Development of a Regional Marine Scientific Research Guidelines structure

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4th Regional Training Workshop, Environmental Perspectives of Deep Sea Mineral Activities, Nadi, Fiji. December 2013

Work in progress (almost)…

- SPC-NIWA collaborative project on the development of “Pacific ACP States regional guidelines for Marine Scientific Research”
- Terms of reference are currently being finalised
- Jointly funded through the
  - SOPAC-EU Deep Sea Minerals Project,
  - NIWA Pacific Regional Support fund, and
  - NIWA research project (“Management of Offshore Mining”)
- Due to start January 2014

Components

- Two main components of the project:
- Prepare regulatory framework and guidelines on what is required to carry out DSM research in the region
  - Applications, procedures
  - “rules and regulations” side
- Prepare guidelines on research needs, and develop a more specific Marine Research Plan for DSM in the region
  - Review of research needs
  - Advice on the required scientific studies

Part 1: Regulatory framework

- Collate and review existing guidelines documents
  - Especially those national requirements already developed
  - Papua New Guinea, Cook Is in development
  - New Zealand RMA/EPA requirements and processes
  - Australian DFAT guide to MSR requests
- Evaluate what is appropriate for deep sea minerals work, based on personal experience
- Liaise closely with SOPAC DSM (Hannah key participant)

PNG example

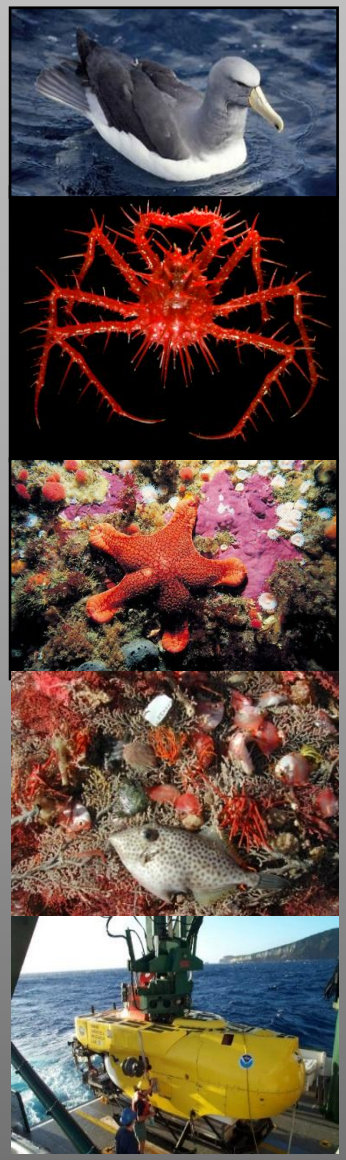
GUIDELINES AND REQUIREMENTS FOR MARINE SCIENTIFIC RESEARCH PROGRAMS IN TERRITORIAL WATERS UNDER PAPUA NEW GUINEA'S JURISDICTION AND GOVERNANCE

CONTENTS

Part II: A regional MSR Plan

- Science underpins our ability to measure and understand the effects of mining, and inform mitigation and management
- Individual contractors are generally required to carry out significant research projects
- The development of a regional MSR plan is important for several reasons:
  - Need to guide individual contractors to ensure that their research meets the needs of the region, not just individual nations [ISA]
  - Generate a level of consistency between the research carried out by different contractors
  - The latter will enable a regional-scale understanding of the environment and biological communities. This is critical to evaluate the significance of science results from the more localised studies
  - Can also guide efforts to fund regional surveys: Individual companies have limited sites of interest, and how much should be expected of them to undertake regional surveys? [NZ example]

What does science need to provide
for sound environmental management?



Baseline information:

- Oceanography
- Biological composition & distribution
- Community vulnerability and recovery rates
- Predict response to resource use pressures

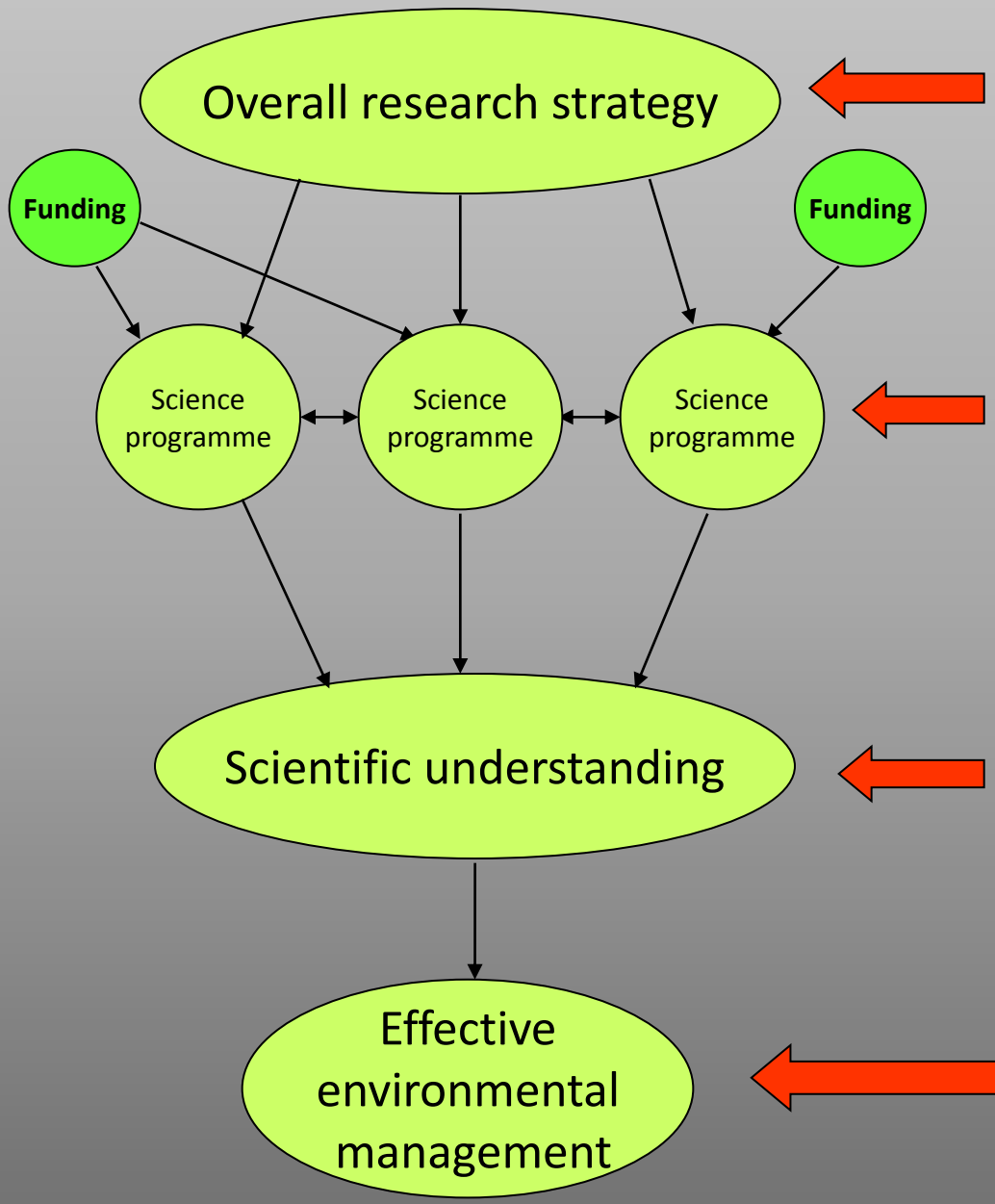
Monitoring:

- Strategies, what to measure?
- Sampling design (the need for standardisation!)
- Repeatable surveys to separate natural from human-induced changes

Conservation:

- Species and habitat distributions (obs and models)
- Appropriate spatial units for different species
- Principles for design of conservation areas
- Methods for effective mitigation and restoration.

The role of science



Need research strategy that can ask the right questions & deliver the right answers to stakeholders

Multiple habitats, multiple spatial scales, multiple disciplines: integrated geology, geophysics, geochemistry, physical oceanography, biology

Determination of environmental drivers of ecosystem structure and function. Vulnerability and resilience of communities.
Delivery to wider scientific, stakeholder, & environmental manager community

Delivered via EEZ scale legislation, consistent across regional interests

Key research elements

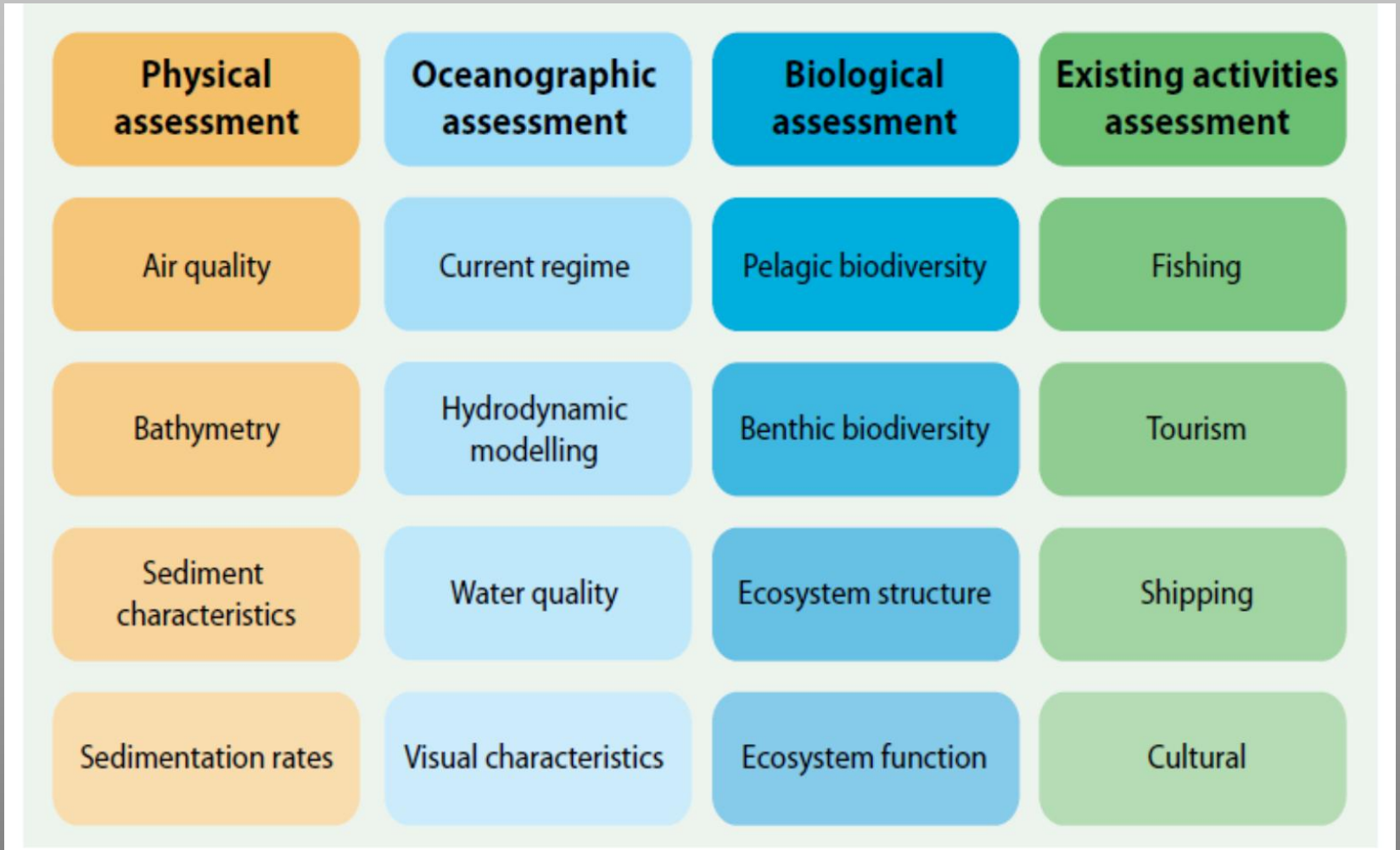
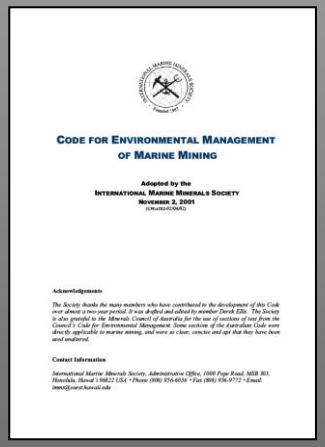


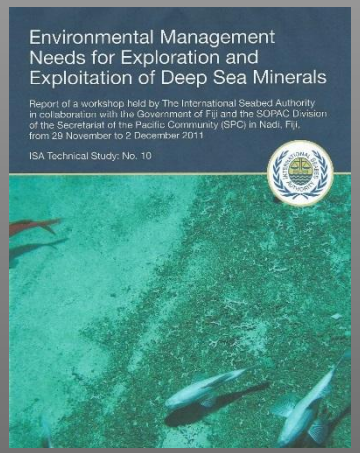
Figure 11. List of potential studies that may be required to define the environment prior to development.
Note this is not an exhaustive list.

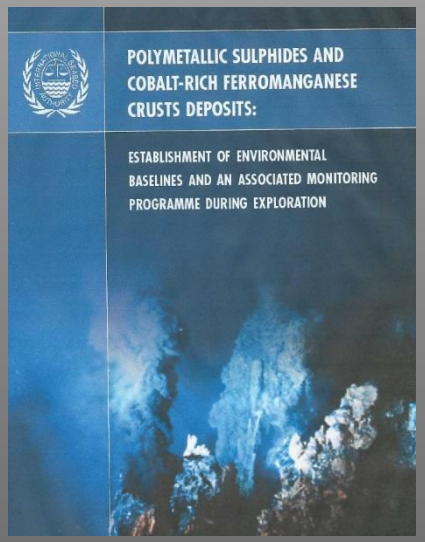
SOPAC-EU DSM Assessment 2013

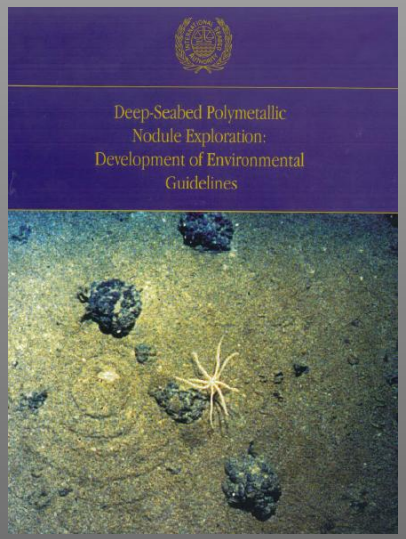
Existing guidance

- Already a number of reports dealing with the management needs and science requirements for developing environmental guidelines
- ISA reports on manganese nodules (1999) and SMS and crusts (2007) are good starting points
- Then modify based on NIWAs recent experience with ironsands, phosphorite nodule, and SMS resources
- Focus on the priority needs for the region, and what is realistic and feasible
- Work closely with Alison









Outputs

- Preparation of draft guidelines for conducting MSR (regulatory side of things)
- Preparation of a draft MSR plan
- Revisions in collaboration with SPC DSM team
- Publication of final guidelines document/s

- Duration (TBC): January 2015-April/May 2015
- Project leaders: Malcolm (NIWA), Akuila (SOPAC)