or by a cost-efficient distribution of reductions, i.e. socially efficient targets are fulfilled to the lowest costs. In order to achieve good environmental status by 2021 present assessments indicate provisional targets for nutrient loads: For nitrogen the loads should not exceed 600 000 tonnes and 21 000 tonnes for phosphorus, corresponding to a reduction of 135 000 tonnes of nitrogen (18%) and 15 000 tonnes of phosphorus (42%). A first step towards operational management of nutrient inputs to the Baltic Sea was taken at the HELCOM ministerial meeting where countries approved a set of provisional nutrient reduction targets distributed between countries, and countries should take action not later than 2016 to implement measures (HELCOM Baltic Sea Action Plan). These provisional reduction targets should be periodically reviewed and revised using a harmonised approach for estimating nutrient inputs. The Baltic Sea Action Plan is the only realistic political instrument to achieve nutrient reductions and consequently improved ecosystem status. The provisional reduction targets were based on calculations carried out with the NEST model system developed within the Swedish MARE program. The NEST models are based on state-of-the-art knowledge of the Baltic Sea ecosystem and the models integrate ecological and economic properties. An entrance to the The Baltic Nest Institute, its activities and models are located here (http://www.balticnest.com/). The content, structure and philosophy of the decision-support system are presented and its future role as a management toolbox to be applied into other regional seas is discussed.

A practical program of environmental education, aiming at the environmental regeneration of the Seto Inland Sea, and calling the actual sea area into play

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1.The incidence of environmental pollution in Mizushima Region and the establishment of our Foundation.
Since 1961, the construction of a gigantic industrial complex gained impetus in Mizushima, the southern part of Kurashiki city in Okayama prefecture, facing the Seto Inland Sea. During the latter half of the 1960's, the environments of above-mentioned areas were seriously polluted and many people were taken ill. In 1983, the people who suffered from serious health concerns caused by the pollution took the main polluters eight big companies in the Mizushima industrial complex to court. In 1996, this case was settled out of court.
After the settlement of this case the Mizushima Foundation was established in 2000, using a part of the settlement money. We, the members of this foundation, have worked for the environmental rehabilitation of Mizushima area. Our activities include a variety of endeavors, such as research and practical work to revive the water environment and make the experiences of the victims of the pollution known to the people of developing countries.
2. The practical activity of environmental education that uses the sea area.
Since the period of rapid economic growth, a broad stretch of land was recovered from shallow sea area containing tidal flat and eelgrass vegetation. Moreover, the sea area's environment has deteriorated because a large amount of waste has been scattered and deposited over the seabed. Therefore, the place where and the chance when people, especially children can soak themselves in an excellent waterside environment have remarkably decreased.
Then, our Foundation is making the overall environmental study programs, for people to regain the concern for the sea. There are two programs. One is experience study program that uses eelgrass vegetation as a field of natural environmental education. Another one is a program by which people learns the relations of the environment and industries through the fishery experience. Because the study on the problem of Seabed litter is included in this program, people can learn the problem of the sea more widely. Our activities have been supported by the Japan Fund for the Global Environment of Environmental Restoration and Conservation Agency.
3. The practical activity of environmental study program.
When we examined the environmental study programs, we set up the study committee that consists of persons in educational field, the specialists in the related fields, and the persons in charge of the municipality. Up to now, the study committee has been held five times, meanwhile the experimental practice of the study program has been executed.

We will complete the program in fiscal year 2008, resting on the results of an experimental experience study association held several times, and on the discussion at the study committee. At the same time, it is scheduled to publish "Guidance book" and "Picture book of Living thing" to enlighten the public.

A couple ocean-atmosphere model for ocean currents energy estimation

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Nature endowed Indonesia with all forms of renewable energy resources, such as ocean current and wind. Intensive research, exploration and exploitation of the resources are necessary to contribute in a sustainable manner to meet increasing energy demand that has been experienced in Indonesia. In this study, a couple ocean-atmosphere model was utilized and we estimated the potential energy of ocean currents in Indonesian Waters. Ten years satellite wind data provided by NCEP was also used for validating the model. Further, we also evaluated ocean currents, as components of tidal and wind induced currets, obtained from the 3D validated hydrodynamic-atmospheric model to estimate marine current potential energy in Indonesian Waters. From the study that we have carried out, it shows that Indonesia has a great energy resources of wind and ocean currents. The result of wind data processing shows that in southern part Indonesian area such as southern Java, Bali, Lombok, NTB, NTT, and Arafura Sea have larger energy potential which reach maximum peak during west monsoon (from Desember to February). We estimates the available wind power density in those potential area reach 1.325 3.66 kW/m^2. From the analysis that we have done, it indicates that Makasar, Lombok , Bali and Selayar Straits have strong current velocity therefore they have far larger energy than other Indonesian waters which contains power density 1.038 2.685 kW/m^2.

Sediment characteristics of the different interdidal flats along the Yellow River Delta

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The sediment distribution of intertidal flats is controlled by sediment supply and marine dynamics. The research on the distribution of sediment grain size helps to reveal the trend of sediment transportation and coastal morphodynamics. In this study, 167 intertidal surficial sediment samples were collected at cross-shore sections along the intertidal flats of the Yellow River Delta in 2004. Based upon statistics of sediment parameters and sediment moving modes from probability cumulative distribution curves, and combined with topography and hydrodynamics, the intertidal flats along the Yellow River Delta was discussed in present study. The objective is to obtain the characteristics and spatial distribution of intertidal flat sediments, and to better understand the sedimentary environment and the hydrodynamic factors. The results are shown as follows:

(1)The intertidal flats along the Yellow River Delta could be broadly divided into three geomorphic zones: abandoned area at the north of the delta (AAN), current river mouth (RMA) and Laizhou Bay (LZB). The surficial sediments of the different intertidal flats showed various characteristics, which was in accord with their hydrodynamic conditions.

(2) For AAN, in general, it showed complicated sediment types and poorly-sorted trend. The flats suffered from serious erosion, resulting in the developing of some shell ridges and eroded ridges. Cumulative grain-size distribution curves indicated that most of the sediment samples of AAN had a large bed load which was directly related to the strong wave activity.

(3)For RMA, the intertidal flats were relatively smooth and the tidal currents played more important role. In addition, groins cross the shoreline had great effects on the distribution of surficial sediments of the intertidal flats by changing partial tidal currents field along nearshore zone.

(4)For LZB, intertidal flats were very broad and had no obvious changes of sediment types. Sediment grain became coarser and better sorted from high intertidal flats to low intertidal flats.