

International Workshop on Cryospheric Changes in a Warming Climate: Filling the Gap between Observations and Decision-making

Lijiang, China, 26-27 October, 2019

(FIRST CIRCULAR)



Organized and Sponsored by:

State Key Laboratory of Cryospheric Science (SKLCS), Northwest Institute of
Eco-Environment and Resources (NIEER), Chinese Academy of Sciences (CAS)
International Arctic Research Center, University of Alaska, Fairbanks (IARC, UAF)

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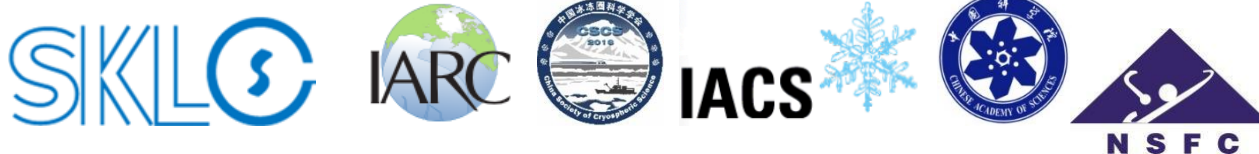
Institute of International Rivers and Eco-security, Yunnan University (YU)

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Lijiang Municipal People's Government

Yulong Snow Mountain Glacier and Environment Observation Research Station, CAS



THEME

The Earth's cryosphere comprises a variety of snow and ice formations accounting for large areas of the Earth's surface covered by frozen water, including glaciers, ice sheets, snow cover, sea ice, lake and river ice, permafrost and solid precipitation, etc. Cryosphere can be divided into three categories, i.e. continental, marine and aerial, according to the dynamic and thermal conditions of formation, development and geographical distribution of cryosphere elements. All components of the cryosphere are closely interlinked and coupled to other components of the Earth system. Due to rapid changes in response to ongoing climatic warming, the cryosphere has received increased attention by the scientific community, policymakers, and the public. Glacier retreat and mass loss, snow cover decrease, sea ice extent decline, and permafrost thawing are at the forefront of concerns due to ranges of potential socio-economic, ecological, and environmental consequence. Developing efficient risk mitigation and adaptation strategies requires that cryospheric science fills the gap between cryospheric observations and decision-making. This workshop will thus focus on our current capabilities in extending observations to modeling and assessing cryospheric changes, identify mitigation and adaptability strategies in the rapidly changing cryosphere, understand cryosphere services, and develop pathways to decision-makers.

TOPICS

- Cryospheric processes and dynamics

The cryosphere is not only a prominent factor, but also an indicator in global climate change. It plays an important role functioning as one of the most direct and sensitive feedbacks in the climate system. It is understood that the global cryosphere has been undergoing significant changes in recent decades. Almost all of the components of the cryosphere are losing mass following climate warming. As the trend continues, the arctic sea ice extent keeps shrinking, and global glacier volume, Northern Hemisphere spring snow cover, and permafrost extent continue to decrease. The focuses of the topic include: 1) Assessing and quantifying rapid cryospheric changes; 2) Describing cryospheric processes in different regions against a 1.5/2 °C global warming background; 3) Improving understanding of the physical processes and feedback mechanisms between the cryosphere and other spheres; and 4) Discussing implications for decision-makers responding to rapid changes driven or affected by a changing cryosphere.

- Cryosphere services and their roles in sustainable development

The cryosphere plays an important role in regulating climate and Earth systems by positive and negative feedback processes of water, energy, and biogeochemical exchange in different spatiotemporal scales. It conserves a significant amount of natural resources (e.g. water, natural gas, oil), endemic biological species and

indigenous cultural functions, and therefore play irreplaceable roles in servicing sustainable development to balance the needs of people, planet and profits (3Ps) at high mountain and polar regions. The session aims to assess the cryospheric services function (CSF), as relevant for, e.g., resource development, ecosystem services, cultural services, tourism and related factors.

- Impacts of cryosphere changes and adaptation

Rapid changes in the cryosphere have profound influences on societies, environment and economy. To understand the impacts of cryosphere changes and the ways to adapt to the changes, the session focuses on: 1) assessing the impact of Arctic cryospheric changes on infrastructure, resource development and maritime traffic; 2) evaluating impacts of glacier (ice sheet) melting on sea level rise and water resources; 3) giving an insight into permafrost degradation and impacts on ecosystem change; and 4) exploring regional adaptation and decision-making affected by cryospheric change.

SCIENCE STEERING COMMITTEE

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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 thuawu@lzb.ac.cn by **Oct. 10, 2019**.

VENUE

The conference will be held at Wonderport International Hotel, north section of Shangri-La Avenue, Gucheng District, Lijiang City, Yunnan Province.

ACCOMMODATION

A number of hotels located within several kms of the conference venue (a 10-minute walk). Please book the hotel yourself in advance. If you need our help to book the hotel, please note it in your registration email to thuawu@lzb.ac.cn.

REGISTRATION FEE

A registration fee of 2000 Yuan RMB is required. The registration fee will be paid during the registration in the form of cash or credit card: UnionPay, MasterCard or Visa. Please note that hotel cost and travel are not included in the registration fee.

POST-CONFERENCE FIELD TRIP:

A half-day field trip to Yulong Snow Mountain (Jade Dragon Snow Mountain) will be organized in the afternoon of October 27.

Registration Form

Please complete the form and submit it to thuawu@lzb.ac.cn before October 10, 2019.

Name		Sex	
Affiliation			
Position		Title	
Email			
Title of Presentation			
Mailing Address		Presentation type	Oral/Poster

Brief introduction to Yulong Snow Mountain

Yulong Snow Mountain located in southeastern region of the Qing-Tibet Plateau, with a highest peak of 5596 m a.s.l. The mountain range stretches 35 kilometers from north to south and 15 kilometers from west to east. There are 13 glaciers and the total area of 4.48 km² distributed on the Yulong Snow Mountain. Yulong Snow Mountain located 25 km north of Lijiang Old Town (World Culture Heritage), which is less than 200 km from Three Parallel River Area (World Nature Heritage), has a natural location advantage and stronger accessibility. As of now, Yulong Snow Mountain has

developed into the largest and most mature glacier tourist attraction in China.

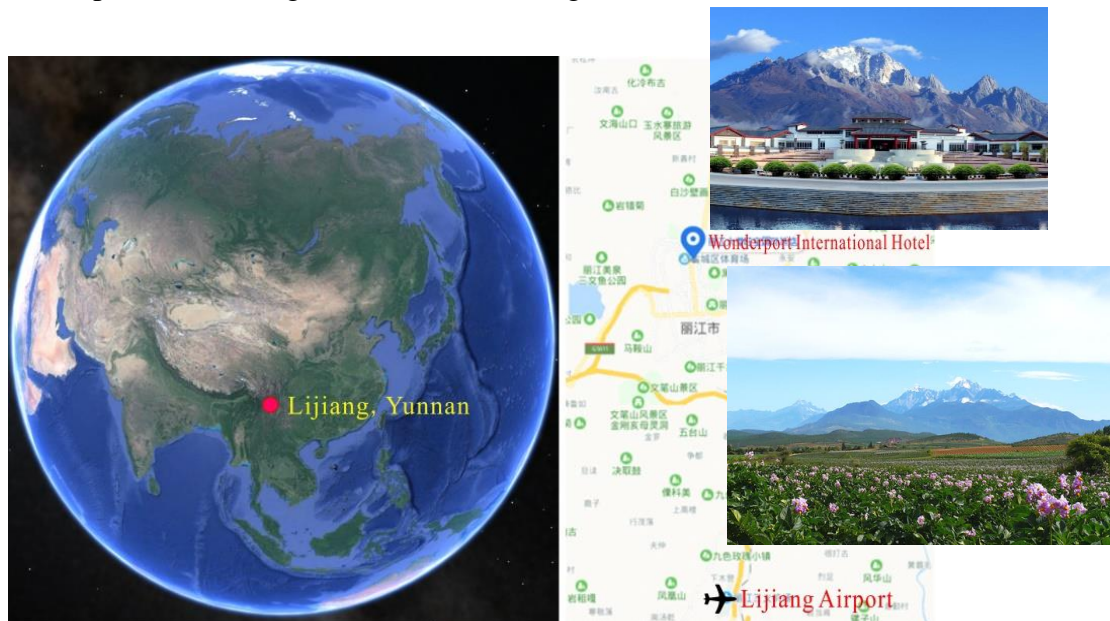


Figure 1 Yulong Snow Mountain

Yulong Snow Mountain Glacier and Environment Observation Station was established by The State Key Laboratory of Cryospheric Science, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences at Lijiang City in 2006. The station focuses on China's temperate (warm) glacier, cryospheric environmental effect, and cryospheric service researches. During the workshop, we will arrange the visit to this station.



Figure 2 Yulong Snow Mountain Glacier and Environment Observation Research Station, CAS