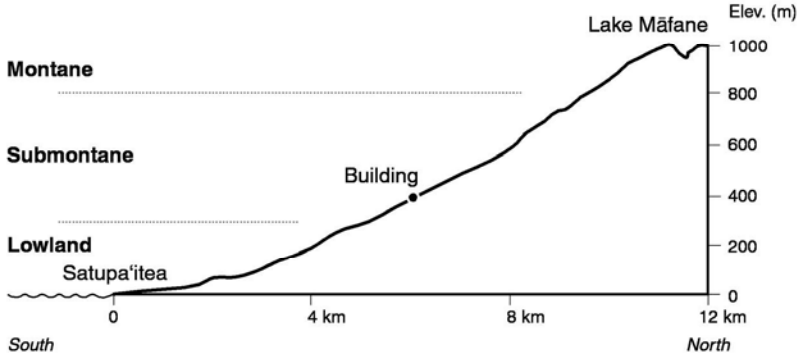


SE SAVAI‘I TOPOGRAPHIC PROFILES

Gā‘utāvai – Sili – Sinaloa Falls Transect
(Between Vaiola and Lata Rivers)

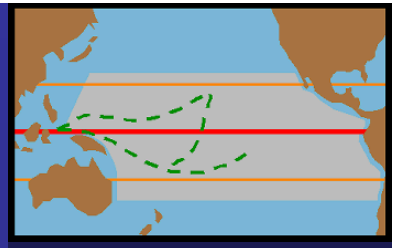


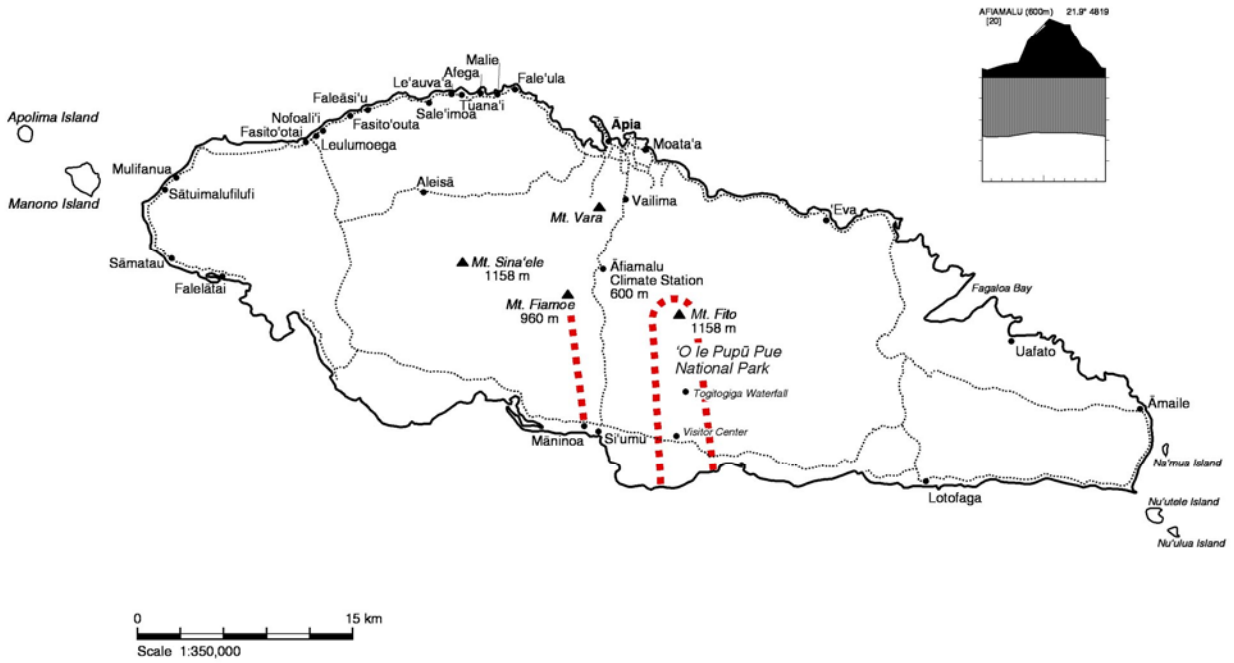
Satupa‘itea – Lake Māfane Transect
(Along Seugāgogo River, Track of 6 km to Building)



(D. Mueller-Dombois, 2003)

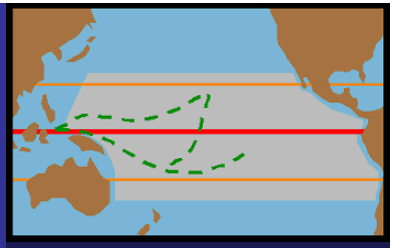
‘Upolu Island, Samoa





(D. Mueller-Dombois, 2003)

Certificate of Participation for 10 Young Samoan Scientists



National University of Samoa

Certificate of Participation

This is to certify that

Ecology Management Training

Field Biology and Biodiversity Assessment Training and PABITRA Joint Analysis Workshop

co-funded by the Asia Pacific Network for Global Climate Change Research at the National University of Samoa

from **November 25 to December 4, 2003**

Prof. Dieter Mueller-Dombois
International Coordinator

Magele Tafafunai Mauiliua Magele
Vice Chancellor, NUS

A JOINT COLLABORATION WITH THE NATIONAL UNIVERSITY OF SAMOA, UNIVERSITY OF KYOTO, DIWPA, UNIVERSITY OF GUAM, UNIVERSITY OF HAWAI`I AT MANOA, UNIVERSITY OF HAWAI`I AT HILO AND THE UNIVERSITY OF THE SOUTH PACIFIC AT SUVA.