

# International Workshop on Cryospheric Change and Sustainable Development

Lanzhou, China, 1-2 August, 2017  
(SECOND CIRCULAR, March 2017)

## *Organized and Sponsored by:*

State Key Laboratory of Cryospheric Science (SKLCS), Northwest Institute of Eco-Environment and Resources (NIEER), Chinese Academy of Sciences (CAS)  
Climate and Cryosphere (CliC)/World Climate Research Programme (WCRP)  
International Association of Cryospheric Sciences (IACS)  
International Centre for Integrated Mountain Development (ICIMOD)  
Chinese National Committee for Future Earth (CNC-FE)  
Institute of Tibetan Plateau Research (ITP), CAS  
State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University (BNU)  
Polar Research Institute of China (PRIC)  
Department of Earth System Science, Tsinghua University (TU)  
Institute of Atmospheric Sciences, Fudan University (FU)  
National Natural Science Foundation of China (NSFC)  
Ministry of Science and Technology of the People's Republic of China (MOST)



## **THEME**

The cryosphere is the part of the Earth system consisting of all snow, ice and frozen ground, both on and beneath the surface of the Earth, and the oceans. As an integral part of the climate system, the cryosphere responds the quickest to, and is the most representative of, global climate change. It also impacts both bio and anthropogenic systems on different spatial and temporal scales. The theme of this workshop “Cryospheric Change and Sustainable Development” is to improve our understanding of changes in all components of the cryosphere and their interdependence and causes. The workshop will focus on our current capabilities to model and assess these changes, mitigation and adaptability strategies in a rapidly changing cryosphere, eco-social sustainability, and the role of the cryosphere in the earth’s future.

## **TOPICS**

### **- Cryospheric processes and dynamics**

The cryosphere is a prominent factor in, and an indicator of, global climate change. It functions as one of the most direct and sensitive feedbacks in the climate system, and plays an important role in the earth’s climate system. The global cryosphere has undergone significant changes in recent decades. Almost all of the elements of the cryosphere have lost mass under global warming. As global climate continues to warm in the future, Arctic sea ice extent will continue to shrink, while global glacier volume, Northern Hemisphere spring snow cover, and permafrost extent will continue to decrease. The goals for discussing this topic include:

- 1) to assess and quantify rapid changes in each component of the cryosphere during recent decades,
- 2) to improve understanding of the physical processes and feedback mechanisms that control the interactions between the cryosphere and other elements of the climate system, and
- 3) to improve depictions of cryospheric processes in climate models and thereby reduce uncertainties in climate simulations and projections.

### **- Attribution and impacts of cryospheric changes**

Rapid changes in the cryosphere have profound influences on the energy balance, atmospheric circulation, ocean circulation, water cycle, sea level, carbon cycle, and socio-economic development. The session focuses on:

- 1) impacts of snow cover and sea ice changes on regional and global climate dynamics,
- 2) effects of glacier (ice sheet) shrinkage on sea level rise and water resource,
- 3) permafrost degradation and carbon cycle as well as ecosystem change.

### **- Mitigation and adaptive countermeasures on cryospheric changes**

Rapid climate warming has exacerbated a series of environmental and development issues in cryospheric regions, such as water resource security, cryosphere disasters, ecological security, and people's livelihoods. The session attempts to establish mitigation and adaptive countermeasures related to cryospheric changes, such as optimal water resources utilization, ecosystem protection, Arctic shipping, disaster risk (GLOF) assessment, etc.

### **- Cryosphere services and their function for sustainable development**

The cryosphere plays an important regulatory function to the climate and Earth systems by sophisticated positive and negative feedback processes of water, energy, and biogeochemical exchange on different spatial and temporal scales. Because the cryosphere stores a significant amount of resources (e.g. water, natural gas, oil) as well as carries endemic biological species and indigenous cultural functions, it is not only an irreplaceable resource but also a candidate for sustainable development of population, resources, environment, social and economic systems at high altitudes and polar regions. The session aims to assess the cryosphere service function (CSF), such as resources, ecosystem services, culture services, tourism values and related factors.

### **SCIENCE STEERING COMMITTEE**

Prof. Dahe Qin (chair), SKLCS, NIRRR, CAS

Dr. Gerhard Krinner, CliC/WCRP and Glaciology and External Geophysics Laboratory (LGGE), France

Prof. James Renwick, CliC/WCRP and Victoria University of Wellington, New Zealand

Dr. David Molden, ICIMOD

Dr. Charles Fierz, IACS and WSL Institute for Snow and Avalanche Research SLF, Switzerland

Prof. Tandong Yao, ITP, CAS

Prof. Bojie Fu, Research Center for Eco-Environmental Sciences, CAS

Prof. Yuanming Lai, NIEER, CAS

Prof. Renhe Zhang, Institute of Atmospheric Sciences, FU

### **ORGANIZING COMMITTEE**

Dr. Shichang Kang, SKLCS, NIRRR, CAS

Dr. Lawrence Hislop, CliC/WCRP

Prof. Andrew Mackintosh, IACS and School of Geography, Environment and Earth Sciences, Victoria University of Wellington

Dr. Mats Eriksson, ICIMOD

Dr. Huigen Yang, PRIC

Dr. Yongjian Ding, SKLCS, NIRRR, CAS

Prof. Cunde Xiao, State Key Laboratory of Earth Surface Processes and Resource Ecology, BNU

Dr. Tianjun Zhou, CNC-FE

Prof. Yong Luo, Department of Earth System Science, TU

### **CONFERENCE SECRETARIAT**

Secretary General:

Dr. Shichang Kang E-mail: shichang.kang@lzb.ac.cn

Prof. Cunde Xiao E-mail: cdxiao@lzb.ac.cn

Members:

Dr. Feiteng Wang E-mail: wangfeiteng@lzb.ac.cn; Phone: 86-931-4967383

Dr. Tonghua Wu E-mail: thuawu@lzb.ac.cn; Phone: 86-931-4967713

Address: No. 320, Donggang West Road, Lanzhou 73000, Gansu Province, P. R. China

State Key Laboratory of Cryospheric Science (SKLCS), Northwest Institute of Eco-Environment and Resources (NIEER), Chinese Academy of Sciences (CAS)

### **CALL FOR ABSTRACTS**

Authors are invited to submit a 250-300 word abstract which should be 21\*29.7cm (A4) with a margin of 3 cm on the top and bottom and 2.5 cm on the right and left, using "Times New Roman" font throughout, single-spaced paragraphs and 12 pt. type for the body text. An abstract should contain the title, author(s) full name (the speaker's name should be underlined), address and E-mail. The authors are also required to complete and return the application form.

Please submit your abstract (in Microsoft Word format) and application form by E-mail to wangfeiteng@lzb.ac.cn by **June 1, 2017**.

### **FUNDING**

The workshop will provide limited financial support to cover participation expenses, such as international air ticket, local accommodation and China domestic travel expenses. Please complete the financial application section in the Participation Form (Annex I) and send to wangfeiteng@lzb.ac.cn by **June 1, 2017**. The support will be awarded on basis of needs subject to fund availability and total the number of applications.

### **VENUE**

The conference will be held at building of State Key Laboratory of Cryospheric Science, located at the Northwest Institute of Eco-Environment and Resources. State Key Laboratory of Cryospheric Science is conveniently located in the city centre, adjacent to the railway station, airport expressway, shopping areas and restaurants,

and within a 10-15 minute walk of nearly all major hotels.

## ACCOMMODATION

A number of hotels located within 1.0 km of the conference venue (a 10-minute walk) have provided group rates for our conference. Standard Room with towel provided as well as free internet and including breakfast cost US \$40-80 per night. You must contact conference secretariat at least one month prior to arrival. Please complete the Accommodation and Post-Conference Field Trip Request Form (Annex II) and send to wangfeiteng@lzb.ac.cn.ac.cn by **June 1st, 2017**.

## POST-CONFERENCE FIELD TRIP:

A 4-7 days field trip will be organized to immediately follow the conference. Please complete the Accommodation and Post-Conference Field Trip Request Form (Annex II) and send to wangfeiteng@lzb.ac.cn.ac.cn by **June 1st, 2017**. If the number of participants in this field trip is less than 10, this field trip will be canceled.

### Route 1: Hexi Corridor

A four-day field trip will be organized to immediately follow the conference. This route is from Lanzhou to Dunhuang (the most famous site for Mogao Grottoes) in the Gobi Desert via other several sightseeing sites along the route such as a Danxia Landform, Laohugou Glacier No.12, Great Wall etc. Cost per person will be \$800 (includes coach transport to/from Lanzhou, three nights accommodation, and lunches/dinners). Primary itinerary is as follows:

August 3<sup>rd</sup>, Lanzhou to Zhangye, visit Danxia Landform

August 4<sup>th</sup>, Zhangye to Dunhuang, visit Dunhuang Gobi Research Station and Mogao Grottoes

August 5<sup>th</sup>, visit Qilian Glaciological and Ecological Environmental Station (Laohugou Glacier No.12)

August 6<sup>th</sup>, leave Dunhuang to Beijing or Lanzhou



## Route 2: Tibetan Plateau

A seven-day field trip will be organized to immediately follow the conference. This route is from Lanzhou to Lhasa via several cryospheric station on the Tibetan Plateau along the route such as Germu Station, Tanggula Station and Beiluhe Station, Namtso lake, Yamdor Lake etc. Cost per person will be US \$1800-2000 (includes SUV transport from Lanzhou, six nights accommodation, and lunches/dinners). Primary itinerary is as follows:

August 3<sup>rd</sup>, Lanzhou to Delingha, visit Qinghai Lake

August 4<sup>th</sup>, Delingha to Germu, visit Qarhan Salt Lake

August 5<sup>th</sup>, visit Germu Cryospheric Station and Yuzhufeng glacier

August 6<sup>th</sup>, Germu to Nagchu, visit Tanggula Cryospheric Station, Beiluhe Permafrost Station, and Nagchu Ecological Station

August 7<sup>th</sup>, Nagchu to Lhasa, visit Namtso Station for Multispheric Observation

August 8<sup>th</sup>, visit Yamdor Lake and Potala Palace

August 9<sup>th</sup>, leave Lhasa to Beijing or Lanzhou



## Lanzhou City

Lanzhou, located in central China, is the capital of the Gansu province and has a population of about 4,000,000. The Yellow River flows across the city and there is the oldest bridge on the Yellow River in the city. The Nanshan Mount and Beishan Mountain are located in the south and north of the city. Lanzhou has a rather dry climate and the weather in early August is comfortable. You may need a jacket, sun block, a sun hat and some comfortable walking shoes for the excursion.



### **IMPORTANT DATES**

Abstract submission deadline:	June 1 <sup>st</sup> 2017
Financial support deadline:	June 1 <sup>st</sup> 2017
Deadline for hotel booking:	June 1 <sup>st</sup> 2017
Deadline for Field Trip Request Form:	June 1 <sup>st</sup> 2017
Symposium starts:	August 1 <sup>st</sup> 2017
Post-conference field trip:	August 3 <sup>rd</sup> -9 <sup>th</sup> 2017

### **Annex I**

#### **Financial Support Form**

Please complete the form and submit it to wangfeiteng@lzb.ac.cn before June 1, 2017.

Name		Sex	
Affiliation			
Position		Title	
Email			
Title of Talk			
Mailing Address		Zip Code	
Financial Support Request	International Air Ticket		
	Domestic Hotel Expense		
	Domestic Travel Expense		

**Annex II****Accommodation and Post-Conference Field Trip Request Form**

Name		Sex	
Affiliation			
Position		Title	
Email			
Mailing Address		Zip Code	
Hotel Booking	Yes/ No	<input type="checkbox"/> Single Room	<input type="checkbox"/> Standard Room
Post-Conference Field Trip	Yes/ No	<input type="checkbox"/> Route 1	<input type="checkbox"/> Route 2