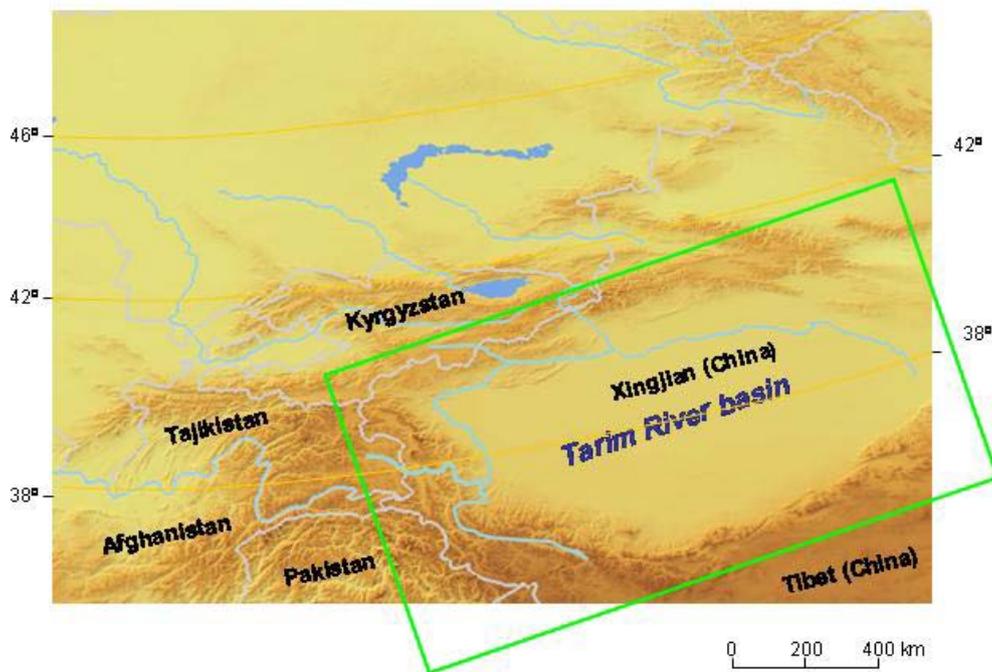




International Workshop on Changes in Surface and Ground Water in the Tarim River Basin



Xi'an, People's Republic of China November 23-27,
2009

Third CIRCULAR

Sponsored by

U.S. National Science Foundation (NSF)

National Nature Science Foundation of China (NNSFC)

Chinese Academy of Sciences (CAS)

Co-sponsored by

University of Idaho, U.S.A.

State Key Laboratory of Cryospheric Sciences, CARERRI, CAS

**Cold and Arid Regions Environmental Engineering Research Institute
(CARERRI), CAS**

Institute of Ecology and Geography, CAS

Bureau of Water Resources, Xinjiang Province, China

Xinjiang University, China

Central Asian Institute for Applied Geosciences, Kyrgyzstan

Tajik National Academy of Sciences, Tajikistan

Climate and Cryosphere (CliC)

Northern Eurasia Environmental Science Partnership Initiative (NEESPI)

**GEWEX, Coordinated Energy-water cycle Observational Project –High
Elevation Project (CEOP-HE)**



WORKSHOP ON CHANGES IN SURFACE AND GROUND WATER IN THE TARIM RIVER BASIN will be held in Xi'an, People's Republic of China, during 23-27 November (Monday to Friday) in 2009. On-site registration will take place on Sunday, November 22 after 12:00 pm and Monday, November 23 before 8:30 am

PURPOSES OF THE WORKSHOP

The US National Science Foundation (NSF) together with the Chinese Academy of Sciences (CAS), National Natural Science Foundation of China (NSFC), University of Idaho, Cold and Arid Regions Environmental Engineering Research Institute (CAREERI), Xinjiang Institute of Ecology and Geography, Bureau of Water Resources, Xinjiang Province, China, Xinjiang University, Central Asian Institute for Applied Geosciences, Kyrgyzstan and Tajik National Academy of Sciences, Tajikistan will hold a four-day-long scientific workshop on the changes in surface and ground water in the Tarim River Basin (TRB). The proposed workshop will convene leading climatologists, hydrologists, and earth-science and socio-economic modelers from the United States, the People's Republic of China, and neighboring Kyrgyzstan and Tajikistan in Xi'an, an ancient capital of China. Approximately 60 senior investigators and early career scientists from the US, China, and Central Asian countries will attend this meeting. The purpose of the workshop is to develop new and to strengthen existing research collaborations between U.S. and the international group of scientists from the People's Republic of China and Central Asian countries (Kyrgyzstan and Tajikistan) working on climate and water resources change and water management problems in arid closed drainage basins, and to discuss approaches for improved utilization of hydrological investigations and spatial data analysis in addressing these problems. The workshop attendees will summarize current observations and projects, hydrological investigations in TRB over the last 50-60 years, and data accessibility. A workshop breakout group discussion will focus on development of a joint strategy to coordinate further observations and investigations in the TRB that will obtain additional data and fill gaps in data that are necessary to study the hydrological cycle, hydrological simulations, and results validation. Particular attention will be devoted to discussions on surface and ground water interactions, water fluxes, and water storage zones of the TRB, and on establishing a modeling framework for incorporating the regional scale water cycle feedbacks of global importance into the next generation of hydrological models. A special aim of the workshop is to identify and coordinate future efforts for research in the arid and semi-arid TRB, develop a plan to integrate past and future research results, and establishing and continuing the support by Chinese and Central Asia National Academies of Sciences and U.S. science-funding agencies.

THEME

The Tarim River Basin is the World's largest closed arid river basin, with area of 105×10^4 km². Located in the center of the Eurasian continent, it is a unique hydrologic system, thousands of miles from the oceans. The Tarim, the longest river of western China, flows through one of the driest places in the world, the Takla Makan Desert. In the past decades significant temporal and spatial changes have occurred in the inter-annual water distribution between upper, middle, and lower reaches due to climate change and anthropogenic impact. The runoff in the TRB dropped significantly particularly in the low reaches. More than one-third of the lakes in the Tarim Basin with surface areas between 1 and 5 km² have disappeared. The river length has diminished by more than 300 km. Despite the presence of the large Takla Makan Desert, with its extremely dry climate, the high mountain ridges surrounding this desert hold one of the greatest concentrations of snow and ice in central Asia, providing up to 70-80% of total river runoff that constitutes a vital source of water for the TRB's lakes and aquifers. Since the 1950s, Xinjiang Province has become one of the most important regions for agriculture and energy resource development in China. Another challenge in the irrigation sector is the mismatch between water supply and water requirements during the spring season when the reservoirs can not provide enough sufficient irrigation water. The utilization of groundwater in the TRB is another question due to increasing water demand and advance of desert area. One tenth of total irrigated area has been abandoned due to soil salinization, changing water chemistry, and biochemistry. The major zone of snow/glacier water formation for the TRB form the invaluable water resources among the neighboring countries, China,

Kyrgyzstan, and Tajikistan. The Tarim River tributaries originate outside of Xinjiang but China is the main and often only consumer of this water. The water-issue problems that occur during times of persistent droughts are extremely important in semi-arid and arid regions of central Asia as well throughout the other semi-arid and arid regions of the World including the western US, South America, northern Africa, East Asia and Australia. Rapid temperature rise over central Asia since 1970 and the decline in the annual amount of precipitation at high elevations causes substantial feedbacks to early seasonal snow and glacier melt, and river discharge. The diminishing natural water storages significantly affect river runoff, lake levels, and groundwater in aquifers, and contribute to progressive droughts that cause salinization and desertification in the TRB. Thus, appropriate tools for regional water resources assessment and impact prediction are needed to promote sustainable development within the TRB and avoid the rapid deterioration of its water system.

TOPICS

The TRB Workshop focuses on the following key topics:

- Dynamics and feedbacks of changes in low-atmosphere moisture transfer and surface water resources redistribution between natural stores of waters (seasonal snow cover, glaciers, permafrost, lakes, rivers and aquifers).
- State-of-the-art methods of field research, remote sensing, and modeling and their application to assist in meeting the project's scientific objectives.
- Long-term meteorological and hydrological data accessibility and analysis for the study region.
- Data control, data calibration, validation, and modeling.
- Transboundary water problems (China, Kyrgyzstan, Tajikistan) and integrated water management will contribute to discussions related to sustainable social and economical development in the TRB.

The workshop discussions and conclusions will have broader impact not only on the following TRB collaborative research project development between the US NSF, Chinese Academy of Sciences (CAS), National Natural Science Foundation (NSFC) and Central Asian (CA) but also on facilitation in the preparation of drainage water management plans and designs for Xinjiang province authorities. The Chinese hydrologists will participate in the workshop discussions to exchange scientific ideas and research experiences with leading US scientists.

SESSIONS, POSTERS, AND FIELD EXCURSION

The International TRB Workshop will be held on **23-27 November, 2009** in English. Oral and poster sessions will be planned, along with breakout group discussion sessions. The topics of discussions or objectives will have one keynote speaker who will illuminate the problem and present an overview of relevant research that has been done and possible approaches to new proposed research and solutions. Presenters at the TRB Workshop will be invited from the China, US, Central Asia and the worldwide scientific communities involved in hydrological and environmental research in arid and semi-arid areas.

The following is a preliminary schedule of the TRB workshop, which will be developed further upon receiving the abstracts and decision made by the Workshop Organization Committee and Editorial Board:

Day 1

08:30 am – 09:30 am (*Beijing time*): The TRB Workshop opening ceremony

09:30 am – 12:00 pm: Climate change impact on TRB water resources (climate and surface water hydrology)

14:00 pm – 18:00 pm: Surface and subsurface waters (water redistribution between natural

stores of water, water chemistry and bio-chemistry, water quality, monitoring, data, computations, validation, modeling)

Day 2

08:30 am – 12:00 pm: Water usage and water demand (agriculture, irrigation systems, hydropower, urban and industrial consumption, social and economical consequences)
14:00 pm – 18:00 pm: Land cover land use changes, ecological (e.g., salinization, desertification, soil depletion), and transboundary water problems

Plans for new collaborative activities emerging from the workshop:

Day 3 will be devoted to discussions in breakout groups. These groups will be tasked to identify future collaborative research opportunities and make recommendations to the research teams from U.S., China and Central Asian countries. Possibilities for preparing research proposals to U.S. funding agencies, such as the National Science Foundation, and the Chinese and Central Asian funding agencies will be explored.

08:30 am - 12:00 pm: cryosphere group
08:30 am - 12:00 pm: hydrology group
08:30 am - 12:00 pm: landcover/land use change group
02:30 pm - 5:00 pm: the group presentation summary and cross topics discussion
05:00 pm - 06:00 pm: workshop outcome (focus on TRB collaborative research development)
06:00 pm: closing ceremony

Day 4 - Day 5

Post-workshop excursion (with day 5 optional)

ABSTRACTS

- ***SUBMISSION OF ABSTRACTS.*** Potential participants who have submitted their abstracts in summer 2009 and received a notice of acceptance do not need to submit their abstract again but they have to confirm their participation in the Workshop. For those who learned about TRB Workshop for the first time and would like to participate and contribute to the Workshop, they should submit an abstract of their proposed presentation by **October 20, 2009**. The abstract must contain sufficient details for its scientific merit and relevance to the Workshop theme to be judged by the Editorial Board. Authors can download their abstract, registration forms and other relevant contact information from the University of Idaho web site at: <http://www.sci.uidaho.edu/cae/meetings/TRB2009.html> The abstract itself should not exceed 400 words. References and illustrations should not be included.
- ***SELECTION OF ABSTRACTS.*** Each abstract will be assessed on its scientific quality and relevance to the Workshop theme. Authors whose abstracts are accepted will be invited to make either an oral or poster presentation at the Workshop. First or corresponding authors will be advised by **25 October 2009** of the acceptance or otherwise; other authors will not be informed separately. Authors who have not received notification by that date should contact Dr. Liu Shiyin (liusy@lzb.ac.cn) in Lanzhou or Dr. Vladimir Aizen (aizen@uidaho.edu) in US in case their abstract was not received. The abstracts will be compiled into a paper or CD format, and may be published on the Internet.
- ***DISTRIBUTION OF ABSTRACTS.*** A set of the accepted abstracts will be provided to participants upon registration on **22-23 November 2009**.

THEMATIC PUBLICATION

The Workshop Steering and Editorial Board is planning to publish the Workshop Proceedings or Special in one of peer-reviewed journals. Submissions are open to anyone. All papers will be refereed and edited according to the regular Journal standards before being accepted for publication. Those submitting abstracts to the Workshop will be asked to indicate whether

they intend to submit a paper for publication, so that reviewers may be sought in advance. Papers submitted for consideration in the Journal cannot be submitted to another publication as well. The deadline for submitting papers will be approximately 1.5 month after the Workshop and communicated to the contributing authors individually.

FIELD EXCURSIONS AND SOCIAL PROGRAM

An ICEBREAKER reception hosted by the local arrangement committee will be held on **November 22** (Sunday evening) in the **Xi'an Tangcheng Hotel** (<http://www.xiantangchenghotel.com.cn>) starting from 18:30 pm.

BANQUET to be held in the **Xi'an Tangcheng Hotel** on Monday evening (18:30), 23 November at a cost of **¥120** per person.

For evening meals, there are several options that are left to the individual participants to explore. In particular, two other buffet dinners will be provided at a price of **¥100** per person. To attend the banquet and have the buffet dinners for the remainder of the week, mark both boxes on the Registration and Accommodation Request Form and make the payment at the Workshop front desk upon arrival. Of course, you can buy as many (or few) buffet tickets as you would like. Muslim food is available at the hotel. Please specify your choice in the registration form.

Workshop tours:

Day 1: November 26

Terra Cotta Warriors, Huaqing Hot Spring, Underground Palace of the Qin Dynasty

Cost: 260 CNY/person (including tickets and lunch for team over 16 people)

Day 2: November 27 (optional)

Line 1: Famen Temple, Treasures Hall, The Qian Tomb, Tomb of Princess Yongtai, Maoling.

Cost: ¥320 per person (including tickets and lunch for a team over 16 people)

Line 2: Ming Dynasty city wall, Xi'an Forest of Steles Museum, Greater Wild Goose Pagoda, Lesser Wild Goose Pagoda. **Cost:** ¥230 per person (including tickets and lunch)

Line 3: West Mountain

Cost: ¥420 per person (including tickets and lunch for team over 16 people)

VENUE

The workshop will be held at the **Xi'an Tangcheng Hotel** (<http://www.xiantangchenghotel.com.cn>) in Xi'an, Shaanxi Province, People's Republic of China from November **23 to 27, 2009**. A multifunctional hall and meeting rooms of various sizes are available in the hotel. An area is also available close to meeting hall for the poster session layout. On-site registration will be available on November 22, 2009 at the Xi'an Tangcheng Hotel front desk by assigned members of the local Organization Committee.

WORKSHOP STEERING AND EDITORIAL COMMITTEE

Chairman: Vladimir Aizen

Members: Qin Dahe, Cheng Guodong, Vijay Singh, Hugo Loaiciga, Yao Tangdong, Liu Changming, Wang Jiyang, Alexander Shiklomanov, Xiahong Feng, Bolot Moldobekov, Mahamad Safarov.

LOCAL ARRANGEMENTS COMMITTEE

Chairman: Qin Dahe

Deputy Chairman: Ding Yongjian

Members: Chen Xi, Wang Zhijie, Vladimir Aizen

Secretary General: Liu Shiyin

INFORMATION ABOUT THE WORKSHOP MAY BE OBTAINED FROM

In US: Vladimir Aizen (aizen@uidaho.edu), Arzhan Surazakov (arzhan@uidaho.edu). Tel. +1 (208) 885-5888, Fax. +1 (208) 885-2855.

In China: Liu Shiyin (liusy@lzb.ac.cn) and Shanguan Donghui (dhguan@lzb.ac.cn), or Guo Wanqin (guowq@lzb.ac.cn) Tel. +86-931-4967375, Fax. +86-931-4967345.

The Workshop Website:

University of Idaho: <http://www.sci.uidaho.edu/cae/meetings/TRB2009.html>

CAREERI: <http://www.casnw.net/tahe/index.html>

PARTICIPATION

This circular includes instructions for registration and for arranging accommodation. A registration form (available at: <http://www.sci.uidaho.edu/cae/meetings/TRB2009.html> or <http://www.casnw.net/tahe/index.html>) is also included as an appendix to this Circular. The registration and accompanying payment are due on arrival. The participant's registration fee includes organization costs, a set of abstracts, coffee breaks, lunch, transportation from and to airport upon arrivals and departures.

REGISTRATION FEES

	¥CNY	\$USD
Participant	1,700	~ 250
Student	1,000	~ 150
Accompanying person	1,000	~ 150

Workshop study tour:

Please confirm before 5 November.

Confirmation should be done by e-mail or fax to the local Organizing Committee in Lanzhou and copy to Vladimir Aizen (see page 7 of this Circular).

Organizers are exploring sponsorship options for early career scientists, students and participants from the Kyrgyzstan and Tajikistan to offset the registration costs.

ACCOMMODATION INFORMATION

The Workshop Organizers highly recommended that all arriving participants stay in the **Xi'an Tangcheng Hotel** (<http://www.xiantangchenghotel.com.cn>). We will book a block of one and two bedrooms at discount rate for the Workshop participants. The organization committee will also give a list of hotels in Xi'an by request if someone would like to stay in different Xi'an area. However, we do not guarantee the transportation service from different hotels to the Workshop venue.

For further information on the workshop logistics, flight schedule between Xi'an and other major airports, transportation on arrival, during the workshop, and departure, food special requirements and other relevant questions, please contact Liu Shiyin (liusy@lzb.ac.cn) and Shanguan Donghui (dhguan@lzb.ac.cn), or Guo Wanqin (guowq@lzb.ac.cn). Tel. +86-931-4967375, Fax. +86-931-4967345.

The Xi'an Tangcheng Hotel

Standard room	¥300 night
Business standard room	¥420 night
Business Suite	¥680 night
All include breakfast	

Buffet: Lunch and dinner: ¥100 per person

Banquet: ¥120 per person

VISA

If you need a visa for coming to China, please provide high resolution scanned copy of your passport via e-mail (guowq@lzb.ac.cn) **before 31 of October 2009**. If you have problems getting a visa, please contact the Workshop secretariat. Information about visa application can be found at <http://www.chinesevisaexpress.com/>

IMPORTANT DATES

Submission of abstract:	20 October
Notification of abstract acceptance to authors:	25 October
Fin. support request by:	25 October
Pre-registration deadline:	31 October
Accommodation by:	31 October
Submission of Passport Copy for visa by:	31 October
Post-workshop tour confirmation by:	05 November
Preliminary Program on the Workshop web site:	10 November
Submission of paper deadline:	January 2010

POSSIBLE FUNDING

A limited financial support for participants from Kyrgyzstan and Tajikistan is being explored. Please contact directly on this matter: Vladimir Aizen (aizen@uidaho.edu) and Liu Shiyin (liusy@lzb.ac.cn) by 25 October.

The US NSF Workshop funds for an organization will primarily support key presenters, and early career scientists from US. The China CAS and NSFC Workshop funds will support the participants from China at the same basis. The rest of the Workshop participants will cover their participation (travel and other related to the Workshop expenses) from their funded projects. The Workshop will provide an ideal atmosphere to establish exchange and interactions among colleagues from China, USA, Central Asia and other countries who have interest to the Tarim River basin research development and will be able to access the workshop venue.

HOW TO REACH XI'AN

There are flights to Xi'an Xianyang International Airport located 50 km northwest from Xi'an City (<http://www.feeyo.com/enflight/URC.htm>):

Beijing – Xi'an by China Eastern / Hainan/ Southern/Airlines or by train

Flight	Departure	Arrival	Operational Days
CA1203	07:30	09:20	1234567
CA1235	08:00	09:40	12,4567
CA1209	10:45	12:45	2,3,67
CA1223	12:30	14:25	1234567
CA1201	14:35	16:30	1234567
CA1225	15:30	17:25	1234567
CA1205	19:35	21:25	123,567
MU2106	07:45	09:35	1234567
MU2124	10:40	12:35	1234567
MU2110	11:45	13:40	1234567
MU2108	17:05	19:05	1234567
MU2130	19:00	21:00	1234567
HU7237	11:45	13:45	1,3,5,7
HU7882	17:15	19:00	1234567
UA4468	08:00	09:40	1234567

UA4429	15:40	17:30	1234567
Almaty – Urumqi by China Southern Airlines			
Flight	Departure	Arrival	Operational Days
CZ6012	19:45	23:20	1,3,5
Bishkek – Urumqi by China Xinjiang Airlines/ China Southern Airlines			
Flight	Departure	Arrival	Operational Days
CZ6006	10:50	14:50	1357
Dushanbe – Urumqi by China Southern Airlines			
Flight	Departure	Arrival	Operational Days
CZ6020	01:15	06:50	7
Urumuqi - Xi'an			
Flight	Departal	Arrival	Operational Days
HU7809	08:05	11:00	1234567
HU7813	09:50	12:40	1234567
HU7532	17:20	21:10	2,4,7
MU2770	14:55	18:00	1234567
MU5728	17:30	20:30	1234567
CZ 6895	08:15	12:35	2,4,6
CZ6959	10:00	13:05	1234567
CZ6919	17:55	21:10	6
Lanzhou-Xi'an			
Flight	Departal	Arrival	Operational Days
MU2305	08:10	09:05	1234567
HU7825	08:50	09:50	1,3,5,7
CZ3224	12:40	13:40	2,4,6
HU7851	12:40	13:50	1,3,4,5,7
HU6408	13:50	15:10	2,5,7
FM9216	21:05	22:15	2,5
HU7534	14:20	16:10	1234567

Appendix 1**Registration and Accommodation Request Form**

Please fill out this registration form and other relevant information requested above and send to liusy@lzb.ac.cn and copy to aizen@uidaho.edu by **October 31, 2009**.

Please make copies of the registration form if you require an invitation for an accompanying person.

Given name:		Surname:	
Affiliation:			
Address:			
Country:			
Nationality:			
VISA for coming to China	<input type="checkbox"/> Needed	<input type="checkbox"/> Not needed	
E-mail:			
Phone/Fax:			
Presentation	<input type="checkbox"/> Oral	<input type="checkbox"/> Poster	
Specific topic			
Attend Banquet	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Need buffet dinner	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Muslim food	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Attend post Workshop Excursion	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Please submit your abstract online through the University of Idaho website: This is STRONGLY recommended (<http://www.sci.uidaho.edu/cae/meetings/TRB2009.html>). If you have a limited access to the internet you can use the below form. Please complete this form for each presentation, and send it by **20 October 2009** to: aizen@uidaho.edu and copy to liusy@lzb.ac.cn

<input type="checkbox"/>	Oral presentation	<input type="checkbox"/>	Poster presentation	<input type="checkbox"/>	Either
Scientific topic					
Title of presentation					
Author and their affiliations					
Abstract (400 words)					

PLEASE SPECIFY THE DATES OF CHECK IN AND OUT IF YOU WANT TO BOOK A ROOM

Date of check in	Date of check out	Any other date if any	Number of people

PLEASE CHECK WHAT TYPE OF ROOM WILL YOU BOOK?

Hotel	Type of Room	Cost per day, ¥CNY

Special requests:

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