

# EMECS

NEWSLETTER

International EMECS Center

No. 27

## Pre-EMECS 8 International Workshop in Tianjin

- Building Integrated Management of Catchment and Coastal Areas of the Yellow and the East China Seas -

Pre-EMECS 8 International Workshop was held on November 23, 2007 in Tianjin, China. This workshop was the pre-event of the 8th International Conference on Environmental Management of Enclosed Coastal Seas (EMECS 8), which will be held in Shanghai, China from October 27 to October 30, 2008.

Based on the theme of "Building Integrated Management of Catchment and Coastal Areas of the Yellow and the East China Seas," scientists, officials from both central and local governments, and citizens in China, Korea, Turkey, and Japan made a variety of presentations on the present situation of integrated coastal management in their respective countries, and the present environmental conditions and management of the coastal areas of the Yellow Sea and the East China Sea. There was also active exchange of views and opinions with the participants.



Reaffirming the need for further coordinated efforts among China, Korea, and Japan regarding the integrated coastal management such as total pollutant load control of those seas for their environmental improvement was a great achievement of the Workshop. Participants also decided to further their discussions at EMECS 8.

We believe that all participants were able to confirm in the workshop that cooperation with all countries involved is essential for tackling environmental issues. We also believe that this will be a driving force which will lead to the success of EMECS 8.

Date & Time: November 23, 2007 9:30am - 6:00pm

Venue: Huizhong Hotel, Tianjin, China

Organizers: Nankai University, China  
East China Normal University, China  
Chinese Research Academy of Environmental Sciences, China  
International EMECS Center, Japan

Language: English

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Program

Opening Addresses

- Dr. Nobuo KUMAMOTO Chairperson, Scientific & Policy Committee, International EMECS Center, Japan
- Prof. Qixing ZHOU Dean, College of Environmental Science and Engineering, Nankai University, China
- Prof. Zhenrong SUN Chief Director, Division of Science and Technology, East China Normal University, China

Session - 1: Environmental Statuses in the Bohai and the Yellow Seas - Present and Future

- Prof. Lin ZHU Nankai University, China  
*The Assessment of Marine Ecosystem Health and Security*
- Dr. Run ZHAN First Institute of Oceanography, China  
*Impact of Thermal Water from Nuclear Plant on Bio-Ecology in Bohai Sea - An Example from Spotted Seals*
- Dr. Ping SHI Yantai Institute of Coastal Zone Research for Sustainable Development(CAS)  
*LOICZ at Bohai Sea: Present Challenge and Future Perspectives*
- Mr. Qiufeng ZHANG Tianjin Ocean Administration, China  
*Marine Ecosystem Health Assessment of Tianjin Coastal Sea*
- Dr. Xianbin LIU College of Marine Science and Engineering, Tianjin University of Science and Technology, China  
*The Sediments Characteristics of the Tidal Zone in Tianjin*

Session - 2: Catchment Pollutants to the Estuaries - Processes and ICZM

- Prof. Zhongyuan CHEN East China Normal University, China  
*Ecological Degradation of the Yangtze Coast and East China Sea -Challenges and Proposed Regional Collaboration*
- Dr. Erdal ÖZHAN Mediterranean Coastal Foundation/ Mugla University, Turkey  
*A Review of Integrated Coastal Management in the Mediterranean*
- Dr. Hi-Il Yi Korea Ocean Research and Development Institute, Korea  
*Integrated Coastal Management(ICM) of Korea*
- Prof. Masataka WATANABE Keio University, Japan  
*Impact of pollution load from large rivers on the ecosystem in the Bohai Sea, Yellow Sea and the East China Sea*

Session - 3: Total Control of Pollutant Loads of the Bohai, Yellow and East China Seas - China, Japan and Korea co-action

- Prof. Chang-Hee LEE Myongji Univeristy, Korea  
*Implementation of Total Pollutant Load Management System(TPLMS) in Masan Bay, South Coast of Korea*
- Dr. Kun LEI Chinese Research Academy of Environmental Sciences, China  
*Contaminant Fluxes and the Environmental Impacts in the Yangtze River Estuary, China*
- Prof. Hongwen SUN Nankai University, China  
*Organic Pollution in the Coastal Area of Tianjin*
- Dr. Tsuyoshi FUJITA National Institute for Environmental Studies, Japan  
*Industrial System to Control Pollutant Loads by Attaining Higher Environmental Efficiencies through Production Process -- Environmentally and Economically Sustainable Practices in Eco-towns, Kawasaki, Dalian, Wuhan*
- Mr. Yoshihiro YAMAMOTO Ministry of the Environment, Japan  
*National Strategy of Total Pollutant Load Control System*

Discussion and closing

## Pre-EMECS 8 International Workshop in Tianjin

Prof. Masataka Watanabe, Faculty of Environment and Information Studies, Keio University

The 8th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 8) will be held October 27 - 30, 2008 in Shanghai, China. This will be the first full-fledged conference on enclosed coastal seas to be held in China.

One of China's representative enclosed coastal seas is the Bohai Sea. There is little inflow of river water into the Bohai Sea, and it has poor seawater exchange with the outer sea. Moreover, the inflow load is extremely great, with the result that pollution of the coastal seas is progressing rapidly. In addition, there is also active excavation of undersea oil fields, so oil pollution is also a problem. Unlike the Yellow Sea and the East China Sea, however, the Bohai Sea is exclusively within Chinese territorial waters. As a result, almost nothing has been known up to now by non-Chinese researchers about the environmental status of this area.

EMECS 8 will be the first conference on enclosed coastal seas to be held in China. Accordingly, as one facet of the preparations for the conference, a Pre-EMECS 8 International Workshop in Tianjin was held on November 23, 2007 in Tianjin, China with the goal of determining the state of research on the Bohai Sea and forming a network of Bohai Sea researchers.

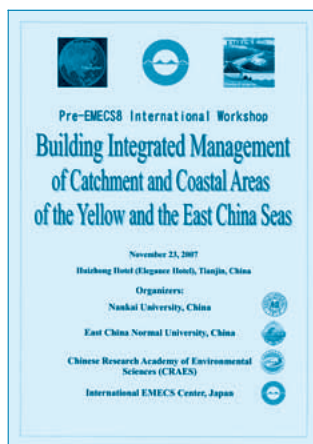
Representing the event's organizers, Dr. Nobuo Kumamoto, Chair of the International EMECS Center's Scientific and Policy Committee, Professor Qixing Zhou of Nankai University, and Professor Zhenrong Sun of East China Normal University offered words of welcome at the opening ceremony. Some 90 researchers, government representatives and private citizens from Japan, China, South Korea and Turkey participated in the workshop.

The workshop consisted of three sessions. Each session featured presentations of the latest research findings and a spirited exchange of views.

In order to improve coastal zone environments in China, controls on total pollutant load will be indispensable. The fact that the Chinese Research Academy of Environmental Sciences (CRAES), which in practice is the organization that promotes total pollutant load controls in China, is one of the joint organizers of EMECS 8 is extremely significant in terms of holding discussions at EMECS 8 regarding government-level policies relating to the preservation of ocean environments in China.

Session 1 focused on "Environmental Statuses in the Bohai and the Yellow Seas - Present and Future". In this session, Professor Lin Zhu evaluated the health and security of marine ecosystems. Dr. Run Zhan spoke on the impact on ocean ecosystems of thermal water from nuclear power plants in the Bohai Sea. Dr. Ping Shi spoke on the topic of Land Ocean Interaction in Coastal Zone (LOICZ) activities in the Bohai Sea. Mr. Qiufeng Zhang gave a presentation on ocean environments in the Tianjin coastal zone. Dr. Xianbin Liu focused on sediment in the Tianjin coastal zone.

The Yantai Institute of Coastal Zone Research for Sustainable Development was established this year by the Chinese Academy of Sciences. This is China's first research institute for the study of coastal seas, and it is a sign that the Chinese government has begun efforts in earnest to preserve the environments of coastal seas threatened by pollutant loads from land areas. One of the major achievements of the workshop in Tianjin is the establishment of an agreement under which the new institute will work closely with EMECS.



Session 2 dealt with "Catchment Pollutants to the Estuaries - Processes and ICZM". In this session, Professor Zhongyuan Chen focused on the degradation of ecosystems in the Yangtze River estuary and in the East China Sea. Dr. Erdal Özhan presented a review of integrated coastal management (ICM) in the Mediterranean sea. Dr. Hi-Il Yi spoke on ICM in South Korea. Professor Masataka Watanabe focused on the impact of pollutant loads from large rivers on marine ecosystems in the Bohai Sea, the Yellow Sea and the East China Sea. This opportunity to discuss the approach to integrated coastal management in all three nations -- Japan, China and South Korea -- succeeded in deepening the common recognition of the importance of environmental management in the Bohai Sea, the Yellow Sea and the East China Sea. All of the participants recognized the importance of taking up this topic as one of the major themes of EMECS 8.

Session 3 focused on "Total Control of Pollutant Loads of the Bohai, Yellow and East China Seas - China, Japan and Korea co-action". In this session, Professor Chang-Hee Lee gave a presentation on total pollutant load management system in Masan Bay in the southern part of South Korea. Dr. Kun Lei focused on the contaminant flux and environmental impact in the Yangtze River estuary. Professor Hongwen Sun spoke on organic pollution in the Tianjin coastal area. Professor Tsuyoshi Fujita discussed pollutant controls using the example of industrial "Eco-towns" in Kawasaki in Japan, Dalian and Wuhan in China. Mr. Yoshiro Yamamoto, director of the Office of Environmental Management of Enclosed Coastal Seas in the Ministry of the Environment, Japan, discussed national strategy of total pollutant load control system. The opportunity to listen to presentations by the actual authorities in charge of total pollution load controls for Japan, China and South Korea, and to have an exchange of views regarding common problems facing the three nations, represents a major step forward in the effort to reduce pollution loads and achieve coastal zone management.

Professor Zhongyuan Chen and Professor Masataka Watanabe served as co-chairs at the discussion session that followed these presentations. Based on the discussion during the three sessions of the workshop, all of the participants agreed that the sessions to be held at EMECS 8 in Shanghai should include the following:

- (1) Integrated coastal management of the Bohai Sea, Yellow Sea and East China Sea, conducted jointly by Japan, China and South Korea
- (2) Reduction of pollutant loads by means of total pollution load control from land areas to sea areas
- (3) Environmental impact on coastal seas from large rivers such as the Yangtze

With this agreement, the workshop came to a close.

Following the workshop, a roundtable discussion was held over food and drinks. Participants discussed matters that they were unable to cover thoroughly during the workshop, as well as the upcoming EMECS 8 Conference in Shanghai. The fact that the participants did not run out of things to talk about, even though they stayed until late in the evening, was ample evidence of the resounding success of the workshop.

When Prime Minister Jiabao Wen visited for talks with Prime Minister Abe in April 2007, the need for cooperation between Japan and China regarding environmental management of the Bohai Sea and the Yellow Sea was included in the joint declaration released at that time. The workshop in Tianjin was the first conference to be held by the two nations regarding the environmental management of the Bohai Sea and the Yellow Sea since that joint declaration by the two prime ministers. Accordingly, it should also be noted that this workshop also made a major contribution to environmental cooperation between the governments of Japan and China.

## Preparations for the 8th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 8) (1)

At the closing ceremony of the 7th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 7), held in Caen, France in May 2006, it was announced by East China Normal University that the next EMECS Conference would be held in October 2008 in Shanghai, China. This issue and the next issue of the EMECS Newsletter will feature coverage of the subsequent activities that have been underway in preparation for the conference.

The first of these preparatory activities is the creation of an organization for implementation. Yiyu CHEN, President of the National Natural Science Foundation of China (NNSFC), has agreed to serve as honorary chair for EMECS 8. Representatives of the three organizations that will organize the conference -- East China Normal University, the Chinese Research Academy of Environmental Sciences (CRAES), and the International EMECS Center -- will serve as chair and vice-chairs, respectively, for EMECS 8. Many relevant organizations have also been asked to provide their cooperation by serving as assisting or supporting organizations. In addition, the Advisory Committee, International Organizing Committee, Local Organizing Committee and Program Committee have just been established.

In August 2007, a delegation from the International EMECS Center visited China. In Shanghai, the delegation met with representatives from East China Normal University (including President Lizhong YU, who will serve as Chair of EMECS 8, and Professor Zhongyuan CHEN, who will serve as head of the EMECS 8 Secretariat). The delegation also studied

the candidates for the conference venue. In Beijing, the delegation was joined by Keio University Professor and Program Committee Chair Masataka Watanabe and Kai-Qin XU, senior researcher at the National Institute for Environmental Studies (NIES) and others. The delegation met with Wei MENG, president of CRAES and EMECS 8 Vice-Chair and held talks with Honorary Chair Chen Yiyu as well as with Mr. Xiaoqing Wu, Vice Minister of the State Environmental Protection Administration of China (SEPA). All parties were united in their desire to ensure the success of EMECS 8. Then the first circular of EMECS 8 was released at the end of August.



With Mr. Xiaoqing Wu, Vice Minister of SEPA (4th from right)

In November, an international workshop was held in Tianjin as a pre-EMECS 8 event, and this workshop also provided the opportunity for those involved with the preparations for EMECS 8 to gather together. Following the workshop, studies have been underway regarding EMECS 8 financing plans, special sessions, pre-conference and post-conference tours and so on. In December, the second circular of EMECS 8 was released and presently, EMECS 8 is calling for papers.

The creation of a network is crucial for the success of the conference, and efforts have focused on creating a network that not only includes relevant organizations and committee members but also extends to many individuals as well. The importance of expanding networks extends to the EMECS 8 website (<http://www.emecs-8.ecnu.edu.cn/>) as well, and readers are encouraged to provide links to this website.

## Introduction of EMECS 8 Organizers (1) East China Normal University, the State Key Laboratory for Estuarine and Coastal Research within the School of Resources and Environment Science

In order to enhance a relationship, it is important for people to get to know one another. For this reason, at East China Normal University, one of the organizers of EMECS 8, the State Key Laboratory for Estuarine and Coastal Research within the School of Resources and Environment Science, which will serve as EMECS 8 secretariat, provide a brief self-introduction.

### Prof. Zhongyuan CHEN, East China Normal University

The School of Resources and Environment Science was founded in 1993. Among its 179 staff members, there are 50 professors and 49 associate professors. The school has 1,094 students, including Masters and PhD students. The school presently offers five undergraduate programs, twelve Masters programs, and seven PhD programs. The school boasts a post-doctoral mobile station, one national key discipline, one state key laboratory, one open laboratory of the Ministry of Education, and one state training and research base for science. The school also has several research organizations such as the Institute of Estuarine and Coastal Research, the Institute of West European and North American Geography, the Institute of Population Studies, the Research Center for Administrative Divisions in China, and the Academy of the Yangtze River Catchment Development. The School of Resources and Environment Science has developed relations for academic exchanges, training and research with a number of universities and institutions in such countries as the United States, Britain, France, Germany, Holland, Japan, Canada, Australia, Singapore, Sri Lanka and the Maldives.

The State Key Laboratory for Estuarine and Coastal Research (SKLEC) was planned by the State Planning Commission of China in 1989, and was officially permitted to conduct an analysis in December 1995, on the basis of a thorough examination performed by invited national experts. The laboratory has primarily been aimed at the applied basic research in the discipline of estuarine and coastal sedimentary dynamics and dynamic geomorphology. The main research areas include: (i) estuarine evolution and sediment dynamics; (ii) coastal dynamics on geomorphology and sedimentary processes, and (iii) estuarine and coastal ecology and environment. By multidisciplinary interaction and integration, the major tasks of the laboratory are to study the sediment dynamics and sedimentary processes with regard to various spatial and temporal scales, as well as the human impact on the natural environment and natural

processes. This will enhance understanding of the interaction among the different physical factors in estuarine and coastal regions. Therefore, it helps promote the discipline of estuarine and coastal research, which will highlight the construction of harbor and navigation channels, resource exploitation of the coastal zone, ecology and environment protection, and coastal planning and management, etc.

Since it was established in 1991, the Laboratory has received a great number of research grants including 12 national key projects, 24 NSFC (National Natural Science Foundation of China) projects, 18 international collaborative projects, 93 ministry- or provincial government-funded projects and 95 contract projects. The main achievements from this research have been summarized and published in 7 monographs or collections, and 383 research papers have been published in national or international journals. The Laboratory has received 23 national or provincial awards, among which, "Comprehensive study on coastal zone resources in China" won first prize in the National Science and Technology Progress Awards. "The main sedimentary dynamic processes of estuaries in China" and "Storm deposits and environmental evolution in the Yangtze Delta" won second prize in the Science and Technology Progress Awards presented by the Ministry of Education.

The laboratory has also placed great emphasis on academic exchange and scientific cooperation, both at home and abroad, on the basis of the guideline of "Opening, Exchanging, Cooperating, Competing," which is regarded as an important step in improving research and upgrading management to an international level. The Laboratory has applied theoretical achievements to national economic development at a high level. For example, the advisory proposal on shifting PuDong International Airport eastward to the tidal flats, which was put forward by Prof. Chen Jiyu, reduced an investment by 3.6 billion RMB.



## JICA Training Course 2007 System of the Environmental Management of Enclosed Coastal Seas

The International EMECS Center has been conducting the JICA (Japan International Cooperation Agency) training course on the "System of the Environmental Management of Enclosed Coastal Seas" since 1990, which is one of our core activities for the purpose of contributing to the development of human resources which will promote environmental preservation of coastal seas in developing countries.

The center conducted the course sponsored by JICA with eight central and local government officers from Cote d'Ivoire, Indonesia, and Venezuela, and two visiting participants from China from August 22 to October 26, 2007.

The participants acquired knowledge and technical skills which had been applied to the environmental restoration and management activities in the Seto Inland Sea, the largest enclosed sea in Japan, which had suffered serious environmental pollution during the high economic growth period in Japan (1960' - 1970'). At the end of the training course, they presented practical Action Plans which outlined their plans on how they would overcome challenges in their countries regarding environmental problems, by making use of the knowledge and skills they acquired through the course.

### Mr. BONI Juste Geraud (Cote d'Ivoire)

Today, protecting and restoring the marine and coastal environment are very important to save the world's marine water.

During this training course organized by JICA and its partner, the International EMECS Center, we have learned and understood more about marine environment pollution mechanisms, methods for environmental conservation and restoration, legal systems and policies for sustainable development and environmental management of enclosed coastal seas, and the present environmental condition of the Seto Inland Sea in Japan.

We will provide our country with sufficient knowledge and find solutions against environmental pollution in the three big lagoon systems (Ebrie, Aby and Tadio-Tiagba) in Cote d'Ivoire, while putting into practice the explanations, discussions and documentation from Japanese experts on the conservation, restoration and protection of the marine environment.

By using the expertise and experience of the Japanese in this training course, we expect to plan a systematic campaign to protect and purposefully restore the marine environment of Cote d'Ivoire.

We would like to make a point of saying thank you very much to the organizing staff and the Japanese government for their commitment to saving world coastal and marine environments.

Domoo Arigatoo Gozaimashita!

### Ms. KUSUMA Luh Putu Ayu Savitri Chitra (Indonesia)

Participating in this training course has provided us with significant knowledge related to the management of coastal seas. Mr. Kurniawan from the Ministry of Marine Affairs and Fisheries said that this training is important and useful for getting a better understanding of pollution mechanisms and the great efforts of the Japanese Government has made in the environmental restoration of the Seto Inland Sea. Mr. Darmono from the Ministry of Environment stated that this training has been very useful as a "barometer" of coastal zone management. Even though, at the moment, Indonesia has not yet applied as many advanced systems for coastal zone management as in Japan today, there are some methods that can be adopted in Indonesia. As Mr. Setiono from the Ministry of Marine Affairs and Fisheries said, what we gained here in Japan will be applied according to the characteristics and conditions of Indonesia. As a researcher in the Ministry of Marine Affairs and Fisheries, I was impressed by how the research results generated by research institutions can contribute greatly to the better management and conservation of the Seto Inland Sea.

In terms of social environment, in this training course we have had the opportunity to make friends from all over the world and to "upgrade ourselves" into seeing the world from a different point of view. Also, it helped us come to know things that we had never experienced before, such as getting a better understanding of Japanese language, culture and traditions.

As JICA Hyogo and EMECS Center expected, we Indonesian participants will try to develop a network for further collaboration after the course has finished. We would like to thank JICA, JICE, the International EMECS Center and all other organizations that made the training course possible, and for providing us with such a wonderful experience in Japan.

### Mr. Gerardo Lau Perez (Venezuela)

After reflecting on and analyzing my experience on the course, I have to admit this far exceeded my expectations. Over the past 76 days, this course has benefitted the participants with a good balance between technical information, field experience and tuition on many aspects related to the coastal areas in enclosed seas, especially on the Seto Inland Sea, the focus of the case of study in this course.

Fortunately, the course was not limited to technical aspects alone. As the course developed, participants had the opportunity to understand Japanese culture, getting their own experience to obtain a general comprehension about the idiosyncratic nature of the Japanese (population behavior) and their relations with the environment along the coastal line and the Seto Inland Sea.

One of the most impressive aspects of this course was the honesty and courage of the Japanese in showing us the mistakes they made during the period of rapid economic growth for obviating damage to the environment. One of the key messages of this course was clearly, "think about the environmental mistakes the Japanese made and don't do the same in your own countries".

The coastal line is a strategic area for all nations; many interests are involved: economic, social, recreational, industrial etc. It is also the responsibility of nations, governments and the general public to keep these areas protected like a natural resource for future generations.

Finally, I would like to express my gratitude to the Japanese people, JICA and related institutions for all the knowledge acquired at this golden opportunity. I feel more of an environmentalist than I did at the beginning and I hope I can help my nation to beneficially maintain the coastal line for many years to come.

### Mr. Ziyin Zhang (China)

Firstly, I really appreciate JICA and the International EMECS Center for organizing this training course. As a visiting participant, I joined in the entire course, which is designed for officials in government. I learnt a huge amount and gained so many treasured experiences, and made memorable friendships with participants from many different countries.

During the past 2 months, I have had opportunities to hold discussions with top-ranking Japanese experts on the environment, both through lectures as well as through visits to environmental conservation facilities. This training has helped me form a concept for environmental pollution mechanisms of enclosed coastal seas, to understand methods for the environmental conservation of enclosed coastal seas, and to more fully understand the legal systems involved and policies for sustainable development and environmental management.

As a student engaged in Fisheries and Environmental Oceanography, I have come to recognize the right direction for my future studies by learning from the experience that the Japanese have had struggling with environmental hazards. I can now consider my research more comprehensively after what I have learnt on this training course.

Nowadays, China is facing rapid economic growth and deterioration of the environment. This program has inspired me with even greater passion to solve environmental issues in China and to take effective measures in advance for the future of the environment.



## New Publications

### Asian-Pacific Coasts and Their Management

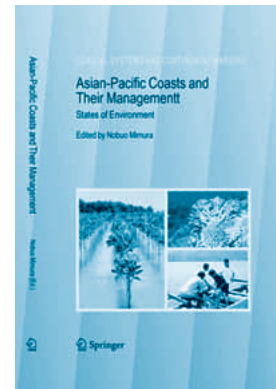
Coastal zones are areas in which urban activities and various other human activities are concentrated. These zones also form habitats (primarily marshes and shallow sea regions) for various forms of life. These regions are crucial for preserving the global environment. There has been increasing concern about the vulnerability of Asia-Pacific coastal zones, in particular, as they are expected to experience rapid urbanization and industrialization. For this reason, in order to plan for sustainable development in Asia, an evaluation of the current state of / future prospects for coastal zone environments, based on up-to-date scientific knowledge, should be conducted and policy options should be proposed to the governments of each nation as well as local government organizations, companies, NGOs and so on.

The International EMECS Center has promoted exchanges regarding research achievements in the environmental management of enclosed coastal seas and coastal zones, made primarily by researchers on the front lines of coastal zone environment research together with the participation of governments and other entities. The Center holds regular EMECS Conferences with the aim of deepening international exchanges. In the special Asia Forum session of the 5th EMECS Conference, it was proposed that a general assessment of coastal zone environments in the Asia-Pacific region be conducted.

In response to this proposal, the Center recently published "Asian-Pacific Coasts and Their Management" with the aim of providing a comprehensive assessment of the current state of coastal zone environments in the Asia-Pacific region. This publication is one of the works in the Coastal Systems and Continental Margins (CSCM) series, and was published in January 2008 by the Dutch publisher Springer. Edited by Professor Nobuo Mimura, the work includes articles by 36 researchers from Japan and other nations. [Springer, ISBN 978-1-4020-3626-2, €129.95]

The work is made up of the following sections:

1. Introduction
2. Drivers for Changes in the Coastal Zone
3. Environment Problems in the Coastal Zone
4. Policy for the Conservation and Sustainable Development of the Coastal Zone
5. Regional Conditions
6. Conclusions

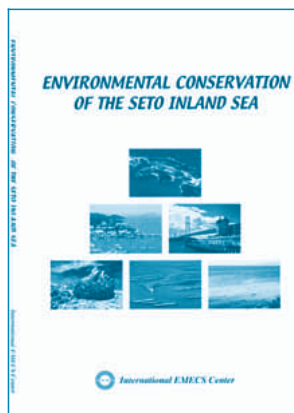


### ENVIRONMENTAL CONSERVATION OF THE SETO INLAND SEA

Due to their physical shape, enclosed coastal seas have poor exchange of sea water with the outer ocean. As a result, pollutants tend to collect in enclosed coastal seas, and once these areas are polluted it takes a long time for them to be restored. On the other hand, these areas are used for a many different purposes: as ports, fishing ports, fishing grounds, areas to provide water for industrial use, areas for rest and recreation and so on. Accordingly, human activities place a great burden on these ocean regions, and comprehensive management of pollutant sources in particular and coordination of the use of water regions and so on are common problems faced by the global community.

The Seto Inland Sea is the largest enclosed coastal sea in Japan. It has picturesque views that are famous throughout the world, with myriad islands floating in the blue sea. During Japan's period of rapid economic growth, however, the environment of the Seto Inland Sea was that of a "dying sea". Since that time, joint public-private efforts that included the establishment of the Law Concerning Special Measures for Conservation of the Environment of the Seto Inland Sea and sewage treatment efforts on the part of companies and so on have resulted in an improvement of the environment of the Seto Inland Sea.

In January 2008, the International EMECS Center published a work entitled "Environmental Conservation of the Seto Inland Sea". This reference was prepared to provide parties working to manage enclosed coastal seas throughout the world with information on efforts in the Seto Inland Sea. In this work, information relating to environmental studies, policies etc. implemented in an effort to improve the environment of the Seto Inland Sea has been collected and organized. The new reference was edited by a committee comprising Dr. Tetsuo Yanagai, Professor of Kyushu University, Dr. Tsuneichi Toda, Professor of Hiroshima University, Dr. Kunihiisa Tada, Professor of Kagawa University and Dr. Ichiro Imai, Associate Professor of Kyoto University. It was prepared with the support of the Association for the Environmental Conservation of the Seto Inland Sea and was published with the financial support of Japan Post Service Co., Ltd.



The new publication is made up of the following chapters:

1. Outline of the Seto Inland Sea
2. Changes of the environment of the Seto Inland Sea
3. Measures for conservation of the environment of the Seto Inland Sea
4. Future tasks and challenges facing the Seto Inland Sea
5. Reference
6. Appendix

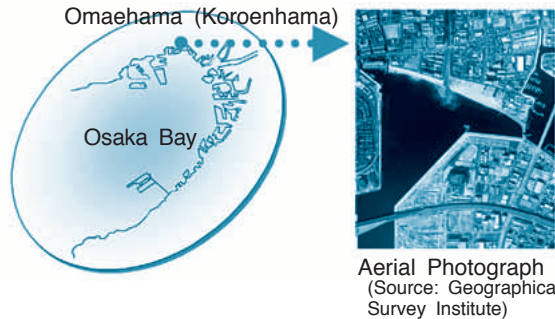
The new work will be distributed at the 8th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 8), to be held in October 2008 in Shanghai, China, and at international seminars, and JICA training course, etc. For more information regarding the new publication, please contact the International EMECS Center.

# Report: Environmental Restoration Projects (Omaehama Water Environment Restoration Project)

## Purpose and Objectives

Omaehama is located at the Shukugawa Estuary in the interior of Osaka Bay. The surrounding areas have been filled in, making it a sea region with a high degree of enclosure. As it is located deep in the inner Osaka Bay, water quality is poor and there is little marine organism and few places where people can come in contact with the water. In addition, "Blue tides" sometimes occur in the summertime. Omaehama is one of the few sandy beaches in the area between Osaka and Kobe, and many local residents await the day when the water is clean enough to swim in as they did long ago.

In FY 2003, the Hyogo Prefectural Government initiated the "Omaehama Water Environment Restoration Project" with the goal of restoring Omaehama as "a seashore inhabited by shellfish in the summertime, where people can come in contact with and play in the water." The International EMECS Center has had experience in conducting environmental restoration tests at the Port of Amagasaki, located even deeper in the inner Osaka Bay, and has participated in this project from the planning stages onward.



## Construction of Test Shallows

In order to create a wide area that sunlight can reach even during the summer, a shallows with a gentle gradient (50 m wide and 90 m long) was constructed, and it was decided to conduct a study to ascertain whether the water had become clean and the beach had been populated by living organisms. Sand that had collected in a nearby riverbed was passed through a sieve and only the fine sand was used to create the shallows.



## Description of Test

### ① Monitoring to determine changes

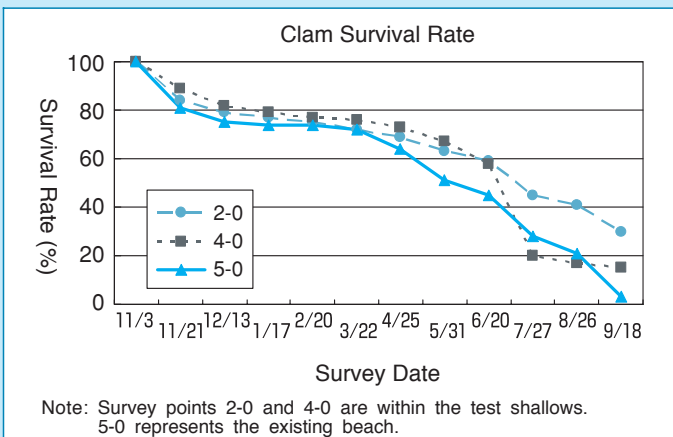
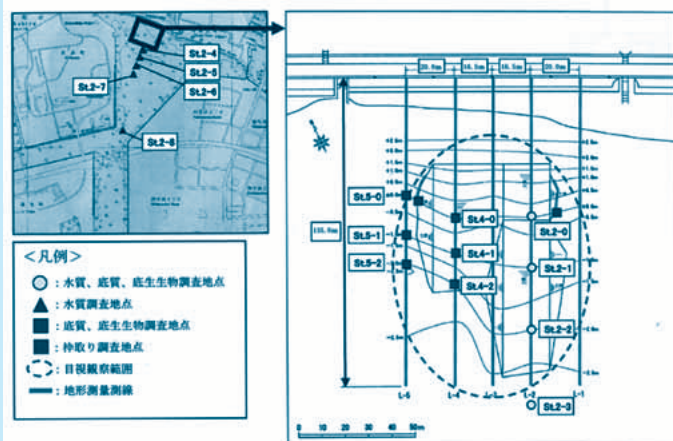
Bottom sediment, benthic life, water quality and living organisms were conducted in each season (spring, summer, fall and winter).

### ② Activities conducted with the participation and cooperation of local residents

To enable the general public to get a real sense of the changes at Omaehama, a survey called "Our Beach Survey" is being conducted with even children participating, and a "Living Organisms' Map" has been created. During the survey, children attach numbers to the backs of clams and conduct tests to monitor their growth and development. The third such test is currently underway.



Omaehama: Living Organisms' Map



**③ Provision of Information**

The results of monitoring and the clam growth tests are provided on the EMECS website. In addition, in March each year a public forum is held to report the results of monitoring and so on in order to promote public awareness and participation.



Question from a member of the audience



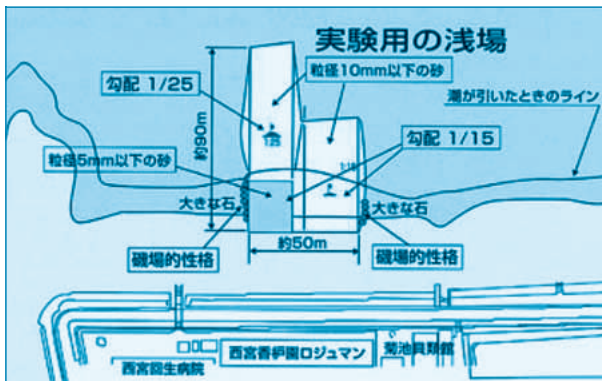
A lecturer provides an explanation

**Evaluation of Shallows**

It has been confirmed that the shallows is now inhabited by clam, sea hares, gobies and other life.

The graph above shows the results of the clam growth tests. However, it is impossible to make judgments based on the results for a single year alone. Monitoring will be continued and an evaluation will be made in cooperation with the general public.

Website : <http://www.emecs.or.jp/omaehama/>



Test Shallows



Citizens participate in the "Our Beach Survey"

**Science and Policy Trends (1)****Promoting Sustainable Coastal Management: Role of the World Bank**

Jane T. NISHIDA,

Senior Environmental Institutions Specialist

Coastal management of natural and marine resources is essential to sustainable development and poverty reduction, and therefore is of great importance to the World Bank. By 2030, it is estimated that 60% of the world's population will be living in urban areas, primarily in coastal areas. This will mean that 60% of the world's population will live "downstream" of major river basins and will effectively be at "ground zero" for the impacts associated with rapid economic and population growth along the coast. This interface of rapid urban and coastal growth, combined with increasing sea level rise and climate change impacts, has made the promotion of sustainable coastal management as one of the most pressing development challenges for the international community.

As a result, the World Bank has been at the forefront of creating a foundational framework for sustainable coastal management. The World Bank has viewed coastal management as an interdisciplinary and intersectoral approach to promoting environmentally sustainable development of coastal areas, which includes looking at community based management of coastal resources, infrastructure development, pollution control, eco-tourism, and disaster risk management. The World Bank has developed Guidelines for Integrated Coastal Zone Management and an Environmental Assessment Source Book to help guide developing countries in coastal and marine management issues.

The World Bank is also developing policies and strategies in fisheries and aquaculture, marine protected areas, biodiversity, coral reefs, water resources management, integrated coastal zone management, and other related issues.

In the past decade, the World Bank's investment portfolio includes nearly \$1 billion in coastal and marine activities in various regions around the world. Specific projects include the Hai River Basin Integrated Water Resources Management Project in China, the Anatolia Watershed Rehabilitation Project in Turkey, and Integrated Coastal Zone Management Project in India. The Hai River Basin Integrated Water Resources Management Project is developing an integrated water resources management framework to address among other things, land based activities that degrade water quality in the Hai River Basin and the Bo Hai Sea Region. The Anatolia Watershed Rehabilitation Project in Turkey is building a community based approach to support sustainable natural resource management practices in Anatolia and in the Black Sea Region. The Integrated Coastal Zone Management Project in India is developing a multi-sectoral and multi-disciplinary approach for governance and protection of coastal areas with national and state governments in India. Working in partnership with other international organizations, like EMECS, the sustainable environmental management of coastal seas can be achieved.

**8th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 8)  
Conference Outline & Call for Paper**

**Main Theme:** ~Harmonizing River Catchment and Estuary~

**Organizer:** East China Normal University, Chinese Research Academy of Environmental Sciences (CRAES), SEPA  
International EMECS Center

**Date:** October 27 to October 30, 2008

**Venue:** Shanghai, China Shanghai Everbright Convention & Exhibition Centre International Hotel (No. 88, Caobao Rd., Shanghai)  
Details see <http://www.ebhotel.com>

**Objectives:** Provide an opportunity to all participants, including natural and social scientists, administrators, government officers, and younger students, to exchange information and opinions on environmental conservation and creation of enclosed coastal seas and to discuss for a better understanding of how to minimize potentiality of the environmental risk.

**Conference Topics:** ①Environmental Vulnerability Under Global Warming Setting ②Integrated Catchment-Coastal Management  
③Landcover Changes: from Catchment to Coastal Seas ④New Approaches  
⑤Social Responsibility and Awareness

**Language:** English

**Registration and Payment:** US\$ 250/participant, regular registration before March 15, 2008  
US\$ 300/participant after March 15, 2008  
US\$ 50/student before March 15, 2008 (US\$70 after March 15, 2008)  
US\$ 150/accompanying person (US\$200 after March 15, 2008)

\* Registration fee covers: conference documents, 4 lunch meals, 2 conference dinners, and snack + coffee

**Call for Papers (Oral & Poster):** We welcome your presentation abstract for research progress, activities, and policies regarding coastal seas, harmony between land area and water area etc.  
(Abstract submission deadline: March 15, 2008)

**Abstract submission, registration:** Abstract submission, registration and payment should be completed through  
EMECS 8 conference homepage at: <http://www.emecs-8.ecnu.edu.cn/>

**G8 Environment Ministers' Meeting in 2008:  
Looking Forward to Your Participation in the Related Projects**

The 2008 G8 summit will be held in Japan from July 7 to July 9. Prior to the summit, the G8 summit related meetings for Foreign Ministers, Financial Ministers, etc. will also be held. In particular, the Environment Ministers of the G8 countries will meet to discuss environmental issues from May 24 to May 26, 2008 in Kobe, Japan, where the International EMECS Center is located.

In order to provide cooperation and support for the success of the G8 Environment Ministers' Meeting in 2008 on a local basis, the Hyogo Promotion Cooperation Committee for the Environment Ministers' Meeting in 2008\* was established in July, 2007, with Hyogo Prefectural Government, Kobe City and the Kobe Chamber of Commerce and Industry, etc. as the members. To mark this occasion, the Center has participated in the planning of related projects, such as EMECS International seminars which will be held in February and May 2008. These seminars will be conducted in close collaboration with related organizations, such as the Asia-Pacific Network for Global Change Research (APN Center) and the Institute for Global Environmental Strategies (IGES).

The theme of the seminar that will be held in February is "Environmental Education". A keynote lecture on environmental education programs in the Chesapeake Bay, in the USA as well as an information exchange in the form of a panel discussion on activities from different parts of the world will be scheduled. One of the Center's activities on the environmental education is holding a special, and very successful session called "The Students and Schools Partnership (SSP)", which was held during EMECS 2003 (Thailand, 2003) and EMECS 7 (France, 2006), had been highly praised, and suggestions for continuation and further development of similar sessions have been received. We believe that the outcome of this seminar will greatly influence the success of the SSP session in EMECS 8.

The seminar in May will be held as a preliminary conference in Japan for EMECS 8. This seminar will be designed to provide opportunities for information exchange on activities and projects regarding environmental conservation in enclosed coastal seas in China.

Each seminar will be free and open to the public with simultaneous interpretation. For further details and application, please visit our website at <http://www.emecs.or.jp/>.

※ provisional translation

**Call for Articles**

Contributions from readers (reports on research on enclosed coastal seas, conference information, etc) would be greatly appreciated.

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※ Printed on recycled paper