



## International Hydrological Programme

# Integrated Basin Management under Changing Climate

## The Twenty-seventh IHP Training Course

4<sup>th</sup> – 15<sup>th</sup> December, 2017

Kyoto, Japan

Water Resources Research Center, Disaster Prevention Research Institute,  
Kyoto University  
Institute for Space-Earth Environmental Research, Nagoya University



## **Outline**

A two-week training course on integrated basin management strategies including aspects of water resources, water related disasters under climate change is programmed for participants from Asia-Pacific regions as a part of Japanese contribution to the International Hydrological Program (IHP). The course composed of a series of lectures, model practices, field exercise and technical visits will be held at Disaster Prevention Research Institute (DPRI), Kyoto University during the two weeks from 4th to 15th December 2017.

## **Objectives**

Development of resilient society has become an inevitable issue under the recent climate change increasing the frequency of extreme phenomena such as unprecedented flood and severe drought. In order to make our society more resilient, social adaptation to the hazards and countermeasure for disasters are required based on technologies for prediction and assessment on the future conditions of water resources.

In light of the Focal Area 1.1 “Risk management as adaptation to global change” and 1.2 “Understanding coupled human and natural processes” under the Theme 1 “Water related disasters under hydrological change” of the IHP-VIII, the 27<sup>th</sup> IHP training course is focused on following three objectives: 1) to acquire the latest knowledge on climate change impacts on water resources, water related disasters and ecosystem services, 2) to make practice on rainfall-runoff-inundation estimation at river basin scale, and 3) to discuss strategies of integrated basin management to realize resilient society under climate change.

**Dates**      4<sup>th</sup> – 15<sup>th</sup> December, 2017

**Venue**      DPRI, Kyoto University, Uji, Kyoto, Japan

## **Conveners**

Convener: TANAKA, Shigenobu (DPRI, Kyoto University)

Chief assistant: TAKEMON, Yasuhiro (DPRI, Kyoto University)

Secretary: KOZAKI, Sachiko and KAWASAKI, Yuko (DPRI, Kyoto University)

## **Lecturers**

HORI, Tomoharu (DPRI, Kyoto University)

KOBAYASHI Sohei (DPRI, Kyoto University)

NAKAKITA, Eiichi (DPRI, Kyoto University)

NOHARA, Daisuke (DPRI, Kyoto University)

SAYAMA, Takahiro (DPRI, Kyoto University)

SUMI, Tetsuya (DPRI, Kyoto University)

TACHIKAWA, Yasuto (Graduate School of Engineering, Kyoto University)

TAKARA, Kaoru (DPRI, Kyoto University)

TAKEMON, Yasuhiro (DPRI, Kyoto University)

TANAKA, Kenji (DPRI, Kyoto University)

TANAKA, Shigenobu (DPRI, Kyoto University)

### **Lectures' contents at the Lecture Room (HW401) of DPRI, Kyoto University**

Keynote 1	Resilient society development under changing climate	K. Takara
Keynote 2	Climate change impact assessment on disaster environments	E. Nakakita
Lecture 1	Fundamentals of basin-scale hydrological analysis	Y. Tachikawa
Lecture 2	Fundamentals in flood frequency analysis	S. Tanaka
Lecture 3	Fundamentals in rainfall-runoff-inundation modelling	T. Sayama
Lecture 4	Fundamentals in land-surface processes	K. Tanaka
Lecture 5	Fundamentals in optimum operation of reservoir systems	T. Hori
Lecture 6	Optimum operation of reservoir systems	D. Nohara
Lecture 7	Integrated sediment management for reservoir sustainability	T. Sumi
Lecture 8	Sustainable management of river basin ecosystem services	S. Kobayashi

### **Indoor practices at the Seminar Room (S217D) of DPRI, Kyoto University**

Exercise 1 & 4	Rainfall-runoff-inundation modelling	T. Sayama
Exercise 2 & 3	Processing method of geographical and meteorological data	K. Tanaka

#### **Field exercises**

Exercise 5	Evaluation procedure of river-bed geomorphology	S. Kobayashi
Exercise 6	Riverbed habitat evaluation procedure	Y. Takemon

#### **Model experiment**

Exercise 7	Dam operation experiment using a laboratory model	T. Sumi
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**Technical visit** Lake Biwa, Seta River Weir, Amagase Dam and Uji River

#### **Training course documents**

The training course documents, one page abstracts and presentation materials of the lectures, will be available on the IHP Nagoya forum website in due course. The participants are requested to download them in advance as a preparation to the lectures of the training course.

## Program (3<sup>rd</sup> to 16<sup>th</sup> December, 2017)

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3 Dec. (Sun.)	Arrival at Kansai Airport and movement to Kyoto	
4 Dec. (Mon.)	Registration & Guidance (morning) Opening ceremony (morning) Country report (morning) Keynote lecture 1 (afternoon) Keynote lecture 2 (afternoon) Welcome party (evening)	Y. Takemon K. Takara E. Nakakita
5 Dec. (Tue.)	Lecture 1 (morning) Lecture 2 (afternoon)	Y. Tachikawa S. Tanaka
6 Dec. (Wed.)	Lecture 3 (morning) Exercise 1 (afternoon)	T. Sayama T. Sayama
7 Dec. (Thu.)	Lecture 4 (morning) Exercise 2 (afternoon)	K. Tanaka K. Tanaka
8 Dec. (Fri.)	Exercise 3 (morning) Exercise 4 (afternoon)	K. Tanaka T. Sayama
9 Dec. (Sat.)	Technical visits to the Lake Biwa and the Uji River	Y. Takemon
10 Dec. (Sun.)	Technical visits and cultural exchange with students at the Katsura River	
11 Dec. (Mon.)	Lecture 5 (morning) Lecture 6 (afternoon)	T. Hori D. Nohara
12 Dec. (Tue.)	Lecture 7 (morning) Lecture 8 (afternoon)	T. Sumi S. Kobayashi
13 Dec. (Wed.)	Field Exercise 5 & 6 at the Uji River and the Kizu River	S. Kobayashi Y. Takemon
14 Dec. (Thu.)	Exercise 7 (morning) Report preparation (afternoon)	T. Sumi Y. Takemon
15 Dec. (Fri.)	Report presentation by each participant (morning) Completion ceremony (morning) Farewell party (afternoon)	Y. Takemon
16 Dec. (Sat.)	Departure from Kansai Airport	

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