

Mineral Resources with Emphasis on Deep Seabed Minerals in Pacific Islands region

PACE-NET Plus Platform
Brussels Belgium
23-24 June 2015

Akuila Tawake
Geoscience Division
Secretariat of the Pacific Community



and legislation
exploration and

Terrestrial Mining in the Pacific



Alluvial Mining

Underground Mining



Open-pit Mining



Marine Aggregates Extraction



Vanuatu



Samoa



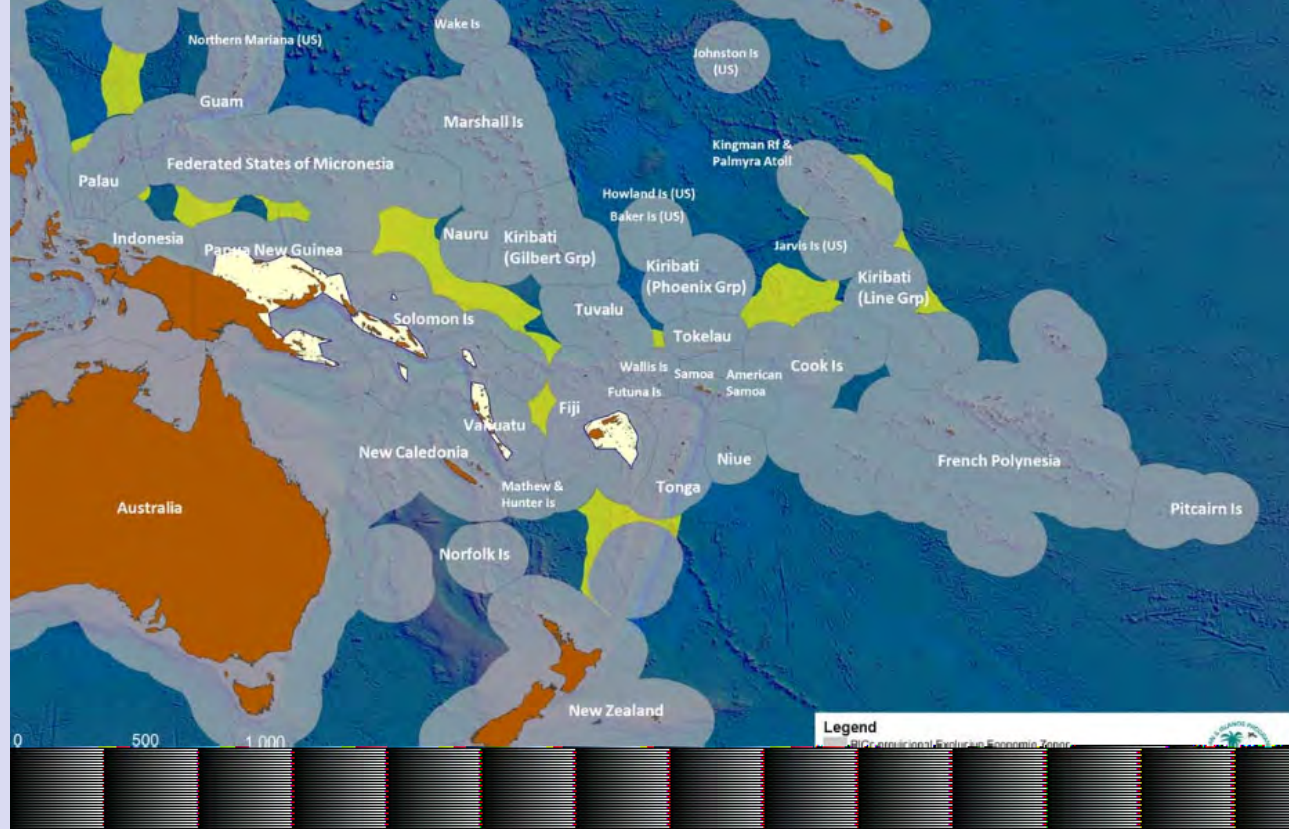
Tonga



Kiribati

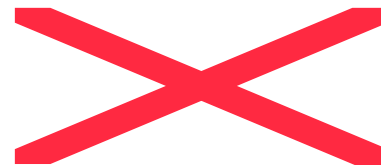
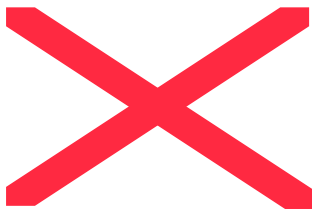
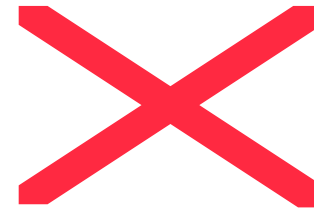
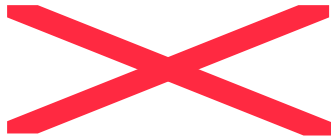
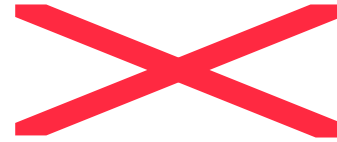
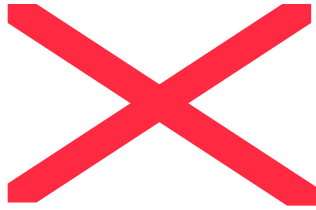


National Jurisdictions of PICTs



- Pacific Island Countries and Territories (PICTs) have a total area of 27.8 million km² of EEZ compared to a land area of around 531,000 km² (a ratio of 52:1);
- Additional 2.0 million km² in Extended Continental Shelf;
- Deep sea minerals may represent the only exploitable natural resource sector apart from fish.

Deep Sea Mineral Deposits



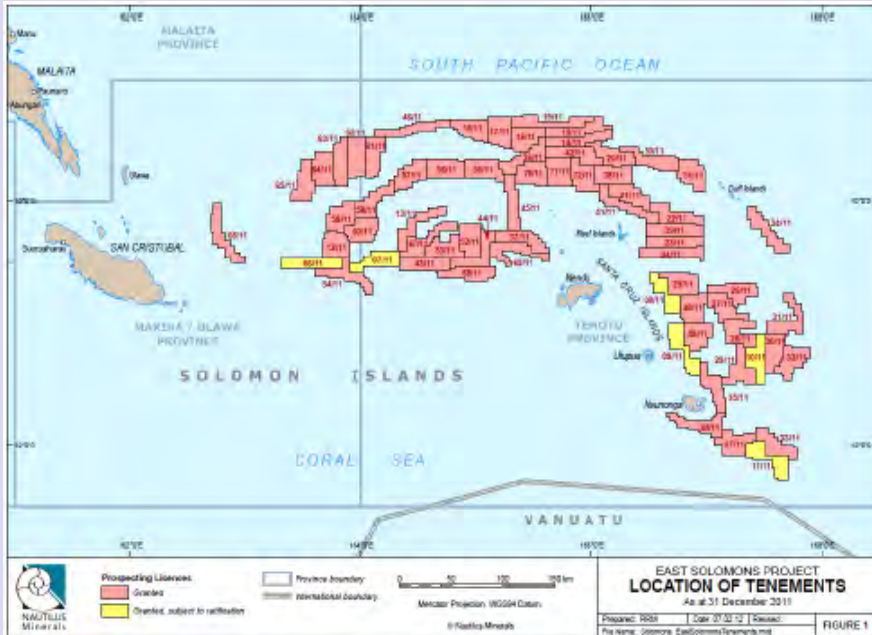
Mineral Occurrence/Potential in the Region

::

Country	MN	CRC	SMS
Kiribati	√	√	
Cook Islands	√		
Tuvalu	√	√	
Samoa		√	
Tonga			√
PNG			√
Solomon Islands			√
Vanuatu			√
Fiji			√
Marshall Islands		√	
Federated States of Micronesia		√	
Palau		√	
Niue	√	√	

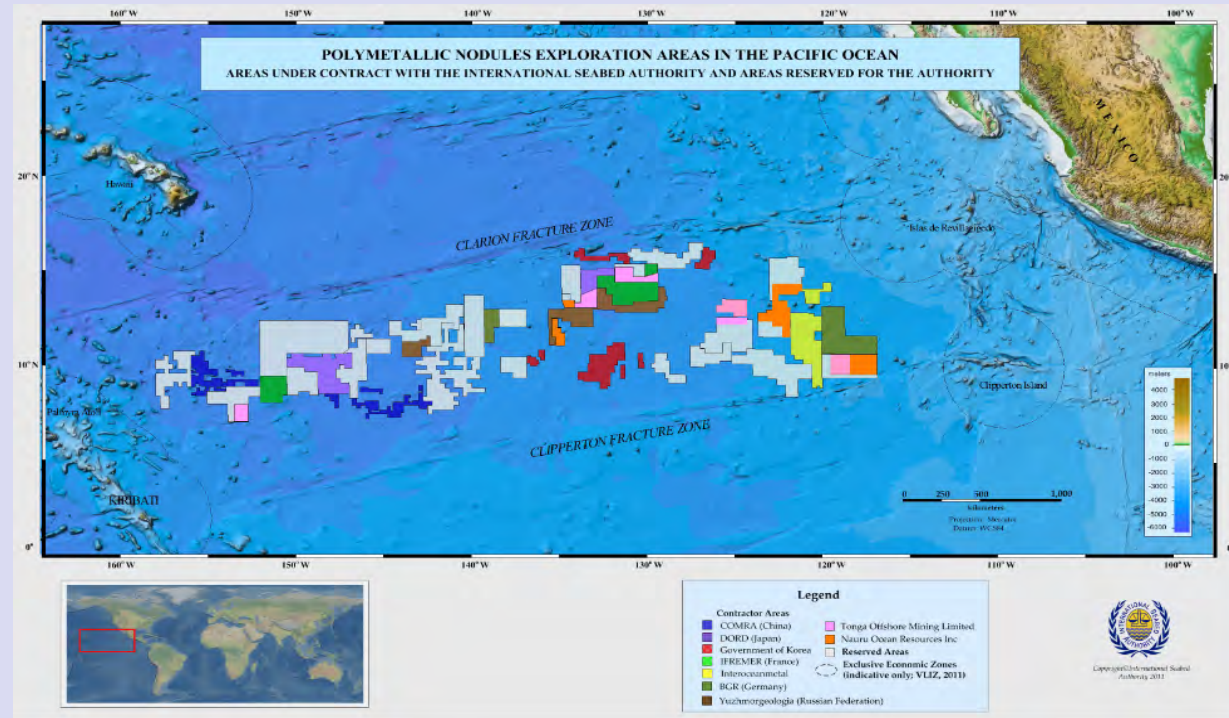
Recent DSM Activities

- Three active exploration companies;
- Exploration licenses issued in PNG, Tonga, Solomon Islands, Fiji and Vanuatu;
- PNG granted Nautilus Minerals with a deep sea mining lease in January 2011;
- Mining is expected to commence in 2018.



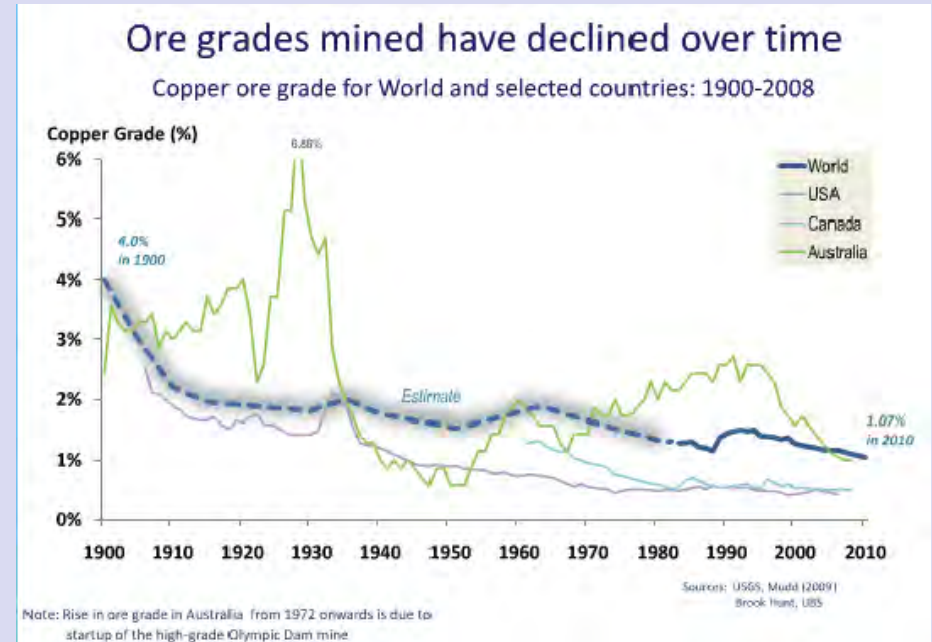
Exploration Interest in 'the Area'

- Nauru (NORI), and Tonga (TOML) registered companies have been granted exploration licenses in the “Clarion-Clipperton Fracture Zone (CCFZ) in 2011 by the ISA.
- Marawa Research and Exploration Limited of Kiribati (2012); and Cook Islands Investment Corporation (2014) have been granted exploration licenses in the CCFZ.



Drivers of Marine Minerals Development

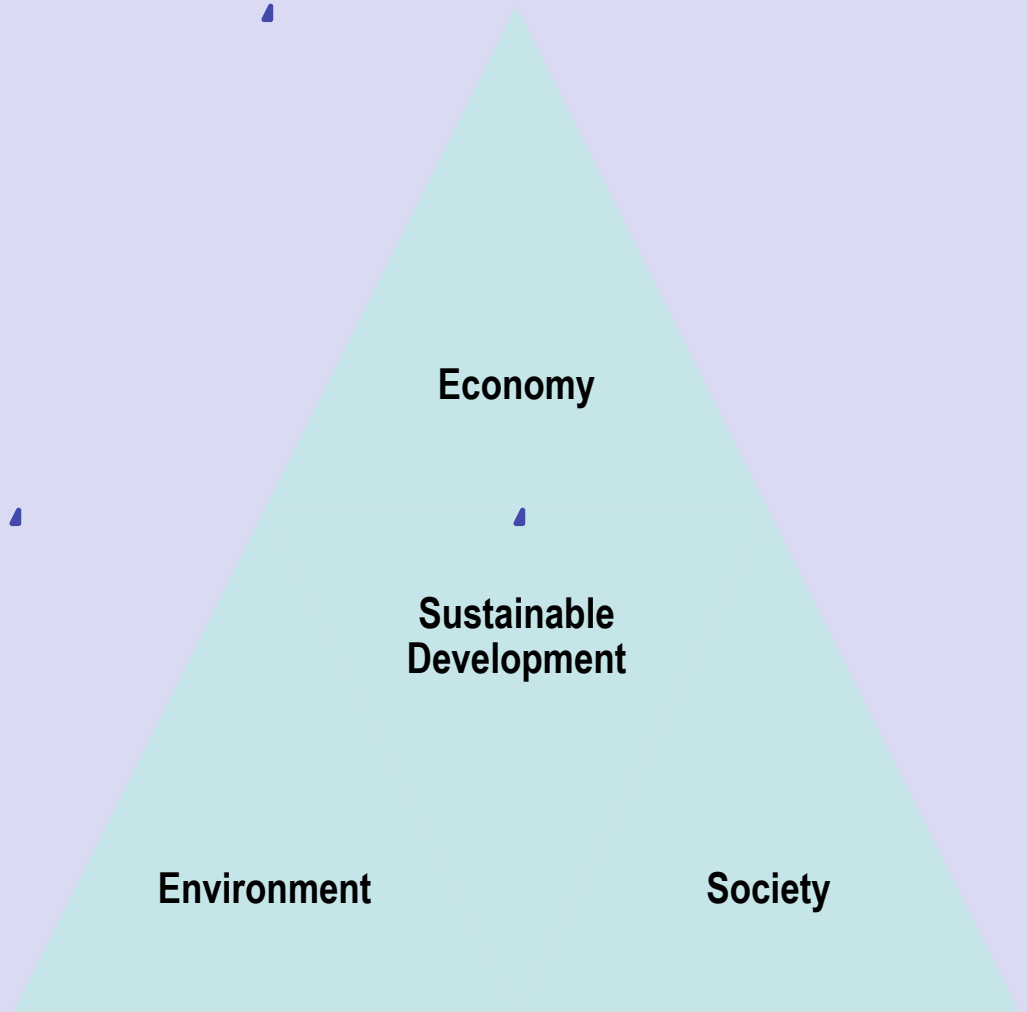
- Increasing demand for metals globally;
- High metal prices;
- Decreasing metal concentration in terrestrial mineral deposits;
- High concentration of certain metals in offshore mineral deposits;
- Significant improvement in marine mining technologies;



- Increasing demand for non-traditional metals such as REE.

Potential Benefits of DSM to PICTs

- Opportunity to participate in a new economic sector;
- Revenue generation;
- Employment;
- Mining revenue saving scheme (sustainability opportunity);
- Stimulation of other economic development sectors;
- Contribute to poverty alleviation and well being of Pacific Communities;
- Support sustainable development.



Key DSM Issues



Legal and Finance

- Development /review and enforcement of national policy and law
- Government-company DSM contract negotiations
- Fiscal regime and revenue management



Technical and Research

- Additional DSM exploration
- Environmental management and monitoring
- Research in science, social science and legal aspects of DSM
- Minerals / mining data management



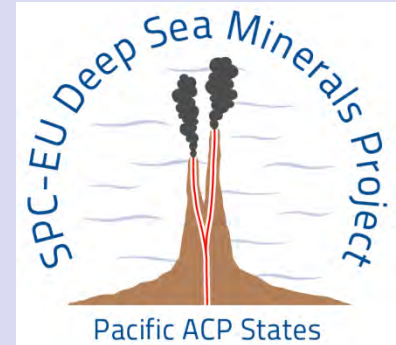
Capacity Building and Stakeholder Engagement

- Training and institutional strengthening
- Ongoing stakeholder consultations and awareness

SPC-EU Deep Sea Minerals Project

Objective: to strengthen the system of governance and capacity of Pacific ACP States in the management of deep-sea minerals through:

- (i) development and implementation of sound and regionally integrated legal frameworks;
- (ii) improved human and technical capacity, and
- (iii) effective environmental monitoring systems.



and legislation
exploration and

Assistance provided by DSM Project

National DSM
Committees

National
Consultation

National DSM
Policy

National DSM
Law

Awareness
Raising Events

Publications

Regional
Guidelines

Regional
Workshops

Data
Management

Cost Benefit
Analysis

Contracts and
Negotiations

Documentaries

Technical Training

Internships

Pacific
Attendance at
International
Events

Student
Sponsorship

Priority Research Areas

Geological Potential



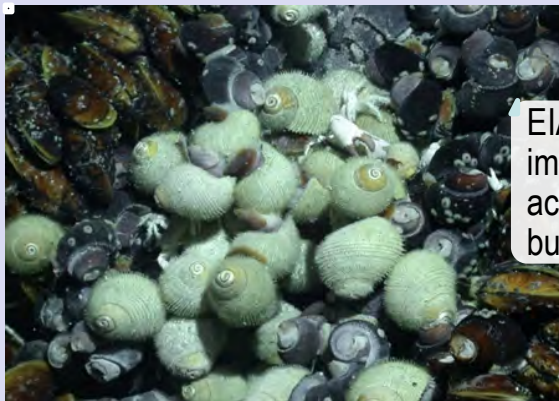
mineralogy, metal concentration, REE in nodules and crusts, metallurgy, capacity building

Technology Development



technology evolution, exploration and mining technology, capacity building

Environmental Management



EIA, monitoring, impacts of DSM activities, capacity building

Legal and Social Aspects



Collaboration with partners is very important!!