



Asia-Pacific Network for Global Change Research

The Mega-Deltas of Asia: A Conceptual Model and its Application to Future Delta Vulnerability

Final report for APN project 2004-06-CMY

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2004-06-CMY-Chen

Final Report submitted to APN

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Overview of project work and outcomes

Non-technical summary

This is 2-years APN-project entitled 'The Mega-deltas of Asia: A Conceptual Model and its Application for Future Delta Vulnerability'. The main objective of the project is to establish capacity building networks among fluvial and coastal specialists of the Asia and Pacific regions, especially those from developing countries. The project has organized two workshops in Thailand and Vietnam, in the early of 2004 and 2005 (Chen et al., 2005). More than one hundred participants were actively involved into the workshops, including 23 countries, of which 11 from developing countries. It is particularly important for the project to provide a forum for all, who come from different background of delta-coast, to share their river-delta-coast knowledge and diffuse knowledge during the workshops, including tutorial training and field trip (Department of Geology, Chulalongkorn University, 2004; Sub-institute of Geography, VAST, IGG, Geological Survey of Japan, AIST and Niigata University, 2005). Also during the workshops, local policy-maker, social scientists were invited to present their ideas and communication took place effectively among physical and social scientist, geoengineers, policy-maker, and government administrator. This facilitates amendment of relevant policy of delta-coast environmental conservation, now and in the near future.

Objectives

The objectives of the project were:

- 1) establishing the comprehensive conceptual model for Asian Mega-deltas, where unique geologic conditions play a critical role for delta response to various natural and anthropogenic forcings;
- 2) the application of advanced field methods to better understand Asian delta response-behavior;
- 3) an improved understanding of the dynamic processes of Asian mega-deltas in order to provide useful information for future coastal vulnerability assessments;
- 4) the significance of #1-3 above for the sustainable development of this densely-populated region.

Amount received for each year supported and number of years supported

2003/04-US\$ 35000; 2004/05-US\$33,537;

Participating Countries

Participating countries funded were: Australia, Bangladesh, Cambodia, Canada, China, Finland, France, India, Iran, Japan, Pakistan, Singapore, Sri Lanka, Thailand, United Kingdom, the United States and Vietnam. Participating countries funded other than APN include Brunei, Germany, Malaysia, Netherlands, Philippians, and South Korea.

Work undertaken

The project runs primarily two workshops held in Bangkok of Thailand, January 15-21, 2004, and Ho-Chi-Minh City of Vietnam, January 10-16, 2005. During the workshops, field trips and tutorial training for younger earth scientists were organized. Pre-meetings were held in Tsukuba of Japan and Shanghai of China, in 2004 and 2005, primarily for PI and Co-PIs, who met to discuss project plan, assignment, and arrangement, etc. Fieldworks were undertaken actively by PI and Co-PI in selective delta coast areas, including Yangtze River delta, Red-River delta, Mekong-River delta, and Ganges-Brahmaputra delta. Coring, seismic profiling and ADP (Acoustic Doppler

Profiler) were used to sample the river-delta sediment and hydrological information, in order to examine sedimentary processes and products. Laboratory analyses include grain-size, geochemical elements, microfossils, and radiocarbon dating and modeling, etc. Details for fieldworks are listed below:

April 22-May 4, 2003; middle Yangtze River catchment, including river bed sampling (>500), suspended sediment measurement, etc. (field trip led by Dr. Z. Chen);

September 5-17, 2003; middle and lower Yangtze River; measurement includes river flow by ADP, riverbed morphology by Sidescan, and shallow strata by seismic profile (Boomer system), (field trip led by Dr. Z. Chen);

February, 2003; Two-week Mekong River delta field survey by seismic profiling, focusing on late Quaternary geological data at river mouth areas (field trip led by Dr. Yoshiki Saito)

February and December 2003; B-G delta; totally 4 weeks of field trip conducted to collect numerous sediment boreholes and surficial sediment samples from the delta plain and river coast (led by Dr. S. Goodbred and B. Islam);

March 1-10, 2003; Red River delta estuary, sampling coastal bed sediments; measuring suspended sediment, water salinity and flow current. Surveying coastal/estuarine bed morphology (led by Dr. Tran Duc Thanh);

September 10-22, 2003; north part of Red River delta estuarine, sampling and analyzing samples on environment quality for the estuarine water and sediments (led by Dr. Tran Duc Thanh).

Results

- Building capacity networks. During workshops, 4 working groups were established, i.e. East Asia, Southeast Asia, South Asia, and Oceania working groups. All participants attended the working-group discussions on the basis of their target regions and research objectives. Discussion went extremely well in terms of a series of proposed environmental issues, research foci, and future plan, etc. All have been summarized and shown in the workshop proceedings, and on the project website as well (Chen et al., 2005; <http://www.megadelta.ecnu.edu.cn>);
- All participants are willing to be further involved into future plan as the major component, and to share existing database;
- A substantial communication took place among administrative officers, social scientists and natural scientists. During workshops, Minister and Deputy Minister of Department of Mineral Resources of Thailand, and director of Academy of Science of Vietnam were present to give key-note presentations and relevant discussions;
- Workshop abstract volumes contributed by >240 participants were issued to address the project objectives. On this base, the workshop proceedings requested for all was published in the mid-2005. In particular, the proceedings will provide useful information for those from developing countries.
- A website for the project has been established: <http://www.megadelta.ecnu.edu.cn> which has been certainly useful in circulating information;

Relevance to APN scientific research framework and objectives

Our APN project PI and Co-PI have been actively involved into many research projects funded by inter-government and non-government organizations, such IAG-Large River Work Group, LOICZ, IGCP, CCOP, and IPCC schemes, which have set forth similar research goal and strategic plan with our APN project. Prof. Chen, Z. organized IAG Yangtze River Conference and Dr. Saito, Y., was invited to LOICZ workshop in the United State, recently, and Dr. Saito Y. and Dr. Goodbred, S. Jr have been successfully funded for the IGCP-475 DeltaMap project. Dr. Saito, Y. has also been funded by CCOP delta-coast project. All have been taken place during our APN project

years, which helps promote better understanding of the delta-coast conceptual model as being aimed by the APN project.

Self evaluation

This APN Megadelta project has approached the proposed goal under sponsor of APN funding and by the great efforts from our colleagues. The project promotes building the capacity networks, synthesizing existing database, and upgrading the communication between scientist and society. This will further our resolution on long-term collaboration regarding future delta-coast environmental conservation.

Potential for further work

Since there have been fruitful results obtained, i.e. established capacity networks, existing database, and channelization of communication system, we all agree that it is imperative for further collaboration through new funding, aiming at: 1) regional workshop to share information with each other; 2) field work in some selected key areas; and 3) continuation of our great effort to expend the knowledge of delta model. Such efforts have already been underway with the joint IGCP-475 DeltaMAP project co-led by Dr. Saito Y., and Goodbred, S. However, these provide limited fundings (<10,000USD) but have been used to support many participants from developing nations. Now, the APN Megadelta leaders and participants find renewed urgency to continue our work begun in Years 1 and 2 of this APN program.

Publications

The APN project is approaching the proposed goals by following publications:

Peer-reviewed publications

1. Woodroff, C.D., Chen, Z., Goodbred, S., Nichols, R.J., and Saito, Y., 2005. Landscape variability and the response of Asian Megadeltas to environmental change. *Global Environmental Change* (in review).
2. Yu, F., Chen, Z., Ren, X., and Yang, G., 2005. Historical Flood Analysis of the Yangtze River, China: Characteristics, Formation and Consequence (Catena, in press);
3. Chen, J., Chen, Z., Xu, K.Q., Wei, T.Y., Li, M.T., Wang, Z.H., and Watanabe M. 2005. ADP-Flow Velocity Profile to Interpret Hydromorphological Features of China's Yangtze Three-Gorges Valley. *Chinese Science Bulletin*, 50, 464-468 (in Chinese, with English summary).
4. Xu, K., Chen, Z., Zhang, J., Hayashi, S., Watanabe M., 2005. Simulated sediment flux of 1998 big flood of Yangtze (Changjiang) River, China. *Journal of Hydrology*, xx-xxx, 1-13.
5. Chen, Z., Wang, Z., Schneiderman, J., Tao, J., and Cai, Y.L., 2005. Holocene climate fluctuations in the Yangtze delta of eastern China: the Neolithic response. *The Holocene*. 15 (6), 917-926.
6. Wang, Z., Saito, Y., Hori, K., Kitamura, A., and Chen, Z. 2005. Highly Laminated Sediments from a Transitional Zone between the Subaqueous Yangtze Delta and the Offshore Continental Shelf, China. *Estuarine, Coastal and Shelf Science* 62, 161 – 168.
7. Wang, Z., Chen, Z., Okamura, K., Gao, J., Xu, K.Q., Koshikawa H., and Watanabe, M., 2004. Anomalous current recorded at lower low water off the Changjiang River mouth, China. *Geo-Marine Letters*, 24, 252-258.
8. Chen, Z., Saito, Y., Kanai, Y., Wei, T., Li, L., Yao, H., 2004. Low Heavy Metal Concentration in the Yangtze Estuarine Sediment, China: A Diluting Setting. *Estuarine, Coastal and Shelf Science*, 60, 91-100.

Report

The Mega-Deltas of Asia: A Conceptual Model and its Application to Future Delta Vulnerability (APN Newsletter); <http://www.apn.gr.jp/en/products/nl.html>

Proceedings:

Chen, Z., Saito, Y., Goodbred, S., Tran, T., and Islam, B., (eds), 2005. Megadeltas of Asia – Geological Evolution and Human Impact. China Ocean Press, Beijing, 268pp.

CD-ROM

Thematic discussion and fieldtrip of the Ho-Chi-Minh City Conference, January 10-16, 2005

Website:

<http://www.megadelta.ecnu.edu.cn>

References

Chen, Z., Saito, Y., Goodbred, S.Jr, Tran, D. T, and Islam, B., 2005. Asian Megadeltas: Geological Evolution and Human Impact. China Ocean Press, Beijing, 268pp;
Department of Geology, Chulalongkorn University, 2004; 5th International Conference on Asian Marine Geology, jointly with Mega-deltas of Asia and DeltaMAP. Conference Abstract Volume, January 10-21, 2004, Thailand, 291pp;
Sub-institute of Geography, VAST, IGG, Geological Survey of Japan, AIST and Niigata University, 2005. International Conference on DELTAS (Mekong venue): Geological Modeling and Management. Jointly with DeltaMAP and APN-Megadeltas of Asia. January 10-16, 2005, Vietnam, 138pp;

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Technical Report

Preface

The Asian coast has received many large river-deltas, which hold abundant natural resources to sustain a huge human population. Deltas include the Huanghe (Yellow), Changjiang (Yangtze), Zhujiang (Pearl), Song Hong (Red), Mekong, Chao Phraya, Ayeyarwady (Irrawaddy), Ganges-Brahmaputra, and Indus etc. These delta systems have received approximately 75% of the worldwide sediment discharge from the land to the oceans and collectively compose the largest depocenter on the earth. On the other hand, these deltas are vulnerable to frequent geo-hazards, such as storms, floods, droughts, and sea-level rise, and recently they have been subject to anthropogenic impacts from geoenvironmental projects, urbanization, and land-use changes. Vulnerability assessment along delta coasts is urgently needed to achieve sustainable development through this APN project.

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1. Introduction

The two-year APN project focuses on developing a conceptual model for the geological process and response of Asian Megadeltas, affected by strong monsoons, high river flow and sediment load, and frequent geo-hazard occurrences. Previous database has been integrated from many experienced Asia delta scientists, each working with specific geological issues: (1) subsidence from underground water withdrawal; (2) impact due to sea-level rise; and (3) coastal erosion, saltwater intrusion, and river channel dry-up from damming and water diversion. Database has been further incorporated with new field measures to better understand the geological framework of the delta basin. Thus, we hope allow for substantial improvement and mitigation policies, which most often rely on oversimplified model because of insufficient data and/or lack of solid observation.

There were two workshops held during the project year: Bangkok of Thailand, Jan. 15-20, 2004; and Ho-Chi-Minh City of Vietnam, Jan. 10-16, 2005. These two workshops focus primarily on the delta conceptual model, modeling and management both on natural and human dimensions. Individual Asian Megadelta models. For example, the Yellow (Huanghe) River, Yangtze (Changjiang) River, Zhujiang (Pearl) River, Song Hong (Red) River, Mekong River, Chao Phraya River, Irrawaddy River, Ganges-Brahmaputra River, Indus River, Fly River, etc., were addressed by many local specialists during the workshop, communication among physical and social scientist, engineer, and policy-maker went soundly by lengthy discussion during the poster session. Also, open discussion for all participants was arranged to listen to feedbacks from the public on our project themes.

Through the project, we have approached: (1) establishing a comprehensive conceptual model for Asian Megadeltas where unique geologic conditions play a critical role for delta response to natural and anthropogenic forcings; (2) an improved understanding of the dynamic responses to human activities, natural variability, and global climate change, in order to provide useful information for future coastal vulnerability assessments; and (3) the significance of #1-2 above for the sustainable development of this densely-populated region.

During the project implementation years, over 100 earth scientists from 23 countries, mostly from Asia and Pacific regions, of which 11 from developing countries have been participated actively into the project and contribute their significant knowledge to all who have been largely benefited. Also, it is the great value of the project that capacity networks as 4-working groups: the East Asia, Southeast Asia, South Asia, and Oceania have been channelized, particularly for those from developing countries. This has certainly provided a healthy and effective venue for involved scientist and policy-maker/government administrator, to address all necessities relative to delta model and coastal vulnerability. This will exert a long-term effectiveness for upgrading public awareness of environmental conservation, leading to the sustainable development strategy in the recent future. All participants thank for the great opportunity in the way of being the major component of regional capacity networks. This serves as a vital base for regional collaboration on delta-coast environmental conservation, presently and in the near future.

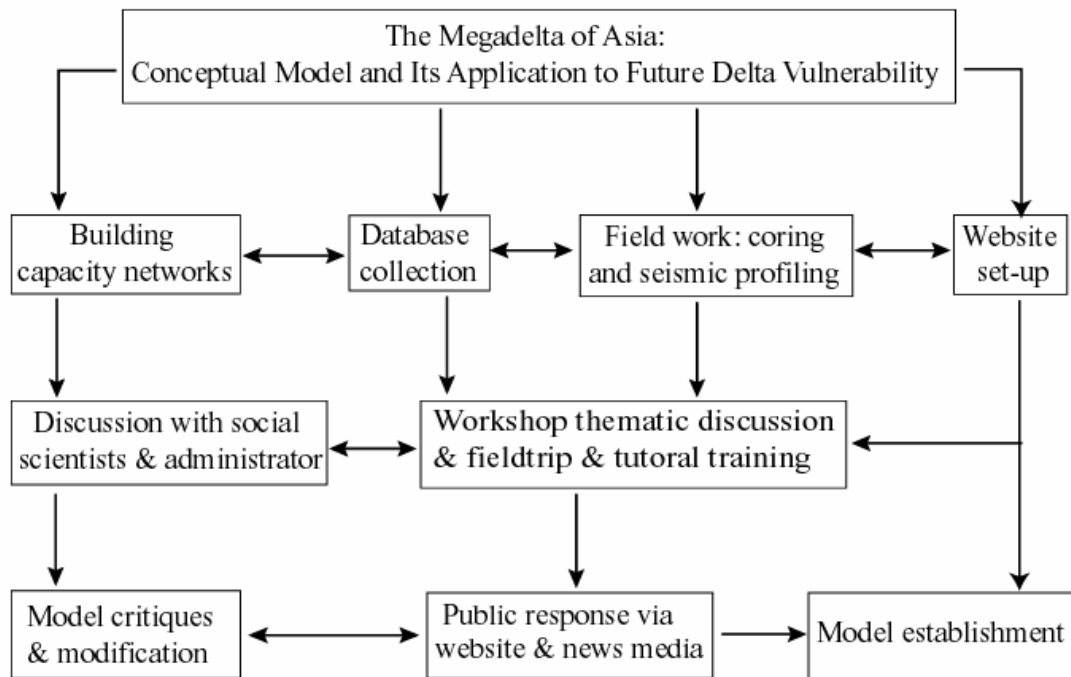
An IGCP Project 475 - *Deltas in the Monsoon Asia-Pacific Region (DeltaMAP)*, also headed by our APN Co-PI, has been closely associated with the present APN Megadeltas project. This UNESCO funded project has similar objectives to the APN project and has largely promoted the success of the APN project.

2.0 Methodology

To approach objective of the project, following methods have been designed and used (also seeing flow-chart attached below).

- To establish capacity networks by calling for delta-coast scientists from various regions of Asia and Pacific nations, and also the scientists other than the regions;

- Integrating existing database from different regions through experience scientists who have been working with their own delta-coast system;
- Setting-up website for the networks;
- Surveying targeted delta-coast, by coring, seismic profiling ADP deploying and sampling;
- Testing samples in the laboratory at various categories, including physical and geochemical properties;
- Communicating with social scientist, government administrator and policy-maker for possible policy amendment in relation to delta-coast environmental conservation;
- Organizing workshops for exchanging ideas among natural, social scientists and administrators;
- Publishing workshop proceedings, peer-review papers and circulating information to all participants, especially for those from developing countries;
- Soliciting public critiques via workshop and website on delta models and further modifying models for all reference, through workshop discussion, proceedings and peer-review papers;



3.0 Results & Discussions

3.1 Delta model

The Asian Megadelta model has been established through APN project effort (details can be referred to APN workshop proceedings, Chen et al., 2005). Briefs are outlined as following aspects.

3.1.1 Morphological Characteristics of Asian Deltas

Asian coasts are characterized by large river deltas: e.g., the Yellow (Huanghe) River, Yangtze (Changjiang) River, Zhujiang (Pearl) River, Song Hong (Red) River, Mekong River, Chaophraya River, Ayeyarwady (Irrawaddy) River, Ganges-Brahmaputra River, Indus River, Narmada River, and Godavari River deltas (Figure 1). Ten of top 16 large rivers in terms of sediment discharge are located in Asia including the Fly River in Papua

New Guinea. More than 50 % of the world's population lives in Asia and most of Asia's population lives in lowland areas including deltas. Moreover, more than 80 % of the world's total area of rice paddies is in Asia (Galloway and Melillo, 1998), and the rice paddies are mostly in deltaic lowlands as well. Thus Asian deltas play important roles for human being.

Deltaic lowlands in Asia are also important to the study of sedimentology and global sediment flux. Rivers in southern Asia and Oceania contribute about 70 % to 80 % of the world's sediment flux from the land to the ocean. Large rivers in Asia contribute about 40 % to 50 %, and small rivers in mountainous Oceania contribute 20 % to 30 % of the world's flux (Milliman, 1991; Milliman and Syvitski, 1992; Milliman and Ren, 1995; Milliman *et al.*, 1998). Deposits of these huge sediment discharges have formed large deltas during the last 6,000 years. There are two major reasons why large deltas are distributed in Asia. One is high sediment discharge, resulting from the existence of tectonically controlled large rivers, which have their sources in the high peaks of the Himalayas and the Tibetan Plateau and which have a high sediment yield (Milliman and Meade, 1983), and from high precipitation due to the monsoonal climate. The second is the stable or slightly falling sea level over the last 6,000 years. A delta is an irregular progradation of the shoreline directly fed by a river. Therefore, seaward shoreline migration is an essential feature.

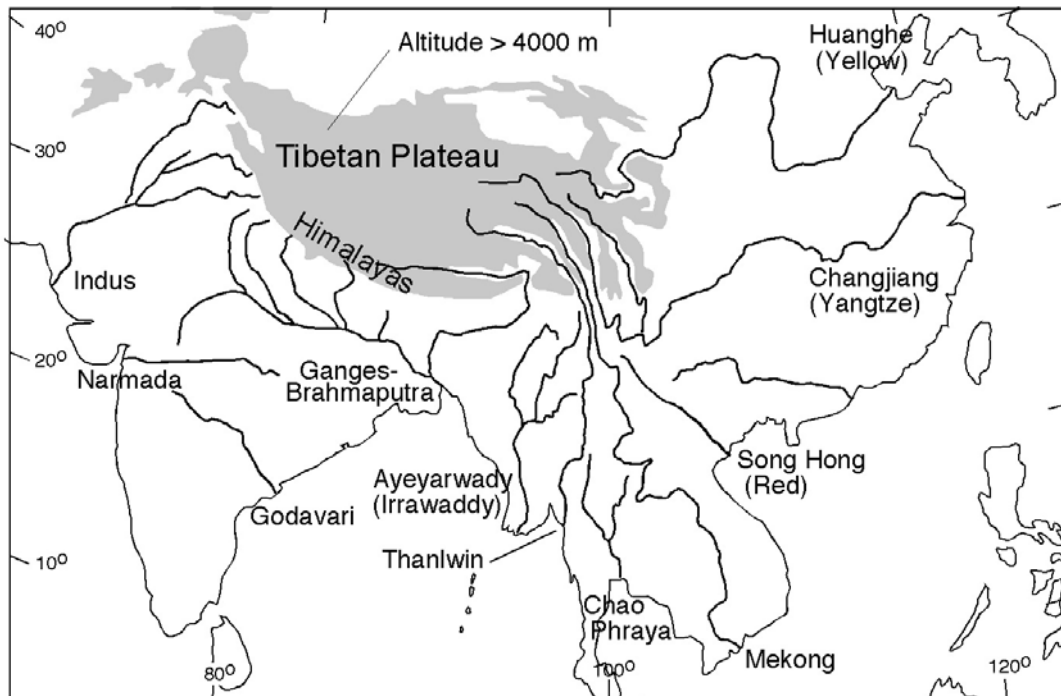


Figure 1. Distribution of Mega-deltas in Asia (Hori *et al.*, 2005).

Asian Megadeltas have a wide delta plain in comparison with its drainage basin. Figure 2 shows the relationship between delta plain areas against drainage basin area for large river deltas (Coleman and Robert, 1989). Most of Asian deltas are plotted above the average line, meaning a wide delta plain. Major reasons are mostly due to high sediment discharge versus relative stable sea level in the past 6000 years (cf. Chen and Stanley, 1998; Chen *et al.*, 2005a)

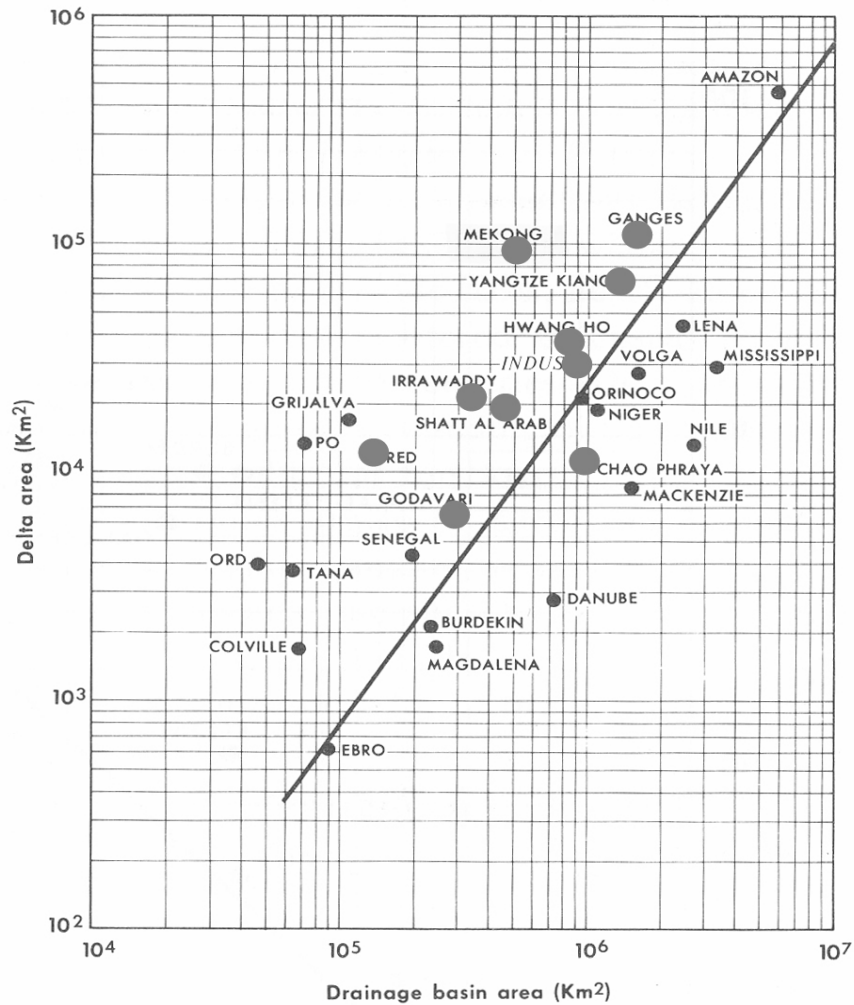


Figure 2. The relationship between delta area and drainage basin area. Large closed circles show Asian deltas, which are plotted above the average line, means that Asian deltas have relatively a large delta area. (Saito, 2004, modified after Coleman and Roberts, 1989).

3.1.2 Sea-levels and delta morphologic response

Millennial-scale late Holocene sea-level fluctuations are controlled mainly by eustatic changes (global sea-level changes), glacio-isostasy, hydro-isostasy, and local tectonics. Eustasy has been almost stable for the last 2,000–4,000 years (Pirazzoli, 1991; Tanabe et al., 2003a; Chen et al., 2005a). Most of the Asian delta regions recorded a middle Holocene sea-level highstand of 2 to 4 m above the present one at about 6,000 years ago. This could be interpreted by hydro-isostasy (Chen et al., 2005a). Though the date and height of the highstand were different in areas controlled by hydro-isostasy and local tectonics, long stable and a slightly falling sea level have enhanced delta progradation. Relative sea-level changes also impact sediment accumulation for deltas or estuaries. Relative sea-level rise creates new accommodation space on deltas or estuaries. As a result, riverine sediments are trapped in fluvial plains to delta plains or estuaries. As the water level rises, channel bottoms are raised by new deposition, thus maintaining an equilibrium profile. Sediments are widely trapped on tidal flats to fill the new accommodation space. Rise in water-level floods coastal and fluvial plains and thus induces channel avulsion, resulting in sediment accumulation in those areas and sedimentary aggradations (Chen and Wang, 1998). The Ganges-Bramaputra system has

still high sediment deposition on the delta plain, 30%–40% of sediment discharge, due to relative sea-level rise (Islam and Tooley, 1999). Relative sea-level rise can be caused by a eustatic sea-level rise as a result of global warming, glacio-isostasy, subsidence due to tectonics, groundwater or gas extraction, or sediment compaction during rapid accumulation (Chen and Stanley, 1995). A decrease of water discharge because of dam construction or increasing water consumption also creates accommodation space in channels, resulting in sediment deposition. Morphological changes reducing the volume of the tidal prism such as land reclamation also cause sediment deposition and bottom-sediment changes in and around tidal channels. On the other hand, relatively stable or falling sea-level enhances sediment deposition at delta front to prodelta areas, resulting in delta progradation (Hori et al., 2001a, 2001b, 2002, 2004).

3.1.3 Early Holocene transgression

In general, Asian deltas had undergone an important transition from transgression/aggradation to regression by 7 ka BP as a result of sea-level stabilization (Stanley and Warne, 1994). It was pointed out that other deltas in the region, for instance in tectonically active settings or variable sediment discharge, had not undergone this transition at the same time (Chen et al., 2005). Delta evolution during the Holocene has gone significant transitions occurring at different timescales. There are probably other transitions or thresholds which many deltas have experienced before or after 7 ka, for example many have changed from extensive mangrove forests to freshwater vegetation, and some appear to have become more wave dominated (Woodroffe et al., 2005). Determining the timing, nature, and causes of these transitions across monsoon Asia would contribute greatly to our understanding of delta behavior under multiple controls and timescales (Boyd et al., 1992; Chen et al., 2005b)

The modern Megadeltas of Asia have come into existence as a result of the postglacial rise of sea level. This resulted in inundation of the underlying substrate, a surface partially inherited from previous periods of sea-level high during the Pleistocene, but also shaped by alluvial processes during the last glacial maximum when the sea was up to 120 m below the present (Chen et al., 2000; Ta et al., 2005). In common with deltas worldwide, Holocene sedimentation began approximately 8,000 years ago as sea level inundated this underlying surface, typically encountered around 15-20 m below sea level (Stanley and Warne, 1994). The exception in the region appears to be the Ganges-Brahmaputra- Meghna system which is discussed below, where inundation of this surface occurred 9000-10000 years ago at depths of up to 70 m below present sea level (Goodbred, 2000a, 2000b, 2003).

The initial stages of transgression, as sea level rose, were recorded particularly by deposition of organic muds associated with mangrove forests in intertidal environments, aggraded and on-lapped progressively landward. Around 7000-6000 years ago, the sea level reached a level close to present and the shoreline extended as far landward as it has been; for example in the central plain of Thailand the shoreline was north of the location now occupied by the city of Ayuthayya, and in the case of the Mekong the shoreline was around the location now occupied by the city of Phnom Penh (Tanabe et al., 2003d, 2003c). Deceleration and subsequent stabilisation of sea level marked a change from aggradational to progradational sedimentation. At the peak of the transgression rivers entered into the bayhead of estuarine embayments. Since that time there has been a regressive sedimentary pattern with the continued buildout of sediment seawards. The pattern of landward migration of this narrow mangrove fringe is particularly completely recorded from dated cores throughout the central plain of Thailand (Somboon, 1988).

3.1.4 Mid-Holocene progradation

The Mid-Holocene delta has been characterized by regression, with the delta building seaward (progradation). The stratigraphy and Holocene progradation of the Mekong Delta is becoming clearer. Sandy ridges have been formed episodically in the eastern side of the delta over the past 3000 years. Stratigraphy and chronology suggests that the delta has changed from a more estuarine and tide dominated system, prograding seaward at around 30-35 m yr⁻¹, to a more wave dominated delta, as the offshore gradient became steeper, prograding at 11 m yr⁻¹ (Tanabe et al., 2003c). This represents an intrinsic threshold within the development of the delta which has come about as the delta has infilled the initial accommodation space, and built into deeper water consequently developing a steeper shoreface (Chen et al., 2005a). Other intrinsic thresholds in delta development include the transition from mangrove forests to freshwater vegetation as the plains accrete vertically beyond the level at which they are influenced by saline or brackish water. Pollen diagrams from several of the deltas in the region record this transition (Woodroffe, 1993). Distributary switching is also an intrinsic change triggered by the stage of development, rather than an external boundary condition.

The typical Asian delta can be divided into an upper deltaic plain, which is dominated mainly by river processes, and a lower deltaic plain, which is usually within the zone of tidal influence and hence fringed with mangroves (Saito, 2001). River domination is characterised by fluvial sediment supply and meandering and avulsing channels (Saito, 2001). Wave domination is shown by shore-parallel ridges of sand and shell, and tide domination by tapering tidal channels. The Red River shows three sectors, the apex of the delta is river-dominated, the western sector is wave dominated and the eastern sector is tide-dominated. River domination occurs where the river discharge is the main mover of sediment (Ta et al., 2003a; Hori, 2004). The Mississippi is a strongly river-dominated system and the model of delta lobe switching which has been advanced for the Mississippi has often been adopted, uncritically in terms of other deltas (Coleman, 1981). In the case of most of these Asian deltas, wave energy is relatively low, and the abandoned delta is more likely to be tide-dominated (Chen et al., 2005a). The delta can be divided into active sectors and abandoned sectors, and the tide-domination becomes particularly apparent along the margin of the abandoned delta. Tide is a much more significant factor on these deltas than on many of those described from North America or Europe.

The delta represents a conduit through which sediment may be transferred. Several of the river systems discharge large sediment loads; the fate of that fraction of the sediment that makes it through the delta varies depending on characteristics of the receiving basin. In the case of the Indus and Ganges-Brahmaputra-Meghna there is a fan in deep water, and some sediment is deposited on this (Kuehl et al., 1989; Goodbred and Kuehl, 1999). On other deltas heavily-sediment laden flows, such as the Yellow River (Huanghe), hyperpycnal flows carry turbid waters down the delta front (Wright et al., 1986). In the case of the Mekong mud is carried along the delta front and the muddy Camau Peninsula has built up by this longshore transport of mud in the wet season, with flow reversal and the upstream penetration of turbid waters in the dry season (Wolanski et al., 1998). The longshore transport of mud can occur on other deltas, for instance mud is carried south along the delta front and prodelta of the Mahakam deltas by the Indonesian through-flow (Roberts and Sydow, 2003).

3.2 Controlling factors

The important elements influencing Holocene delta model formation include monsoons and climate change, hydrological and sedimentary processes, human impacts and consequences etc. These can be briefly discussed below (cf. Chen et al., 2005).

3.2.1 Monsoons and climate change

Climate, largely the summer monsoon, was suggested to be the overarching natural control on delta systems of the region. Tropical cyclones were also recognized as an important climatic influence, particularly in terms of coastal processes, landforms, and hazards to human populations and infrastructure (Woodroffe et al., 2005). Although both the monsoon and tropical storms were accepted as critical aspects for understanding the region's rivers and deltas, the current states of knowledge were largely inadequate. Decadal variability in climate has proven to be a key issue in modern global environmental affairs. For example the extreme drought and regional fires associated with recent El Niño conditions. The impacts of climatic oscillations such as ENSO on storms, magnitude and distribution of precipitation, monsoon sea-level setup, and wave activity have played a key role in modifying the delta morphology (woodroffe et al., 1993; Chen et al., 2005b). Other impacts from monsoon effect can be viewed from our workshop proceedings by Chen et al (2005).

3.2.2 Hydrological and sedimentary Processes

The Holocene evolution of river/delta sedimentary facies and stratigraphy occurs on the longer time scale, but by shedding light on modern processes from source to sink, we can better understand how deltas have and will respond to sea-level fluctuations, climate change, and river-channel migration (Goodbred et al., 2000a, 2000b; Chen et al., 2005a).

Hyperpycnal flows have recently been recognized as a prominent mechanism for cross-shelf sediment transport in high load systems such as those of monsoon Asia, yet such processes are difficult to detect, let alone understand, without the aid of process-based studies employing these instruments (Chen et al., 2005). In addition, sediment load during high-flow season is extremely difficult to measure even numerous hydrological gauging stations that stand along the river bank serve as monitoring function. Thus, estimating sediment load during the flood season becomes vital in order to know the mechanism of sediment transport into delta-coast, especially taking into consideration the intensifying human activity in the upper drainage basin, such as deforestation, changes in landuse and damming, etc. The recent study by Xu et al. (2005) estimates almost twice the Yangtze sediment load (>800 Mt) into the sea as the normal year. It is astonishing because this case driving by the monsoon precipitation is prevailing in the Asian Megadelta region.

3.2.3 Human Impacts

Immense delta-coast problems caused by human-induced climate change, sea-level rise and subsidence were acknowledged as important concerns (Woodroffe et al., 2005). Human-induced subsidence due to groundwater withdrawal has clearly occurred around many cities within Asian deltas (e.g., 2-m maximum subsidence in Bangkok, 3-m maximum subsidence Shanghai; Chen et al., 2005a). In addition to lowered land elevation, considerable coastal land loss occurs in certainly. Damming in the upstream of fluvial catchment has received widely impact on coastline stability. Coastal erosion and wetland loss is an obvious phenomenon along some of the major delta, such as the Yellow River, Yangtze River and Mekong River, etc (Milliman et al., 1987). Over reclamation and associated freshwater withdrawing for irrigation takes away largely of water and sediment, which is responsible for the coastal instability. For instance, the case of riverbed dry-up in the Yellow River has happened recently and more than >200 days/year of such dry-up occurred in the end of last century (Chen et al., 2005). Details of direct and/or indirect response from human impact on the delta/coast development can be viewed from many other river-delta systems (Chen et al., 2005a). In addition, flood control devices in deltaic lowlands, such as drainage canals, channel embankments,

polders and sluiceways, frequently have unintended consequences on local navigation, flooding patterns, navigation, and fisheries. Direct human pressures and overexploitation of natural resources include overcutting and destruction of mangroves, destroying the natural coastal buffer against storm surges and other marine hazards. Poorly regulated surface and ground water use embrace river diversions, subsurface water extraction, irrigation, damming, and industrial withdrawal.

Consequently, it is often seen that the rapid growth of aquaculture often drives mangrove destruction and soil degradation, such as loss of arable land. Land reclamation and sea defenses attempts to 'fix' the shoreline without considering wider issues. Pollution and declining water quality are almost certainly affecting the immense populations living in the region's deltas, and probably extend to environmental quality and natural faunal communities.

3.3 Delta/Coastal hazards and assessment

The Asian Megadeltas are sites of immense human occupation, along with the associated environmental pressures and geohazards. Our APN project has reasoned many individual Megadelta where high potentials of hazard is hidden. We have realized (details refer to Chen et al., 2005):

- Yellow River delta: shortage of runoff and sediment supplement and associated coastal erosion due to largely freshwater diversion for irrigation;
- Yangtze and Pearl River delta: Flood and inundation due to monsoon precipitation and coastal subsidence (3-10 cm/year) due to over-pumping of underground water;
- Mekong and Red River deltas: saltwater intrusion due to upstream damming and urbanization;
- Chao Phraya River delta: coastal subsidence and erosion due to sediment compaction and underground water withdraw;
- Ganges-Brahmaputra and Irrawaddy River deltas: coastal inundation due to combined storm and monsoon precipitation; and arsenic environmental issue arisen from isolated flood plain depressions pattern (Chen et al., 2005)
- Indus River delta: coastal erosion due to vastly cutting mangrove;

Furthermore, industrial development has led to substantial contamination of surface waters in delta-coastal region. This, in addition to population growth, has inevitably led to rapid increases in the rate of groundwater extraction over the past 50 years. Two major consequences have thus been saline-water incursion to freshwater aquifers and human-induced land subsidence that increases coastal vulnerability to sea-level rise and storm surges. Great attention should be paid to aquifer recharge in order to minimize rates of subsidence, although most surface waters used for recharging are polluted to a degree and may contaminate a larger source of potable water. As most water usage is poorly regulated, the most significant benefit might be gained from better water-use strategies for public, industrial, and agricultural purposes. Ultimately such strategies may be limited by local economic conditions and population levels.

3.4 Scaling

Delta model development and establishment has to be closely associated with time scales. Three time lengths are considered while implementing our APN project.

3.4.1 Global scale

Impacts of global scale such as sea-level rise and climate change at millennium resolution, are emphasized at the model choose and construction. However, this issue

rarely registered with the local scientists working in Asian river and delta systems. More immediate threats and consequences were recognized at a local to regional scale.

3.4.2 Catchment scale

Modifications in the catchment, which initially increased sediment inputs above 'natural' levels (due to land use changes such as deforestation), but now are reducing sediment inputs below 'natural' levels (due to dam construction and to a lesser extent water abstraction) are taken into consideration. Many Asian deltas are already experiencing land loss and environmental degradation at the coast and this will intensify during the 21st Century. Water management issues both within nations and across international borders will continue to represent a major and largely divisive issue for the region.

3.4.3 Delta Plain scale

The fundamental driver of many of delta-coastal problems is seen to be poverty and the need for development. Hence many of these problems are difficult to solve, and any solutions need to be compatible with development needs. However, many of the large engineering projects on rivers and delta coasts also have important political and economic drivers. Improving knowledge and communicating that knowledge in accessible forms to wider society will be one critical component of a suitable response to such issues. Decision-makers and policy makers generally do not have access to good information on the deltas in their jurisdiction. Further, the large Asian deltas frequently fall under multiple jurisdictions that do not have sufficient contact with one another. Education of wider society on delta functioning and management is also required. Widespread within most deltas of the region is a need for flood and other hazard warning systems and safety plans for the large populations at risk.

In terms of consequences, these will vary from delta to delta and will depend on the human response to these issues and the economic situation of the host nation. However, a unifying theme for all these deltas regardless of most factors is likely to be ecosystem degradation.

3.5 Key knowledge gaps

Model development and modification is primarily based on two dimensions. It has been substantially realized that the natural (geological) and human dimensions are well considered while establishing delta models. However, the gap effect on model formation between two dimensions (millennium and decadal/yearly) is still little known. Knowledge to fill into the gap is urgently needed in the near future, even though the great efforts have been made through APN project.

In addition, hydrological processes from drainage basin to river estuary are seen to play a critical function in sediment transport, delta development, and facies architecture. However, the linkage between hydrological variability and sedimentation patterns is also the gap and little known, particularly for events of flooding, typhoon or storm. Further seeking the effective response of river-delta system to fluvial hydrology and sedimentology will promote the soundness of the APN project and its relevance for a broader social perspective.

3.6 Model modification and future application

Through the APN project, the Asian Megadelta models have been substantially modified on the basis of great efforts by all project participants from different deltas.

Modification includes re-justification of methodology, reconstruction of delta-coast morphology, re-calculation of sea-level rise, sediment budget and sedimentation rate, re-plotting of delta sediment sequences on the basis of monsoon discharge and sediment load, etc. (Chen et al., 2004; Kuehl et al., 1989; Chen et al., 2005). The modified delta models in Asia and Pacific regions have received and or are receiving worldwide attention to coastal areas for comparative reason, where unique delta setting exists (Chen et al., 2005). Also, we trust that the modified delta model is largely needed to the assessment of coastal hazards, in terms of hazardous mitigation and environmental conservation (Chen et al., 2005).

3.7 Public response

Communication with local government officer, administrator and social scientist has largely improved the fundamental understanding of how to combine soft geoenvironmental (environmental conservation) with hard geoenvironmental. During the project years, many government officer, administrator, policy maker, engineer and social scientist were invited and responded for what the delta models proposed (Chen et al., 2005), which largely promotes the project to success. In addition, our APN Megadelta project has received widely attention from public media. For instance, our APN project leaders, Drs. Goodbred, S., Saito, Y., and Chen, Z., were interviewed by Ms. Alexandra Seno, correspondent to Newsweek Magazine, via phone and email regarding hazard prevention and mitigation during the recent Tsunami event, as well as other broader threats to Asian mega-deltas. Ms. Seno discovered the APN-supported Megadelta project via our website, reflecting the importance of the study and its broader impact. Also, introduced by Robert J., Nicholls, Professor (human scientist) of University of Southampton, who has actively participated into our APN project, BBC Newsnight, science editor specifically visited Dr. Z. Chen at Shanghai, China for our project related environmental issues. This Newsnight has particular interest on delta coast disaster, such as sea level rise, subsidence and coastal erosion both under global warming effect and human impact (details refers to <http://news.bbc.co.uk/go/em/fr/-/2/hi/programmes/newspnight/4330469.stm>).

Furthermore, our project websites have been visited at numerous times since it initiated in March 2003. Lengthy and healthy discussion carried out and usefully information has been sent to all, especially for those from developing countries.

4.0 Conclusions

Through the APN project, the Asian Megadelta model has been established on the basis of model modification and critiques. The model embraces a number of key factors that drive the delta formation and evolution. Sea level deceleration since 7-6 Ma B.P. has resulted in the coastal sediment accumulation formed as delta plain, delta front and pordelta facies. Sea-level also serves as the key factor in distributing coastal sediment, in conjunction with fluvial and coastal dynamics at different delta setting. The transgression and retrogression processes, happened before and after 7-6 Ma, B.P. characterize the mega-delta sediment sequence architecture in general case. High-laden sediment load of the Asian meagdelta has determined the huge delta size, in terms of their distribution space and sediment thickness, closely associated with their sediment provenance of Himalayan Plateau. Monsoon precipitation has strongly modified the Asian deltas morphology, through flooding events, seasonally, which contrasts largely themselves to other delta models of the world.

Intensifying human activities in the last century have largely altered the delta morphology. Damming and water diverting at upstream is delaying delta progredation, leading to coastal erosion that is occurring individually. On the other hand, hazardous events closely associated with human activity, such as flood and drought, saline water intrusion, and riverbed dry-up, etc. have caused the dramatic environmental and social

instability. On the basis of this APN project, the established model of Asian mega-deltas has demonstrated a better understanding of the delta formation, which will be effective in future application on coastal management of natural resources, hazardous mitigation and environmental conservation.

5.0 Future Directions

All involved participants grouped as regional capacity networks are desirable to continue our great effort to the modification on delta-coast sedimentological pattern. Furthermore, we have deeply realized that the delta-coast model can never be away from the drainage basin, acting as the key control on delta model evolution. We would keep our foot on the way through established capacity networks, existing database, and channelization of communication system with publics, and government, to approach this academic goal by exploring fundings from now on.

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Appendix

1. 1st joint (IGCP-APN-ICAMG) conference information including conference agenda/programme (i.e. title, date and venue, participants list, organization, address, phone number, fax number, and email address, etc.), January 15-20, 2004, Thailand;
2. 2nd joint (IGCP-APN-CCOP) conference information, including conference agenda/programme (i.e. title, date and venue, participants list, organization, address, phone number, fax number, and email address, etc.), January 10-16, 2005, Vietnam;

Funding sources outside the APN

Co-funding agencies include

IGCP-475 (about US\$6-5000 for two years);

CCOP (US\$3000);

Geological Survey of Japan, AIST. Japan (US\$ 1000)

East China Normal University, Shanghai US\$ (US\$2000)

Glossary of Terms

Asia Megadelta
Anthropogenic forcings
Aquifer recharge
Building capacity networks
Climate changes
Coastal erosion
Coastal vulnerability assessments
Coastline progradation
Damming and sand mining
Delta conceptual model
Depocenter
Discharge
Drainage basin
Drought
Flood hazard
Hazard prevention and mitigation
Human impact
Hyperpycnal plumes
Knowledge gap
Millennium to decadal time scale
Riverbed dry-up
Saline water intrusion
Sea level fluctuations
Sediment flux and sediment load
Sediment transport
Sediment sequence architecture
Sediment source to sink
Subsidence
Transgression
Underground water withdraw
Water diversion

Minimum 15-20 pages (excluding appendix)

The final project report must follow the template outlined in this document.

Please submit the report to Linda Stevenson <l Stevenson@apn.gr.jp> by:

15 August 2005

In the following formats:

*Soft Copy version (CD-ROM about 30) and
Hard Copy version (about 30 bound copies) if within the available budget*

Both hard and soft copies of the report should be addressed to:

**Linda Stevenson
APN Programme Manager for Scientific Affairs
APN Secretariat
IHD Centre Building, 5F,
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Appendix 1: Joint-conference of IGCP-475 and APN Mega-delta

Joint International Conference and First Annual Meeting of IGCP-475 *DeltaMAP* and APN project on the *Mega-Deltas of Asia*



January 15–20, 2004,
Bangkok & Ayutthaya, Thailand

Call for Abstracts
Registration application form



Background

River deltas are one of the most significant coastal features and depositional systems. Most of sediment delivered to the oceans by rivers has (have) constructed (made) many major (numerous) deltas in coastal zones. These deltas (systems) are significant component not only in terms of sedimentary and marine geology to understand the modern depositional processes and formation of ancient rocks, but also (their) human populations, port and city infrastructures, and natural and living resources. The Asian coast owns (has) many large and distinct river-deltas, comprising abundant resources, products and a huge human population. These deltas, located in the Asia-Pacific region, include the Huanghe (Yellow), Changjiang (Yangtze), Zhujiang (Pearl), Song Hong (Red), Mekong, Chao Phraya, Irrawaddy, Ganges-Brahmaputra, Indus, Fly, etc. and many other important river deltas. These delta systems receive approximately 75% of worldwide sediment sources discharging from lands to oceans and comprise the largest collective depocenter on Earth. On the other hand, these deltaic environments are vulnerable to numerous and frequent geo-hazards, resulting from storms, floods, droughts, and sea-level rise and receive anthropogenic impacts through engineering projects, urbanization, and land use changes recently. Vulnerability assessment and environmental preservation in deltaic coasts for sustainable development require more attention in relation to global change studies.

Two new projects on deltas in the Asian and Oceania region are being launched this year (2003). They are International Geological Correlation Programme (IGCP) Project #475 *Deltas in the Monsoon Asia-Pacific Region (DeltaMAP)*, which will run as a 5-year program from 2003 to 2007. The IGCP has been a joint endeavor of UNESCO (United Nations Educational, Scientific and Cultural Organization) and IUGS (International Union of Geological Sciences) since 1972. The second project, entitled *The Mega-Deltas of Asia* (project #2003-12), is being funded by the Asia-Pacific Network for Global Change Research (APN). APN is an inter-governmental organization to foster global change research in Asia-Pacific region. (Note: major objectives and overviews for the two projects are attached below)

The inaugural meeting for each project is being held jointly in conjunction with the 5th International Conference on Asian Marine Geology (ICAMG-V), (to be held in) January 2003, Bangkok, Thailand. The joint IGCP-APN meeting will begin with a special session on deltas scheduling January 16, 2003 during ICAMG-V. Following this session will be a field excursion to the Chao Phraya delta on January 17-18 and an additional two-day scientific meeting on January 19-20. Both the field trip and subsequent IGCP-APN meeting will be held in Ayutthaya, Thailand.

The general objectives of IGCP-475 DeltaMAP are to: significantly improve our understanding of Asian river deltas by **1)** synthesizing recent research results, **2)** bridging the traditional gaps between terrestrial, coastal, and marine research, and **3)** identifying the major needs and goals of future research. Furthermore, in pursuing these goals we expect significant advances in the fundamental research of monsoon-driven sediment dispersal systems.

The APN project on Mega-Deltas in Asia will focus on: **1)** establishing a comprehensive conceptual model for Asian mega deltas, where unique geologic conditions play a critical role for delta response to natural and anthropogenic forcings; **2)** an improved understanding of the dynamic responses to human activities, natural variability, and global climate change, in order to provide useful information for future coastal vulnerability assessments; and **3)** the significance of #1-2 above for the sustainable development of this densely-populated region.

IGCP-475 DeltaMAP project: Co-leaders

Steven Goodbred, Jr.: Marine Sciences Research Center, Stony Brook University, USA

Yoshiki Saito: MRE, Geological Survey of Japan / AIST, Japan

APN project:

Leader (PI)

Zhongyuan Chen: East China Normal University, China

Co-PIs

Steven Goodbred, Jr.: Stony Brook University, USA

Tran Duc Thanh: Haiphong Institute of Oceanology, Vietnam

Yoshiki Saito: MRE, Geological Survey of Japan / AIST, Japan

Md. Badrul Islam: University of Rajshahi, Bangladesh

Organizer/Sponsors

UNESCO/IUGG, IGCP-475

APN project #2003-12, The Mega-Deltas of Asia

Department of Geology, Chulalongkorn University, Thailand

MRE, Geological Survey of Japan/AIST

Supporting bodies

IGBP-LOICZ

Local Organizing Committee

Thanawat Jaruphongsakul & Yoshio Sato

(Department of Geology, Chulalongkorn University, Thailand)

Field Excursion:

Montri Choowong, Yoshio Sato, and Niran Chaimanee

Venue and Schedule, January 2003

(Note: registration for ICAMG-V begins on 13th, but official IGCP-APN program begins 15th)

15th: registration at the Miracle Grand Convention Hotel, Bangkok

16th: registration & special session in the 5th International Conference on Asian Marine Geology (ICAMG-V): *Asian Deltas: Evolution and Recent Changes* at the Miracle Grand Convention Hotel, Bangkok. Welcome party on a boat in the Chao Phraya River

17th-18th: Excursion on the Chao Phraya delta (See Excursion for details);

19th-20th: Scientific sessions and business meeting at the Krungsri River Hotel, Ayutthaya

Sessions:

Scientific sessions consist of two parts: one day special session on deltas in ICAMG-V and two day session after the ICAMG-V. Please indicate your choice on sessions for oral presentation. For the tight schedule of the delta special session, the organizing committee will accept only the limited number of oral presentation at the delta special session. The IGCP-475 meetings will emphasize poster presentations as a tool to exchange information, discuss sufficiently and learn new knowledge among participants. The same poster can be displayed at both ICAMG-V (13th-16th) and IGCP venues (19th-20th), but oral presentations.

Official Language

English will be the official language of the conference.

Call for Abstracts:

Abstracts should be e-mailed or arrive by post at the conference secretariat (Dr. Thanawat Jarupongsakul, <thanawat@sc.chula.ac.th>) by **November 1, 2003**. Abstract format: MS Word file; title. Authors, affiliation(s), e-mail address of corresponding author, main text (A4, 1 page including figures, less than 500 words). All abstracts will be published in an abstract volume that will be distributed to all participants. If you have any trouble submitting the abstract, please e-mail <yoshiki.saito@aist.go.jp>.

Hotel and Weather

The Miracle Grand Convention Hotel is located on Vibhavadi Rangsit Road, just a 10-minute drive from Bangkok International Airport and adjacent to the expressway for fast and easy access to the Bangkok Central District. The Krungsri River Hotel is located at the river side of the Chao Phraya River in Ayutthaya, which is an old capital of Thailand and a World Heritage Site of UNESCO, and about 50 km apart from the Bangkok International Airport. Bangkok is a city of about 10 million people located about 35 kilometers from the Gulf of Thailand in the heart of the Central Plain. The weather in Bangkok in January is normally mild; the average temperature during the daytime is 20–23 °C.

Health Requirements:

It is recommended, but not required by Thailand, that travelers to Thailand be immunized against cholera. Please consult travel agents in your own country to obtain up-to-date information on recommended immunizations and other health precautions.

Travel Arrangements

Bangkok is a hub for air traffic in Southeast Asia, and most major airlines fly either directly to Bangkok or connect to Bangkok through Tokyo, Hong Kong, or Singapore. The Miracle Grand Hotel bus service between the airport and hotel is available to transport participants.

All participants are expected to make their own arrangements for transportation to Bangkok and for accommodations in Bangkok. However, if requested, the organizing committee will assist participants in securing hotel accommodations.

Visa

Participants must possess a valid passport and obtain an entry visa for Thailand, available from any Thai diplomatic or consular mission. Particulars regarding visa requirements

are also available from the airlines by which participants intend to travel. Passport holders from 39 countries do not require a visa when entering Thailand for tourism purposes if their stay in the Kingdom does not exceed 30 days. Please visit the web site: <http://www.mfa.go.th/web/12.php#General>

Activities	January, 2004								Venue
	13	14	15	16	17	18	19	20	
IGCP475-APN Joint meeting <ul style="list-style-type: none"> • IGCP475/APN Registration • IGCP475/APN scientific Session • IGCP475-APN Welcome Party • Field trip ICAMG5/IGCP475/APN • APN scientific Sessions • IGCP475-APN Business meeting • IGCP475/APN Farewell Dinner 			◆	↔	◆	↔	↔	↔	The Miracle Grand convention Hotel, Bangkok The Miracle Grand convention Hotel, Bangkok Boat restaurant in the Chao Phraya River, Bangkok The Chao Phraya delta and stay in Ayutthaya The Krungsri River Hotel, Ayutthaya The Krungsri River Hotel, Ayutthaya The Krungsri River Hotel, Ayutthaya

Accommodations

The registration fee of an IGCP/APN package covers the accommodation of the field excursion and Ayutthaya meeting; however it does not include the accommodation in Bangkok. The accommodations at the Miracle Grand Convention Hotel in Bangkok for the first two days are recommended. Special discount prices of 1600 Bt (ca. US \$40, superior single) or 1800 Bt (ca. US \$45, superior double/twin beds) are available to conference participants. If you wish to share a room, please indicate it on the application form. Your hotel request should be sent to the secretariat by November 1, 2003. Please use the Registration Form of ICAMG-V.

Field Excursion

A two-day, mid-conference field trip has been planned jointly with ICAMG-V: Take a long-tail boat tour to view coastal erosion in the Chao Phraya River delta, including wonderful outcrops in an open pit (20–30 m below the present sea level!) showing the whole Holocene deltaic sequence. The tour will also include a visit to an oyster pagoda temple, and a one-night stay in the old capital of Thailand, Ayutthaya. Detailed information on the field trip will be given in the next circular, and a Field Trip Guide will be available at the conference.

Registration fee

Registration fee: US\$ 310, includes abstract volume, one day participation to ICAMG-V, dinner on January 16, Field excursion, accommodation in Ayutthaya for four nights from January 17 to January 20, and lunch from January 16 to 20. Please note that the fee does not include the accommodation expense in Bangkok. There are four kinds of registration modules. Please indicate your choice in the Registration Form of ICAMG-V. The conference organizers have attempted to keep the cost low for all participants rather than to support some individuals. Please contact Dr. Chakkaphan (chakkaphan@chula.com) for more information.

**Program of joint conference of ICAMG-APN-IGCP, January 13-20,
2004, Thailand**

ICAMG/APN/IGCP 2004 SCHEDULE

Tuesday, January 13

Room

Time Venus-Mars Foyer

15.00-21.30 Registration

15.00-21.30 Poster presenters post their posters on boards

19.30-21.30 Ice-breaking Party at the Venus-Mars Foyer

Wednesday, January 14

Room

Time Venus

07.30 - 08.30 Registration at the Venus-Mars Foyer

08.30 - 08.45 Participants enter the Venus room

08.45 - 09.30 Opening Ceremony

09.30 - 10.00 *Coffee Break*

10.00 - 12.30 Plenary Keynote

12.30 – 13.30 *Lunch Break*

Room

Time Venus Mars

13.30 – 15.30 Plenary Keynote -

15.30 – 16.00 *Coffee Break*

16.00 - 18.00 Quaternary sea-level changes & strata formation Oil and Gas-hydrate resources and active sea-bottom phenomena

18.30 – 21.00 Welcome Reception at the Miracle Grand Convention Hotel

Thursday, January 15

Room

Time Venus Mars Gemini

08.30 – 10.00 *Keynote* -

10.00 – 10.30 *Coffee Break*

10.30 – 12.00 Sedimentology & “source to sink” at Asian Continental margins (1)
Indonesian through Flow & Paleoceanography

12.00 – 13.30 *Lunch Break & Poster Viewing Session*

13.30 – 15.30 Sedimentology & “source to sink” at Asian Continental margins (2)
Monsoon evolution and tectonics & climate linkage in marginal seas (1) Human impacts on coastal zones & data management (1)

15.30 – 16.00 *Coffee Break*

16.00 – 18.00 Sedimentology & “source to sink” at Asian Continental margins (3)
Monsoon evolution and tectonics & climate linkage in marginal seas(2) Human impacts on coastal zones & data management (2)

Friday, January 16

Room

Time Venus Mars Gemini

08.30 – 10.00 Plenary Keynote -

10.00 – 10.30 *Coffee Break*

10.30 – 12.00 IGCP475 DeltaMAP & APN MegaDelta (1) Monsoon evolution and

tectonics & climate linkage in marginal seas (3) Tectonic & Stratigraphy at Asian Continental Margins

12.00 – 13.30 *Lunch Break & Poster Viewing Session*

13.30 – 15.30 IGCP475 DeltaMAP & APN MegaDelta (2) Monsoon evolution and tectonics & climate linkage in marginal seas (4) Tectonic & Stratigraphy at Asian Continental Margins (2)

15.30 – 16.00 *Coffee Break*

16.00 – 17.45 IGCP475 DeltaMAP & APN MegaDelta (3) - Tectonic & Stratigraphy at Asian Continental Margins (2)

17:45 – 18:00 Closing Ceremony at the Venus room

19.00 – 22.00 Farewell Banguet on a cruising boat along the Chao Phraya river
ICAMG/APN/IGCP 2004 PROGRAMME

Session... Sedimentology & "source to sink" at Asian Continental Margins (2)

Chairperson: Dr. Serge Berne and Dr. Katsuto Uehara

13:30 – 13:45 Sedimentary environment of a semi-enclosed embayment, Yoja Bay in the South Coast of Korea. By: Yong Shik Chu, Hee Jun Lee, Yeon Gyu Lee and Yhung Rae Jo (P213)

13:45 – 14:00 A comparative study on tidal sand ridges in the East China Sea and Celtic Sea By: Liu Zhenxia, Yu Hua, Xiong Yingqian, Li Chaoxin (P211)

14:00 – 14:15 Late Quaternary evolution of the Yellow/East China Sea tidal regime and its impacts on sediments dispersal and seafloor morphology. By: Katsuto Uehara and Yoshiki Saito. (P183)

14:15 – 14:30 Transgressive geochemical records of the two cores taken from the East China Sea. By: Sangmin Hyun, Dhong-il Lim, H-S Jung and H-S Yoo. (P163)

14:30 – 14:45 A study on the changes of the tidal sand ridges. By: Huang Haijun and Ma Lijie (P40)

14:45 – 15:00 A study on suspended sediments near the Subei tidal sand ridges area. By: Huang Haijun and Tang Junwu (P41)

15:00 – 15:15 The comparison of grain-size of suspended sediments from Changjiang and Huanghe in winter and summer. By: Pan Yanjun, Yang Zuosheng and Guo Zhigang (P78)

15:15 – 15:30 Geochemical Analysis of Bottom Sediments on the Yellow and East China Sea : Trend Analysis By: Jin-yong Choi and Dong-II Lim (P198)

15:15 – 15:30 Sedimentation rate and sources of mud deposit in the central area of the South Yellow sea. By: Jeung-Su youn, Seung-Cheul Lee and Jang-Yong Aha (P12)

15:30 – 16:00 **Coffee Break**

Session... Sedimentology & "source to sink" at Asian Continental Margins (3)

Chairperson: Dr. Sangmin Hyun and Dr. Wyss Yim

16:00 – 16:15 Geochemical Characteristics of Surface Sediments in the North Okinawa Trough and Their Source Indications. By: Jiang Fu-Qing, Li An-Chun. (P168)

16:15 – 16:30 The quantificational method of identifying sedimentary endmembers and its application to the Okinawa Trough. By: Du Dewen, Xiong Yingqian, Meng Xianwei. (P191)

16:30 – 16:45 Geochemistry and Provenance of sediments on the northern slope of the South China sea. By: Lei Shao, Zhiwei Liu, Gangjian Wei, Xianhua Li, Yim Liu and Thomas Luedmann (P252)

16:45 – 17:00 ²¹⁰Pb and ²¹⁰Po in the particulates collected from sediment traps in the Mien-Hua and the North Mien-Hua Canyon area of the southern East China Sea. By:

- G.W.Hung, Y.C.Chung, C.S.Lin, W.C.Jou, J.J.Hung, D.D.Sheu (P161)
- 17:00 – 17:15 Ground-truthing of high resolution boomer seismic profiles in Tai O bay, Hong Kong, SAR China. By W.W.S. Yim, H.K. Wong, A., Bahr, L.S. Chan, G. Huang, T. Ludmann and W.N. Ridley Thomas (P80)
- 17:15 – 17:30 Comparison of *In situ* and laboratory compressional wave velocities of shelf sediments in the South Sea, Korea. By: Ja Hun Jung, Dae Choul Kim, Young Kyo Seo, Gil Young Kim, Gwang Hoon Lee, R.H. Wilkens and T.J. Gorgas. (P106)
- 17:30 – 17:45 Measurement and application of shear wave velocity in marine sediments: In the western continental margin, the East Sea of Korea. By: Gil Young Kim and Dae Choul Kim (P113)
- 17:45 – 18:00 Late Quaternary sedimentary processes and variations in bottom-current activity in the Ulleung Interplain Gap, East Sea (Korea). By: J.J. Bahk, S.H. Lee, H.S. Yoo, G.G. Back and S.K. Chough (P89)
- 18:00 – 18:15 Shifting submarine canyon with the development of foreland basin in SW Taiwan: controls of foreland sedimentation and longitudinal sediment transport. By: Ho-shing, Yu, (P010)
- 18:15 – 18:30 Deep-sea turbidite evidence on recurrence of large earthquakes along the Okushiri Ridge, Northeastern Japan Sea. By: Ken Ikehara and Takuya Itaki (P69)
- 18:30 – 18:45 Major Elemental Compositions and paleoenvironmental changes of the cores sediment in the southern Yellow Sea. By Wang Zhongbo, Yang Shouye and Li Congxian (P101)

Thursday, January 15

10:00 – 10:30 **Coffee Break**

Session... Indonesian through Flow & Paleooceanography

Chairperson: Dr. Anne Muller

Mars

- 10:30 – 10:45 On the Indonesian Throughflow in the OCCAM Modal. By: U. Humphries, D.J. Webb, B.A. de Cuevas and A.C. Coward (P33)
- 10:45 – 11:00 Closure of the Indonesian Seaway and Its relationship to the formation and evolution of the Western Pacific Warm Pool. By: Zhou Zuyi, Yu Yongqiang, Wang Liaoliang, Jin Xinchun, Jian Zhimin and Wu Nengyou (P64)
- 11:00 – 11:15 Effect of Opened Indonesian Passage and the Isthmus of Panama on the Oceanic Circulation. By: Yongqiang Yu (P222)
- 11:15 – 11:30 Initial biomarkers study on some recent sediments collected from eastern Java Sea, offshore Indonesia. By: Eddy A. Subroto (P95)
- 11:30 – 11:45 Unusual distributions of alkenones in surface waters and sediments of the Nordic Seas: implications for paleoceanography. By: James Bendle, Antoni Rosell-Mele and Patrizia Ziveri (P27)
- 12:00 – 13:30 **Lunch Break & Poster Viewing session**

Session... Monsoon evolution and tectonics & climate linkage in marginal seas (1)

Chairperson: Dr. Jian Zhimin and Dr. Michael Sarnthein

Mars

- 13:30 – 13:45 Mineral composition in sediments of site 148 of ODP Leg 184 and its response to Himalayan uplift and Seafloor spreading of the South China Sea. By: Anchun Li, Hengyi Jiang and Shiming Wan, (P148)
- 13:45 – 14:00 Tibetan uplift and East Asian climate change since Late Miocene: evidence from terrigenous records in the south China Sea (ODP Site 1143). By: Shiming Wan, Anchun Li, and Hengyi Jang, (P146)
- 14:00 – 14:15 Erosional history of the eastern Tibetan Plateau and East Asian monsoon evolution over the last climatic cycle: sedimentological and geochemical

- investigations from southwestern South China Sea. By: Zhifei Liu, Christophe Colin, Alain Trentesaux, Dominique Blamart and Franck Bassinot (P53)
- 14:15 – 14:30 Intensification of East Asian monsoon and onset of Northern Hemisphere glaciation: Oxygen isotope records from the South China Sea By: Jun Tian, Pinxian Wang and Xinrong Cheng (P56)
- 14:30 – 14:45 Phased evolution of the western Pacific warm pool since the middle Miocene: Paleooceanographic records and numerical simulations. By: Zhimin Jian, Yongqiang Yu, Xuehong Zhang, Baohua Li, Jiliang Wang and Zuyi Zhou (P75)
- 14:45 – 15:00 South China Sea surface water evolution over the last 12 Ma: A South-north comparison from ODP sites 1143 and 146. By: Li Baohua, Wang Jiliang, Huang Baoqi, LI Qianyu, JIAN Zhimin, Zhao Quanhong, Su Xin, and Wang pinxian. (P22)
- 15:00 – 15:15 Late Pliocene-Pleistocene evolution of the East Asian monsoon recorded from the northern South China Sea. By: Huang Baoqi, Jian Zhimin and Wang Pinxian (P51)
- 15:15 –15:30 Deep-sea pollen from the South China Sea: Pleistocene indicators of the East Asian monsoon. By: Xiangjun Sun, Yunli Luo, Fei Huang, Jun Tian and Pinxian Wang (P54)
- 15:30 – 16:00 **Coffee Break**

Session... Monsoon evolution and tectonics & climate linkage in marginal seas (2)

Chairperson: Dr. Rujian Wang and Dr. Feng Weimin

Mars

- 16:00 – 16:15 The paleoecological environmental events revealed by radiolarian fauna over the last Ma in the Southern South China Sea. By: Chen Muhong, Yang Lihong, Lu Jun, Wang Rujian and Zhen Fan (P83)
- 16:15 – 16:30 Mid-Pleistocene impact and possible consequence: High-resolution evidence from ODP Site 1144. By: Quan-hong Zhao, Zhi-min Jian, Xin-rong Cheng, Zhi-fei Liu, Pei-fen Xia and Jian Xu (P137)
- 16:30 – 16:45 Environmental change during the penultimate glacial cycle: A highresolution pollen record from ODP site 1144, South China Sea. By: Yunli Luo, Xiangun Sun, Zhimin Jian and Pinxian Wang. (P55)
- 16:45 – 17:00 Late Quaternary paleoceanographic changes in the northern South China Sea (ODP Site 1146): radiolaria evidence. By: Rujian Wang, Steven Clemens, Baoqi Huang and Muhong Chen (P79)
- 17:00 –17:15 Variation of Nutricline indicated by Quaternary nannoflora from the Northern south China sea (ODP Leg 184, Site 1146). By: Xin Su (P154)
- 17:15 – 17:30 Micromolluscan response to climatic variability of shorter timescales during late Holocene in South China Sea. By: Feng Weimin, Lan, Xin, Pan Huazhang, Cai Hua Wei, Chen Muhong and Jonathan A. TODD (P30)
- 17:30 – 17:45 Seasonal variations of the planktonic foraminiferal flux in the central South China Sea and its monsoon climatic impact. By: Ronghua Chen, Zheng Yulong, Jianfang Chen, Martin G. Wiesner, Xinrong Cheng, and H. Erlenkeuser. (P84)
- 17:45 – 18:00 Marine Tephrochronology of the West Philippine Sea, Celebes Sea and South China Sea. By: Kuo-Yen Wei, Meng-Yang Lee, Chih-Wei Chen, Sheng-Rong Song, Chang-Hwa Chen, Yue-Gau Chen and Horng-sheng Mii. (P177)

Special Evening Meeting

- 18:00 – 19:30 Opportunities for the Asian Marine Researchers in the IODP as Cooperation between Japan and the Southeast and East Asian Countries. By: Soh W., Tokuyama H, and Moe K. T. (Japan Drilling Earth Science Consortium).

Thursday, January 15

10:00 – 10:30 **Coffee Break**

Gemini

12:00 – 13:30 **Lunch Break & Poster Viewing session Session... Human impacts on coastal zones & data management (1)**

Chairperson: Dr. Robert J. Nicholls and Dr. Yoshio Inouchi

Gemini

13:30 – 13:45 Geoenvironmental mapping, an essential need for coastal management: Case study from Qeshm Island. By: Arash Sharifi, and Haeri- Omid ardakanI, (P 01)

13:45 – 14:00 Geological hazard potentials in Sunda Strait Region based on the marine geological and geophysical data. By: Yudhicara (P 11)

14:00 – 14:15 Regulation of nutrients in a coastal sea : Natural and anthropogenic processes. By: Balachandran, K.K., Joseph, T., and Paimpillil. Joseph sebastian. (P 18)

14:15 – 14:30 Impacts of subterraneous nutrients injections on coastal productivity upsetting. By: Balachandran, K.K., Joseph, T., Nair Maheswari, and Paimpillil Joseph S. (P19)

14:30 – 14:45 Human impacts and threats to sustainable coastal zone management in Bangladesh. By: Shafe Noor Islam (P 29)

14:45 – 15:00 Impact of fish farming on marine bottom environment in Kitanada Bay, Southwest of Shikoku Island, Japan. By: Atsuko Amano, Takahiko Inoue, Naoya Iwamoto, Fujihiko Shioya and Yoshio Inouchi (P125)

15:00 – 15:15 Geochemical evaluation of heavy metal contamination in upper river estuary and its impact on marine environment near Cuddalore, Southeast Coast of India. By: S.Srinivasalu, T. Ayyamperumal, J. Sivaramakrishnan, M.P. Jonathan and V. Ram Mohan (P 34)

15:15 – 15:30 Heavy metals concentration in Gorgan Bay sediments, South East Caspian Sea. By: H.A.K. Lahijani, O. Haeri and A. Sharifi. (P 21)

15:30 – 16:00 **Coffee Break**

Session... Human impacts on coastal zones & data management (2)

Chairperson: Dr. Wallrabe-Adams and Dr. Kyung Sik Woo

16:00 – 16:15 Arsenic and Mercury distribution in Sediments of the Jiaozhou Bay, Qingdao, China. By: Shaojun Zhong, Siyuan Ye, Lijun XU and Xiaoqian Pu (P153)

16:15 – 16:30 Unusual occurrence and origin of the rhodoliths in Wu Island beach, Korea. By: Kyung Sik Woo, Jin Kyoung Kim and Boo-Keun Khim (P160)

16:30 – 16:45 Holocene geo-environmental changes in the section Xingtuo, the middle part of the Oyster plain, Bohai bay. By: Li Jianfen, Wang Hong and Li Fenglin (P207)

16:45 – 17:00 Functioning of the large reservoirs on the reduction of water and sediment discharge from the Huanghe (Yellow River) to the sea in 1968-2000. By: Xiaoxia Sun¹, Zuosheng Yang¹, Yoshiki Saito², Houjie Wang¹, Dong Li³ (P245)

17:00 – 17:15 World data center for marine environmental science (WDCI-MARE); Longterm archive and data management. By: Wallrabe-Adams, H.-J., Diepenbroek, M., Grobe, H., and Sieger, R.,(P02)

17:15 – 17:30 The influence of seawater intrusion on the hydrochemistry of coastal aquifers: Bandar-e-Gaz, Northeast Iran. By Majid Shahpasanzadeh (P 63)

Friday, January 16 Session... Plenary Keynote

Chairperson: Dr. Bilal Haq

Venus

- 08:30 – 09:00 Keynote (12): Sedimentation in South Asian Marginal Seas: Fluvial and Sealevel Controls. By: John D. Milliman (P158)
- 09:00 – 09:30 Keynote (13): Channel pattern and deltaic-estuarine process in the Indo-Pacific region By: Colin Woodroffe (P236)
- 09:30 – 10:00 Keynote (14): A Framework for risk assessment and sustainable development of the Grages-Brahmaputra delta. By: Robert J. Nicholls and Steven L. Goodbred Jr. (P117)
- 10:00 – 10:30 **Coffee Break**

Session... IGCP475 DeltaMAP & APN Mega-Delta (1)

Chairperson: Professor Dr. Yoshiki Saito

Venus

- 10:30 – 10:50 Taking a system-wide view of Asian river deltas: possible lessons for future research. By Steven Goodbred (P254)
- 10:50 – 11:10 Changes of ocean tides along Asian coasts caused by the postglacial sea-level change. By: Katsuto UEHARA (P182)
- 11:10 – 11:30 Sediment distribution and dispersal on the Ayeyarwady continental shelf and Gulf of Martaban, Northern Adaman Sea. By: V.Ramaswamy and P.S. Rao (P251)
- 11:30 – 11:50 The fluid dynamics of natural, sediment-laden density currents in Liolloet delta, British Columbia, Canada: implications for sediment dispersal and delta morphology. By: Jim best, Ray Kostaschuk, Jeff Peakall, Mark Franklin and Paul Villard (P203)
- 12:00 – 13:30 **Lunch Break & Poster Viewing session**

Session... IGCP475 DeltaMAP & APN MegaDelta (2)

Chairperson: Dr. Steve Goodbred

Venus

- 13:30 – 14:00 What's New in Deltas?" By: Janok P. Bhattacharya (P76)
- 14:00 – 14:30 Transgressive deposits and the retreat path of large river systems: a comparison between the Changjiang (East China Sea) and the Rhone (NW Mediterranean). By: Serge Berne (P199)
- 14:30 – 15:00 Large Rivers and Deltas: the connection in South and Southeast Asia. By: Avijit Gupta (P229)
- 15:00 – 16:00 **Coffee Break**

Session... IGCP475 DeltaMAP & APN MegaDelta (3)

Chairperson: Dr. Chen Zhongyuan

- 16:00 – 16:15 Facies, morphology and sedimentary processes on the Baram and Trusan Deltas, NW Borneo. By Joseph J. Lambiase (P 136)
- 16:15 – 16:30 Sedimentary environment evolution and sea level change after pos-glacial period in Huanghe (Yellow) River delta. By: Zaixing Jiang, Benzong Xian (P178)
- 16:30 – 16:45 Development of the Yellow river's subaqueous delta in the North Yellow Sea. By: J. Paul Liu, John D. Milliman and Shu Gao (P100)
- 16:45 – 17:00 The Temporal and spatial variation of the Huanghe mouth bar By: Zhang Yong, Yang Zuo-sheng, and Wei-helon (P142)
- 17:00 – 17:15 Monsoon-induced seasonal variability of sediment flux in the middle Yangtze River catchment, China: sink and source. By: Zhongyuan Chen* and Zhanghua Wang (P43)
- 17:15 – 17:30 Mahanadi river delta, east coast of India: An overview on evolution and dynamic processes. By: M. Mohanti and M. R. Swain (P131)
- 17:30 – 17:45 Biodiversity & Natural Resource Degradation n INDUS DELTA & It's

Relationship with Reduction in Indus River Flow. By: Sikander Brohi. (P194)

Friday, January 16

10:00 – 10:30 **Coffee Break**

Session... Monsoon evolution and tectonics & climate linkage in marginal seas (3)

Chairperson: Dr. Boo-Keun Khim and Dr. Tomohisa Irino

Mars

10:30 – 10:45 Seasonal Variation of Planktonic Foraminiferal Isotopic Composition from the Sediment Traps in the South China Sea. By: Hui-Ling Ling, Wei-Chiao Wang, Gwo-Wei Hung and Ying-Ju Hsieh (P144)

10:45 – 11:00 Oxygen and carbon isotope records of modern and fossil corals from Northern part of South China Sea and the fractionation mechanism driven by Asian monsoon climate. By: Sun Donghuai, Chen Hai and Su Ruixia (P110)

11:00 – 11:15 Distribution of carbonate and calcareous plankton in seafloor surface sediment in Western South China sea. By: Li Xuejie and Chen Fang (P206)

11:15 – 11:30 Living (Rose Bengal Stained) benthic foraminifera in Sediments off the Southwest Taiwan. By: Ai-Ping Chiang, Hui-Ling Ling and Tai-Chun Lin, (P143)

11:30 – 11:45 Difference in precipitation variation between the central and East Asia during the last 150Ky deduced from the Japan sea and the northwest Pacific sediments. By: Tomohisa Irino, Yaeko Igarashi, Tadamichi Oba and Ryuji Tada (P247)

11:45 – 12:00 When modern oceanographic conditions of the western subarctic Pacific and marginal seas were formed? By: Ken Ikehara, Takuya Itaki and Chieko Shimada (P68)

12:00 – 13:30 **Lunch Break & Poster Viewing session**

Session... Monsoon evolution and tectonics & climate linkage in marginal seas (4)

Chairperson: Dr. Kuo-Yen Wei and Dr. Tatsuhiko Sakamoto

13:30 – 13:45 Planktic foraminiferal assemblages in surface sediments from the Japan Sea. By: Hanako Domitsu and Motoyoshi Oda. (P82)

13:45 – 14:00 Late Quaternary chronology of long piston-core sediments from the Korea Oplateau in the East Sea (Sea of Japan). By: Boo-Keun Khim, Sangmin Hyun and Jang-Jun Bahk. (P105)

14:00 – 14:15 Paleooceanographic change off central Japan since the last 150 ka. By: Tadamichi Oba and Takuya Sagawa (P128)

14:15 – 14:30 Paleoecology of foraminifers as indicator for the paleooceanography of the Northern Japan and Okhotsk Seas. By: Pletnev S.P. (P47)

14:30 – 14:45 Cenozoic diatom zonal assemblages in the Kuril Basin sediments (Okhotsk sea). By: Ira B. Tsoy, (P03)

14:45 – 15:00 The Okhotsk, Bering seas and the Far N-W Pacific Late Quaternary paleooceanography; Geochemical, lithological and paleontological evidences of the Dansgaard-Oeschger Stadials. By: S.A. Gorbarenko, E.L. Goldberg A.V., Southon J.R., Artemova A.V., Shaporenko A.D., Leskov V. Yu. And Gvozdeva I.G. (P 96)

15:00 – 15:15 Millennial-Scale Variations of sea-ice and its relation to Okhotsk Sea Intermediate Water (OSIW) formation in the Sea of Okhotsk during 100: Results from IMAGES core MD012412. By: Tatsuhiko Sakamoto, Iijima.K., Ikehara, M., Uchida, M., Harada, N., Shibata, Y., Okazaki, H., Katsuki, K., Asahi, H., Takahashi, K., Aoki, K., Kawahata, H., Fukamachi, Y., Nakatsuka, T., and Kanamatsu T., (P141)

15:15 – 15:30 The environmental changes in deep-water region in the SW Sea of Okhotsk, based on benthic foraminiferal assemblages in the sediment cores of GH cruise. By: Naokazu Yoshimoto and Shiro Hasegawa (P185)

15:30 – 16:00 **Coffee Break**

POSTER SESSION ON JANUARY 15-16

IGCP 475/APN posters will present in Ayutthaya on Jan 19-20 again

Session... IGCP475 DeltaMAP & APN Mega-Delta

- Comparative analyses of variations in tidal ranges associated with the continental mega and large-scale rivers of the monsoonal Asia-Pacific Regions, China to Pakistan. By Allen W. Archer (P167).
- Natural and man made stresses on the stability of Indus deltaic eco region. By A. Inam, T.M. Ali Khan, S. Amjad, M. Danish, and A.R. Tabrez. (P103).
- Shallow water seismic reflection survey in the Mekong river delta. By Fumitoshi Murakami, Yoshiki Saito, Yasumasa Kinoshita, Masaaki Tateishi, Nguyen Truong Luu, Luong Boi Luu, and Nguyen Tran Tan (P204).
- Paleoenvironments and paleo-sea levels from the delta complex north of Manila bay, Philippines. By Soria, J.L.A., Siringan, F.P., and Rodolfo, K.S. (P166).
- Development of Stratigraphy in the offshore area of the Yellow River Delta during the late Quaternary. By Jian Liu, Yoshiki Saito, Liangyoung Zhou, Hong Wang, Zhengxin Chen, and Xianmei Jin (P188).
- Depositional process of the Kiso river delta, central Japan, reconstructed from drilling core analysis.
By Masaaki Yamagu Chi, Toshihiko Sugai, Osamu Fujiwara, Takashi Ogami, Tanobu Kamataki, Hiroo Ohmori, and Yuichi Sugiyama (P202).
- Why peripycnal-flow deposits” from the Miocene continental delta complex in the Ryukyu island are, southwest Japan. By Mr.Saitoh Yu (P221).
- Reconstruction of flooding history in the Pampanga Delta Plain from anecdotal accounts. By C.T. Remotigue, F.P. Siringan, K.S. Rodolfo, and C.B. Lamug (P162).
- Sedimentary facies of the Shirone Formation in Echigo Plain of Niigata, Central Japan-Analysis of the drilling core in central part of Shirone area. By Satoshi Tanaka, Iwao Bobayashi, Yukihiko Kamoi, Satoshi Yasui, Shigeiko Iyoda, Mayumi Satoh, and Masaaki Tatischei (P179).
- Recent Development of Chilika Lagoon barrier spit on the bay of Bengal, Orissa, Eastern India: A Chronology based on Luminescence. By Andrew Murray and Manmohan Mohanti (P145).
- Holocene sedimentary facies of the Red river delta. By Doan Dinh Lam (P134, Abs only).
- Measuring velocity and sediment transport on deltas with an acoustic Doppler profiler By: Ray Kostaschuk, Jim Best, Jeff Peakall, Mark Franklin and Paul Villard (Icamg38/APN)
- Studies on the Holocene evolution of the East coast deltas of India : present status and future prospects. By: K.Nageswara Rao, N.Sadakata, K. Takayasu. And B. Hema Malina. (Icamg35/APN)
- Channel-levee system-the major controlling mechanism for the sediment deposition on the Indus Fan. By: A. Inam and M. Tahir (Icamg104/APN)
- Phase Change of the Modern Huanghe Delta Evolution since its last end channel shift in 1976 (and its phase Change). By: Z-s Yang, H-j Wang, Y.Saito, G-x Li and X-x Sun (Icamg119/APN)
- Coastal erosion and sedimentation in Vietnam. By: Tran Duc Thanh, Pham Huy Tien, Bui Hong Long, and Nguyen Van Cu (Icamg17/APN)
- Holocene stratigraphy of the lower Ganges-Brahmaputra river delta in Bangladesh By: Sirajur Rahman Khan (Icamg39/APN)
- Holocene coastal plains of Bangladesh and assessment of neotectonic activities in the Bengal delta. By: Md. Badrul Islam and Sirajur Rahman Khan (Icamg/46APN)
- Effect of sea-level rise and responsible coastal zone management for the low-lying areas

- of Bangkok Metropolis Areas. By: Thanawat Jarupongsakul (P86)
- High-resolution paleoclimate variability documented in upper Holocene varved Sediments off Pakistan. By: Athar Ali Khan, Ulrich Von Rad and Andreas Luckge (Icamg37/IGCP)
- Application of sea level curve to determine the subsidence of the Ganges Delta during the Holocene. By: M.Shahidul Islam (Icamg234/IGCP)
- Morphodynamic variations of the intertidal mudflats as top-stratum delta plain deposits of the Ganges-Brahmaputra Rivers of northeast India. By: Asokkumar Bhattacharya (Icamg231/IGCP)
- Geomorphic features of the Bengal fan. By: Veerayya Muthavarapu (Icamg205/IGCP)
- Application of seismic surveys to study Pliocene-Quaternary sediments in the Southeastern offshore Vietnam. By: Mai Thanh Tan (Icamg94/IGCP)
- Subaqueous Sedimentation in and around the Ca Mau Mangrove Habitats in Ca Mau Province, Vietnam. By: Shinji Tsukawaki, Izumi Asano and Do Xuan Phuong (Icamg73/P)
- Environmental Changes of Lake Tonle Sap and the Lower Course of the Mekong River System in Cambodia during the Last 10,000 Years. By: Bunnarin Ben, Shinji Tsukawaki, Fumio Akiba, , Shuichi Endoh, Yoshihiko Hirabuki, Sim Im, Takahiro Kamiya, Haruo Katakura, Michio Kato, Midori Kato, Kohta Kurokawa, Dallas C. Mildenhall, Kanichi Mita, Hiroyuki Motomura, Motoyoshi Oda, Akifumi Ohtaka, Masafumi Okawara, Yasuaki Okumura, Hirokazu Ozawa, Sotham Sieng and Sambath Touch (Icamg74/APN)
- Late Quaternary depositional sequences of the Mekong River Delta, Vietnam. By: Nguyen Van Lap, Ta Thi Kim Oanh, Masaaki Tateishi, Iwao Kobayashi and Yoshiki Saito (Icamg126/APN)
- Sediment facies change and delta evolution during the Holocene in Mekong River delta, Vietnam. By: Thi Kim Oanh Ta, Van Lap Nguyen, Masaaki Tateishi, Iwao Kobayashi and Yoshiki Saito (Icamg120/IGCP)
- Growth Pattern of Beach and Dune Ridges in the Lower Mekong River Delta. By: Tateishi Masaaki, Harai Yukihiko, Nguyen Van Lap, Umitsu Masatomo and Ta Thi Kim Oanh. (Icamg93/P)
- Landforms and Late Holocene Evolution of the Mekong River Delta, Vietnam. By: Masatomo Umitsu, Van Lap Nguyen and Thi Kim Oanh Ta (Icamg123/P)
- Sequence stratigraphy of the Pleistocene terrace sequence in the terrestrial of eastern margin of the Mekong basin, southern Vietnam. By: Toshiyuki Kitazawa (Icamg114/P)
- Coastal changes driven by human activities during the 'Anthropocene': Red River Delta case study. By: Nguyen Hoang Tri, Dinh Van Thuan, Bui Trinh and Francisco T.Secretario (Icamg220/IGCP)
- Land and sea Interaction in the marginal sea of the Eastern Yangtze coast, China: Quaternary stratigraphy, Palynology, and Transgression. By: Taoyuan Wei and Zhonyuan Chen (Icamg45/IGCP)
- Fate of tidal wetlands at the Changjiang (Yangtze) river delta forward in response to dam constructions in the basin. By: Shilun Yang, Wenxian Zhang and shibao Dai (Icamg 36/APN)
- REE geochemistry of suspended sediments from the rivers around the Yellow Sea and Provenance indicators. By: Yang Shouye, Li Congxian, Lee Chang-Bok and Na Tae-Yong (Icamg102/P)
- Iron sulfide minerals in sediments of East China Sea continental shelf: Possible formation By: Zhanghuan Wang, Zhongyuan Chen and Weixian Li (Icamg42/IGCP)
- Reshaping Process of the Abandoned Huanghe (Yellow River) Delta Lobe..By: Houjie Wang, Zuosheng Yang, Guangxue Li and Wensheng Jiang (Icamg116/IGCP)

Critical suspended sediment load and channel gradient for maintaining the balance of erosion and sedimentation of the Yellow River Delta. By: Suiji Wang (Icamg193/IGCP)

Late Cenozoic paleoenvironmental changes of the Changjiang and Huanghe delta areas: geochemical constraints. By: Shouye Yang, Congxian Li, and Daidu Fan (Icamg130/IGCP)

Material sources study of core DGKS9617. By: Hua Yu, Yingqian Xiong, Weiran Li, Kunshan Wang (Icamg232/IGCP)

Sedimentary facies of the Shirone Formation in Echigo Plain of Niigata, central Japan-Analysis of the drilling core in central part of Shirone area. By: Satoshi TANAKA, Iwao KOBAYASHI, Yukihiro KAMOI, Satoshi YASUI, Shigeo IYODA, Mayumi SATOH and Masaaki TATTEISHI (Icamg179/IGCP)

Vulnerability Assessment of Sundarban Delta in the Perspective of Climate Change. By: Prof. Sugata Hazra (Icamg219/IGCP)

Seasonal sea surface temperature contrast between the Holocene and last Glacial Maximum in the Arabian Sea; Modulated by monsoon upwelling. By: Pothuri Divakar Naidu and Bjorn A. Malmgren (Icamg32/P)

Session...Human impacts on coastal zones & data management

New estimates of coastal population and Hazard exposure. By Robert J. Nicholls, and Christopher Small (P87).

Large scale sand dredging and slow recovery of sand dunes in the Seto Inland Sea, Japan. By Yoshiki Inouchi, Naoya Iwamoto, Takahiko Inoue, Fujihiko Shioya, and Ryo Ohira (P121).

A study to find the best rock material for the construction of coast protection structures. By U. de S. Jayawardena (P85).

Orissa coast, eastern India: natural disasters and human interferences threaten sustainable development. By M. Mohanti and M.R. Swain (P242).

The Zoning of the Mekong Delta based on the natural conditions. By Yamashita Akira and Nguyen Huu Chiem (P91).

January 17-20, 2004 at the Krunsrri River Hotel, Ayutthaya

IGCP475 / APN Meeting Bunga-Phakakrong

The first Annual meeting of IGCP475 DeltaMAP and APN MegaDelta

ORAL PRESENTATION

The total time for the oral presentation is 15 minutes (13 minutes presentation, 2 minutes discussion). Each session rooms are equipped with one overhead projector, one slide projector, one LCD (Liquid Crystal Display) projector, and on PC computer.

- Overhead projector: self-operated.

- Slide projector: self-operated.

- LCD Projector: compatible with Windows only. All Powerpoint presentations must be saved in Microsoft Office Powerpoint 97, 2000, or XP (200@).

Presentations should be saved on floppy disks 3.5" or CDs. Each speaker is required to bring a back-up copy of him/her presentation. Note: Please check and submit your presentation(s) to our officer in the registration desk at least 24 hours before scheduled presentation(s). The standard voltage in Thailand is 220V.

POSTER PRESENTATION

- The size of the poster board is 0.9 x 1.2m (high x wide)

- The poster boards are located along the Venus-Mars Foyer.

- Each presenter should be present at his/her poster(s) during the poster Viewing session to answer related questions.

- All posters should be removed on January 16, 15:30 onward.

FIELD EXCURSION

A two-day, post-conference field trip has been planned jointly with IGCP-475 (DeltaMAP) and APN MegaDelta projects: Take a long-tail boat tour to view coastal erosion in the Chao Phraya River delta, including wonderful outcrops in an open pit (20–30 m below the present sea level!) showing the whole Holocene deltaic sequence. The tour will also include a visit to an oyster pagoda temple, and a one-night stay in the old capital of Thailand, Ayutthaya. The deadline for receipt of your application for the field trip is November 1, 2003. As the number of field trip participants is limited to 40, except for participants in IGCP-475 and MegaDelta meeting, acceptance will be in the order of arrival of the completed applications. Detailed information on the field trip will be given in a Field Trip Guide will be available at the conference.

January 17, 2004 Grand Palace & Emerald Buddha Temple, Canal Tour

08.00 Depart from Miracle Hotel to visit Grand Palace. You will see the most important shrine in the Kingdom, the Temple of the Emerald Buddha (Wat Phra Kaew), with its solid green jade Buddha Image, truly complements anybody's visit to Thailand. Visit the Throne Hall, State Reception Hall, and Coronation Hall (Scenes from The King and were filmed here) Everyone is richly decorated in its own style and a fabulous array of colors. Gold can be seen everywhere. With such breathtaking & stunning architecture, plenty of film is needed for cameras! (Proper dress is essential) Proceed to visit Wat Pho.

Noon Lunch at restaurant

Pm. Canal Tour. Trip start by long tail speed boat, passes various canal and temples you will get a good feel for life on the waterway and see Thai people at work at home on the canals, Then cruise along the fascinating Chao Phraya River, you will arrive the Temple of Dawn, Built in the late 1700's. Wat Arun, the temple of Dawn is Bangkok's best known landmark. The central tower is taller than a 20 story building and shaped like an elongated Aztec pyramid. It represents Mount Meru, the center of the universe. Surrounding the tower are four lower towers, symbolizing the four oceans of the world. The four pavilions at the floor of the base steps stand for the four winds. Inside there is a fascinating collection of murals illustrating the main stages in Buddha's life his Birth, Enlightenment, First Sermon and entry into Nirvana. After the Canal Tour we will take a bus proceed to Ayutthaya located 76 km. north of Bangkok on an island surrounded by three rivers, the Lopburi, Phasak and Chao Phraya Rivers. It was the ancient capital of Thailand (1350 to 1767). Supported 33 kings, 5 dynasties.

17.00 Arrive Ayutthaya, check in at the Krung Sri River Hotel

18.00 Cruise along the river surrounded Ayutthaya island. Dinner will be served on boat. Enjoy the beautiful scenery of the temple with lighting by night. You will have a chance of participate our sacred custom "Loy Katong" This is the procession that the people will made the candle lit lantern to float along the stream. By doing this, we believed that the Goddess of water would grant happiness to lives.

January 18, 2004 Ayutthaya Tour

Morning Breakfast at hotel

08:00 **Visit Ayutthaya**, the second kingdom of Thailand which last 417 years (1305-1767), eventually falling under the Burmese invasion. During Ayutthaya period the most activities are absolute monarchy, feudal relationship, international trading affairs and also military affairs. Many ancient ruin and art work can be seen in a city.

- Visit Ayutthaya Historical Center, the best history research institute for Ayutthaya studies. Three main topics display in the center are Tread, Monarchy and Way of life of that period.
- Visit Wat Phra Si Sanphet this important and most outstanding monastery is located in Grand Palace compound like Wat Phra Siratanasatsadaram (Wat Phra Kaeo) of Bangkok. Used as a residential palace, it became a monastery in the reign of King Ramathibodi I. When King Boram Trai Lokanat commanded new living quarters built, this residential palace given to be a temple area, thus origination Wat Phra Si Sanphet. The royal chapel does not have any monks and novice inhabitants.

Noon Lunch at the riverside restaurant in Ayutthaya.

Pm. Forward to visit Wat Na Phamain. It is famous with the beautiful wood carved lintel.

Then visit Wat Chai Wattanaram, named to remind the great victory of Ayutthaya to the Angkor. The architecture in this place reflects the Khmer style.

18.00 Stay at the Krung Sri River Hotel

January 19

08:30 – 09:00 Welcome and Introduction to IGCP and ANP

09:00 – 09:30 Characteristics and Holocene evolution of Asian deltas. By: Yoshiki Saito (P253)

09:30 – 10:00 5-minute individual poster presentations (4 OHP Slides Maximum)

10:00 – 10:30 **Coffee Break**

10:30 – 12:00 5-minute individual poster presentations (4 OHP Slides Maximum)

12:00 – 14:00 **Lunch Break & Poster Viewing session**

14:00 – 14:40 5-minute individual poster presentations (4 OHP Slides Maximum)

14:40 – 16:00 **Issues of working groups discussion:**

1. Human Impacts and Consequences
2. Hydrology and Sedimentary Processes
3. Monsoons and Climate Change
4. Delta Evolution

Discussion Leaders

Robert J. Nicholls and Nguyen Hoang Tri

Zhongyuan Chen and Jim Best

Steven Goodbred and Anond Snidvongs

Colin Woodroffe and Yoshiki Saito

16:00 – 16:30 **Coffee Break**

16:30 – 17:10 10-minute presentation by the working group leaders

18:00 – 18:30 Bedding Correlation versus Facies Correlation in Deltas: Lessons for Quaternary Stratigraphy. By: Janok P. Bhattacharya M. Royhan Gani, C.D. Howell and C. Olariu (P77)

18:30 – 19:30 Beer & Poster

19:30 – 21:30 Dinner

Friday, January 20, 2004 at the Krungsri River Hotel, Ayutthaya

IGCP 475 / APN Meeting Bunga-Phakakrong

08:30 – 09:00 Role of mass movement in shelf clinoform growth: the Amazon and Ganges-Brahmaputra examples. By: Kuehl Steven (Icamg212/P)

09:00 – 09:30 Climate Change Scenario in Southeast Asia and Impacts on Runoff and Sediment Loads of Mainland Rivers. By: Anond Snidvongs (P257)

09:30 – 10:00 Poster Viewing session

10:00 – 10:30 **Coffee Break**

10:30 – 12:00 Group discussion: Regional Model Development and Collaboration

1. South Asia Athar Khan and Badrul Islam
 2. Southeast Asia Nyuyen Van Lap and Wyss Yim
 3. East Asia Z.S. Yang and Zhoungyuan Chen
 4. Oceania Joseph Lambiase and Steven Kueh
- 12:00 – 14:00 **Lunch Break & Poster Viewing session**
- 14:00 – 14:40 10-minute summary presentations by leaders
- 1440 – 15:10 Nature of heavy metals distribution in the Ganges estuary. By: V. Subramanian (Icamg210/P)
- 15:10 – 16:00 **Coffee Break**
- 16:00 – 17:30 Business Meeting and Discussion of Future Directions
- 18:00 – 22:00 Beer and Farewell Banquet at the Krungsri River Hotel

Participant's information (APN, IGCP, ICAMG)

(including: Name, Affiliation Country, e-mail address)

Ref. No.	Title	Authors name	Contact Address
Icamg 01/P H	Geoenviromental mapping, an essential need for coastal management : Case study from Qeshm Island	<u>Arash Sharifi</u> , and Haeri- Omid ardakanI, (arashygeo@yahoo.com)	Dr. Arash Sharifi Iranian National Center for oceanography, Department of Non-living Resources, Geology Division, #9 Etemadzadeh Aly., West Fatemi St., P.O. Box 14155-481 Iran.
Icamg 02/P	World data center for marine environ-mental science (WDCI-MARE);Long-term archive and data management.	<u>Wallrabe-Adams</u> , H.-J., Diepenbroek, M., Grobe, H., and Sieger, R. (hwallrabe@pangaea.de)	Dr. Hans-Joachim Wallrabe Adam University of Bremen/ Marum WDC-MARE/PANGAEA Network Klagenfurter strae, D-28359 Bremen, Germany.
Icamg 03/P	Cenozoic diatom zonal assemblages in the Kuril Basin sediments (Okhotsk sea)	<u>Ira B. Tsoy</u> , (tsoy@poi.dvo.ru)	Dr. Tsoy I.B. II'chev Pacific oceanological Institute, Russian Academy of Sciences, Vladivostok 690041 Russia.
Icamg 04/P	Structurall style of the Chumphon basin and its relationship to the Khlong Marui fault, Gulf of Thailand.	<u>Anongpron Intawong</u> , Chris Elders and Gary Nichols. (intawong@gl.rhul.ac.uk)	<u>Ms. Anongpron, Intawong</u> , SE Asia Research Group, Department of Geology Royal Holloway, University of London, Egham, Surrey TW20 OEX, UK.
Icamg 05/P	Seismic stratigraphy of the Kuri basin northern slope, Okhotsk sea and its geological apphication.	<u>Karp, B.ya</u> , Karnaukh, V.N., and Baranov, B.V. (bkarp@mail.primorye.ru)	Dr. Karp, B.ya II'Chev Pacific Oceanological Institute, Russian Academy of Sciences, Vladivastok 690041, Russian.
Icamg 06/P	Grain size distribution models for beach and coastal aeolian dune sands, India	Barendra Purkait (baren_purkait@yahoo.co.in)	Dr.Barendra, Purkait Map and Publication Division, Op:WSA, Eastern region, 5 th floor Geological Survey of India Block-DK-6, Sector-II, Salt Lake, Kolkata-700091, India.
Icamg 07/P	Magmatism as the indieater of geodynamic conditions on an example of the Okhotsk segment of a transit zone ocan-continent.	Konovalov, Yu.I. (yukonov@poi.dvo.ru)	Dr.Konovalov, Yu.I. Pacific oceanological Institute, Far Eastern Branch, Russian Academy of Science 43 Baltiyskaya st., Vladivostok 690041 Russian.
Icamg	New evidence on availability	Elchin N. Khalilov,	Prof. Dr. Elchin N. Khalilov,

08/P	of seismic focal benioff zone in cancasus-caspian segment of Alps-Himalaya seismic belt.	(tetis_lab@yahoo.com)	Scientific-research institute on prediction and study of earthquakes. Narimanov str, 51/53, A2 10006, Baku City, Azerbaijan Republic.
Icamg 09/P	About possible Influence of super-long gravitational waves on cyclic recurrence of geodynamic processes.	Elchin N. khalilov, (tetis_lab@yahoo.com)	Prof. Dr. Elchin N. Khalilov, Scientific-research institute on prediction and study of earthquakes. Narimanov str, 51/53, A2 10006, Baku City, Azerbaijan Republic.
Icamg 010/P	Shifting submarine canyon with the development of foreland basin in SW Taiwan: controls of foreland sedimentation and longitudinal sediment transport.	Ho-shing, Yu (yuhs@ntu.edu.tw)	Prof. Dr. Ho-shing, Yu, Institute of Oceanography, National Taiwan univeristy, Taiwan.
Icamg 11/P H	Geological hazard potentials in Sunda Strait Region based on the marine geological and geophysical data.	Yudhicara (araciduy@hotmail.com)	Dr. Yudhicara Marine Geological Institute Jl. Dr. Junjunan No. 236 Bandung 40174 Indonesia.
Icamg 12/P	Sedimentation rate and sources of mud deposit in the central area of the South Yellow sea.	Jeung-Su youn, Seung-cheul Lee and Jang-Yong Aha (jsyoun@cheju.cheju.ac.kr)	Dr. Jeung-Su Youn Department of Oceanography College of Ocean Sciences, Cheju National University, Jyu-do 690-756, Korea.
Icamg 13/PO	Recent foraminifera from the shorelines of Gulf of Aden and Arabian sea, Republic of Yemen.	<u>Al-Awah, M.A.H.</u> , AL-SUBARRY, A.A., and AL-OWSABY, M.A (maawah@hotmail.com)	Dr. Mohamed A.H.AL-Aawah Department of Earth and Environmental sciences, Faculty of Science, Sana'a University, P.O.Box 13300 Sana'a, Republic of Yemen.
Icamg 14/P	Facies and zonation patterns of Al-Khowkhan modern coral reef. Yemen Red Sea coast.	<u>Al-Awah, M.A.H.</u> (maawah@hotmail.com)	Dr. Mohamed A.H.AL-Aawah Department of Earth and Environmental sciences, Faculty of Science, Sana'a University, P.O.Box 13300 Sana'a, Republic of Yemen.
Icamg 15/P MD	High-precision organic reef sequence stratigraphy of the Beikang basin and Miocene palaeoceanographical evolutions in the South China Sea.	Hong Xu, Yong-Chao LU, Lin Wu, He-qing Sun, Gui-jing Yan and Guo-Wei Chen (hongxue@qingdao.cngb.com)	Dr. Xu Hong Qingdao Institute of Marine Geology, Ministry of Land and Resources, Qingdao 266071, China.
Icamg 16/P G	Gas hydrate: deep sea coring-drilling technology of pressuring and temperaturing. preservation with ODP-DSDP'S difference.	Hong Xu, Jianliany YE, Lufun Xu, Yong Wei, Zhuo Zhang, xione Jun, Jinglong Hu, Guijing Yan, Yougao Luo and Heping Sun. (hongxue@qingdao.cngb.com)	Dr. XU Hong Qingdao Institute of Marine Geology Ministry of Land and Resources, Qingdao 266071, China.
Icamg 17/AP N D	Coastal erosion and sedimentation in Vietnam.	Tran Duc Thanh, Pham Huy Tien, Bui Hong Long, and Nguyen Van Cu (tdthanh@hio.ac.vn)	Dr. Tran Duc Thanh Haiphong Institute of oceanology 246 Danang Street, Haiphong city, Vietnam.
Icamg	Regulation of nutrients in a	Balachandran, K.K.,	Dr. Joseph S. Paimpillil

18/P H	coastal sea: Natural and anthropogenic processes.	Joseph, T., and <u>Paimpillil. Joseph sebastian.</u> (paimjose@hotmail.com)	Envirosolutions, 37/1387, Elemkulam Road, Cochin 17, India.
Icamg 19/P H	Impacts of subterraneous nutrients injections on coastal productivity upsetting.	Balachandran, K.K., Joseph, T., Nair Maheswari, and <u>Paimpillil. Joseph S.</u> (paimjose@hotmail.com)	Dr. Joseph S. Paimpillil Envirosolutions, 37/1387, Elemkulam Road, Cochin 17, India.
Icamg 20/P	Volcanism features of the sea of Okhotsk	<u>Emelyanova Tatzana Andreevna</u> and V.T.S' Edin (emelyanova@poi.dvo.ru)	Dr. T.A. Emelyanova Pacific Oceanological Institute, Far Eastern Branch Russian Academy of Sciences, Vladivostok, Russia.
Icamg 21/P Shelt	Heavy metals concentration in Gorgan Bay sediments, Southeast Caspian Sea.	<u>H.A.K. Lahijani</u> , O. Haeri and A. Sharifi. (omidhaeri@yahoo.com)	Dr. Omid-Heeri-Ardakani Iranian National Center for Oceanography 9, Etamadzaden st., Fatemi AV., Tehran, Iran.
Icamg 22/P Pal	South China Sea surface water evolution over the last 12 Ma: A South-north comparison from ODP sites 1143 and 146.	<u>Li Baohua</u> , Wang Jiliang, Huang Baoqi, LI Qianyu, JIAN Zhimin, ZHAO Quanhong, SU Xin, and WANG pinxian. (bhli@public1.ptt.js.cn)	Dr. Baohua Li Department of Micropaleontology, Nanjing Institute of Geology and Paleontology, Academia Sinica, Nanjing 210008, P.R. China.
Icamg 23/P M	Quaternary Echo facies Characteristics And Distribution on the Makran Margin.	<u>Tabrez Ali R.</u> , Stow Dorrik A., and INAM Asif (ali_tabrez786@hotmail.com)	Dr. Ali R. Tabrez National Institute of Oceanography st.47, Block-1, clifton, Karachi, Pakistan.
Icamg 24/Key HM	The Marine Record of Continental Erosion and Cenozoic Climate change in the Asian Marginal Seas.	Clift Peter, Zhang xifan, Hodges Kip V., and Khan Ali Athar. (pclift@whoi.edu)	Dr Peter Clift Department of Geology and Geophysics MS#22, Woods Hole Oceanographic Institution woods Hole, MA 02543, USA.
Icamg 25/IG CP D	Georgian Black Sea Coast : Problems of Interaction of Human Factor and Coastal Environment	Archil Kiknadze and George <u>Lominadze.</u> (g_lomin@hotmail.com)	Dr. George Lominadze Georgian Academy of Science, Vakhushti Bagration Institute of Geography, Tbilisi, Georgia 380079, Turkey
Icamg 26/P Pal	Seasonal and interannual variability of the settling fluxes in the Pacific Ocean: Role of Sediment dynamics and biological pumping.	<u>Mia Mohammad Mohiuddin</u> , Akira Nishimura, Yuichiro Tanaka, and Akifumi Shimamoto (mohiuddin@geologist.com)	Dr. Mia Mohammad Mohindin Department of Geology and Mining, University of Rajshahi 6205, Bangladesh
Icamg 27/P Pal	Seasonal changes in carbon isotopic composition of n-alkanes in the marine aerosols from the western North Pacific: implications for the source and atmospheric transport.	Bendle, J.A., AND Kawamura, K. (james_bendle@yahoo.com) (bendle@lowtem.hokudai.ac.jp)	Dr. James Bendle 11 Saunders copse, Mayford working Surrey GU22 ONS, UK.

Icamg 28/P Shelt	Style of volcanism and sedimentation at southwestern margin of Sundaland, example from early Neogene volcanogenic Jampang Formation.	<u>Billy G. Adhiperdana</u> , Edy Sunardi, and J. Hutabarat. (bill@mail.unpad.ac.id)	Dr. Bill G. Adhiperdana Department of Geology, Padjadjaran University Jl. Raya Bandung-Sumedang KM. 21, Jatinangor 45363, Bandung West Java, Indonesia.
Icamg 29/P H	Human impacts and threats to sustainable coastal zone management in Bangladesh	Shafe Noor Islam (shafio@hotmail.com)	Shafi Noor Islam Environmental and Resource Management Department, Brandenburg Technical University Cottbus University platz 3-4. Faculty-4. DO3044 Cottbus, Germany.
Icamg 30/P Pal	Micromolluscan response to climatic variability of shorter timescales during late Holocene in South China Sea.	Feng Weimin, Lan Xin, Pan Huazhang, Cai Hua Wei, Chen Muhong and Jonathan A. TODD (fwm@jlonline.com)	Dr. Feng Weimin Nanjing Institute of Geology and Palaeontology, Academia Sinica 39 East Beijing Road 210008 Nanjing, P.R. China.
Icamg 31/P G	The gas hydrate resources in the South China Sea.	Bochu Yao (bcyao@163.net)	Prof. Bochu Yao Guangzhou Marine Geological Survey, Ministry of Land and Resources, Guangzhou 510075 P.R. China.
Icamg 32/P HM	Seasonal sea surface temperature contrast between the Holocene and last Glacial Maximum in the Arabian Sea; Modulated by monsoon upwelling.	<u>Pothuri Divakar Naidu</u> and Bjorn A. Malmgren (divakar@darya.nio.org)	Dr. P. Divakar Naidu National Institute of oceanography, Dona Paula 403004, Goa, India.
Icamg 33/P Pal	On the Indonesian through flow in the OCCAM Modal	U. Humphries, D.J. Webb, B.A. de Cuevas and A.C. Coward (iusangha@kmutt.ac.th)	Dr. Usa Humphries Department of Mathematics Faculty of Science, King Mongkut's University of Technology Thonburi 91 Pracha Uthit Rd. Tungkrui, Bangkok 10140 Thailand
Icamg 34/P H	Geochemical evaluation of heavy metal contamination in upper river estuary and its impact on marine environment near Cuddalore, Southeast Coast of India.	<u>S. Srinivasalu, T. Ayyamperumal, J. Sivaramakrishnan, M.P. Jonathan and V. Ram Mohan</u> (ponmozhisrini2001@yahoo.com)	Dr. S. Srinivasalu Department of Geology, University of Madras Guindy campus, Chennai -600025, India.
Icamg 35/AP N D	Studies on the Holocene evolution of the East coast deltas of India : present status and future prospects	<u>K. Nageswara Rao, N. Sadakata, K. Takayasu. And B. Hema Malina.</u> (nrkakani@yahoo.com)	Prof. K. Nageswara Rao Department of Geo-engineering, Andhra University, Visakhapatnam 530003, India.
Icamg 36/AP N D	Fate of tidal wetlands at the Changjiang (Yangtze) river delta forward in response to dam constructions in the basin.	<u>Shilun Yang, Wenxian Zhang and Shibao Dai</u> (slyang@sklec.ecnu.edu.cn)	Dr. Shilun Yang State Key Lab of Estuarine and coastal research, East China Normal University, Shanghai 200062, China.
Icamg 37/IG CP	High-resolution paleoclimate variability documented in upper Holocene varved Sediments off Pakistan.	<u>Athar Ali Khan, Ulrich Von Rad and Andreas Luckge</u> (anilm@datainfosys.net) (geoathar@yahoo.com)	Prof. Dr. Athar Ali Khan Department of Geology, University of Karachi, Karachi-75270, Pakistan.

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Icamg 38/AP N D	Measuring velocity and sediment transport on deltas with an acoustic Doppler profiler	Ray Kostaschuk, Jim Best, Jeff Peakall, Mark Franklin and Paul Villard (rkostasc@uoguelph.ca)	Dr. Ray Kostaschuk Department of Geography University of Guelph, Guelph, ONNIG2W1, Canada.
Icamg 39/AP N D	Holocene stratigraphy of the lower Ganges-Brahmaputra river delta in Bangladesh	Sirajur Rahman Khan (romu@bdonline.com)	Dr. Sirajur Rahman Khan Geological Survey of Bangladesh, 153 Pioneer Road, Segunbagicha Dhaka-1000, Bangladesh.
Icamg 40/P Shelt	A study on the changes of the tidal sand ridges	Huang Haijun and Ma Lijie (hjhuang@ms.qdio.ac.cn)	Dr. Huang Haijun Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China.
Icamg 41/P Shelt	A study on suspended sediments near the Subei tidal sand ridges area.	Huang Haijun and Tang Junwu (hjhuang@ms.qdio.ac.cn)	Dr. Huang Haijun Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China.
Icamg 42/IG CP MP	Iron sulfide minerals in sediments of East China Sea continental shelf: Possible formation	Zhanghuan Wang, Zhongyuan Chen and Weixian Li (zhwang@geo.ecnu.edu.cn)	Dr. Zhanghuan Wang Department of Geography. East China normal University, Shanghai 200062, China.
Icamg 43/P S2S or D	Estimating sediment flux from river basin to sea: a case study of big 1998 flood in the Yangtze (Changjiang) catchment, China.	Zhongyuan Chen and Kaiqin xu (zychen@geo.ecnu.edu.cn)	Prof. Dr. Zhongyuan Chen Department of Geography, East China normal University, Shanghai 200062, China.
Icamg 44/P S2S	Evidences of Quaternary sea level changes on seismic profiles offshore Chantaburi, Eastern Thailand.	Pramual Jenkunawat and Yoshiki Saito (jenkunawat@hotmail.com)	Mr. Pramual Jenkunawat Bureau of Mines and concessions, Department of primary Industries and Mines, Rama IV Road, Bangkok 10400, Thailand.
Icamg 45/IG CP D	Land and sea Interaction in the marginal sea of the Eastern Yangtze coast, China : Quaternary stratigraphy, Palynology, and Transgression	Taoyuan Wei and Zhonyuan Chen (weit235@yahoo.com.cn)	Mr. Tao Yuan Wei Department of Geography, East China Normal University, Shanghai 200062, China.
Icamg 46/AP N D	Holocene coastal plains of Bangladesh and assessment of neotectonic activities in the Bengal delta	Md. Badrul Islam and Sirajur Rahman Khan (badru@mail.libabd.net)	Prof.Dr.Md. Badrul Islam Department of Geology and Mining, University of Rajshahi, Rajshahi 6205, Bangladesh
Icamg 47/P MP	Paleoecology of foraminifers as indicator for the paleoceanography of the Northern Japan and Okhotsk Seas	Pletnev S.P. (pletnevs@yandex.ru)	Dr. Pletnev S.P. V.I. Ilchev Pacific oceanological Institute, Russian Academy of Science, Baltiyskaya st. 43, 690041 Vladivostok, Russia.
Icamg 48/PO	Distribution of the foraminifera in sea of Okhotsk	Pletnev S.P. and Annin, V.K. (pletnevs@yandex.ru)	Dr. Pletnev S.P. V.I. Ilchev Pacific oceanological Institute, Russian Academy of Science, Baltiyskaya st. 43, 690041 Vladivostok,

MP			Russia.
Icamg 49/AP N D	A long-term hybrid morphological modeling study on the Holocene evolution of the Pearl River delta, network system and estuarine bays	C.Y. Wu, Y. Bao, J. Ren, H.Y. Shi and Y.P. Lei. (eeswcy@zsu.edu.cn)	Prof. Dr. Chaoyu Wu Center for Coastal Ocean Research, Zhongshan University, Xiaogangxi Road 135 Guangzhou 510275, China
Icamg 50/P S2S	The Sunda Shelf – linkages of coastal-shelf-continental slope deposition under the control of Late Pleistocene sea-level fluctuations	Till J.J. Hanebuth, Karl Statterger and Yoshiki Saito (thanebuth@uni-bremen.de)	Dr. Till Hanebuth Faculty of Geosciences, University of Bremen, Klagenfurter Strasse, Bremen 28359, Germany
Icamg 51/P	Late Pliocene-Pleistocene evolution of the East Asian monsoon recorded from the northern South China Sea	Huang Baoqi, Jian Zhimin and Wang Pinxian (baoqi-huang@263.net)	Dr. Baoqi Huang College of Environmental Sciences, Peking University Beijing 100871, China
Icamg 52/PO	Neogene's deposits in the Caspian Sea	Iraj Maghfouri Mogaddam (iraimmms@yahoo.co.uk)	Dr. Iraj Maghfouri Mogaddam College of Science, Lorestan University, Khorrambad, Iran.
Icamg 53/P	Erosional history of the eastern Tibetan Plateau and East Asian monsoon evolution over the last climatic cycle: sedimentological and geochemical investigations from southwestern South China Sea.	Zhifei Liu, Christophe Colin, Alain Trentesaux, Dominique Blamart and Franck Bassinot (lzhifei@online.sh.cn)	Dr. Zhifei Liu Laboratory of Marine eology, Tongji University, 1239 Siping Road, Shanghai 200092. P.R. China
Icamg 54/P	Deep-sea pollen from the South China Sea: Pleistocene indicators of the East Asian monsoon	Xiangjun Sun, Yunli Luo, Fei Huang, Jun Tian and Pinxian Wang (ian.tianjun@263.net) (sunxj@mail.tongji.edu.cn)	Dr. Xiangjun Sun School of Ocean and Earth Sciences, Tongji University, Siping Road, Shanghai 200092, P.R. China
Icamg 55/P	Environmental change during the penultimate glacial cycle: A high-resolution pollen record from ODP site 1144, South China Sea.	Yunli Luo, Xiangun Sun, Zhimin Jian and Pinxian Wang. (lyl@ns.ibcas.ac.cn)	Dr. Yunli Luo Institute of Botany, Chinese Academy of Sciences, Beijing 100093 P.R. China
Icamg 56/P	Intensification of East Asian monsoon and onset of Northern Hemisphere glaciation: Oxygen isotope records from the South China Sea	Jun Tian, Pinxian Wang and Xinrong Cheng (ian.tianjun@263.net)	Dr. Jun Tian Laboratory of Marine Geology, Tongji University, Siping Road, #1239 Shanghai P.R. China
Icamg 57/PO	Tectonic subsidence and thermal history of Beikang basin, South China Sea	Liu Zhenhu (zhenhuliu@163.com)	Dr. Zhenhu Liu Guangzhou Marine Geological Survey, Ministry of Lands and Resources, P.O. Box 1180 Guangzhou 510760 P.R. China
Icamg 58/PO	Nutrient cycling in coastal area near the Mekong river estuary from glacial to interglacial times: Evidence from nitrogen isotopes	Guodong Jia and Ping'an Peng (jiagd@gig.ac.cn)	Dr. Guodong Jia State Key Laboratory of Organic Geochemistry, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou 510640

			P.R. China
Icamg 59/Key	Asian Marine Geology: Retrospect and prospect	Wang Pinxian (pxwang@online.sh.cn)	Prof. Dr. Wang Pinxian School of Ocean and Earth Sciences, Tongji University, Siping Road, Shanghai 200092, P.R. China
Icamg 60/P	Clay mineral assemblages on the southern continental margin of the South China Sea: Evidence for variations in source and pathways during the last deglaciation	Stephan Steinke, Christoph Vogt and Karl Stattegger (ssteinke@uni-bremen.de)	Dr. Stephan Steinke Research Center Ocean Margins, Faculty of Geosciences, University of Bremen, POB 330440, Bremen 28334, Germany
Icamg 61/P	Opal-A/Opal-CT phase boundary inferred from bottom-simulating reflectors in the southern South Korea Plateau, East Sea (Sea of Japan)	Gwang Hoon Lee, Han-Joon Kim, Hyeong-Tae Jou and Hyu-Moo Cho (hanjkim@kordi.re.kr)	Dr. Han-Joon Kim Marine GeoEnvironment, Korea Ocean R&D Institute, Ansan P.O. Box 29, 425-600 South Korea
Icamg 62/PO	Reconnaissance Geology and Structural Styles at Teniya Beach, Okinawa, Japan	White, D.L. (elblanco63@hotmail.com)	Prof. White, D.L. University of Maryland University College, Asia, PSC 80, Box 17713, APO AP 96367, USA.
Icamg 63/P	The influence of seawater intrusion on the hydrochemistry of coastal aquifers: Bandar-e-Gaz, Northeast Iran	Majid Shahpasandzadeh. (shahpasand_z@yahoo.com)	Dr. Majid Shahpasandzadeh Department of Geology, College of Sciences, University of Agricultural and Natural Resources of Gorgan, Shadid Beheshti street, P.O. Box 49165-386, Gorgan, Iran
Icamg 64/P	Closure of the Indonesian Seaway and Its relationship to the formation and evolution of the Western Pacific Warm Pool	Zhou Zuyi, Yu Yongqiang, Wang Liaoliang, Jin Xinchun, Jian Zhimin and Wu Nengyou (zhouzy@mail.tongji.edu.cn)	Prof. Zuyi Zhou School of Ocean and Earth Science, Tongji University, 1239 Siping Road, Shanghai 200092, P.R. China
Icamg 65/P	Cenozoic tectonic evolution of Xihu depressions, East China Sea	He Jiangqi, Yang Fengli, Xu Xuhui and Zhou Zuyi (zhouzy@mail.tongji.edu.cn)	Prof. Zuyi Zhou School of Ocean and Earth Science, Tongji University, 1239 Siping Road, Shanghai 200092, P.R. China
Icamg 66/PO	Homological lines of destructive structures of East Asia	Gavrilov A.A. (gavrilov@poi.dvo.ru)	Dr. Gavrilov A.A. V.I.ichev Pacific Oceanological Institute, FEB, Russian Academy of Sciences, Baltiyskaya str., 43, Vladivostok 690041, Russia
Icamg 67/PO	Korean-Chinese Arch and the origin of Yellow and East-China Seas	Gavrilov A.A. (gavrilov@poi.dvo.ru)	Dr. Gavrilov A.A. V.I.ichev Pacific Oceanological Institute, FEB, Russian Academy of Sciences, Baltiyskaya str., 43, Vladivostok 690041, Russia
Icamg 68/P MP	When modern oceanographic conditions of the western subarctic Pacific and marginal seas were formed?	Ken Ikehara, Takuya Itaki and Chieko Shimada (k-ikehara@aist.go.jp)	Dr. Ken Ikehara Institute for Marine Resources and Environment, Geological Survey of Japan, AIST, Tsukuba Central 7, Higashi 1-1-1, Tsukuba, Ibaraki 305-8567, Japan

Icamg 69/P S2S	Deep-sea turbidite evidence on recurrence of large earthquakes along the Okushiri Ridge, Northeastern Japan Sea	Ken Ikehara and Takuya Itaki (k-ikehara@aist.go.jp)	Dr. Ken Ikehara Institute for Marine Resources and Environment, Geological Survey of Japan, AIST, Tsukuba Central 7, Higashi 1-1-1, Tsukuba, Ibaraki 305-8567, Japan
Icamg 70/P	The Okhotsk sea's sedimentary cover formation	Khanchuk Alexander I (director@fegi.ru)	Prof. Khanchuk Alexander I. Far East Geological Institute, Far Eastern Branch, Russian Academy of Sciences, 159, prospect 100-letiya, Vladivostok 690022, Russia
Icamg 71/P	A review of the reservoir rocks of Middle Cretaceous Age in the Persian Gulf oil fields	Elham Hajikazemi, M.R. Yousef Poor and A. Arami (ehkazemi@yahoo.ca)	Mr. Elham Hajikazemi Iranian offshore oil company, Tehran, Iran
Icamg 72/P G	Oil and Gas wells in the Mediterranean Sea, offshore Israel	Avraham Honigstein and Yehezkeel Druckman (ahonigstein@mail.gov.il)	Dr. Avraham Honigstein Ministry of National Infrastructures, Oil and Gas section, Yafa st. 234, POB 36148, Jerusalem 91360, ISRAEL
Icamg 73/P D	Subaqueous Sedimentation in and around the Ca Mau Mangrove Habitats in Ca Mau Province, Vietnam	Shinji Tsukawaki, Izumi Asano and Do Xuan Phuong (tukawaki@t.kanazawa-u.ac.jp)	Dr. Shinji Tsukawaki Division of Eco-Technology, Institute of Nature and Environmental Technology, Kanazawa University, Kanazawa, Japan
Icamg 74/AP N D	Environmental Changes of Lake Tonle Sap and the Lower Course of the Mekong River System in Cambodia during the Last 10,000 Years	Bunnarin Ben, Shinji Tsukawaki, Fumio Akiba, , Shuichi Endoh, Yoshihiko Hirabuki, Sim Im, Takahiro Kamiya, Haruo Katakura, Michio Kato, Midori Kato, Kohta Kurokawa, Dallas C. Mildenhall, Kanichi Mita, Hiroyuki Motomura, Motoyoshi Oda, Akifumi Ohtaka, Masafumi Okawara, Yasuaki Okumura, Hirokazu Ozawa, Sotham Sieng and Sambath Touch (kongmeng2001@hotmail.com)	Mr. Ben Bunnarin 45 Preah Norodsm Blvd., Phnom Penh, Cambodia
Icamg 75/P Pal	Phased evolution of the western Pacific warm pool since the middle Miocene: Paleocceanographic records and numerical simulations	Zhimin Jian, Yongqiang Yu, Xuehong Zhang, Baohua Li, Jiliang Wang and Zuyi Zhou (jian@mail.tongji.edu.cn)	Prof. Zhimin Jian Laboratory of marine Geology, Tongji University, Shanghai 200092, P.R. China
Icamg 76/Key D	What's New in Deltas??"	Janok P. Bhattacharya (janokb@utdallas.edu)	Prof. Janok P. Bhattacharya University of Texas Dallas, PO Box 830688, Richardson, TX 75083, USA
Icamg 77/AP	Bedding Correlation Versus Facies Correlation in Deltas: Lessons for Quaternary	Janok P. Bhattacharya M. Royhan Gani, C.D. Howell and C. Olariu.	Prof. Janok P. Bhattacharya University of Texas Dallas, PO Box 830688, Richardson, TX 75083,

N D	Stratigraphy	(janokb@utdallas.edu)	USA
Icamg 78/P Shelt	The comparison of grain-size of suspended sediments from Changjiang and Huanghe in winter and summer	Pan Yanjun, Yang Zuosheng and Guo Zhigang. (vaccumn@lib.ouc.edu.cn)	Mr. Pan Yanjun College of Marine Geosciences, Ocean University of China, Qingdao 266003, China
Icamg 79/P MP	Late Quaternary paleoceanographic changes in the northern South China Sea (ODP Site 1146): radiolaria evidence	Rujian Wang, Steven Clemens, Baoqi Huang and Muhong Chen (rjwangk@online.sh.cn)	Dr. Wang Rujian School of Ocean and Earth Science, Tongji University, Shanghai 200092, P.R. China
Icamg 80/P Shelt	Ground-truthing of high resolution boomer seismic profiles in Tai O Bay, Hong Kong SAR, China	W.W.S. Yim, H.K. Wong, A. Bahr, L.S. Chan, G. Huang, T. Ludmann and W.N. Ridley Thomas (wwsyim@hkucc.hku.hk)	Dr. W.W.S. Yim Department of Earth Sciences The University of Hong Kong Pokfulam Road, Hong Kong SAR, China
Icamg 81/PO	Potential of surveying work of submarine pipelines and cables for studying the Late Quaternary evolution of continental shelves: example of the northern South China Sea	W.W.-S. Yim, R. Hale, W.N. Ridley Thomas, G. Huang, M.R. Fontugne, M. Paterne and P.A. Pirazzoli. (wwsyim@hkucc.hku.hk)	Dr. W.W.S. Yim Department of Earth Sciences The University of Hong Kong Pokfulam Road, Hong Kong SAR, China
Icamg 82/P MP	Planktic foraminiferal assemblages in surface sediments from the Japan Sea	Hanako Domitsu and Motoyoshi Oda. (hana@ge.kanazawa-u.ac.jp)	Dr. Hanako Domitsu C/o General Education Hall, Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa 920-1192, Japan
Icamg 83/P MP	The paleoecological environmental events revealed by radiolarian fauna over the last Ma in the Southern South China Sea	Chen Muhong, Yang Lihong, Lu Jun, Wang Rujian and Zhen Fan (mhchen@scsio.ac.cn)	Prof. Chen Muhong The South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou 510301, China.
Icamg 84/P MP	Seasonal variations of the planktonic foraminiferal flux in the central South China Sea and its monsoon climatic impact	Ronghua Chen, Zheng Yulong, Jianfang Chen, Martin G. Wiesner, Xinrong Cheng, and H. Erlenkeuser. (chenrh1956@163.com)	Prof. Chen Ronghua Key Laboratory of Submarine Geoscience, The second institute of Oceanography, SOA Hangzhou 310012, China.
Icamg 85/PO	A study to find the best rock material for the construction of coast protection structures	U. de S. Jayawardena (udsj@pdn.ac.lk)	Dr. U de S. Jayawardena, Department of Civil Engineering, Faculty of Engineering, University of Peradeniya, Peradeniya, Sri Lanka
Icamg 86/P D	Effect of sea-level rise and responsible coastal zone management for the low-lying area of Bangkok metropolis	Thanawat Jarupongsakul (thanawat@sc.chula.ac.th)	Dr. Thanawat Jarupongsakul Department of Geology Faculty of Sciences Chulalongkorn University, bangkok 10330 Thailand.
Icamg 87/PO D	New estimates of coastal population and Hazard exposure	Robert J. Nicholls and Christopher Small (r.nicholls@mdx.ac.uk)	Prof. Robert J. Nicholls, Flood Hazard Research Center, Middlesex University, Enfield, London EN3 4SF, United Kingdom
Icamg 88/PO	Gashydat: a database on Gas Hydrates accessible on the WEB (www.GASHYDAT.ORG)	Jean Klerkx, Marc De Batist (jklrkx@ibes.be) and the GASHYDAT	Renard Centre of Marine Geology, Department of Geology and Soil Science, Ghent University, Krijgslaan 281 S.8, B-9000 Gent, Belgium

G		team (marc.debatist@ugent.be)	
Icamg 89/P MP	Late Quaternary sedimentary processes and variations in bottom-current activity in the Ulleung Interplain Gap, East Sea (Korea)	J.J. Bahk, S.H. Lee, H.S. Yoo, G.G. Back and S.K. Chough (jjbahk@kordi.re.kr)	Dr. Bahk Jang Jun Korean Ocean Research and Development Institute, Marine Geoenvironment and Resources Research Division, Ansan P.O. Box 29, Seoul 425-600, Korea.
Icamg 90/PO	The Use of foraminiferal stable isotopes as monsoon indicators in the South China Sea	Cheng Xinrong, Wang Pinxian, Huang Baoqi, and Jian Zhimin (xrchengk@online.sh.cn)	Dr. Cheng Xinrong, Laboratory of Marine Geology, Tongji University, 1239 Siping Road, Shanghai 200092, P.R. China
Icamg 91/PO D	The Zoning of the Mekong Delta based on the natural conditions	Yamashita Akira (songcuulong@hotmail.com) and Nguyen Huu Chiem (nhchiem@ctu.edu.vn)	Mr. Akira Yamashita, Environmental and Natural Resources Management, College of Agriculture, Cantho University, Cantho, Vietnam
Icamg 92/P Pal MP	Variations in the Quaternary upper ocean structure in the Southern South China Sea: Evidence from coccolithus and their carbon isotopic records	Chuanlian Liu, Jun Tian, Xinrong Cheng and Jian Xu (clliu@online.sh.cn)	Dr. Chuanlian Liu, School of Ocean and Earth Science, Tongji University, 1239 Siping Road, Shanghai 200092, P.R. China
Icamg 93/P D	Growth Pattern of Beach and Dune Ridges in the Lower Mekong River Delta	Tateishi Masaaki, Harai Yukihiko, Nguyen Van Lap, Umitsu Masatomo and Ta Thi Kim Oanh. (sedta9-4@geo.sc.niigata-u.ac.jp)	Dr. Tateishi Masaaki, Department of Geology, Niigata University 8050, Ikarashi-2, Niigata 950-2181, Japan.
Icamg 94/IG CP D	Application of seismic surveys to study Pliocene-Quaternary sediments in the Southeastern offshore Vietnam	Mai Thanh Tan (mttan@netnam.vn)	Dr. Mai Thanh Tan, Faculty of Oil and Gas, Hanoi University of Mining and Geology, Dongngac, Tuliem, Hanoi, Vietnam.
Icamg 95/P G	Initial biomarkers study on some recent sediments collected from eastern Java Sea, offshore Indonesia	Eddy A. Subroto (subroto@gc.itb.ac.id)	Dr. Eddy A. Subroto, Department of Geology, Institute Teknologi Bandung (ITB), Jalan Ganesa 10, Bandung 40132, Indonesia
Icamg 96/P Pal	The Okhotsk, Bering seas and the Far N-W Pacific Late Quaternary paleoceanography; Geochemical, lithological and paleontological evidences of the Dansgaard-Oeschger Stadials	S.A. Gorbarenko, E.L. Goldberg A.V., Southon J.R., Artemova A.V., Shaporenko A.D., Leskov V. Yu. And Gvozdeva I.G. (gorbarenko@poi.dvo.ru)	Dr. Gorbarenko Sergey V.I. Il'ichev Pacific Oceanological Institute, Baltiyskaja str.43, Vladivostok, 690041, Russia
Icamg 97/PO	Budget and origin of recent mud on the continental shelf of Korean Seas	Soo-Chul Park, Hyuk-Soo Han and Cho-Ki Jung (scpark@cnu.ac.kr)	Dr. Soo Chul Park Department of Oceanography, Chungnam National University, Taejon 305-764, Korea
Icamg 98/PO	Changes of sedimentary environments in the Kanghwa tidal flat on the west coast of Korea	Han Jun Woo, Jong Geel Je, Yeon Gyu Lee, Seong Ryul Kim, Jae Ung Choi, Baek Hun Jung and Chan	Dr. Han Jun Woo Marine Geoenvironment and Resources Research Division, Korea Ocean Research and Development

		Hong Park (hjwoo@kordi.re.kr)	Institute, Seoul 425-600, Korea
Icamg 99/P S2S	Western Pacific Post-glacial rapid and stepwise sea-level rise	J. Paul Liu and John D. Milliman (jpliu@ncsu.edu)	Dr. Liu Jingpu (Paul) Department of Marine Earth and Atmospheric Sciences, North Carolina State University Raleigh, Campus Box 8208 NC 27695, USA.
Icamg 100/P D	Development of the Yellow river's subaqueous delta in the North Yellow Sea	J. Paul Liu, John D. Milliman and Shu Gao (jpliu@ncsu.edu)	Dr. Liu Jingpu (Paul) Department of Marine Earth and Atmospheric Sciences, North Carolina State University Raleigh, Campus Box 8208 NC 27695, USA.
Icamg 101/P	Major Elemental Compositions and paleoenvironmental changes of the cores sediment in the southern Yellow Sea	Wang Zhongbo, Yang Shouye and Li Congxian (syyang@hkucc.hku.hk)	Dr. Shouye Yang Department of Marine Geology, Tongji University, 1239 Siping Road, Shanghai 200092, China.
Icamg 102/P	REE geochemistry of suspended sediments from the rivers around the Yellow Sea and provenance indicators	Yang Shouye, Li Congxian, Lee Chang-Bok and Na Tae-Yong (syyang@hkucc.hku.hk)	Dr. Shouye Yang Department of Marine Geology, Tongji University, 1239 Siping Road, Shanghai 200092, China
Icamg 103/P O D	Natural and man made stresses on the stability of Indus deltaic eco region	A. Inam, T.M. Ali Khan, S. Amjad, M. Danish and A.R. Tabrez. (asifnio@super.net.pk)	Dr. Asif Inam National Institute of Oceanography, ST.47 Clifton Block 1, Karachi, Parkistan
Icamg 104/A NP	Channel-levee system-the major controlling mechanism for the sediment deposition on the Indus Fan	A. Inam and M. Tahir (asifnio@super.net.pk)	Dr. Asif Inam National Institute of Oceanography, ST.47 Clifton Block 1, Karachi, Parkistan
Icamg 105/P	Late Quaternary chronology of long piston-core sediments from the Korea Olateau in the East Sea (sea of Japan	Boo-Keun Khim, Sangmin Hyun and Jang-Jun Bahk. (bkkhim@pusan.ac.kr)	Prof. Boo-Keun Khim Department of Marine Science, Pusan National University, Jangeon-dong, Geumjeong-gu, Pusan 609-735, Korea.
Icamg 106/P	Comparison of <i>In situ</i> and laboratory compressional wave velocities of shelf sediments in the South Sea, Korea	Ja Hun Jung, Dae Choul Kim, Young Kyo Seo, Gil Young Kim, Gwang Hoon Lee, R.H. Wilkens and T.J. Gorgas. (jh1206@mail.pknu.ac.kr)	Mr. Jung Ja Hun Department of Applied Geology, Pukyong National University, 599-1 Daeyoun-3dong Nam-Gu, Pusan 608-737, Korea, Korea.
Icamg 107/P	Change detection of tidal flats and tidal creeks in the Yellow Rivers Delta	Fan Hui and Huang Haijun (fanhui@ms.qdio.ac.cn)	Dr. Fan Hui Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China.
Icamg 108/P O	Tectonic implications and crustal boundaries of the Ulleung Basin, the East Sea (Japan), inferred from 3D analysis of Gravity Anomalies and Seismic data	Chan Hong Park, Nobuhiro Iseki, Jeong Woo Kim and Chang Hwan Kim (chpark@kordi.re.kr)	Dr. Chan Hong Park Marine Geoenvironment and Mineral Resources Division, Korea Ocean Research and Development Institute, Korea
Icamg 109/IG CP	Delineation of a paleo-deltaic lobe using remote sensing approach- A case of lower Tapi Basin,	Sunit Kumar Biswas (sunit_geol@yahoo.co.in)	Mr. Sunit Kumar Biswas SRF, CSIR, Geology Department, Faculty of Science, M.S. University of Baroda,

	South Gujarat, India		Vadodara-390002, Gujarat, India
Icamg 110/P	Oxygen and carbon isotope records of modern and fossil corals from Northern part of South China Sea and the fractionation mechanism driven by Asian monsoon climate	Sun Donghuai, Chen Hai and Su Ruixia (sundh@scsio.ac.cn)	Prof. Sun Donghuai South China Sea Institute of Oceanology, Chinese Academy of Sciences, 164 West Xingwang Road, Guangzhou, 510301, China
Icamg 111/P O	The uppermost Pleistocene and the Holocene of the Echigo Plain, Japan: sedimentary basin and environment	Iwao Kobayashi, Satoshi Tanaka, Yukihiko Kamoi, Satoshi Yasui and Masaaki Tateishi (iwaok@sea.plala.or.jp)	Dr. Iwao Kobayashi Niigata University, Niigata, Japan.
Icamg 112/P O	Component analysis of the biogenic and mineral clastics in the 184-core of the Northeastern South China Sea and its paleoenvironmental significance	Meng Yi, Yan Suzhuang, Chen Ronghua and Zhang Fuyuan (ymeng@online.sh.cn)	Dr. Yi Meng Institute of Estuarine and Coastal Research East China Normal University 3663 Zhongshan Road North Shanghai 200062, P.R. China.
Icamg 113/P	Measurement and application of shear wave velocity in marine sediments: In the western continental margin, the East Sea of Korea	Gil Young Kim and Dae Choul Kim (gykim@mail1.pknu.ac.kr)	Mr. Gil Young Kim 599-1 Daeyoun-3dong Nam-Gu, Busan, 608-737, Korea.
Icamg 114/P D	Sequence stratigraphy of the Pleistocene terrace sequence in the terrestrial of eastern margin of the Mekong basin, southern Vietnam	Toshiyuki Kitazawa (t02h106@amail.shinshu-u.ac.jp)	Mr. Toshiyuki Kitazawa Department of Environmental Sciences, Faculty of Science Shinshu University, 3-1-1, Asahi, Matsumoto, Nagano 390-8621, Japan.
Icamg 115/P O	Stratigraphy and OSL ages of the Pleistocene terrace sequence in the terrestrial of eastern margin of the Mekong basin, southern Vietnam	Toshiyuki Kitazawa, Takahiro Nakagawa, Tetsuo Hashimoto, Masaaki Tateishi. (t02h106@amail.shinshu-u.ac.jp)	Mr. Toshiyuki Kitazawa Department of Environmental Sciences, Faculty of Science Shinshu University, 3-1-1, Asahi, Matsumoto, Nagano 390-8621, Japan.
Icamg 116/IG CP D	Reshaping Process of the Abandoned Huanghe (Yellow River) Delta Lobe	Houjie Wang, Zuosheng Yang, Guangxue Li and Wensheng Jiang (hjiang@lib.ouc.edu.cn)	Dr. Wang Houjie Institute of Estuarine & Coastal Studies (IECS), Ocean University of China, Qingdao 266003, China.
Icamg 117/A PN	A Framework for risk assessment and sustainable development of the Ganges-Brahmaputra delta	Robert J. Nicholls and Steven L. Goodbred Jr. (sgoodbred@notes.cc.sunysb.edu)	Dr. Robert J. Nicholls School of Civil Engineering and the Environment, University of Southampton, Southampton, UK.
Icamg 118/P	Record of double Holocene highstand in the Philippines.	Y.Maeda, R. Berdin, T. Kakamura, J. Okuno, A. Omura and Y. Yokoyama (ando_nigs@yahoo.com)	Prof. Fernando Siringan, National Institute of Geological Sciences University of the Philippines Diliman, Quezon City 1101
Icamg 119/A PN D	Phase Change of the Modern Huanghe Delta Evolution since its last end channel shift in 1976 (and its phase Change)	Z-s Yang, H-j Wang, Y.Saito, G-x Li and X-x Sun (zshyang@lib.ouc.edu.cn)	Prof. Yang Zousheng Institute of Estuarine & Coastal Studies, Ocean University of the China, Qingdao, 266003, China.
Icamg 120/IG	Sediment facies change and delta evolution during the	Thi Kim Oanh Ta, Van Lap Nguyen, Masaaki	Dr. Thi Kim Oanh TA Sub-Institute of Geography,

CP D	Holocene in Mekong River delta, Vietnam.	Tateishi, Iwao Kobayashi and Yoshiki Saito (sedlap@hcm.vnn.vn)	Vietnam National Center for Natural Science and Technology, 1 Mac Dinh Chi St., 1 Dist., Ho Chi Minh City, Vietnam.
Icamg 121/P O H	Large scale sand dredging and slow recovery of sand dunes in the Seto Inland Sea, Japan.	Yoshiki Inouchi, Naoya Iwamoto, Takahiko Inoue, Fujihiko Shioya and Ryo Ohira (yinouchi@sic.ehime-u.ac.jp)	Dr. Yoshio Inouchi Center for Marine Environmental Studies, Ehime University, Japan.
Icamg 122/P O	Marine geology and sedimentation of clastic materials through the river in Miho Bay, southwest Japan	Takahiko Inoue, Yoshio Inouchi, Fujihiko Shioya, Naoya Iwamoto, Atsuko Amano, and Takao Tokuoka (inouet@sci.ehime-u.ac.jp)	Dr. Takahiko Inoue Graduate school of Science and Engineering Ehime University, Japan
Icamg 123/P	Landforms and Late Holocene Evolution of the Mekong River Delta, Vietnam.	Masatomo Uimitsu, Van Lap Nguyen and Thi Kim Oanh Ta (umitsu@cc.nagoya-u.ac.jp)	Dr. Masatomo Uimitsu Department of Geography, Graduate School of Environmental Studies, Nagoya University Japan.
Icamg 124/P O	The future of very –high resolution habitat mapping in shelf environments	V.R.M. Van Lancker, E. Verfaillie, S. Degraer, J.P. Henriët, <u>M. De Batist</u> and M. Vincx (marc.debatist@ugent.be)	Mr. Marc De Batist Renard Centre of Marine Geology Department of Geology and Soil Science Ghent University Krijgslaan 281 s.8 B-9000 Gent, Belgium
Icamg 125/P H	Impact of fish farming on marine bottom environment in Kitanada Bay, Southwest of Shikoku Island, Japan.	Atsuko Amano, Takahiko Inoue, Naoya Iwamoto, Fujihiko Shioya and Yoshio Inouchi (amano@sci.ehime-u.ac.jp)	Miss. Atsuko Amano Graduate school of Science and Engineering, Ehime University, Japan.
Icamg 126/A PN D	Late Quaternary depositional sequences of the Mekong River Delta, Vietnam.	Nguyen Van Lap, Ta Thi Kim Oanh, Masaaki Tateishi, Iwao Kobayashi and Yoshiki Saito (sedlap@hcm.vnn.vn)	Dr. Nguyen Van Lap Sub-Institute of Geography, Vietnam National Center For Natural Science and Technology, 1 Mac Dinh Chi Str. 1 Dist., Ho Chi Minh City, Vietnam.
Icamg 127/P D	Change in Changjiang suspended load after completion of the Three-Gorges Dam and its impacts on the delta evolution.	Congxian Li, Shouye Yang, Diadu Fan (cxlik@online.sh.cn)	Dr. Congxian Li Department of Marine Geology, Tongji University, 1239 Siping Road, Shanghai 200092, China.
Icamg 128/P	Paleoceanographic change off central Japan since the last 150 ka.	Tadamichi Oba and Takuya Sagawa (oba-tad@ees.hokudai.ac.jp)	Dr. Tadamichi Oba Graduate School of Environmental Earth Science, Hokkaido University, Sapporo 060-0810, Japan.
Icamg 129/P O	Ultra-high resolution isotope analysis of a Hainan coral skeleton	Michiyo Shimamura, Tadamichi Oba, Guoqiang Xu, Bingquan Lu and Leujiang Wang. (oba-tad@ees.hokudai.ac.jp)	Dr. Tadamichi Oba Graduate School of Environmental Earth Science, Hokkaido University, Sapporo, 060-0810, Japan.
Icamg 130/IG CP	Late Cenozoic paleoenvironmental changes of the Changjiang and	Shouye Yang, Congxian Li, and Daidu Fan (syyang@online.sh.cn)	Mr. Shouye Yang Department of Marine Geology Tongji University

D	Huanghe delta areas: geochemical constraints		1239 Siping Rd., Shanghai 200092, China
Icamg 131/P	Mahanadi river delta, east coast of India: An overview on evolution and dynamic processes	M. Mohanti and M. R. Swain (satparthy@giascl01.vsnl.net.in)	Prof. Manmohan Mohanti Department. of Geology Utkal University, Bhubaneswar-751004, India
Icamg 132/P	Morphotectonics and development of the Japan sea basin	Mel'nichenko Y. (yumel@poi.dvo.ru)	Mr. Yu. I. Mel'nichenko Pacific Oceanological Institute FEB BUS 43, Baltiyskaya Str., Vladivostok 690041, Russia
Icamg 133/P O	Sea level curve and molluscan fauna produced from the Southern Continental shelf, Korea	Yeon Gyu Lee, Jeong Min Choi, and Han Jun woo (lyg6342@yosu.ac.kr)	Mr. Yeon Gyu Lee Department of Ocean System, Yeosu National University, Yeosu 550-749, Korea
Icamg 134/P O Abs only D	Holocene sedimentary facies of the red river delta.	Doan Dinh Lam (geoins@ncst.ac.vn)	Dr. Doan Dinh Lam Institute of Geology-National Centre for Natural Science and Technology, 18, Hoang Quoc Viet, Cau Giay, Hanoi, Viet Nam.
Icamg 135/P	Dynamics of gas migration and gas hydrate distribution : Evidence from ODP Leg 204.	Young-Joo Lee, George Claypool, Alexei Milkov, Anne Trehu, and Leg 204 Shipboard Scientific Party (yjl@kigam.re.kr)	Dr. Young-Joo Lee Korea Institute of Geosciences and Mineral Resources, Daejeon, 305-350, Korea.
Icamg 136/P D	Facies, Morphology and Sedimentary Processes on The Baram and Trusan Deltas, NW Borneo.	Joseph J Lambiase (lambiase@fos.ubd.ebd.bn)	Dr. Joseph J Lambiase, University Brunei Darussalam and Abdul Razak Damit, Brunei Shell Petroleum.
Icamg 137/P	Mid-Pleistocene impact and possible consequence: High-resolution evidence from ODP Site 1144	Quan-hong Zhao, Zhi-min Jian, Xin-rong Cheng, Zhi-fei Liu, Pei-fen Xia and Jian Xu (qhzhao@online.sh.cn)	Dr. Quan-hong Zhao School of Ocean & Earth Science, Tongji University, Shanghai 200092.
Icamg 138/P O	Distribution, chemical characteristics and source area of volcanic glasses in South China Sea	Chen Zhong, Yan Wen, Xia Bin, Chen Mu-hong, Yang Hui-ning and Gu Sen-chang (chzhsouth@scsio.ac.cn)	Dr. Chen Zhong Institute of Oceanology and Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, 510301, China.
Icamg 139/P O	Marine isotope stage 11 in the South China Sea : a multiproxy record from IMAGES-core MD 972142.	Ludvig Lowemark, C-H Wang, M-T. Chen, L-J. Shiau, S. Steinke, H.-S. Mill, S-R. Song and K-Y. Wei (shinn21@snu.ac.kr) (ludvig@earth.sinica.edu.tw)	Dr. Ludvig Lowemark Institute of Earth Sciences, Academia Sinica, Taiwan.
Icamg 140/P O	High-Resolution Seismic Reflection Studies of Late Quaternary Sediments in the Eastern Yellow Sea and Northern East China Sea	Y.J. Shinn, S.K. Chough, J.W. Kim, S.H. Lee, J.S. Woo, J.H. Jin and C.S. Choi (shinn21@snu.ac.kr)	Dr. Y.J. Shinn School of Earth Environmental Sciences, Seoul National University, Seoul 151-747 Korea.
Icamg 141/P	Millennial-Scale Variations of sea-ice and its relation to Okhotsk Sea Intermediate Water (OSIW) formation in the Sea of Okhotsk during 100 : Results from IMAGES	Tatsuhiko Sakamoto, Iijima, K., Ikehara, M., Uchida, M., Harada, N., Shibata, Y., Okazaki, H., Katsuki, K., Asahi, H., Takahashi, K., Aoki, K.,	Dr. Tatsuhiko Sakamoto Institute for Frontier Research on Earth Evolution, Marine Science and Technology Center, Japan.

	core MD012412	Kawahata, H., Fukamachi, Y ., Nakatsuka, T., and Kanamatsu T (tats-ron@jamstec.go.jp)	
Icamg 142/P	The Temporal and spatial variation of the Huanghe mouth bar	Zhang Yong, Yang Zuo-sheng, and Wei-helong (robot_Zhang@263.net)	Mr. Yong Zhang 5 Yushan Rd., Qingdao, 266003, China
Icamg 143/P	Living (Rose Bengal Stained) Benthic foraminifera in Sediments off the Southwest Taiwan	Ai-Ping Chiang, Hui-Ling Ling and Tai-Chun Lin (hllin@mail.nsysu.edu.tw)	Dr. Hui-Ling Lin Inst. of Marine Geology & Chemistry National Sun Yat-Sen University Kaohsiung, Taiwan 804, R.O.C. (hllin@mail.nsysu.edu.tw)
Icamg 144/P	Seasonal Variation of Planktonic Foraminiferal Isotopic Composition from the Sediment Traps in the South China Sea.	Hui-Ling Ling, Wei-Chiao Wang, Gwo-Wei Hung and Ying-Ju Hsieh (hllin@mail.nsysu.edu.tw)	Dr. Hui-Ling Lin Inst. of Marine Geology & Chemistry National Sun Yat-Sen University Kaohsiung, Taiwan 804.
Icamg 145/P O	Recent Development of the Chilika Lagoon barrier spit on the bay of Bengal, Orissa, Eastern India: A Chronology based on Luminescence dating	Andrew Murray and Manmohan Mohanti (andrew.murray@risoe.dk)	Mr. Andrew Murray Nordic Laboratory for Luminescence Dating, Department of Earth Science, University of Aarhus University, Riso National Laboratory, DK. 4000 Roskilde, Denmark
Icamg 146/P	Tibetan uplift and East Asian climate change since Late Miocene: evidence from terrigenous records in the south China Sea (ODP Site 1143).	Shiming Wan, Anchun Li, and Hengyi Jang (wanshiming@ms.qdio.ac.cn)	Dr. Shiming Wan Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China.
Icamg 147/P O Pal	Paleoceanographic variations in the core of the Western Pacific Warm Pool during the last 240 ka.	Li Tiegang (tgli@ms.qdio.ac.cn)	Dr. Li Tiegang Institute of Oceanology, Chinese Academy of Sciences, 7 Nanhai Road, Qingdao 266071, China.
Icamg 148/P	Mineral composition in sediments of site 148 of ODP Leg 184 and its response to Himalayan uplift and Seafloor spreading of the South China Sea.	Anchun Li, Hengyi Jiang and Shiming Wan (acll@ms.qdio.ac.cn)	Dr. Anchun Li Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China.
Icamg 149/P O MP	Millennial scale changes of sea surface salinity in the Sea of Okhotsk during the Late Quaternary	Minoru Ikehara, Tadamichi Oba, Kimitaka Kawamura and Masafumi Murayama (ikehara@cc.kochi-u.ac.jp)	Dr. Minoru Ikehara Center for Advanced Marine Core Research, Kochi University, Nankoku 783-8502, Japan.
Icamg 150/P	Seismic images of a continent-continent collision offshore NW Sabah/Borneo	Dieter Franke, Udo Barckhausen, Dariush Behain, Ingo Heyde, Karl Hinz, and Heinrich Meyer (dieter.franke@bgr.de)	Dr. Dieter Franke 1 BGR-Federal Institute for Geosciences and Natural Resources, Stilleweg 2, 30655 Hannover, Germany.
Icamg 151/P O	Indonesian Through flow Variability and Indian Ocean Dipole-Like Pattern in Late Pleistocene Sediments off Sumatra	A. Lueckge, M. Wiedicke, D. Budziak and G. Scheeder (a.lueckge@bgr.de)	Dr. A. Lueckge Bundesanstalt fuer Geowissenschaften und Rohstoffe (BGR), Stilleweg 2, 30655 Hannover, Germany.
Icamg	Acid Volatile Sulfides in	Xiaoqiang PU, Shaojun	Dr. Shaojun Zhong

152/P O	Sediments of the Yellow Sea	Zhong and Lijun Xu (szhong@ms.qdio.ac.cn)	Institute of Oceanology, Chinese Academy of Sciences, 7 Nanhai Boulevard, Qingdao 266071, China.
Icamg 153/P	Arsenic and Mercury distribution in Sediments of the Jiaozhou Bay, Qingdao China.	Shaojun Zhong, Siyuan Ye, Lijun XU and Xiaoqian Pu (szhong@ms.qdio.ac.cn)	Dr. Shaojun Zhong Department of Marine Geology Institute of Oceanology, Chinese Academy of Sciences, 7 Nanhai road, Qingdao P.R. China, 266071.
Icamg 154/P	Variation of Nutricline indicated by quaternary nannoflora from the Northern south China sea (ODP Leg 184, Site 1146.	Xin Su (xsu@cugb.edu.cn)	Dr. Xin Su Center of Marine Geology China University of Geosciences Xueyuan Road 29 Beijing 100083 P.R. China.
Icamg 155/P	Neotectonic Events in the Southern South China Sea	Zuyi Zhou, Guangfa Zhong, Nengyou Wu and Liaoliang Wang (guangfazh@163.com)	Dr. Zuyi Zhou MOE Laboratory of Marine Geology, Tongji University, Shanghai 200092, China.
Icamg 156/P	Formation processes of Kumano Basin and Kumano mud volcanoes in the eastern Nankai accretionary prism	Sumito Morita, Juichiro Ashi, Kan Aoike, Takuya Sawada and Shin'ichi Kuramoto (morita-s@aist.go.jp)	Dr. Sumito Morita Institute for Geo-Resources and Environment, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology, 1-1-1, Higashi, Tsukuba, Ibaraki 305-8567, Japan.
Icamg 157/P	The Himalaya-Bengal System: Studying links between Land and Ocean, Climate and Tectonics, 'Source and Sink'	Hermann Kudrass, Volkhard Spiess, Christian France-Lanord, Peter Molnar, Joseph Curray, Steve Kuehl, Steve Goodbred, and Andre Revil (kudrass@bgr.de)	Dr. Hermann Kudrass BGR_Federal Institute for Geosciences and Natural Resources Institute for Geosciences and Natural Resources, Stilleweg 2, 30655 Hannover, Germany.
Icamg 158/K ey D	Sedimentation in South Asian Marginal Seas: Fluvial and Sea-level Controls (keynote talk).	John D. Milliman (milliman@vims.edu)	Dr. John D. Milliman School of Marine Science/VIMS, College of William & Mary Gloucester Point, VA 23062, USA.
Icamg 159/P	Impact of Miocene tectonic movement on sequence stratigraphy in the southwestern Ulleung Basin margin, East Sea (Sea of Japan)	S.H. Yoon, S.J. Park, S.K. Chough(shyoon@cheju.ac.kr)	Dr. S.H. Yoon Faculty of Marine Sciences, Cheju National University, Jeju 690-756, Korea.
Icamg 160/P	Unusual occurrence and origin of the rhodoliths in Wu Island beach, Korea.	Kyung Sik Woo, Jin Kyoung Kim and Boo-Keun Khim (bkkhim@pusan.ac.kr)	Dr. Kyung Sik Woo Department of Geology, Kangwon National University, Chuncheon, 200-701, Korea.
Icamg 161/P	²¹⁰ Pb and ²¹⁰ Po in the particulates collected from sediment traps in the Mien-Hua and the North Mien-Hua Canyon area of the southern East China Sea	G.W.Hung, Y.C.Chung, C.S.Lin, W.C.Jou, J.J.Hung, D.D.Sheu (gwhung@mail.nsysu.edu.tw)	Hung Gwo Wei National Sun Yat-sen University 70 Lien-hai Rd. Kaohsiung 804 Taiwan ROC
Icamg 162/P O	Reconstruction of flooding history in the Pampanga Delta Plain from anecdotal	C.T.Remotigue, F.P.Siringan, K.S.Rodolfo, C.B.Lamug.	Cristina T. Remotigue National Inst. Of Geological Sciences, Univ. of the Philippines.

	accounts	(malumboy@yahoo.com)	
Icamg 163/P	Transgressive geochemical records of the two cores taken from the East China Sea	Sangmin Hyun, Dhong-il Lim, H-S Jung and H-S Yoo. (smhyun@kordi.re.kr)	Sangmin Hyun Marine Geology and Geochemical Lab, Korea Ocean Research and Development Institute, 391 Jangmok-ri, Jangmok-Myou Geoje 656-830, S-Korea.
Icamg 164/P O	Geochemical records in the marginal Sea of the East/Japan Sea: Implications in ocean-land linkage	Sangmin Hyun and Seong-Ryul Kim (smhyun@kordi.re.kr)	Sangmin Hyun Marine Geology and Geochemical Lab, Korea Ocean Research and Development Institute, 391 Jangmok-ri, Jangmok-Myon Geoje 656-830, S-Korea.
Icamg 165/P O	Geophysical and geochemical observations on actively-seeping hydrocarbon gases on the southeastern Yellow Sea continental shelf	By Kap Sik JEONG, Jin Hyung CHO, Sug Ryul KIM, Sang Min HYUN and Urumu TSUNOGAI (jcho@kordi.re.kr)	Jin-Hyung, Cho Marine Geoenvironment & Resources Research Division, KORDI. Ansan P.O.Box 29, Seoul 425-600, KOREA
Icamg 166/P O	Paleoenvironments and paleo-sea levels from the delta complex north of Manila bay, Philippines	Soria, J.L.A., Siringan, F.P., Rodolfo, K.S. (janellileah@yahoo.com)	Janneli Lea Soria Marine Geology Laboratory, National Institute of Geological Sciences, University of The Philippines, Diliman, Quezon City, 1101.
Icamg 167/P O D	Comparative analyses of variations in tidal ranges associated with the continental mega and large-scale rivers of the monsoonal Asia-Pacific Regions, China to Pakistan	Allen W. Archer (aarcher@ksu.edu)	Allen W. Archer Department of Geology, Kansas State University, Manhattan, KS 66506, USA.
Icamg 168/P	Geochemical Characteristics of Surface Sediments in the North Okinawa Trough and Their Source Indications	JIANG Fu-qing, LI An-chun. (jfqing@163.com)	Jiang Fuqing Department of Marine Geosciences, IOCAS, 7 Nanhai Road, Qingdao 266071, P.R.China.
Icamg 169/P O	Provenance of fine-grained sediments in the Yellow Sea using stable Pb isotopes	Man Sik Choi, Nam-jun Park, Seong A Yim. (rewchun@kbsi.re.kr)	Man Sik Choi Division of nano material and environmental science, Korea Basic Science Institute, 52 Eoundong Yusungku Daejeon, Korea 305-333.
Icamg 170/P	Reflection studies on the plate boundaries in the Bismarck microplate.	Jong Kuk Hong, Sang-Mook Lee. (jkhong@kordi.re.kr)	Jong Kuk Hong Korea Ocean Research & Development Institute, Ansan, P.O.Box 29, Seoul 425-600, Republic of Korea.
Icamg 171/P O	Late Quaternary seismic stratigraphy and sedimentation in response to post-glacial sea-level rise at the northeastern Yellow Sea	Dong-Geun YOO, Chi-Won Lee, Geon-Hong MIN, Seung-II NAM, Ho-Young Lee, and Soo-Chul PARK. (dgyoo@kigam.re.kr)	Dong-Geun Yoo Korea Institute of Geoscience & Mineral Resources (KIGAM), Petroleum and Marine Research Division, Daejeon 305-350, Korea.
Icamg 172/K	An ENSO climate mean state in the	Anne Muller.	Anne Muller UFZ Centre for Environmental Research

ey	Indonesian-Throughflow-sensitive eastern Indian Ocean	(anne.muller@t-online.de)	Halle-Leipzig Ltd., Department of Water Research, Bruckstr. 3a, 39114 Magdeburg, Germany.
Icamg 173/P O	Late Quaternary Development and Paleobathymetry of the Segara Anakan Lagoon, Soouthern Java, Indonesia	L.Auliaherliaty, K.T.Dewi ,A.Muller. (anne.muller@t-online.de)	Anne Mueller UFZ Centre for Environmental Research, Magdeburg, Germany.
Icamg 174/P O	Benthic Foraminifera as Indicators of Estuarine Environments and (Paleo) Environmental Change in Indonesia	Luli Gustiantini, Kresna Tri Dewi, Anne Muller and Praptisih (anne.muller@t-online.de)	Anne Mueller UFZ Centre for Environmental Research, Magdeburg, Germany.
Icamg 175/P O	A New Biostratigraphic Sub-Zonation for Indonesia Derived from Calcareous Nanoplankton and Ostracode Assemblages in Makassar Strait." By	Rubiyanto Kapid , Kresna Tri Dewi and Anne Muller. (anne.muller@t-online.de)	Anne Mueller UFZ Centre for Environmental Research, Magdeburg, Germany.
Icamg 176/P O	Paleoenvironmental changes in response to sea-level fluctuation of the northern East China Sea and the Yellow Sea during the last 60 ka.	Seung-II Nam, Jeong-Hae Chang, Jae-Hwa Jin, Dong-Geun Yoo. (sinam@kigam.re.kr)	Dr. Seung-II Nam Petroleum & Marine Resources, Korea Institute of Geoscience & Mineral Resources, 30 Gajeong-dong, Yuseong-gu, 305-350 Daejeon, Korea.
Icamg 177/P	Marine Tephrochronology of the West Philippine Sea, Celebes Sea and South China Sea	Kuo-Yen Wei, Meng-Yang Lee, Chih-Wei Chen, Sheng-Rong Song, Chang-Hwa Chen, Yue-Gau Chen and Horng-sheng Mii. (weiky@ntu.edu.tw)	Wei Kuo-Yen Department of Geosciences, National Taiwan University, Taipei, Taiwan, R.O.C.
Icamg 178/P	Sedimentary environment evolution and sea level change after post-glacial period in Huanghe (Yellow) River delta	Zaixing Jiang, Benzhong Xian. (jiangzx@mail.hdpu.edu.cn)	Zaixing Jiang College of Earth Resource and Information, University of Petroleum, Dongying, Shandong Province, China.
Icamg 179/P D	Sedimentary facies of the Shirone Formation in Echigo Plain of Niigata, central Japan-Analysis of the drilling core in central part of Shirone area	Satoshi TANAKA, Iwao KOBAYASHI, Yukihiko KAMOI, Satoshi YASUI, Shigeko IYODA, Mayumi SATOH and Masaaki TATTEISHI (stanaka@kyokyo-u.ac.jp)	Dr. Satoshi TANAKA Kyoto University of Education 1 Fujinomori, Fukakusa, Fushimi, Kyoto 612-8522, Japan.
Icamg 180/P O	Nitrogen isotopic composition of sedimentary organic matter in the Sulu Sea during the last glacial-interglacial cycle	Keiji Horikawa, Seiya Nagao, Yoshihisa Kato, Masafumi Murayama, Yoshinori Miura and Masao Minagawa. (horikawa@ees.hodudai.ac.jp)	Keiji Horikawa Graduate School of Environmental Earth Science, Hokkaido University N10-W5 Kitaku, Sapporo 060-0810, Japan.
Icamg 181/P	Sediment Budget Equilibrium Model and Sediment Flux into the Sea in Changjiang Estuary	SHEN Huanting, WU Hualin, WU Jiaxue, XIE Xiaoping. (htshen@sklec.ecnu.edu.cn)	Huanting SHEN State key Lab of Estuarine & Coastal Research, East China Normal University, Shanghai, 200062, China.
Icamg	Changes of ocean tides along	Katsuto UEHARA	Katsuto UEHARA

182/P D	Asian coasts caused by the postglacial sea-level change.	(uehara@riam.kyushu-u.ac.jp)	DSRC/RIAM, Kyushu University Kasuga, Fukuoka 816-8580 JAPAN.
Icamg 183/P	Late Quaternary evolution of the Yellow/East China Sea tidal regime and its impacts on sediments dispersal and seafloor morphology	Katsuto UEHARA and Yoshiki Saito. (uehara@riam.kyushu-u.ac.jp)	Katsuto Uehara DSRC/RIAM, Kyushu University, Kasuga, Fukuoka 816-8580 JAPAN.
Icamg 184/P	Holocene marine transgression – regression on the south west coast of India	Shajan. K. Paul (shajankpaul@yahoo.com)	Shajan K. Paul School of environmental Sciences, Mahatma Gandhi University, Arpookara (PO), Kottayam, India. Pin: 686008.
Icamg 185/P	The environmental changes in deep-water region in the SW Sea of Okhotsk, based on benthic foraminiferal assemblages in the sediment cores of GH cruise	Naokazu YOSHIMOTO and Shiro HASEGAWA. (yasi@aso.sci.kumamoto-u.ac.jp)	Naokazu Yoshimoto Graduate School of Science and Technology, Kumamoto University, Japan.
Icamg 186/Key	Differential Control of millennial-Scale Climate Variations in East Asian Monsoon and in the Far Northwestern Pacific	Michael Sarnthein. (ms@gpi.uni-kiel.de)	Prof. Michael Sarnthein Institute for Geosciences, University of Kiel, Olshausenstr. 40, D-24118 Kiel, Germany.
Icamg 187/P	Exogenic relief in the sea of Okhotsk	Belous O. V., and Svarichevskii A.S. (sva@poi.dvo.ru)	Miss. Oksana Belous Baltiyskaya St.43, 690041 Vladivostok, Russia
Icamg 188/P O IGCP D	Development of Stratigraphy in the offshore area of the Yellow River Delta during the late Quaternary	Jian Liu, Yoshiki Saito, Liangyoung Zhou, Hong Wang, Zhengxin Chen, Xianmei Jin (liujian0550@vip.sina.com)	LIU Jian Qingdao Institute of Marine Geology, Qingdao, 266071, P.R.China.
Icamg 189/P O	Structural Interpretation from Seismic Data in the South Sea of Korea	Sik HUH, Hai-Soo YOO, Dog-Lim CHOI, Jong-Kuk HONG, Dong-Ju MIN (sikhuh@kordi.re.kr)	Dr. Sik Huh Marine Geoenvironment & Resources Research Division, Korea Ocean Research & Development Institute, Ansan, P.O.Box 29, Seoul 425-600, Korea.
Icamg 190/P	Evolution of shelf-slope system since Late Miocene in the Yinggehai and Qiongdongnan basins, Northern South China Sea	Xinong Xie, Zhenfeng Wang, Jianye Ren and Tao Jiang. (xnxie05@hotmail.com)	Xinong Xie College of Earth Resources, China University of Geosciences, Wuhan, 430074, China.
Icamg 191/P	The quantificational method of identifying sedimentary endmembers and its application to the Okinawa Trough	Du Dewen, Xiong Yingqian, Meng Xianwei. (xyp@73sina.com)	Yingqian Xiong Key lab of Marine Sedimentary and Environmental Geology, First Institute of Oceanography, Qingdao, China. 266061.
Icamg 192/P	Physical property and high resolution subbottom profile of gas charged sediment in the southeastern shelf of Korea	Young Kyo Seo, Dae Choul Kim (seoyk@mail1.pknu.ac.kr)	Seo Young Kyo Department of Environmental Exploration Engineering, Pukyong National University, Busan 608-737, Korea.
Icamg 193/IGCP	Critical suspended sediment load and channel gradient for maintaining the balance of	Suiji Wang (wangsj@igsnr.ac.cn)	Suiji Wang Associate Professor of Sedimentology and Geomorphology,

D	erosion and sedimentation of the Yellow River Delta		Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences Building 917, Datun Road, Beijing 100101, China.
Icamg 194/P D	Biodiversity & Natural Resource Degradation n INDUS DELTA & It's Relationship with Reduction in Indus River Flow	Sikander Brohi. (cir@szabist.edu.pk)	Sikander Brohi SZABIST Center for Information & Research Karachi, Pakistan.
Icamg 195/K ey	The Sunda Shelf during the last glacial cycle	K.Stattegger and I.J.J.Hanebuth. (kstattegger@gpi.uni-kie l.de)	Karl Stattegger Institut fuer Geowissenschaften, Universitaet Kiel, Olshausenstr. 40-60, 24118 Kiel, Germany.
Icamg 196/P O	Late Eocene Global Plate Reorganization and Development of Extensional Basins in East China.	Ren Jianye and Xinguo Zhuang. (xnjie05@hotmail.com)	Xinguo Zhuang China University of Geosciences, Wuhan, 430074, P R China.
Icamg 197/P	Paleontological study of the latest Pleistocene molluscan assemblages from Bangkok area in central Thailand.	Yoshio Sato, Yoshiki Saito, Yuichiro Suzuki and Praon Silapanth (tkio@geo.sc.chula.ac.th)	Dr. Yoshio Sato Department of Geology, Faculty of Science, Chulalongkorn University Phayathai Rd., 10330, Bangkok, Thailand.
Icamg 198/P	Geochemical Analysis of Bottom Sediments on the Yellow and East China Sea : Trend Analysis	Jin-yong Choi and Dong-II Lim (jinyong@kunsan.ac.kr)	Prof. Jin-yong Choi, Dept. Oceanography, Kunsan Natl. Univ., Kunsan, Chunbuk, Korea 573-701.
Icamg 199/A PN D	Transgressive deposits and the retreat path of large river systems: a comparison between the Changjiang (East China Sea) and the Rhone (NW Mediterranean)	Serge BernÈ, Ifremer, France. (serge.berne@ifremer.fr)	Serge Berne IFREMER DRO/GM, BP 70, 29280 Plouzan, France.
Icamg 200/P O	Tidal sand ridges formed at the outlet of the paleo-Changjiang river. Are they active or moribund	Lofi Johanna, Serge BernÈ , Vagner Pierre, Weber Olivier (serge.berne@ifremer.fr)	Serge Berne IFREMER DRO/GM, BP 70, 29280 Plouzan, France.
Icamp 201/P	Deep structure of the sedimentary basin in the sea of Okhotsk.	Alexander G. Rodnikov, Natalia Sergeyeva and Ludmila Zabarinskaya (rodnikov@wdcb.ru)	Prof. A.G. Rodnikov Geophysical Center, Russian Academy of Science. Molodezhnaya 3, Moscow, GSP-1, Russia.
Icamg 202/P O	Depositional process of the Kiso river delta, central Japan, reconstructed from drilling core analysis	Masaaki Yamagu Chi, Toshihiko Sugai, Osamu Fujiwara, Takashi Ogami, Tanobu Kamataki, Hiroo Ohmori and Yuichi Sugiyama (masaaki@nenv.k.u-tokyo.ac.jp)	Masaaki Yamagu Chi Graduate school of Frontier Science The University of Tokyo 183-0005, Japan.
Icamg 203/A PN	The fluid dynamics of natural, sediment-laden density currents in Liolloet delta, British Columbia, Canada: implications for sediment dispersal and delta morphology.	Jim best, Ray Kostaschuk, Jeff Peakall, Mark Franklin and Paul Villard. (j.best@earth.leeds.ac.th)	Jim Best School of Earth Sciences, University of Leeds, Leeds LS2 9JT, West Yorkshire, UK.

Icamg 204/P O	Shallow water seismic reflection survey in the Mekong river delta.	Fumitoshi Murakami, Yoshiaki Saito, Yasumasa Kinoshita, Masaaki Tateishi, Nguyen Truong Luu, Luong Boi Luu and Nguyen Tran Tan (fumi-murakami@aist.go.jp)	Fumitoshi Murakami Coastal Environment Research Group, Institute for Marine Resources and Environment (MRE) AIST 1-1-1 Higashi, Tsukuba Ibaraki 305-8567, Japan.
Icamg 205/IG CP	Geomorphic features of the Bengal fan.	Veerayya Muthavarapu (veerayya@darya.nio.org)	Dr. Veerayya Muthavarapu Principal Investigator DST (Govt. of India) Project Geological Oceanography Division National Institute of Oceanography Dona Paula, GOA-403 004, India.
Icamg 206/P	Distribution of carbonate and calcareous plankton in seafloor surface sediment in Western South China sea.	Li Xuejie and Chen Fang (xuejeli@263.net)	Mr. Xuejie Li P.O. Box1180, Guangzhou 510760, Guangdong, China
Icamg 207/P	Holocene geo-environmental changes in the section Xingtuo, the middle part of the Oyster plain, Bohai bay.	Li Jianfen, Wang Hong and Li Fenglin (lijianfen@cgs.gov.cn)	Li jianfen Tianjin Institute of Geology and Mineral Resources, China Geological Survey, CGS, Tianjin 300170, China.
Icamg 208/P	Recent geo-environmental changes on the Bohai bay muddy coast: result and discussions	Wang Hong (lijianfen@cgs.gov.cn)	Dr. Wang Hong Tianjin Institute of Geology and Mineral Resources, China Geological Survey, CGS, Tianjin 300170, China.
Icamg 209/P O	Subaqueous distribution and volume estimation of the debris-avalanche deposit from the 1640 eruption of Hokkaido-Komagatake volcano.	Futoshi Nanayama, Mitsuhiro Yoshimoto, Ryuta Furukawa, Shinji Takarada and Yuichi Nishimura (nanayama-f@aist.go.jp)	Dr. Futoshi Nanayama Coastal Environment Research Group, Institute for Marine Resources and Environment (MRE) AIST 1-1-1 Higashi, Tsukuba Ibaraki 305-8567, Japan.
Icamg 210/IG CP	Nature of heavy metals distribution in the Ganges estuary	V. Subramanian (subrama42@hotmail.com)	Prof. Vadiyanatha Subramanian School of Environmental Sciences Jawaharlal Nehru University New Delhi-110067, India
Icamg 211/P	A comparative study on tidal sand ridges in the East China Sea and Celtic Sea	Liu Zhenxia, Yu Hua, Xiong Yingqian, Li Chaoxin (liuzx@pulic.qd.sd.cn)	Liu Zhenxia First Institute of Oceanography, State Oceanic Administration, Qingdao, 266061, P.R.China
Icamg 212/P	Role of mass movement in shelf clinoform growth: the Amazon and Ganges-Brahmaputra examples	Kuehl Steven (kuehl@vims.edu)	Mr. Steven Kuehl Physical Sciences, College of William and Mary Virginia Institute of Marine Sci, 1208 Grate Road, Gloucester Point, VA23062
Icamg 213/P O	Sedimentary environment of an semi-enclosed embayment, Yoja Bay in the south coast of Korea.	Yong Shik Chu, Hee Jun Lee, Yeon Gyu LEE, and Yhung Rae JO (sikhuh@kordi.re.kr)	Yong Shik Chu Marine Geoenvironment and Resources Research Division Korea ocean Research and Development Institute Seoul 425-600, Korea.
Icamg 214/P	Comparison in Depositional Characteristics and Preservation Potential Between Storm and Summer Typhoon Deposits in the Open-Coast Tidal-Flat Setting.	Chun Seung-Soo, Yang Byong-Cheon, Kim Jong-Kwan, Baek Young-Sook (sschun@jnu.ac.kr)	Chun Seung-Soo Faculty of Earth Syst. & Env. Sci., Chonnam Nat'l Univ., Kwangju 500-757, Korea.
Icamg	Holocene Episodes of Alluvial	Hema Achyuthan	Hema Achyuthan

215/P	Sedimentation in the Koratallaiyar-Cooum River Basin, Ghennai	(hachyuthan@yahoo.com)	Department of Geology, Anna University Chennai 600 025
Icamg 216/P	Regional Tectonics, Differential Subsidence, and Sediment Flux to the Southern South China Sea during Pliocene to Recent Time	Mychal R. Murray, and Steven L. Dorobek (derobek@geo.tamu.edu)	Steven L. Dorobek Texas A&M University, Dept. of Geology & Geophysics, College Station, TX77843.
Icamg 217/P	Volcanism and Submarine Hydrothermal Actives around Drakatau Islands in Sunda Strait, Indonesia	Bambang Priadi, Iskandar Zuldarnain, and Haryadi Permana (bpriadi@gc.itb.ac.id)	Priadi Bambang Department of Geology, Institute Teknologi Bandung, Jalan Ganesha No.10, Bandung-40132, Indonesia.
Icamg 218/P	Occurrence and Distribution of Shallow Gas and Gas Hydrates along the Continental Margin of India: A Review	M.Veerayya (veerayya@darya.nio.org)	M. Veerayya Principal Investigator, DST(Govt. of India) Project Geological Oceanography Division National Institute of Oceanography, Dona Paula, Goa-403 004, India.
Icamg 219/IG CP	Vulnerability Assessment of Sundarban Delta in the Perspective of Climate Change	Prof.Sugata Hazra (sugata_hazra@yahoo.com)	Sugata Hazra School of Oceanographic Studies, Jadavpur University, Calcutta, India.
Icamg 220/IG CP	Coastal changes driven by human activities during the 'Anthropocene': Red River Delta case Study.	Nguyen Hoang Tri, Dinh Van Thuan, Bui Trinh and Francisco T.Secretario (cere@hn.vnn.vn)	Nguyen Hoang Tri Centre for Environmental Research and Education (CERE), Hanoi University of Education, 136 Xuan Thuy, Cau Giay,Hanoi, Vietnam.
Icamg 221/P O	Hyperpycnal-flow deposits" from the Miocene continental delta complex in the Ryukyu island are, southwest Japan.	Mr.Saitoh Yu (yu-saitoh@kueps.kyoto-u.ac.jp)	Mr.Saitoh Yu Department of Geology Graduate School of Science, Kyoto University, 8502, Japan.
Icamg 222/P	Effect of Opened Indonesian Passage and the Isthmus of Panama on the Oceanic Circulation.	Yongqiang Yu (yyq@lasg.iap.ac.cn)	Yongqiang Yu LASG, Institute of Atmospheric Physics, P.O.Box 9804, Beijing 100029,P.R., China.
Icamg 223/P O	Upper Miocene-Pliocene transtensional rift-lake sediments in the Song Ba Trough- a possible analogue to deeply buried Oligocene source rocks in the syn-rift sequences of the offshore Phu Khanh Basin; first results of the ENRECA-Project.	H.A.Tuan, L.H.Nielsen, H.I.Petersen, N.A.Duc, L.v.Hien and I. Abatzis (lars@vpihn.pv.com.vn)	L.H.Nielsen Geological Survey of Denmark and Greenland (GEUS) Oster Voldgade 10, 1350 Copenhagen K, Denmark.
Icamg 224/P O	Depositional history of the post-rift succession of the Phu Khanh Basin, offshore central Vietnam based on interpretation of seismic sequences and facies; first results of the ENRECA-Project	D.T.Huong ¹ , L.D.Thang ¹ , N.T.Huyen ¹ , L.O.Boldreel ² , L.H.Hielsen ³ , I.Abatzis ³ , N.A.Duc ¹ and M.W.Fyhn ² (lars@vpihn.pv.com.vn)	Dr. L.H. Nielsen Geological Survey of Denmark and Greenland (GEUS) Oster Voldgade 10, 1350 Copenhagen K, Denmark.
Icamg 225/P O	An attempt to predict lithology and ages of depositional sequence from seismic analysis in the Phu	L.D.Thang ¹ , D.T.Huong ¹ , N.T.Huyen ¹ , L.O.Boldreel ² , L.H.Nielsen ³ , I.Abatzis ³	Dr. L.H. Nielsen Geological Survey of Denmark and Greenland (GEUS) Oster Voldgade 10, 1350 Copenhagen K, Denmark.

	Khanh Basin, offshore central Vietnam; preliminary results of the ENRECA-Project.	and N.A.Duc ¹ (lars@vpihn.pv.com.vn)	
Icamg 226/P O	Seep oils from Dam Thi Hai (Qui Hhon), central Vietnam; the ENRECA-Project reports promising implications for future exploration in the offshore Phu Khanh Basin.	, H.P.Hytoft ¹ , N.T.Dau ² , N.T.B.Ha ² , L.V.Hien ² , N.H.Quy ² , L.H.Nielsen ¹ and H.I.Petersen ¹ (lars@vpihn.pv.com.vn)	Dr. J.A.Bojesen Koefoed Geological Survey of Denmark and Greenland (GEUS) Oster Voldgade 10, 1350 Copenhagen K, Denmark.
Icamg 227/P O	Structural development of the Cenozoic Phu Khanh basin, offshore central Vietnam based on interpretation of reflection seismic data; first results of the ENRECA-Project.	N.T.Huyen ¹ , L.D.Thang ¹ , D.T.Huong ¹ , L.O.Boldreel ² , L.H.Nielsen ³ , I.Abatzis ³ , N.A.Duc ¹ and M.B.W. Fyhn ² (lars@vpihn.pv.com.vn)	Dr. L.H. Nielsen Geological Survey of Denmark and Greenland (GEUS) Oster Voldgade 10, 1350 Copenhagen K, Denmark.
Icamg 228/P	Diagenetic history of the Khao Khad Formation, Permian Carbonate rocks Central Thailand.	Sarawuth Thambunya, Visut Pisutha-Arnond, Chaiyudh Khantaprab (syn_stone@hotmail.com)	Sarawuth Thambunya Department of Geology, Faculty of Science, Chulalongkorn University, Bangkok, 10330, Thailand.
Icamg 229/A PN	Large rivers and deltas: the connection in south and southeast Asia.	Avijit Gupta (avijit@foxhill.demon.co.uk)	Avijit Gupta School of Geography, University of Leeds, Leeds LS 2 9JT, UK.
Icamg 230/P O	Late quaternary depositional processes in the northeastern margin of the Ulleung asin (Korea Plateau and Dok-Island Volcanoes), east sea.	S.H.Yoon, J.J.Bahk, S.J.Han (shyoon@cheju.ac.kr)	S.H.Yoon Faculty of Marine Sciences, Cheju National University, Jeju 690-756, Korea.
Icamg 231/IG CP	Morphodynamic variations of the intertidal mudflats as top-stratum delta plain deposits of the Ganges-Brahmaputra rivers of northeast India	Asokkumar Bhattacharya (asok_marine@yahoo.co.in)	Asokkumar Bhattacharya Department of Marine Science, Calcutta University, 35 B.C.Road, Kolkata 700 019, India.
Icamg 232/IG CP	Material sources study of core DGKS9617.	Hua Yu, Yingqian Xiong, Weiran Li, Kunshan Wang (yuhua77@sina.com)	Hua Yu Division of Marine Geology, First Institute of Oceanography, State Oceanic Administration, No.6 Xianxialing Road, Hi-tech Industry Park, Qingdao, P.R.China.
Icamg 233/IG CP	Tracing the sources of sediments to the Bay of Bengal	Sunil Kumar Singh ¹ and Christian France Lanord ² (sunil@prl.ernet.in)	Sunil Kumar Singh Physical Research Laboratory, Navrangpura, Ahmedabad 380009, India.
Icamg 234/IG CP	Application of sea level curve to determine the subsidence of the Ganges Delta during the Holocene.	M.Shahidul Islam (sunil@prl.ernet.in)	M.Shahidul Islam Coastal Environment Research Unit(CERU) Department of Geography, University of Chittagong, Chittagong 4331, Bangladesh.
Icamg 235/IG CP	Results of geological, mineral, geo-environment and geohazard surveys in the offshore Area of Vietnam (0-30 M Water Depth)	Dr.Dao Manh Tien	Dr.Dao Manh Tien Marine Geology Division, Department of Geology and Minerals of Vietnam

Icamg 236/A PN	Channel pattern and deltaic-estuarine process in the Indo-Pacific region	Dr. Colin D. Woodroffe (colin@uow.edu.au)	Dr. Colin D. Woodroffe School of Earth and Environmental Sciences, University of Wollongong, NSW 2519, Australia
Icamg 237/P	Marine geology and bathymetry of the Andaman Sea Continental Shelf, Offshore Phuket Province, Southern Thailand	Mr. Somsak Wathanaprida (w_somsak@hotmail.com)	Mr. Somsak Wathanaprida Environmental Geology and Geohazard Division, Department of Mineral Resources, Rama VI Rd., Bangkok 10400, Thailand.
Icamg 238/P O	Lithological feature of cored sediments from lake Tonle Sap in Cambodia and their interpretation- preliminary results of Tonlesap 21 Programme	Shinji Tsukawaki and Members of Tonlesap 21 Promme (tukawaki@t.kanazawa-u.ac.jp.)	Dr. Shinji Tsukawaki Division of Eco-Technology, Institute of Nature and Environmental Technology, Kanazawa University, Kanazawa, Japan.
Icamg 239/K ey	Future of ocean margins research: relevance to Asian Marine Geology	Bilal U. Haq (bhaq@nsf.gov)	Dr. Bilal U. Haq U.S. National Science Foundation Arlington, VA 22230, USA
Icamg 240/P O	Geochemical characteristics of seamount nodules from Mid-Pacific ocean and their genesis	Bu Wenrui and Shi Xuefa (buwenrui@mail.china.com)	Mr. Wenrui Bu First Institute of Oceanography, State Oceanic Administration No.6 Xianxialing Rd., High-tech Industry Park, Qingdao, 266061, China
Icamg 241/P O	Suspended particulate matters dynamics in upper water column of south China sea and the optical observations	Wei Jianwei and Shi Xuefa (jianwei@fio.org.cn)	Mr. Jianwei Wei First Institute of Oceanography, State Oceanic Administration No.6 Xianxialing Rd., High-tech Industry Park, Qingdao, 266061, China
Icamg 242/P O	Orissa coast, eastern India : natural disasters and human interferences threaten sustainable development	M. Mohanti and M.R. Swain (satpathy@giasc101.vsnl.net.in)	Mr. Manmohan Mohanti Emeritus Professor, Department of Geology, Utkal University, Bhubaneswar 751004, India.
Icamg 243/P O	The implication of Yinggehai Basin sedimentary record to the relationship between the opening of the South China Sea and the collision of India-Asia Plate.	Yan Yi (yanyi@gig.ac.cn)	Dr. Yan Yi Laboratory of Marginal Sea Geology, Guangzhou Institute of Geochemistry and South China Sea Institute of Oceanology, Chinese Academy of Sciences, Wushan, Guangzhou 510640, China. Email: yanyi@gig.ac.cn
Icamg 244/P O	Provenance and environment variation of core EA01 from the continental shelf of the East China Sea.	Xiong Yingqian, Liu Zhenxia, Li Shuanglin, and Yu Hua (xyp@73sina.com)	Yingqian Xiong Key lab of Marine Sedimentary and Environmental Geology, First Institute of Oceanography, Qingdao, China. 266061. Email: xyp@73sina.com
Icamg 245/P	Functioning of the Large reservoirs on the reduction of water and sediment discharge from the Huanghe (Yellow River) to the sea in 1968-2000	Xiaoxia Sun, Zousheng Yang, Yoshiki Saito, Houjie Wang, and Dong Li. (xyp@73sina.com)	Dr. Xiaoxia Sun, Ocean University of China, 5 Yushan Rd., Qingdao, China. 266063. Email: xyp@73sina.com

Appendix 2: Joint conference of IGCP-475-APN-Megadelta-CCOP

**An International Conference on DELTAS (Mekong Venue):
Geological modeling and Management
In conjunction with meetings of IGCP-475 *DeltaMAP*,
APN Project on *Mega-Deltas of Asia*, and CCOP *DelSEA* project
January 10–16, 2005
Ho Chi Minh City, Vietnam
Call for Abstracts
Registration application form
<http://unit.aist.go.jp/igg/rg/coast-rg/ADP.html>**

Background

River deltas are one of the most significant coastal features and depositional systems. Most of the sediment delivered to the oceans by rivers has been deposited in the coastal zones, where it has built numerous deltas. These delta systems are significant not only for helping sedimentary and marine geologists understand modern processes and ancient rocks, but also for their human populations, port and City infrastructures, and natural and living resources. The Asian coast has many large and distinct river deltas, which have abundant resources and products and sustain a huge human population. Deltas in the Asia–Pacific region include the Huanghe (Yellow), Changjiang (Yangtze), Zhujiang (Pearl), Song Hong (Red), Mekong, Chao Phraya, Ayeyarwady (Irrawaddy), Ganges-Brahmaputra, Indus, Fly, and many other important river deltas. These delta systems receive approximately 75% of the worldwide sediment discharge from the land to the oceans and collectively compose the largest depocenter on Earth. On the other hand, these deltaic environments are vulnerable to numerous and frequent geo-hazards, such as storms, floods, droughts, and sea-level rise, and recently they have been subject to anthropogenic impacts from engineering projects, urbanization, and land-use changes. Vulnerability assessment and environmental preservation along deltaic coasts to achieve sustainable development require more attention from scientists interested in global change.

Two new projects on the deltas of Asia and Oceania launched from 2003. The first project is International Geoscience Programme (IGCP) Project 475, *Deltas in the Monsoon Asia–Pacific Region (DeltaMAP)*, which runs for five years from 2003 to 2007. The IGCP has been a joint endeavor of UNESCO (United Nations Educational, Scientific and Cultural Organization) and IUGS (International Union of Geological Sciences) since 1972. The second project, entitled *The Mega-Deltas of Asia* (project 2003-12), is funded by the Asia–Pacific Network for Global Change Research (APN). APN is an intergovernmental organization to foster global-change research in the Asia–Pacific region. (Note: major objectives and overviews of the two projects are attached below.)

The inaugural FIRST meeting of each project was held jointly with the 5th International Conference on Asian Marine Geology (ICAMG-V) in Bangkok, Thailand, in January 2004. The joint IGCP-APN meeting began with a special session on deltas on January 16, 2004, during ICAMG-V, followed by a field excursion to the Chao Phraya delta on January 17–18. An additional two-day scientific meeting on January 19–20 was held in Ayutthaya, Thailand. More than 100 participants joined the Bangkok delta session and more than 60 from 15 countries participated in the Ayutthaya *Second Circular of the Joint meeting of IGCP-475 DeltaMAP, APN Mega deltas in Asia, & CCOP DelSEA project 2* meeting. We exchanged scientific ideas and new findings and discussed scientific issues and cooperation during the conference. Its report is shown at web pages of IGCP-475 <<http://unit.aist.go.jp/igg/rg/coast-rg/ADP.html>> and APN Mega-deltas <<http://www.megadelta.ecnu.edu.cn/>>. CCOP DelSEA project, entitled *The Integrated Geological Assessment for Deltas in Southeast and East Asia Region*, running from 2004

to 2008, is a new project supported by CCOP “the Coordinating Committee for Geoscience Programmes in East and Southeast Asia”. The purpose of this project is to foster the exchange of latest knowledge on deltas, Quaternary geology, sequence stratigraphy, and geological coastal management. This will enhance cooperative study on deltaic coasts, mostly through the annual meeting of IGCP-475.

The general objectives of IGCP-475 DeltaMAP are to significantly improve our understanding of Asian river deltas by:

- 1) synthesizing recent research results;
- 2) bridging the traditional gaps between terrestrial, coastal, and marine research; and
- 3) identifying the major needs and goals of future research. Furthermore, in pursuing these goals, we expect significant advances in fundamental research on monsoon-driven sediment-dispersal systems.

The APN project on the mega-deltas in Asia will focus on:

- 1) establishing a comprehensive conceptual model for Asian mega-deltas, where unique geologic conditions play a critical role in the deltas' response to natural and anthropogenic forcings;
- 2) contributing to an improved understanding of the dynamic responses to human activities, natural variability, and global climate change, in order to provide useful information for future coastal vulnerability assessments; and
- 3) clarifying the significance of Nos. 1 and 2 above for the sustainable development of this densely populated region.

IGCP-475 DeltaMAP project: Co-leaders

Steven Goodbred, Jr.: Marine Sciences Research Center, Stony Brook University, Stony Brook, New York, USA

Yoshiki Saito: IGG, Geological Survey of Japan/AIST, Tsukuba, Japan

APN project:

Leader (PI)

Zhongyuan Chen: East China Normal University, Shanghai, China

Co-PIs

Steven Goodbred, Jr.: Stony Brook University, Stony Brook, New York, USA

Tran Duc Thanh: Haiphong Institute of Oceanology, Hai Phong City, Vietnam

Yoshiki Saito: IGG, Geological Survey of Japan/AIST, City, Japan

Md. Badrul Islam: University of Rajshahi, Rajshahi, Bangladesh

CCOP DelSEA project: Leader

Yoshiki Saito: IGG, Geological Survey of Japan/AIST, Tsukuba, Japan

Optional Field Tour to Drainage basin of the Mekong in Cambodia, January 17–18, 2005

Lake Tonle Sap and Related Fluvial System, and Angkor Monument Complex in Cambodia.

The focus of coming 2nd meeting of IGCP-475 DeltaMAP and APN Mega-Deltas of Asia is "geological modeling and management of deltaic coasts", and **general sessions on fluvial and marine delta research are held as well**. We welcome your participation and abstract submission.

Organizer/Sponsors

UNESCO/IUGS, IGCP-475, *DeltaMAP*

APN project 2004-06-CMY, *The Mega-Deltas of Asia*
CCOP *DelSEA* Project
Sub-Institute of Geography, Vietnam Academy of Science and Technology (VAST)
IGG, Geological Survey of Japan/AIST
Niigata University, Japan
Kanazawa University, Japan (for optional tour to Cambodia)

Local Organizing Committee

Chairperson: MSc. NGUYEN Thanh Hung, Dr. NGUYEN Van Lap
Sub-Institute of Geography, Vietnam Academy of Science and Technology (VAST)
Secretary: Dr. TA Thi Kim Oanh
Sub-Institute of Geography, Vietnam Academy of Science and Technology (VAST)

Field Excursion

NGUYEN Van Lap, Ta Thi Kim Oanh, Hiroyuki KITAZAWA

Venue and Schedule, January 2005

9th: arrival

10th: Pre-excursion: Pleistocene emerged estuarine/delta sequences, north of Ho Chi Minh City (See Excursion for details), & registration;

11th–13th: Scientific sessions and business meeting at Novotel Garden Plaza, Saigon;

13th: afternoon, City tour of HCM and American-Vietnamese war memorial site (Cu Chi tunnel);

14th–16th: Excursion to the Mekong river delta (See Excursion for details)

17th: departure

Optional Field Tour to Cambodia, Mekong drainage basin

17th–18th: Lake Tonle Sap and Related Fluvial System, and Angkor Monument Complex in Cambodia

Meeting venue:

Novotel Garden Plaza, Saigon: 309B-311 Nguyen Van Troi Tan Binh District, Ho Chi Minh City, 0 Vietnam Tel:+84-8-842-1111, fax: +84-8-842-4370;

<http://www.accorhotels-asia.com/3552#Top>

Sessions

Scientific sessions consist of several keynote talks, poster presentation and group discussions. Regular presentation will be poster presentations with 5-minute oral short summary. Each poster size is less than 100 cm wide and 150 cm high. All of posters will be displayed throughout for three days, which allows sufficient time for discussing among and learning new knowledge from our participants.

Official Language

English is official language of the conference.

Call for Abstracts

Abstracts should be e-mailed or arrive by post to Yoshiki Saito, yoshiki.saito@aist.go.jp) by **October 15, 2004**. Abstract format: MS Word file; title, authors, affiliation(s), e-mail address of corresponding author, main text (A4, 1 page including figures, less than 500 words). All abstracts will be published in an abstract volume that will be distributed to all participants.

Field Excursion

Two excursions are planned during the conference Pre-excursion on January 10: Middle to late Pleistocene emerged estuarine/delta sequences, north of Ho Chi Minh City, which will show wonderful outcrops on tide-influenced estuarine/deltaic sediments. Post-excursion on January 14–16: Modern Mekong delta. Stops at former beach ridges, boat tour to a river mouth and landing onto an active river mouth bar, panorama view of the delta from 40 m high river bridge, My Thuan Bridge, at the center of the delta. We stay at countryside Tra Vinh City for two-nights. Detailed information on the field trips will be given in the next circular, and a Field Trip Guide will be available at the conference.

Hotel, Weather, Currency

The Novotel Garden Plaza, Saigon, is located near the International Airport of Ho Chi Minh City, just a several-minute drive from the Airport, and about 20 minutes from the City center. The weather in Ho Chi Minh City in January is a dry season. It is normally hot for middle-latitude people, mild for equatorial people and so hot for high-latitude people. The average temperature in January is 28–30 °C for highest temperature and 23–24 °C for lowest temperature. The Currency in Vietnam is VND (1 US\$ = VND ca. 14,500). To exchange into US\$ currency is recommended.

Health Requirements

Please consult travel agents in your own country to obtain up-to-date information on recommended immunizations and other health precautions.

Travel Arrangements

Not so many direct flights to Ho Chi Minh City internationally. Bangkok and Singapore is a hub to Ho Chi Minh City, Cambodia and other cities in Southeast Asia. If you join the optional tour to Cambodia after the conference, such flight arrangement is recommended. Transportation from the airport to the hotel will be announced later circular.

Visa

Participants must possess a valid passport and obtain an entry visa for Vietnam, available from any Vietnamese diplomatic or consular mission. Some countries do not need visa. Please ask a travel agent or Vietnamese embassy.

Accommodations

The registration fee for the IGCP/APN package covers accommodations during the post-conference excursion in Tra Vinh (two nights), but it does not include accommodations in Ho Chi Minh City. Two hotels are recommended for the meeting: Novotel Garden Plaza and Tan Son Nhat Hotel. Both are a 10-minute walk apart. Hotel request form for above two hotels is attached. Special discount prices of US\$ 50 net (including tax, service charges, breakfast) for a single room and US\$ 55 net for a twin bed room of Novotel Hotel, and US\$ 26–32 net for a single room and US\$ 32–41 for a twin bed room of Tan Son Nhat Hotel, are available to conference participants. If you wish to share a room, please indicate it on the application form. Your hotel request should be sent to Yoshiaki Saito <yoshiaki.saito@aist.go.jp> by October 15, 2004. Please use attached registration form. Room booking will be done only for participants, who make advanced payments until November 1st, 2004. Corresponding Address of hotels Novotel Garden Plaza, Saigon: 309B-311 Nguyen Van Troi Tan Binh District, Ho Chi Minh City, 0 Vietnam Tel: +84-8-842-1111, fax: +84-8-842-4370; <http://www.accorhotels-asia.com> Tan Son Nhat Hotel: 200 Hoang Van Thu St., Phu Nhuan District, Ho Chi Minh City, Vietnam. Tel: +84- 8- 8 441 039, Fax: +84- 8- 8 441 324

Registration Fee

Registration fee: US \$ 300 (full package), includes abstract volume, pre-& post-excursions, accommodation in post-excursion for two nights from January 14 to 16, and lunches from January 10 to 16, dinners on January 11, 13–16, and City tour on January 13. Please note that the fee does not include the cost of accommodations in Ho Chi Minh City.

Each Registration Fee: Pre-excursion US\$ 30, includes excursion guide book, lunch HCM Meeting US\$ 150, includes abstract volume, three lunches, two dinners on January 11 and 13, City tour on January 13. Accompanied person US\$ 100 (not included abstract volume). Post-excursion US\$ 150, includes excursion guide book, meals from lunch of January 14 to dinner of January 16, two nights accommodation at Tra Vinh. All participants in post-excursion must share a room at Tra Vinh. If you want to use a single room, you must pay extra charge US\$ 25/night.

Advanced Payments

All price & quoted are in US dollars. Payment should be made by overseas bankdraft payable to "IGCP475/APN, Sub-Institute of Geography, VAST", to arrive by November 1st, 2004. Pre-registration will not be processed without payment. "IGCP475/APN, Sub-Institute of Geography, VAST" 1 Mac Dinh Chi St., 1 Dist., Ho Chi Minh City, Vietnam. Tel: +84-8-8220829, Fax:+84-8-829-9618, E-mail: sedlap@hcm.vnn.vn

Financial Assistance

IGCP-475 funds will be available to partially support a limited number of speakers from developing countries including host country. Preference will be given to younger scientists who present a paper at the conference. Such funds will be provided cash-in-hand to receipts during the conference. Applications for such funding, including the abstracts of the proposed paper and your short CV, should be submitted to Drs. Steven L. Goodbred <e-mail: Yoshiki Saito <yoshiki.saito@aist.go.jp> or sgoodbred@notes.cc.sunysb.edu >, **by September 30, 2004**. This support will cover the local expense in Vietnam including the full package registration fee. This earlier deadline is required to give IGCP headquarters, Paris, sufficient time to approve the funding, which is recipient-specific. Some countries have a national IGCP fund to support attendance by their scientists and graduate students at IGCP conferences. Potential delegates should ascertain whether their national IGCP Committee distributes travel grants.

Program

**International Conference on Deltas (Mekong Venue)
Geological modeling and Management In conjunction with meetings of
IGCP-475 DeltaMAP, APN Project on Mega-Deltas of Asia, and CCOP
DelSEA project
January 10-16, 2005;
Tan Son Nhat hotel, Ho Chi Minh City, Vietnam
Sub-Institute of Geography, VAST**

DAY -1 January 9, 2005
16:00 registration

DAY 0 January 10, 2005

Pre-Excursion to Pleistocene delta/estuarine system Nguyen Van Lap, Toshiyuki Kitazawa
16:00 registration

DAY 1 January 11, 2005

8:00 registration
8:15 Opening statements Yoshi Saito, Nguyen Van Lap, Zhongyuan Chen, Steve Goodbred
8:20 Welcome from Vietnam hosts Host scientist/Director
8:30 Keynote on Modeling of S2S Eric Hutton
BOUNDARY CONDITIONS AND THE NUMERICAL MODELING OF RIVER DELTAS
9:10 Keynote on Modeling of estuary Eric Wolanski OCEANOGRAPHY OF THE MEKONG RIVER ESTUARY
9:50 Oral presentation (delta assessment) Colin Woodroffe
10:30 Break
10:50 Keynote on Management in Vietnam Huynh Thi Minh Hang
11:30 Keynote on Management in Vietnam Hua Chien Thang
12:10 Lunch & posters
13:30 5-minute poster presentations (~18 posters and more)
15:00 break
15:20 5-minute poster presentations (~20 posters and more)
17:00 poster view & beers
18:30 Welcome party at Tan Son Nhat hotel
21:00 IGCP 475 business meeting appoint officers, discuss goals, make plans

DAY 2 January 12, 2005

8:00 Opening statements Yoshi, Lap, Chen, Steve
8:10 Oral presentation (arsenic crisis in deltas) Steve Goodbred
8:40 Keynote on Management (water resources) Matti Kummu
INTEGRATED MODELLING FOR IMPACT ASSESSMENT IN MEKONG DELTA AND CAMBODIAN FLOODPLAINS
9:10 Oral presentation (Mekong evolution and recent change) Nguyen Van Lap and Ta Thi Kim Oanh
HOLOCENE EVOLUTION OF THE MEKONG RIVER DELTA AND RECENT HUMAN IMPACTS
9:40 Oral presentation (coupling in coastal zone of the Mekong) Klaus Schwarzer
10:10 Break
10:30 5-minute poster presentations (~20 posters and more)
12:10 Lunch & posters
14:00 Tsunami Reports
15:00 Workshop discussion/assignment
Theme: modeling and management for policy maker/evaluation/countermeasure
16:10 Break
16:30 Leader summary/presentation and discussion
17:10 Oral presentation (coastal zone and drainage basin) Avijit Gupta
SEDIMENT RELEASED TO COASTAL WATERS OF SOUTHEAST ASIA: SEASONAL AND SPATIAL DISTRIBUTIONS
17:30 poster and beer
18:00 free CCOP business meeting

DAY 3 January 13, 2005

8:00 Opening statements Yoshi, Lap, Chen, Steve
 8:10 Oral presentation (Ayeyarwady update) Venkitasubramani Ramaswamy
 8:40 Oral presentation (Indus update) Liviu Giosan
 DEVELOPMENT OF THE INDUS MEGA-DELTA
 9:10 Oral presentation (Yangtze update: Three Gorge Dam) Zhongyuan Chen
 9:40 Break
 10:00 5-minute poster presentations (~8 posters and more)
 10:40 Poster session (or still 5-minute poster presentations)
 11:45 Takedown posters
 12:00 Lunch
 13:00 Oral presentation (Tectonics of Mekong region) Tran Nghi
 13:30 Oral presentation (ancient wave/tide deltas) Shuji Yoshida
 14:00 Discussion, 3rd meeting, closing comments review status of MAP deltas, IGCP plans
 15:00 HCM Sightseeing
 18:30 Music/dance and farewell party at a river side restaurant
 22:00

DAY 4-6, January 14-16, 2005:

post-excursion to the Mekong River Delta
 Nguyen Van Lap, Ta Thi Kim Oanh, Masaaki Tateishi

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