

# EMECS

## NEWSLETTER

### Conference Report of 10<sup>th</sup> International Conference on Environmental Management of Enclosed Coastal Seas (EMECS10-MEDCOAST2013 Joint Conference)



The International EMECS Center organized the 10th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS 10), which was held for five days from October 30 to November 3, 2013 in Marmaris, Mugla Province in the Republic of Turkey. EMECS 10 was held as a joint conference with the MEDCOAST Foundation, an institution that conducts research into coastal zone management in Turkey, under the title of EMECS 10 -MEDCOAST 2013 Joint Conference.

The purpose of the conference was to examine efforts at Integrated Coastal Management (ICM) on a global scale and the achievements of those efforts, and to promote efforts to resolve unprecedented new issues and challenges. The conference was attended by more

than 300 persons from 40 countries around the world. The conference featured technical sessions, a poster session, several special sessions, a Students and Schools Partnership (SSP) Session, a half-day tour of the city of Marmaris and a technical tour of the special protected area in the Gokova Bay.

★What is Integrated Coastal Management (ICM) ?  
Integrated coastal management (ICM) is a mechanism that involves a systematic process for managing competing issues in marine and coastal areas, including diverse and multiple uses of natural resources. It puts into practice effective governance, active partnerships, practical coordinating strategies, sustainable financial resources and strengthened technical institutional capacities. The ICM concept has evolved from the need to plan and manage the various economic activities that occur in the coastal areas, regulate human behavior, coordinate policy and management interventions and integrate the use of coastal waters into land-use planning.  
(Reproduced from PEMSEA website: <http://www.pemsea.org/integrated-coastal-management>)

Conference Program			
	(Morning)	(Afternoon)	(Night)
October 30 (Wed)	Opening Session/ Keynote Session	Satoumi Special Session   Students and Schools Partnership Session (SSP) Oral Session	Opening Reception
October 31 (Thu)	ECSA-Springer Special Session Oral Session	Poster Session Guided Cultural Tour to the City of Marmaris	
November 1 (Fri)	Students and Schools Partnership Session (SSP) Oral Session	PEGASO Project Session	Turkish Cultural Night
November 2 (Sat)	Students and Schools Partnership Session (SSP) Oral Session   MARLISCO Project Special Session	The MEDCOAST Experience over 20 years and the Future Ahead   Conference Closing Session	Congress Dinner
November 3 (Sun)	Technical Field Trip		

<b>Contents</b>	Report of EMECS10-MEDCOAST2013 Joint Conference .....1~4	Report of EMECS International Seminar.....7
	The Marmaris Declaration (Excerpt) .....5	Promoting EMECS Science Outcomes .....8
	The Students and Schools Partnership Declaration (Excerpt) ...6	

## Conference Summary

### □ Theme

Global Congress on ICM -Lessons Learned to Address New Challenges-

### □ Conference period

October 30 - November 3, 2013

### □ Venue

Grand Yazici Club Turban Hotel, Marmaris, Turkey

### □ Organizer

International EMECS Center  
MEDCOAST Foundation

### □ Co-organizer

Muğla Sıtkı Koçman University

### □ Sponsor & Supporter

Republic of Turkey Promotion Fund  
Asia-Pacific Network for Global Change  
Research (APN)  
Springer Science+Business Media  
PEGASO FP7 Project, MARLISCO FP7 Project



(Grand Yazici Club Turban Hotel)

### ■ Opening Session

#### □ Opening Addresses



(Prof. Erdal Özhan)

At the Opening Session, the conference was officially opened with Prof. Erdal Özhan, President of the MEDCOAST Foundation, representing the local sponsor, acting as host. Prof. Özhan first expressed his gratitude at the second joint sponsorship of a conference by EMECS and MEDCOAST. This was followed by words of welcome from Governor Toshizo Ido of Hyogo Prefecture in Japan, the Chairman of the Board of Directors of the International EMECS Center, the sponsor on the Japanese side. Using

the word "Satoumi" as a keyword, he expressed his hope for increased collaboration in coastal zone management around the world and progress in the environmental management of enclosed coastal seas.



(Toshizo Ido, Governor of Hyogo prefecture, Japan)

Following further words of welcome from Mustafa Hakan Güvençer, Governor of Muğla Province in the Republic of Turkey, Dr. Motoyuki Suzuki, President of the International EMECS Center, greeted the attendees and expressed his gratitude for the cooperation of local organizations, and then stressed the importance of forming a relationship between sustainable human activities and coastal ecosystems and expressed his hopes for the success of the conference.

#### □ Keynote Address

Following the opening ceremony, the keynote address was presented by Dr. Frank van der Meulen of Deltares, The Netherlands.

Dr. Meulen said that when we lose a something of nature due to the impact of human activities, we must provide something to compensate for this loss. He cited the example of the creation of sand dunes in connection with development in Rotterdam Bay in The Netherlands to make the point that, in order to add nature to compensate for development and thereby preserve the environment, relevant entities in civil engineering, natural science, government and other areas would need to pool their knowledge and cooperate in this effort.



(Dr. Frank van der Meulen)

## ■ Special Sessions

### □ Satoumi Special Session

The Satoumi Special Session was held with Prof. Tetsuo Yanagi, Professor Emeritus of Kyushu University, Japan, serving as moderator.

Mr. Robert Summers (Maryland Department of the Environment, U. S.) spoke about past success and future challenges on restoration of Chesapeake Bay. Dr. Keita Furukawa (Ocean Policy Research Foundation, Japan) spoke about ocean monitoring in Tokyo Bay with citizen participation. Prof. Osamu Matsuda (Professor Emeritus of Hiroshima University, Japan) spoke about the relationship between Satoumi and ICM in Japan. Mr. Shintaro Ichiki (Ministry of the Environment, Japan) spoke about the policy of the Ministry of the Environment for environmental conservation in coastal areas. Dr. Suhendar Sachoemar (Agency for the Assessment and Application of Technology, Indonesia) spoke about the current state of the movement to create Satoumi in Indonesia and the prospects for this movement. The panel discussion focused on the contribution that the movement to create Satoumi would make to ICM strategies, and the hope was expressed that Satoumi creation movements would expand to all parts of the world. An attendee from the Philippines expressed the desire "to start a Satoumi creation movement in the Philippines as well" and asked for assistance in this effort.

#### ★What is Satoumi?

"Sato" means village and "umi" means ocean in Japanese, and "satoumi" refers to "the ocean near a village." This is a new concept that was created in 1998 by Professor Tetsuo Yanagi of Kyushu University, Japan. It has been defined as an ocean region where harmonious human activities have enabled high biological productivity and biodiversity to be preserved. In recent years, the Satoumi concept has been the focus of attention in terms of both marine resources and environmental conservation. Satoumi creation is being planned and information is being disseminated in an effort to popularize the concept internationally.

### □ ECSA-Springer Special Session

Prof. Jean-Paul Ducrotoy (France) introduced the goal and plans for publication of "Estuaries of the World", The book series on estuaries in Australia, West Africa, United States, Japan and the United Kingdom to be published by Springer. Prof. Eric Wolanski (Australia) spoke about the content of the book, "Estuaries of Australia in 2050 and Beyond" that was published two weeks earlier as the first in the series. Prof. Zhongyuan Chen (China) reported on the nitrogen balance in the Yangtze River. Prof. Grigory Frumin (Russia) reported on the nitrogen and phosphorus load in rivers that flow into the Baltic Sea. During the panel discussion, the severe situation faced by the world's estuaries in terms of the increased nutrient load, accretion of sand due to dams and various types of development was noted, and the importance of ICM for ensuring that estuaries continue to provide rich ecosystem services was confirmed.

### □ PEGASO Project Special Session

PEGASO (People for Ecosystem-based Governance in

Assessing Sustainable development of Ocean and coast) is a coastal environment management project being conducted by the EU from 2010 through 2014 in 10 locations in the Mediterranean and the Black Sea that face different types of problems, in order to link science and policymaking in a skillful manner. Following an overview, reports were presented from France, Turkey, Italy, Romania and Ukraine regarding the current status of the project and the problems that remain to be resolved. In the panel discussion, the importance of the interpreters that bridge the gap between scientific achievement and policymaking was pointed out, and the need for capacity-building in order to train interpreters was emphasized.

### □ MARLISCO Project Special Session

This special session began with an introduction by Dr. Xenia Loizidou (Cyprus) on the Marine Litter in European Seas - Social Awareness and Co-Responsibility (MARLISCO) Project being conducted by the EU at 15 locations in Europe in an effort to resolve the problem of marine litter. Next, Dr. Joana Veiga (Netherlands) spoke about the problem of what to think of the attitude toward marine litter on the part of the general public and how this can be set on the right track. Dr. Anthony Gallagher (U. K.) reported on the distribution pattern of microplastic litter (pieces of plastic measuring 5 mm or less in size) in the Solent Estuary in England and its impact on marine organisms. In the panel discussion, it was recognized anew that it would be no easy matter to heighten concern regarding marine litter on the part of the general public and get people to stop littering.



## ■ Students and Schools Partnership (SSP) Session

The Students and Schools Partnership (SSP) Session on the 30th featured five oral presentations by young people (two from Japan, two from the United States and four from Turkey) on the points of contact between environmental education and the local community.

Throughout the session, the students participated in various special programs prepared for the session, including a visit to Mugla University, and met on a voluntary basis to draft a Students and Schools Partnership (SSP) Declaration that was presented at the Closing Session.

★What is the Students and Schools Partnership (SSP) Session?

The Students and Schools Partnership (SSP) Session has been held ever since EMECS 6 (Bangkok, Thailand). Its goal is to provide a place where the students who will become the leaders of the next generation can exchange ideas and give presentations on environmental management and environmental education activities with the support of specialists. From Japan, two high school students or first year university students who are selected through a review process participate in the session. Together with the young people from other countries, they give oral and poster presentations concerning the environmental problems faced by enclosed coastal seas, and take the opportunity to establish deeper relationships with one another.

■ Oral Presentations

In addition to the above, general oral presentations were given on 16 topics that included ICM and Country Experiences, Coastal and Marine Modeling, and Coastal and Marine Ecosystems. The presentations were given in sequence from October 30 through November 2 at three venues: Main Halls A, B and C.

In the sessions held on the individual topics, three to five speakers gave oral presentations and then a panel discussion was held.

■ Poster Session

A space in front of the Main Halls was reserved for poster presentations, and 87 general and five SSP posters were displayed. The posters were displayed from October 31 through to the last day of the conference, and the morning of October 31 was set aside as a time for explanation of the posters.



(Ms. Mai Nakato, Winner of SSP Special Poster Award)

On November 1, the Best Poster Award Selection Committee chaired by Prof. Osamu Matsuda (Professor Emeritus, Hiroshima University, Japan) conducted a review, and selected Best Poster Awards.

■ Closing Session

The Closing Session was held on November 2 (Saturday) in Main Hall B, with Prof. Ozhan serving as host. The Marmaris Declaration was announced by Prof. Wayne Bell (USA), chair of the Declaration Drafting Committee. In addition, all of the students who had participated in the Students and Schools Partnership (SSP) Session



(Prof. Wayne Bell)

presented the Students and Schools Partnership (SSP) Declaration that they had drafted.

Next, Prof. Matsuda, chair of the Best Poster Award Selection Committee, announced the winners of the three Best Poster Awards and the SSP Special Poster Award, and presented the awards certificates to the winners.



(Prof. Ruben Kosyan)

Following this, Prof. Masataka Watanabe, Chair of the EMECS Scientific and Policy Committee, summed up the achievements of the conference. Finally, Prof. Ruben Kosyan (Russia), the EMECS Scientific and Policy Committee member, and Dr. George Gogoberidze (Russia) announced that the next conference, EMECS 11, will be held in St. Petersburg, Russia in the summer of 2016.



(Town of Marmaris)

## THE MARMARIS DECLARATION (Excerpt)

### Global Congress on Integrated Coastal Management

#### At the Crossroads

We have learned that environmental management of enclosed coastal seas is at a policy-making crossroads. The unabated dedication of research scientists and unprecedented technological advances in such areas as remote sensing, modeling, and electronic communications have taught us far more about coastal seas and their resources than we knew when EMECS and MEDCOAST began their respective programs two decades ago.

We are setting realistic limits to pollutant loads and undertaking improvements to monitoring programs that allow for more accurate assessment of changes and for more effective dissemination of such information to policy makers who would implement science-based management actions. We are optimistic that these advances will proceed and that our successes, limited though some may currently appear, will continue to increase. These are indeed good lessons learned.

But, as we stand at this crossroads in policy-making, we see major challenges ahead and we recognize that we still have much to learn.

We know that the future of the world's coastal communities very much depends on the degree of our success in cleaning coastal waters and restoring coastal resources to sustainable levels. But we are learning that the same sustainable future is threatened by climate change and sea level rise - ultimately, by the very waters the people cherish and upon which their economies so heavily depend.

Our conference declaration, therefore, makes only this single recommendation:

*We must incorporate social concerns into our continuing coastal seas' environmental research, policy making, management, and education programs.*

Whether we call the underlying concept "satoumi," "working landscape," or "ecosystems-based management," our efforts toward truly integrated coastal management must recognize humankind as a truly integral component of the coastal ecosystem.

At this policy-making crossroads where natural science and social science meet, we call for a new form of education, one that goes far beyond the young people in the classroom to reach the citizens themselves - the parents, the workers, the executives, the officials - all members of society as a whole.

The Turkish poet Nazim Hikmet wrote, "The most beautiful ocean is the one we have yet to cross." We have developed the tools and acquired the knowledge to design an instrument for policy-making that will help navigate these new waters. With our help, perhaps the next generation will use that instrument to approach a distant coast that we can barely envision today. That would be a wonderful legacy. So now let us leave these crossroads and embark together on an exciting new course, one that leads toward a truly sustainable future for world's coastal seas.

Marmaris, Turkey  
2 November 2013

## THE STUDENTS AND SCHOOLS PARTNERSHIP DECLARATION (Excerpt)

### Lessons Learned to Address New Challenges, Global Communication in Action

The idea of applying previous lessons to help remedy new challenges is one which we find provocative and inviting. We are the generation of change, the generation for which technology is not an additive, but a component of our lives. It is our belief that these technologies can bring us closer with nature, as opposed to separating people from nature. We feel that we may yet be of great service in finding ways to apply new lessons to the tasks which currently seem so daunting. Yet, to do this, we still need assistance from you, our mentors, educators, role models, and forebearers.

First and foremost, we need constant and meaningful communication. There is nothing which can replace the sharing of ideas and information, as this is what molds our decisions as well as our dreams. We ask that you facilitate our interactions with members of the international community. If this conference has taught us anything, it is that it is foolish to approach environmental problems while ignoring the experiences of the broader community, so again, we ask you to guide us so that we may learn the way.

We ask that scientists and educators appreciate the value of connections between people and the places in which they live, that basic inspiration which brought many of us to the environmental field. Continue to advocate for change, turning your research into real improvements in the world. Teach your students to do the same. We are inspired by the natural world. It amazes us, and we can only ask you to help us understand our place in it so that we may help in the effort to improve our environment.

Just as we ask things of you, our adult role models, we hope you can place demands on us. Expect students to challenge themselves and to broaden their horizons to include the many dimensions of this changing world. Do not accept answers from us that are anything less than extraordinary. Though we may be young, we hope to be held to high standards. Expect us to ignore the improbability of success when tackling environmental issues. Just as you once were, we are blind of the biases that come with age. Help us discover our talents by pushing us to attempt the impossible.

If we can all come together as scientists, teachers, policy makers, stakeholders, and students to support mutually beneficial endeavors, much like we have at this conference, then new challenges can be addressed, and solutions will always be found.

Marmaris, Turkey  
2 November 2013



## Report of EMECS International Seminar

EMECS International Seminars are held by the International EMECS Center to present up-to-date information from around the world relating to the environmental management of enclosed coastal seas in an easily understandable manner.



The most recent EMECS International Seminar was held to report on the achievements of the 10th International Conference on The Environmental Management of Enclosed Coastal Seas (EMECS). EMECS 10 was held in Marmaris in the Republic of Turkey October 30 - November 3, 2013 as a joint conference with MEDCOAST 2013. The seminar also covered the state of ocean environments in Russia, where the next EMECS conference (EMECS11) is scheduled to be held, and discussed the latest developments in integrated coastal zone management. The seminar was attended by approximately 60 participants.

- Date/Time: February 28 (Friday), 2014/1:30p. m ~ 4:30p. m
- Venue: Lasse Hall (Kobe city, Japan)
- Theme: Towards EMECS11 - Future Direction of ICM -
- Moderator: Prof. Masataka Watanabe, Professor of Keio University, Japan

### Lecture Summary

#### 1 Report on EMECS 10 - MEDCOAST 2013 Joint Conference

**Prof. Erdal Ozhan** President of the MEDCOAST Foundation, Professor at Mugla University (Turkey)

The EMECS 10 - MEDCOAST 2013 Joint Conference featured oral presentations, a poster session and a Students and Schools Partnership (SSP) Session. Four special sessions were held, including the Satoumi Session which was held by the International EMECS Center. The 135 papers and 51 abstracts that were submitted to the conference were published in the form of Conference Proceedings and Abstracts, respectively. It was also decided to publish a special journal.

At the closing ceremony, the Marmaris Declaration and Students and Schools Partnership (SSP) Declaration were read and adopted unanimously.

#### 2 Climate Change and ICM

**Prof. Masataka Watanabe** Professor of Graduate School of Media and Governance, Keio University (Japan)

Increased CO<sub>2</sub> concentrations in the atmosphere have brought about a rise in temperature, and the resulting rise in seawater temperature has caused thermal expansion and the melting of glaciers and so on that have resulted in rising ocean levels. Moreover, seawater evaporation has also increased, given rise to abnormal climatic conditions that have caused economic losses. At the 19th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change held last year in Warsaw, Poland, it was decided to create a new organization to provide increased support for developing nations.

In actual examples, flood damage occurred in Fujian Province and elsewhere in China after the areas were hit directly by a typhoon. Rising ocean levels caused the salt concentration to increase at a water resource facility set up in Shanghai on the Yangtze River. And enormous inundation damage was sustained in the city of Bangkok, Thailand. Integrated coastal zone management will be essential as a measure to deal with these situations.

#### 3 Eastern Gulf of Finland: concept, legislation and tools for management

**Dr. George Gogoberidze** Vice-Rector of Russian Hydrometeorological University (Russia)

Many nations around the world have adopted Integrated Coastal Zone Management (ICZM) and its basic tool, the Marine Spatial Planning (MSP) approach. The Russian Federation Coastal Zone

Cadastral Map is a tool for achieving ICZM and MSP, one that incorporates information from many different areas including government, economics, law and the environment. Information systems on the local level are capable of assessing natural ecosystems and assessing human impact, vulnerability and other factors.

#### 4 Marine geology of the Eastern Gulf of Finland (Baltic Sea) - sedimentation processes, anthropogenic impact and pollution history

**Dr. Daria Ryabchuk** Leading Scientist of A.P. Karpinsky Geological Research Institute (Russia)

There is unique phenomenon that occurs in Neva Bay in the eastern part of the Gulf of Finland in that the level of the ocean rises suddenly. In the past, St. Petersburg has sustained frequent major flood damage. A dam was constructed to prevent flooding, but this has adversely affected the environment in Neva Bay. As Neva Bay is an inner bay that is important to St. Petersburg, a correct understanding of its environmental state and the processes of natural and human activities is needed.

#### 5 Environment and Health Impact Assessment: a tool for Environmental and Health Protection as Stated in Thailand Constitution

**Prof. Piamsak Menasveta** Chair of Independent Commission on Environment and Health (ICEH), Professor of Chulalongkorn University (Thailand)

Starting around 1965 in Thailand, the increased concentration of the population in major cities and increased industrial development have resulted in significant environmental problems.

For this reason, an environmental protection law requiring environmental impact assessments and the like was established in 1975. Beginning around 1985, hazardous substances such as benzene were added, and environmental protection was incorporated into the Constitution.

An Independent Commission on Environment and Health (ICEH) was also established to enable views to be expressed regarding environmental and health assessments. The Commission has been active over a period of more than three years. Its goal is to build trust between the community and industry and achieve a good environment and quality of life.

### Seminar Review

**Prof. Masataka Watanabe** (Moderator)

The seminar began with an explanation by Professor Ozhan that focused on what kind of conference the Joint Conference that was held in Marmaris had been and what kind of discussions had been held at the conference, which was one of the objectives of the seminar.

With regard to EMECS 11, another of the main objectives of the seminar, Dr. Gogoberidze and Dr. Ryabchuk gave some background information on the city of St. Petersburg. They also noted that gates have been provided in St. Petersburg as a flood control measure, but lake pollution has occurred as a result, and how to resolve this problem is an issue of major concern. One of the themes of EMECS 11 (which will be held in 2016) is the type of assistance that other countries can provide and how such problems can be resolved.

Finally, Professor Menasveta spoke about how the environmental problems that have occurred as a result of various government and private sector projects can be assessed. When companies begin operations in various countries around the world, what policy decisions do they need to make with regard to environmental problems? Such questions represent a new type of issue that has not previously been considered at the EMECS Conference. When we consider issues of development and sustainability, we must take into account policy decisions, financing, design and so on that are good for the environment. EMECS has grown to become an organization that can tackle new global issues through its international conference.

## Promoting EMECS science outcomes

Professor Eric Wolanski, FTSE  
James Cook University, Townsville, Australia  
Scientific and Policy Committee, International EMECS Center

### 1. EMECS at ECSA53

The Estuarine and Coastal Sciences Association (ECSA) organised its 53rd international symposium in Shanghai, 13-17 October 2013. EMECS sponsored that conference and the EMECS sponsorship was prominently displayed on the conference web page, the conference program and the announcements and enabled an interaction between scientists involved in ECSA, LOICZ and EMECS. This networking is developing and is important for EMECS to continue developing its international scientific network. EMECS was well represented at the symposium by EMECS SPC members Dr. Keita Furukawa (Japan), Professors Zhongyuan Chen (China), Osamu Matsuda (Japan) and Eric Wolanski (Australia) who all attended the symposium. Furukawa gave a plenary lecture on "What are the goals and what is the background information for restoring the ecosystem of Tokyo Bay?", Matsuda gave a lecture on the "Restoration of deteriorated tidal flats in the coastal area based on the concept of Satoumi", Wolanski gave a plenary lecture on "Modeling the recruitment of estuarine and coastal fisheries", and Chen gave a lecture on "The material intrusion in the North branch of the Yangtze Estuary: Evidence of gravity flow and its implication for the salinity and sediment transport within the estuary". Chen and Wolanski chaired the EMECS session, which was very well attended with excellent talks focusing on the EMECS themes of sustainability in the context of climate change, and they dealt with Jiaozhou bay (China: 2 talks), Bohai Bay (China), the Limfjord (Denmark), the Baltic Sea, and Vavouto Bay (New Caledonia).

Chen and Wolanski also awarded the EMECS student prizes for the best poster and oral presentations. The winners were, for the poster presentation, HIRAK R. DASH, National Institute of Technology, India, for his poster "Bioremediation of inorganic mercury resistant biofilm forming marine bacterium *bacillus thuringiensis*", and for the oral presentations, Kenji

Tsuchiya of Soka University, Japan, for his talk "Typhoon-induced primary production and microbial processes below the euphotic layer in temperate coastal waters, Japan" and Hao Xu, East China Normal University, China for his talk "Dissolved inorganic P and N input into the Yangtze estuary: Ecological response". We congratulate the winners. It was absolutely delightful to see their pride and joy when their names were announced and they received their prizes in front of about 300 people.

### 2. EMECS sponsors the new book "Estuaries of Australia in 2050 and Beyond"

EMECS sponsored the new book by EMECS SPC member Professor Eric Wolanski.

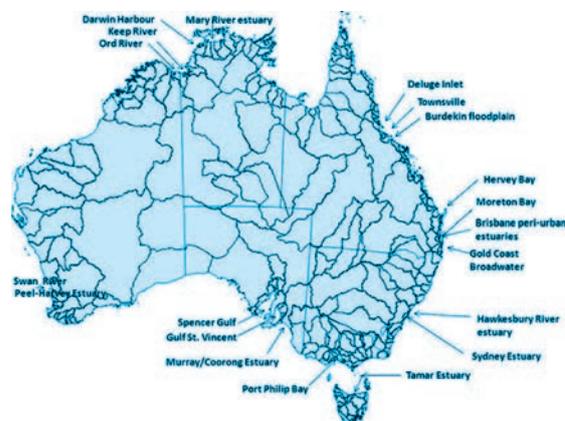
E. Wolanski (2014). Estuaries of Australia in 2050 and Beyond. Springer, Dordrecht, 292 pp.

<http://www.springer.com/earth+sciences+and+geography/earth+system+sciences/book/978-94-007-7018-8>

The book addresses the questions: Is Australia's rapidly growing human population and economy environmentally sustainable for its estuaries and coasts? What is needed to enable sustainable development? To answer these questions, this book reports detailed studies of 20 iconic Australian estuaries and bays by leading Australian estuarine scientists. The book also has a Prologue by Mr. Malcolm Fraser, former Prime Minister of Australia, which bridges environmental science, population policy and sustainability.

That knowledge is then synthesised in time and space across Australia to suggest what Australian estuaries will look like in 2050 and beyond based on socio-economic decisions that are made now, and changes that are needed to ensure sustainability.

The book has already received a rave review, available at <http://research.jcu.edu.au/research/tropwater/news-and-events/estuaries-of-australia-book-review>



### Call for Articles

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

### International EMECS Center

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