Environment Research and Technology Development Fund S-13

Development of Coastal Management Method to Realize the Sustainable Coastal Sea

Head Researcher: Tetsuo Yanagi (Principal Researcher of International EMECS Center) Research period: FY 2014 – FY 2018



The establishment of marine protected areas (MPAs) is included in the Aichi Biodiversity Targets. However, the environmental administration has been slow to act in this regard.

This study will involve a comprehensive examination of natural and human activity in coastal seas and the land areas that constitute their hinterlands, in order to determine how these areas should be changed from their present state to an appropriate status in terms of material circulation and ecotones. Specific actions will be proposed as methods for the environmental management of coastal seas in Japan.

To create methods for environmental management of coastal seas near land areas, a policy for the environmental management of coastal seas using the following as model areas must be established:

- (1) Seto Inland Sea, the largest enclosed coastal sea in Japan
- (2) Sanriku Coast, which has a succession of open inner bays such as Shizugawa Bay
- (3) Coastal areas of the <u>Sea of Japan</u>, an international enclosed coastal sea
- (4) Discussions regarding the societal and humanities aspects
- (5) Integrated numerical models for coastal sea management will be established.(beginning

in FY2015)

Through these research efforts, specific methods will be proposed for the environmental management of coastal seas.



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Topic 1

Development of methods for managing nutrient salt concentrations in the Seto Inland Sea (enclosed coastal sea)

Topic 2

Development of coastal environmental management methods on the Sanriku Coast, which has a succession of open inner bays

Topic 3

Development of methods for ocean management in the Japan Sea, an international enclosed coastal sea that includes continental shelves and islands

Topic 4

Proposed economic assessment and integrated coastal management model for ecosystem services in coastal seas

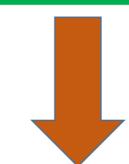
General overview and Topic 5

Integrated coastal sea model



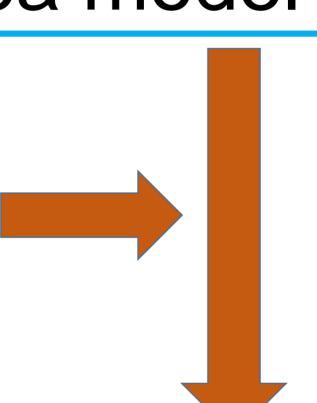
General Overview

- Establishment of a philosophy for coastal sea management in a world that is undergoing dramatic changes
- Policies needed to achieve quantitative environmental indicators for realizing desirable coastal seas
- Model that integrates nature, society and the humanities as a policy support tool



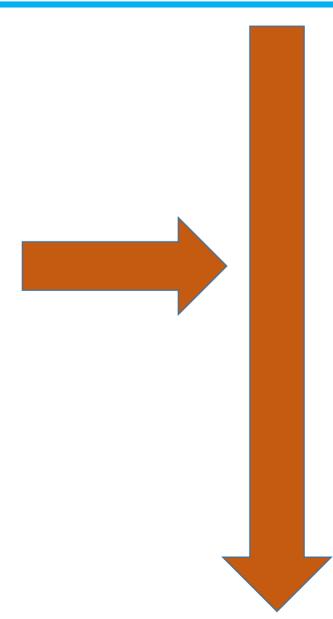
Integrated coastal sea model

Presentation in a visually easy-to-understanding form



Environmental administration policy

Council (3-stage management organization)



Achievement of sustainable coastal seas are beautiful, abundant and vibrant

The Environment Research and Technology Development Fund administered by the Ministry of the Environment provides funding for research and development in virtually all environmental domains. Its purpose is to promote the accumulation of scientific knowledge that is indispensable for furthering the environmental policy that will build a sustainable society. Areas include preventing global warming, creation of a recycling-based society, achieving coexistence with the natural environment and ensuring safety by managing environmental risk.