

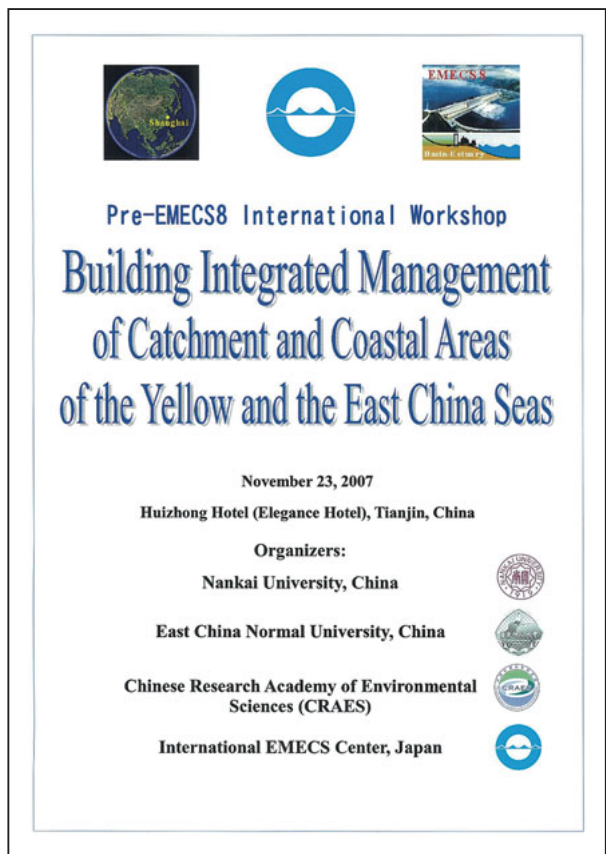
Pre-EMECS 8 International Workshop  
**Building Integrated Management  
of Catchment and Coastal Areas  
of the Yellow and the East China Seas**




**Workshop Report**



**International EMECS Center, Japan**





pre-EMECS 8 International Workshop for Building Integrated Management of Catchment and Coastal Areas of the Yellow and the East China Seas



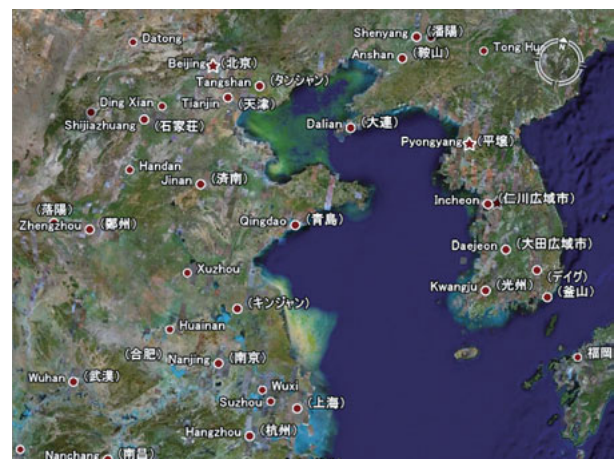




**Pre-EMECS8 International Workshop**  
**Building Integrated Management**  
**of Catchment and Coastal Areas**  
**of the Yellow and the East China Seas**

November 23, 2007  
 Huizhong Hotel (Elegance Hotel), Tianjin, China

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

Program



Location of the venue



The Venue - Elegance Hotel



Reception Desk



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## Preface

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 and the East China Seas. 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.

The success of this workshop comes from a lot of efforts of many people involved especially Prof. Lin ZHU, Nankai University, Prof. Zhongyuan CHEN, East China Normal University, and Prof. Masataka WATANABE, Keio University, and all presenters. The Japan Fund for Global Environment of the Environmental Restoration and Conservation Agency was generous enough to support the workshop financially. We appreciate all of them and the participants very much.

International EMECS Center

# 1 Outline

## Theme

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

## Date

November 23, 2007

## Venue

Huizhong Hotel (Elegance Hotel), Tianjin, China

## Organizers

Nankai University, China



East China Normal University, China



Chinese Research Academy of Environmental Sciences  
(CRAES)



International EMECS Center, Japan



## Sponser

The Japan Fund for Global Environment of the  
Environmental Restoration and Conservation Agency



## 2 Program

### Opening Addresses (9:30 – 10:00)

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

### Session – 1 (10:00 – 12:05)

#### **Environmental Statuses in the Bohai and the Yellow Seas – Present and Future**

##### **Chairperson: Prof. Qixing ZHOU**

Prof. Lin ZHU Nankai University, China

*The Assessment of Marine Ecosystem Health and Safety*

Dr. Run ZHAN The First Institute of Oceanography, China

*Impact of Thermal Water from Nuclear Plant on Bio-Ecology in  
Bohai Sea - An Example from Spotted Seals*

Dr. Pin SHI Yantai Institute of Coastal Zone Research for Sustainable  
Development(CAS), China

*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 (13:15 – 15:20)

#### **Catchment Pollutants to the Estuaries – Processes and ICZM**

##### **Chairperson: Dr. Kaiqin XU**

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 Chairman, Mediterranean Coastal Foundation  
(MEDCOAST) / 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, the Yellow Sea and the East China Sea*

**Session – 3** (15:40 – 18:10)

**Total Control of Pollutant Loads of the Bohai, Yellow and East China Seas – China, Japan and Korea Co-action**

**Chairperson: Prof. Zhongyuan CHEN**

**Prof. Masataka WATANABE**

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  
*Distribution of Nonylphenol Ethoxylates and Their Metabolites in Rivers of Tianjin, China*

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**

### 3 Summary

Prof. Masataka Watanabe Keio University, Japan

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, an 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, Dalian and Wuhan. 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.

## 4 Opening addresses

### 4-1 Dr. Nobuo KUMAMOTO

Chairperson, Scientific & Policy Committee, International EMECS Center

Distinguished guests, ladies and gentlemen,

I'm Kumamoto Nobuo, the chairman of Scientific and Policy Committee of the International EMECS Center. Please allow me to give a few words on the opening of this Pre-EMECS8 workshop.

First of all, I'd like to express my gratitude to Nankai University, East China Normal University, and Chinese Research Academy of Environmental Sciences for their great efforts to hold this workshop.

The largest Enclosed Coastal Sea of Japan, the Seto Inland Sea, is blessed with beautiful scenery, mild climate since ancient time where fishery industry and marine transportation had flourished. Concentration of population, expansion of industry and development of land transportation of the coastal area supported the industrial and cultural development of Japan.

In the latter half of 19<sup>th</sup> century when Japan became one of the modern countries, the famous German historian Rihitoforfen highly valued Seto Inland sea as "one of the most attractive places in the world" after seeing the beautiful coastline of white sand and green pines. He also expressed his wishes that the scenery which had been kept for such a long time could continue for a long time to come.

However, as a result of modernization and industrial development afterwards, especially the high economic growth after the war, the Seto Inland Sea became so polluted that it was said to be a dying sea where unprecedented red tides frequently occurred due to large amount of industrial drainage, wastewater from households and accidental oil spill from factory.

The situation of the Seto Inland Sea did not improve so much, although the Water Pollution Prevention Law was implemented in Japan nationwide. Then, the governors and city mayors of the 13 prefectures along the coast of the Seto Inland Sea cooperated and formed an organization requesting enhanced measures. This organization appealed to the Government and the Diet to make a special law. Together with the arising movements of fishermen and citizens, a special law for the environmental conservation of Seto Inland Sea proposed by the members of the Diet was established.

Under this law, the total pollutant loads from industrial drainage of all watersheds into the Seto Inland Sea were reduced and land reclamation was prohibited. Thanks to these pioneer

measures, the occurrence of red tides decreased sharply and water quality was improved.

The areas of enclosed coastal seas are places where people and industry tend to concentrate. In Asia Pacific region, 60% of the population live in the coastal area and the percentage is expected to increase further in Asian region in the future. If we do not take appropriate measures, water quality will deteriorate because of the poor water exchange condition and the inflow of pollutants.

With the thoughts that many of other enclosed coastal seas in the world are suffering from and struggling against the same problem as the Seto Inland Sea and that to share and exchange information may help in finding out better countermeasures, scientists, government officials, activists and industry representatives gathered and worked together, which is the beginning of the International EMECS Center's activity.

EMECS is the abbreviation of the five initial letters of Environmental Management of Enclosed Coastal Seas.

The 1st EMECS conference was held in Kobe City in Japan in 1990 with a lot of participation from different countries, regions, and international organizations sharing common concerns on enclosed coastal seas. After that, the conference was held in Maryland, USA in the Chesapeake Bay; Stockholm, Sweden on the North Sea coast; Bangkok, Thailand in Siamese bay; Antalya, Turkey facing the Mediterranean sea; Caen, France in Baie de la Seine and the 8th EMECS conference will be held in Shanghai next October.

The 8th conference is organized by East China Normal University, Chinese Research Academy of Environmental Sciences and International EMECS Center with strong supports from various institutes including State Environmental Protection Administration of China.

Considering the impact of rapid economic growth which has deteriorated the relationship between river catchment and estuary, the theme of EMECS 8 was set as "Harmonizing River Catchment and Estuary".

Discussions will be held from a wide range of perspectives which include not only water quality regulation, but also integrated coastal management such as ecological understanding, risk management, hydrological consideration, city planning, remote sensing, environmental technology, citizen's participation and environmental education.

At present we are calling for paper abstracts from all over the world and we are expecting that there will be many presentations.

Well, today, as the pre-conference of EMECS 8, with the theme "Building Integrated

Management of Catchment and Coastal Areas of the Yellow and the East China Seas”, we are going to have discussion on water quality management, especially total pollutant load control, and current situation and countermeasures of China, Korea and Japan. And, Mr Özhan from Turkey, one of our Scientific and Policy Committee members, will give an introduction of international water quality management.

At the end, I wish to express my gratitude to all presenters for taking your precious time out of your busy schedule to participate in the workshop today. Also, I wish the active exchange and discussion today will be a significant step towards the EMECS 8 conference next year.

Thank you very much for your attention.

#### 4-2 Prof. Qixing ZHOU

Dean of College of Environmental Science and Engineering, Nankai University

Ladies and Gentlemen, Dear Friends: Good morning!

After our endeavors, in particular, after the hard work by my colleagues from Nankai University, East China Normal University, and Chinese Research Academy of Environmental Sciences, the workshop for the 8<sup>th</sup> international conference on the environment of enclosed coastal seas has opened successfully. Today, the representatives attended this workshop come from Japan, Turkey, South Korea, besides Chinese scholars from Tianjin, Shanghai, and Yantai and about 50 young teachers and graduated students from Nankai University and Tianjin University of Science and Technology. I also acknowledge the effective organizing for this workshop by the international EMECS center and financial support for this workshop by the Japanese side. It is my pleasure to be here with you, to extend my warm welcome to all our distinguished guests and express my sincere congratulations on the successful convocation of this workshop. I would like to take this opportunity to thank all of you for taking the time from your busy work and studies to attend this workshop.

I am very glad that the torch for holding the international workshop on the environmental management of enclosed coastal seas has been passed to the Tianjin Economic-technological Developing Area-TEDA, being famous for its economic developing outpost in China as the largest developing country in the world. Now she is faced with both beneficial opportunities for greater development and serious challenges. An in-depth discussion about environmental management of enclosed coastal seas will exert a far-reaching important impact on the development of the TEDA area.

Now would you please allow me to introduce the College of Environmental Science and Engineering of Nankai University which was formally founded as the Department of Environmental Science in 1983. She was the first department of environmental sciences among comprehensive universities in China. The College consists of the Department of Environmental Science, the Department of Environmental Engineering and Management, the Environmental Science Research Center, the Center for Environment and Social Development Studies, the Institute of Environmental Planning and Assessment, the Tianjin Economic Development Area Center for Membrane Separation Technique, and the Urban Public Safety Research Center, Nankai University. There are 14 doctoral supervisors, 16 professors and over 40 lecturers and other teachers in the College. To date, more than 1500 undergraduates, masters and doctoral students have graduated from the College. These graduates have played active and important action in many fields of environmental protection in China and other countries. The College places strong emphasis on scientific research, technological training and academic exchanges. In the past decades, it has conducted some important and key projects, which were assigned from the state government to solve key environmental and technological problems, and major research projects from the National Natural Science Foundation of China and the State Environmental Science Foundation have been successfully carried out.

On behalf of the College of Environmental Science and Engineering of Nankai University, I would like to thank you again before I leave this desk. I wish that you have a successful and productive workshop!

Thank you.

#### 4-3 Prof. Zhenrong SUN

Chief Director, Division of Science and Technology, East China Normal University

Dear Chairman, Organizer, Distinguished Delegates, Ladies and Gentlemen, Good morning!

First of all, I, on behalf of the president of East China Normal University, would present the warm congratulation to this pre-EMECS 8 International Workshop. During the past decades, there have been energetic EMECS events in the world, including 7<sup>th</sup> EMECS Conferences in Japan, and numerous professionals, including natural and human scientists, government officers ,policy-makers, administrators, middle/high and college students, teachers and industrial individuals, have put their great emotion and fervor to EMECS. So, the marvelous progresses and benefits have been obtained, and the EMECS has diffused enormous scientific knowledge in environmental conservation.

Here, this Tianjin Workshop is the fore-step of EMECS-8 conference held in Shanghai, China, October 2008. We are happy to know that the theme of Tianjin Workshop is calling for attention of Bohai Sea, East China Sea and associated catchments, where China, Japan and Korea are neighbored. We need to work together as a team to overcome ecological degradation that has happened in the past decades, significantly the influence of our human activity. We have the responsibility to secure our life on the earth and future generation, and I do believe through our persistent effort, our goal will be approached.

East China Normal University is the first normal university established after the founding of the People's Republic of China. As one of the first batch of 16 national key institutions of higher learning and the first universities that have established graduate schools, ECNU has made considerable progress in various aspects of its undertakings, and a pattern of comprehensive and research-oriented university has basically come into being. ECNU has always enjoyed the reputation of "Garden University", with two campuses situated in Pudong and Minhang districts of Shanghai, respectively. At present, ECNU comprises 20 full-time schools and 44 departments, covering the fields of philosophy, economics, law, education, literature, history, science, engineering and administration. Besides, it has 130 doctoral programs and two key laboratories at national level. 7 key laboratories of the Ministry of Education and the Shanghai Municipal Government, 6 key research bases of humanities and social sciences of the Ministry of Education as well as over 100 research institutes and a number of interdisciplinary research centers. There are now over 25,000 full time students, including more than 13,000 undergraduates, over 10,000 graduate students and more than 3000 international students. ECNU has established strategic cooperative partnership with a number of world famous universities such as Ecole Normale Supérieure, Paris, University of Pennsylvania, University of New York, and University of Melbourne, and it also has set up relations for academic cooperation and exchange with over 100 institutions of higher learning, research institutes and industrial sectors in different countries.

Here, on behalf of our University and President, I would warmly wish a success of Tianjin Workshop, and also would greatly appreciate that the EMECS center has selected our University as the EMECS 8 International conference venue, on October 27-30, 2008. I am quite happy here to tell you that the preparation of the conference is going well under the great care through many colleagues' contribution. I do believe this should lead us to a very successful EMECS 8 next year.

Expect your future visiting. Shanghai is wonderful, and ECNU is one of your best choices.

Shanghai welcomes you!

Thanks