Estuary Day Workshop:

Morphodynamic equilibrium in tidal environments

Organized by:

Hohai University

Supported by:

Jiangsu Provincial Society for Oceanology and Limnology
Jiangsu Key Laboratory of Coast Ocean Resources Development and Environment Security

河海大學
HOHAI UNIVERSITY

Nanjing, China, 13-15 October, 2015

1. Introduction

The “Estuary Day” series of workshops started 4 years ago thanks to the effort of scientists from a variety of countries to exchange ideas in an informal but inspiring atmosphere so that more in-depth discussions and collaborations were possible. The core group promoting this initiative included scientists from Delft University of Technology, Deltares, UNESCO-IHE, University of Florida, HR Wallingford, University of Auckland and Hohai University. Each workshop deals with a specific topic and experts in that topic are invited to contribute. The "Estuary Day" workshop this year is organized by Hohai University (Nanjing, China) and supported by Jiangsu Provincial Society for Oceanology and Limnology, and Jiangsu Key Laboratory of Coast Ocean Resources Development and Environment Security.

2. Overview of workshop

The main topic of this workshop is “Morphodynamic equilibrium in tidal environments”. The term “morphodynamic equilibrium” has been widely used in literature. Many authors discussed equilibrium within the context of long-term evolution of natural and modeled tidal patterns. Various definitions have been used, including for example, “static equilibrium”, “dynamic equilibrium”, “quasi-equilibrium” and “statistical equilibrium”. However, there is no general agreement on whether natural systems and numerical models can achieve equilibrium and what type of equilibrium is eventually achieved. This workshop aims to further the understanding of the “morphodynamic equilibrium” concept which bears significance for several research fields (e.g., geomorphology, ecology and coastal engineering).

The workshop consists of two parts: (1) presentations and discussions (1.5 days); and (2) field trips at several sites of the Jiangsu coast (1.5 days). Detailed daily schedules are provided in the following pages.

3. Organizing Committee

Changkuan Zhang (Chairman of Local Organizing Committee, Hohai University)
Jinhai Zheng (Jiangsu Provincial Society for Oceanology and Limnology and Hohai University)
Zheng Gong (Jiangsu Key Laboratory of Coast Ocean Resources Development and Environment Security and Hohai University)
Yongping Chen (Hohai University)
Zeng Zhou (Contact person)
Giovanni Coco (University of Auckland, New Zealand)
Mick van der Wegen (UNESCO-IHE and Deltares, The Netherlands)
Maitane Olabarrieta (University of Florida, USA)
Dano Roelvink (UNESCO-IHE, The Netherlands)
Ian Townend (University of Southampton, UK)

4. Contact information

Dr. Zeng Zhou
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Address: Xikang Road 1, Nanjing, 210098
Address in Chinese: 南京市西康路 1 号，河海大学

5. Hotel address

Name of the hotel: Xikang Hotel (in Chinese: 西康宾馆)
Address: 33 Xikang Rd, Gulou, Nanjing, China (in Chinese: 南京市鼓楼区 西康路 33 号)
Tel: +86 25 8339 3333
A map has been provided on the last page.

6. Meeting location

All the presentations and discussions will be held at **Room 113, Wentian Building, Hohai University.** We will pick you up from the hotel in the morning of 13th. Also, a map has been provided on the last page.

List of Participants

Surname	Given name	Affiliation	Country
Coco	Giovanni	University of Auckland	New Zealand
Olabarrieta	Maitane	University of Florida	USA
van der Wegen	Mick	UNESCO-IHE and Deltares	Netherlands
Townend	Ian	University of Southampton	UK
D'Alpaos	Andrea	University of Padova	Italy
Lanzoni	Stefano	University of Padova	Italy
Winterwerp	Han	TU Delft and Deltares	Netherlands
Jaffe	Bruce	USGS	USA
Gelfenbaum	Guy	USGS	USA
Hu	Zhan	TU Delft	Netherlands
He	Qing	State Key Laboratory of Estuarine and Coastal Research (SKLEC)	China
Zhu	Jianrong	SKLEC	China
Guo	Leicheng	SKLEC	China
Zhang	Min	SKLEC	China
Lu	Yongjun	Nanjing Hydraulic Research Institute (NHRI)	China
Gao	Shu	Nanjing University	China
Wang	Yaping	Nanjing University	China
Yu	Qian	Nanjing University and TU Delft	China
Wang	Yunwei	Nanjing University	China
Cai	Huayang	Sun Yat-Sen University	China
Zhang	Changkuan	Hohai University	China
Zheng	Jinhai	Hohai University	China
Gong	Zheng	Hohai University	China
Chen	Yongping	Hohai University	China
Zhang	Wei	Hohai University	China
Tao	Jianfeng	Hohai University	China
Xin	Pei	Hohai University	China
Li	Huan	Hohai University	China
Zhou	Zeng	Hohai Univerisity	China

PROGRAM IN DETAIL: Day 1 (13th Oct, Tuesday)

Time	Arrangement	Speaker	Note
9:00-9:05	Opening speech	Changkuan Zhang	Presided by: Zheng Gong (Vice Dean)
9:05-9:20	A brief introduction to Hohai Uni. and College of Harbour, Coastal and Offshore Engineering	Jinhai Zheng (Dean)	
9:20-9:30	Group Photo		
9:30-10:00	(Talk 1) Introduction to morphodynamic equilibrium: Concepts and applications	Giovanni Coco, and Zeng Zhou	Chaired by: Giovanni Coco
10:00-10:25	(Talk 2) Long-term morphodynamic modelling of estuaries	Mick van der Wegen	
10:25-10:50	(Talk 3) Estuarine sediment budgeting: an analysis of controlling factors	Shu Gao	
10:50-11:00	Tea/Coffee break		
11:00-11:25	(Talk 4) Morphodynamic equilibrium of tidal channels	Stefano Lanzoni	
11:25-11:50	(Talk 5) Simple analytical approach to determining the Equilibrium depth profile in a tidal river	Huayang Cai	
12:00-13:30	**Lunch break**		Friendship Restaurant
13:30-13:55	(Talk 6) Why is the hyper-turbid state in the Ems River so stable?	Han Winterwerp	Chaired by: Zheng Gong
13:55-14:20	(Talk 7) Coriolis and baroclinic effects on the morphodynamic evolution of tidal embayments	Maitane Olabarrieta	
14:20-14:45	(Talk 8) River regime change of the Changjiang Estuary in the past 50 years and its impact on the saltwater intrusion	Jianrong Zhu	
14:45-15:00	Tea/Coffee break		
15:00-15:25	(Talk 9) Bedform Indicators of Morphodynamic Disequilibrium in Estuaries	Guy Gelfenbaum	
15:25-15:50	(Talk 10) Morphology Evolution of Subaqueous Delta, Yangtze Estuary, China	Qing He	
15:50-16:15	(Talk 11) Tidal impacts on flow division at bifurcations in the Pearl River Delta	Wei Zhang	
16:15-16:30	Tea/Coffee break		
16:30-18:00	Discussions on workshop output	All	
18:00-20:00	**Dinner**		Xikang Restaurant

PROGRAM IN DETAIL: Day 2 (14th Oct, Wednesday)

Time	Arrangement	Speaker	Note
9:00-9:25	(Talk 12) Signatures of Biogeomorphic feedbacks in Salt-Marsh Systems	Andrea D'Alpaos	Chaired by: Yongping Chen
9:25-9:50	(Talk 13) Variability in suspended sediment concentrations over an accretional coastal mudflat	Yaping Wang	
9:50-10:15	(Talk 14) Sediment Supply Controls on Morphodynamic Equilibrium at Decadal and Seasonal Time Scales	Bruce Jaffe	
10:15-10:30	Tea/Coffee break		
10:30-10:55	(Talk 15) Response characteristics of silty and muddy tidal flat to high intensity reclamation	Yongjun Lu	
10:55-11:20	(Talk 16) The role of tidal currents on the evolution of tidal creeks: Insights from laboratory experiments	Zheng Gong	
11:20-11:50	Discussions on workshop output		
11:50-15:40	**Lunch in the bus**		Quick lunch
	Bus from Nanjing to Dongtai (Yancheng)		City: Yancheng
15:40-17:40	Visit reclamation sites, Tiaozini project, Introduction material in English will be provided. (条子泥围垦现场)		
	Visit Liangdouhe Estuary Introduction material in English will be provided. (梁垛河河口)		
17:40-18:30	Bus from Dongtai to Dafeng, Hotel Check-in		
18:30-20:00	**Dinner (Half island restaurant)**		

PROGRAM IN DETAIL: Day 3 (15th Oct, Thursday)

Time	Arrangement	Location
8:00-8:30	Breakfast at Hotel, and checkout	Yancheng
8:30-10:00	Bus from Dongtai hotel to Wanggang	
10:00-11:00	Visit Wanggang Estuary and new sluice (王港新闸) Introduction material in English will be provided.	
11:00-12:00	Visit Dafeng Harbour (大丰港港口) Introduction material in English will be provided.	
12:00-13:30	**Lunch break, then go back to Nanjing**	Local Restaurant
13:30-18:30	Bus from Dafeng to Nanjing	Nanjing
18:30-20:30	**Closing Dinner**	

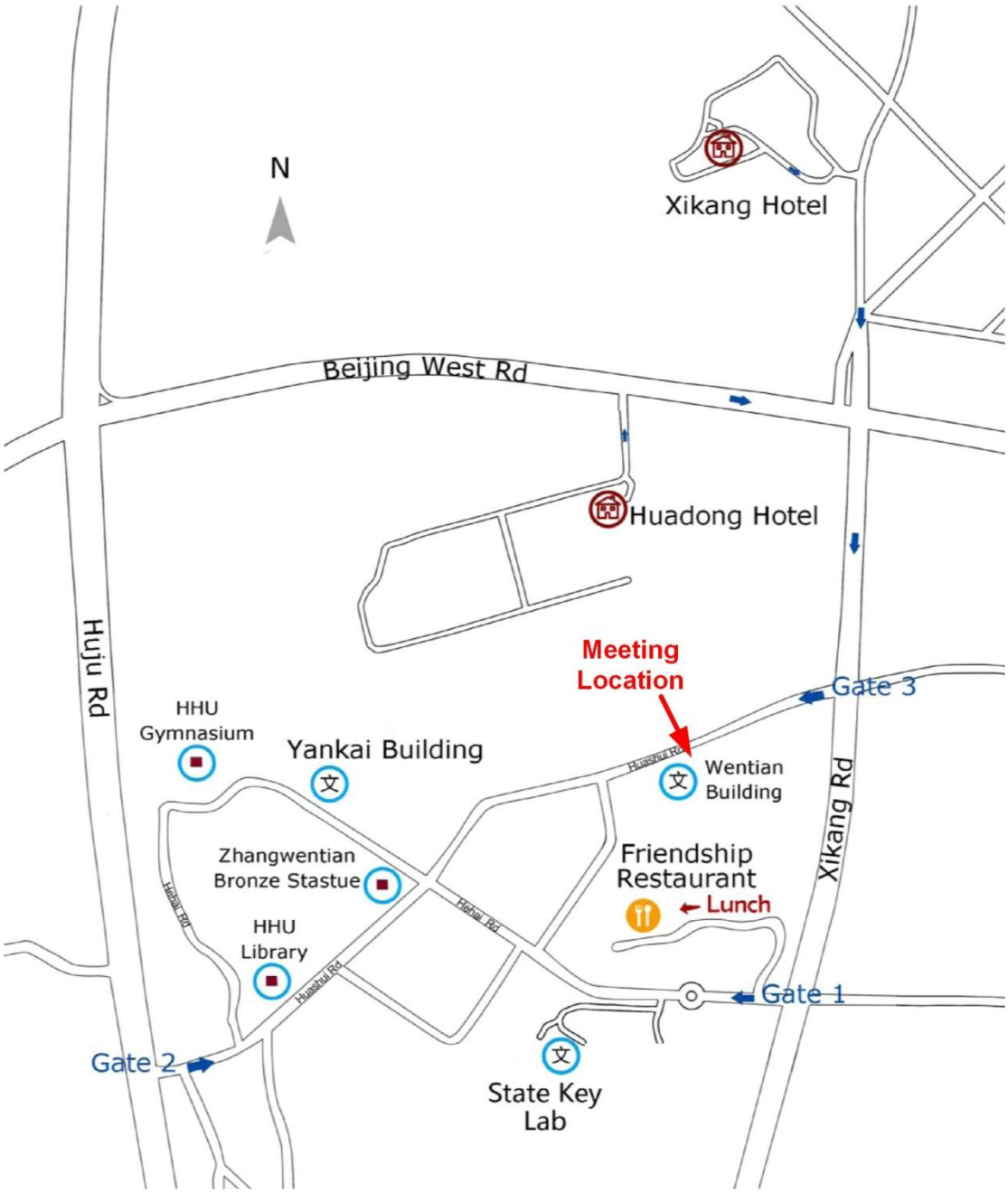
USEFUL INFOMRATION

1. **Travel to Nanjing:** There is an international airport in Nanjing, which could be one of the easiest options for international guests. However, if you arrive at Shanghai Pudong Airport, you can use No.2 Subway (transit at Guanglanlu staion, ~2.0hr, 8RMB) or Maglev and Subway (transit at Longyang station, ~1.5hr, ~60RMB) or directly take a taxi (~1hr, ~200RMB) to Shanghai Hongqiao Railway station, and then take a high speed train (1.5hr-2.0hr, ~140RMB for 2nd-class ticket and ~220RMB for 1st-class ticket) to Nanjing. There are two train stations in Nanjing, including the Nanjing Station and the Nanjing South Railway Station. Please bear in mind the service of high speed train to Nanjing at Shanghai Hongqiao Railway Station starts from 6:20 am in the morning and ends at 9:33 pm in the evening.

2. **Get to Xikang Hotel:** Depending on the time of arrival (e.g., during working hours), we will try to arrange our assisting team to pick you up at the Nanjing train stations (Nanjing Station or Nanjing South Railway Station) or Nanjing Lukou airport. From Nanjing airport, taking a taxi (~1hr, ~130RMB) to Xikang Hotel will be the easiest option. From Nanjing South Railway Station, taking a taxi to the hotel takes around 30-40min (~40RMB). From Nanjing Station, taking a taxi to the hotel takes around 20-30 min (~20-30RMB).

3. **Get to Hohai University:** A local map is provided on the last page (thanks to Prof. Yongping Chen). It takes about 10 minutes walking from the hotel to Hohai university

4. **Presentations:** Each speaker will have more or less 25 minutes for the presentation, including 15-20 min for the oral presentation plus 5-10 min for the discussions. However, time can be relatively flexible due to our informal nature of the workshop.



Local Map showing meeting location (Room113, Wentian Building) and Xikang hotel.