



## International Hydrological Programme

### Coastal Vulnerability and Freshwater Discharge

The Twenty-six IHP Training Course

27 November - 10 December, 2016

Nagoya, Japan

Institute for Space-Earth Environmental Research, Nagoya University

Supported by



日本海洋学会  
The Oceanographic Society of Japan

## Outline

A short training course “Coastal Vulnerability and Freshwater Discharge” will be programmed for participants from Asia-Pacific regions as a part of the Japanese contribution to the International Hydrological Program (IHP). The course is composed of a series of lectures and practice sessions.

## Objectives

Large number of population is living in coastal area of Asian countries. The area is also important for various human activities including fisheries, transportation, farming, and many other industries. The population explosion of the coastal area often makes pollution of waters, both fresh and salt waters, inducing environmental problems in the area. Freshwater input to the coastal area modified the circulation of waters. Large amount of materials are known to be discharged to the coastal water with the freshwater as natural, and they played important roles to keep the coastal ecosystem; however, the pollution of the freshwater also alternate the coastal ecosystem. River is known as a major source of freshwater, and more recently importance of underground discharge has been also recognized. Those freshwater discharges are also changing significantly by the climate change, construction of dams on the river, and use of freshwater. Coastal shallow are is often destructed to make a land for farming, industry or living area with reclamation and other human activities. Recently, it was shown that those coastal areas are vulnerable for tsunami caused by earthquake and storm surge caused by typhoon, and radical changes can be happened by those natural hazards. It is necessary to manage the area to make comfortable, productive and safe.

In this training course, the basic knowledge of physical, biological and chemical environments of coastal waters, and forcing including freshwaters from river and underground discharge, will be covered. Furthermore, interaction between nature of coastal area and human will be discussed. Technical training on-board of Training Vessel Seisui-Marui, Mie University, will cover the basic technics to sample waters, analyze the quality and interpret the data in large estuarine Ise and Mikawa Bay. Demonstration of satellite and numerical models will be also covered.

## Conveners

Convener : Prof. ISHIZAKA, Joji

Assistant : Assoc. Prof. AIKI, Hidenori  
Assist. Prof. MINO, Yoshihisa

Secretary : Ms. HAGA, Saori  
Ms. NIIZUMA, Ryoko

Institute for Space-Earth Environmental Research (ISEE), Nagoya University

## Lecturers (Tentative)

AIKI, Hidenori

Institute for Space-Earth Environmental Research (ISEE), Nagoya University

ISHIKAWA, Satoshi

Research Institute for Humanity and Nature

ISHIZAKA, Joji

Institute for Space-Earth Environmental Research (ISEE), Nagoya University

KASAI, Akihhide

Graduate School of Fisheries Sciences, Hokkaido University

MINO, Yoshihisa

Institute for Space-Earth Environmental Research (ISEE), Nagoya University

TANAKA, Kenji

Disaster Prevention Research Institute, Kyoto University

TANIGUCHI, Makoto

Research Institute for Humanity and Nature

TERAUCHI, Genki

Northwest Pacific Region Environmental Cooperation Center

UMEZAWA, Yu

Graduate School of Fisheries Science and Environmental Studies, Nagasaki University

YAMASHITA, Hiromi

College of Asia Pacific Studies, Ritsumeikan Asia Pacific University

YANAGI, Tetsuo

International EMECS Center

## Key Note (Tentative)

K1: *Satoumi* Concept

YANAGI T.

K2: TBD

TBD (supported by PICES)

## Lectures (Tentative)

L1: River Discharge

TANAKA K.

L2: Submarine Ground Water Discharge

TANIGUCHI M.

L3: Coastal Water Circulation

KASAI A.

L4: Nutrient Dynamics

UMEZAWA Y.

L5: Plankton Ecosystem

ISHIZAKA J.

L6: Benthic Ecosystem

TBD

L7: Influence to Fisheries

ISHIKAWA S.

L8: River Basin Management

TBD

L9: Tidal Flat Conservation

YAMASHITA H.

## Demonstration

D1: Satellite Data Analysis

TERAUCHI G.

D2: Coastal Model Output Analysis

AIKI H.

## Field Workshop and Exercise

W1: Cruise in Ise Bay by T/V Seisui-Marui, Mie University

ISHIZAKA J. and MINO Y.

### Schedule (27 November to 10 December, 2016)

27 (Sunday)	Arrival at Central Japan International Airport and Move to Nagoya University	
28 (Monday)	09 : 30-09 : 40	Registration & Guidance
	09 : 40-12 : 00	Lecture 1
	13 : 30-16 : 00	Lecture 2
	17 : 00-19 : 00	Welcome Party
29 (Tuesday)	09 : 30-12 : 00	Lecture 3
	14 : 00-16 : 30	Keynote 1
30 (Wednesday)	09 : 30-12 : 00	Lecture 4
	14 : 00-16 : 30	Keynote 2
	(Move to Mie)	
1 (Thursday)	Cruise in Ise/Mikawa Bay	
2 (Friday)	Cruise in Ise/Mikawa Bay	
3 (Saturday)	Cruise in Ise/Mikawa Bay	
4 (Sunday)	Tour to Ise Shrine (Back to Nagoya)	
5 (Monday)	09 : 30-12 : 00	Lecture 5
	13 : 30-17 : 00	Demonstration 1
6 (Tuesday)	09 : 30-12 : 00	Lecture 6
	13 : 30-16 : 00	Lecture 7
7 (Wednesday)	09 : 30-12 : 00	Lecture 8
	13 : 30-17 : 00	Demonstration 2
8 (Thursday)	09 : 30-12 : 00	Lecture 9
	13 : 30-17 : 00	Making reports and discussions
9 (Friday)	09 : 30-11 : 30	Report presentations and discussions
	11 : 30-12 : 00	Completion ceremony of this course
	13 : 30-15 : 30	Farewell party
10 (Saturday)	Departure from Central Japan International Airport	

### Downloading the Textbook for Participants from the Website

The textbook of “the 26th IHP Training Course”, which is converted in PDF style, will be prepared and will be put on the IHP Nagoya/Kyoto forum website of “[www.ihpnagoyaforum.org](http://www.ihpnagoyaforum.org)”. The participants are requested to download such a PDF file from the website in advance as a preparation to the several lectures of the training course. The textbook should be constituted of contents (referred sentence bodies, figures, tables, pictures, equations and observed/calculated results) with authorized copyrights.

### Web broadcasting the Lectures

The lectures except field trips will be webcasted to some universities in Asia via the UNESCO Office Jakarta and with other technology facilities. The slide materials will be distributed to the participants from the website in advance. The materials are requested to be filtered out whenever copyrights apply in case of web broadcasting; part or its whole slides will be masked out with digital treatments such as overlaying mosaic images or with black-out screening during web broadcasting.