



Intergovernmental Hydrological Programme (IHP)

**The Twenty-ninth IHP Training Course in Nagoya**  
**“Changing Global Water Cycle and the Regional Responses”**

**27<sup>th</sup> November– 6<sup>th</sup> December, 2019**  
**Nagoya, Japan**

Institute for Space-Earth Environmental Research (ISEE), Nagoya University  
Virtual laboratory (VL) for diagnosing the earth's climate system, Nagoya University  
Disaster Prevention Research Institute (DPRI), Kyoto University





## Lecturers

- Lecture 1: Global warming and hydrological sensitivity  
MASUNAGA Hirohiko (ISEE, Nagoya University)
- Lecture 2: Meso-scale meteorology and tropical cyclones  
TSUBOKI Kazuhisa (ISEE, Nagoya University)
- Lecture 3: Radar meteorology and remote sensing of cloud and precipitation  
TAKAHASHI Nobuhiro (ISEE, Nagoya University)
- Lecture 4: Hydroclimatic variability in the Arctic circum-polar region  
HIYAMA Tetsuya (ISEE, Nagoya University)
- Lecture 5: Glaciers in the high-mountain Asia  
FUJITA Koji (Graduate School of Environmental Studies, Nagoya University)
- Lecture 6: Introduction of isotope hydrology  
KURITA Naoyuki (ISEE, Nagoya University)
- Lecture 7: Satellite view of physical and biological response of the ocean  
ISHIZAKA Joji (ISEE, Nagoya University)
- Lecture 8: Atmospheric chemistry and its connection to cloud formation  
MOCHIDA Michihiro (ISEE, Nagoya University)

## Indoor practices

- Exercise 1: Cloud resolving atmospheric model and ocean circulation model  
SHINODA Taro (ISEE, Nagoya University)  
AIKI Hidenori (ISEE, Nagoya University)
- Exercise 2: Atmospheric reanalysis and satellite remote sensing of precipitation  
FUJINAMI Hatsuki (ISEE, Nagoya University)  
MASUNAGA Hirohiko (ISEE, Nagoya University)
- Exercise 3: Glacier mass balance model  
SAKAI Akiko (Graduate School of Environmental Studies, Nagoya University)  
FUJITA Koji (Graduate School of Environmental Studies, Nagoya University)
- Exercise 4: Laboratory experiment of stable isotopes and atmospheric aerosol  
MINO Yoshihisa (ISEE, Nagoya University)  
KURITA Naoyuki (ISEE, Nagoya University)  
OHATA Sho (ISEE, Nagoya University)

### **Note for the application**

In the exercises, we use atmospheric reanalysis data, satellite remote sensing data, and several nonhydrostatic models which are available in Linux OS PC. Thus, applicant needs basic skills of handling Linux OS.

### **Training course documents**

The training course documents will be available on our website in due course. The participants are requested to download them in advance as a preparation to the lectures of the training course.

### **Schedule and Program**

27<sup>th</sup> November– 6<sup>th</sup> December, 2019

*Please see the next page.*

Schedule (27<sup>th</sup> November– 6<sup>th</sup> December, 2019)

Date		Time	Contents	Lectures
27 Nov.	Wed.	08:30~09:00	Registration & Guidance	HIYAMA T.
		09:00~09:20	Opening ceremony	SHIOKAWA K.
		09:30~10:45	Self-introduction	HIYAMA T.
		11:00~12:30	Lecture 1	MASUNAGA H.
		14:00~17:00	Exercise 1	SHINODA T.
28 Nov.	Thu.	09:00~10:30	Lecture 2	TSUBOKI K.
		11:00~12:30	Exercise 1	SHINODA T.
		14:00~17:00		AIKI H.
		17:30~19:00	Welcome Party	HIYAMA T. & SHINODA T.
29 Nov.	Fri.	09:00~10:30	Lecture 3	TAKAHASHI N.
		11:00~12:30	Exercise 2	FUJINAMI H.
		14:00~17:00		MASUNAGA H.
30 Nov.	Sat.	09:00~10:30	Exercise 1 (Follow up)	AIKI H.
		11:00~12:30		SHINODA T.
		14:00~17:00	Free	
1 Dec.	Sun.	All day	Free	
2 Dec.	Mon.	09:00~10:30	Lecture 4	HIYAMA T.
		11:00~12:30	Exercise 2 (Follow up)	MASUNAGA H.
		14:00~17:00		FUJINAMI H.
3 Dec.	Tue.	09:00~10:30	Lecture 5	FUJITA K.
		11:00~12:30	Exercise 3	SAKAI A.
		14:00~17:00		FUJITA K.
4 Dec.	Wed.	09:00~10:30	Lecture 6	KURITA N.
		10:45~12:30	Exercise 4	MINO Y.
		14:00~17:00		KURITA N.
5 Dec.	Thu.	09:00~10:30	Lecture 7	ISHIZAKA J.
		11:00~12:30	Exercise 3 (Follow up)	FUJITA K.
		14:00~17:00		SAKAI A.
6 Dec.	Fri.	09:00~10:30	Lecture 8	MOCHIDA M.
		10:45~12:30	Exercise 4	OHATA S.
		14:00~15:45	Presentations (Reports)	HIYAMA T.
		16:00~17:00	Completion ceremony	HIYAMA T.
		17:00~19:00	Farewell party	HIYAMA T. & SHINODA T.