

Developing Watershed Carrying Capacity Methodology for Sustainable River Management : A Case Study of Upper Citarum Watershed, Indonesia

Robby Yussac Tallar

Department of Civil Engineering, Universitas Kristen Maranatha (Maranatha Christian University), Jln. Prof. drg. Surya Sumantri No. 65, Bandung 40164, Indonesia

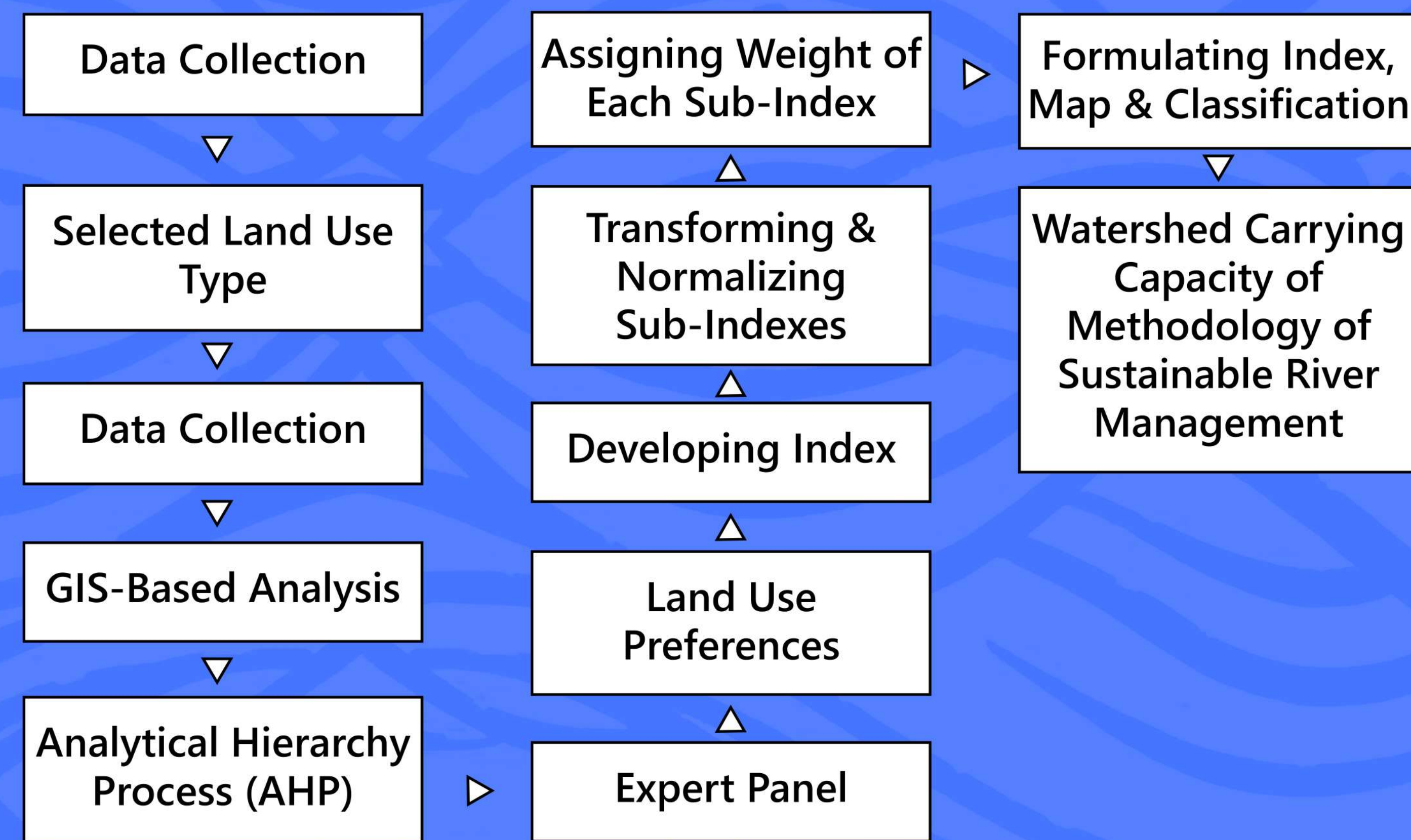
INTRODUCTION

Watershed complexity arises from diverse physical, hydrological, and land-use factors. Stakeholders acknowledge this challenge in developing a universal methodology for watershed carrying capacity, crucial for sustainable river management. This study addresses this gap by proposing a methodology for watershed carrying capacity. The Upper Citarum Watershed in Indonesia, a critical watershed facing water pollution, floods, droughts, and land-use change, serves as a case study. By focusing on the development process of the methodology for contribute to sustainable river management.

STUDY AREA

Encompassing a critical region (107°24'0"-107°48'0" E, 6°45'0"-7°12'0" S), the upper Citarum Watershed (Figure 1) is vital due to its three substantial reservoirs (Saguling, Cirata, Jatiluhur) serving functions like freshwater provision, irrigation, and hydropower. The Citarum River traverses from its source at Mount Wayang to Tanjung Karawang, intersecting 12 economically developed regencies with intricate agriculture. The upstream watershed, encompassing Bandung City and surrounding regions, exhibits similar characteristics. Land-use practices like agricultural expansion in ecologically sensitive zones threaten the health of this upstream area. These concerning agricultural activities warrant close monitoring to preserve the watershed integrity.

METHODOLOGY



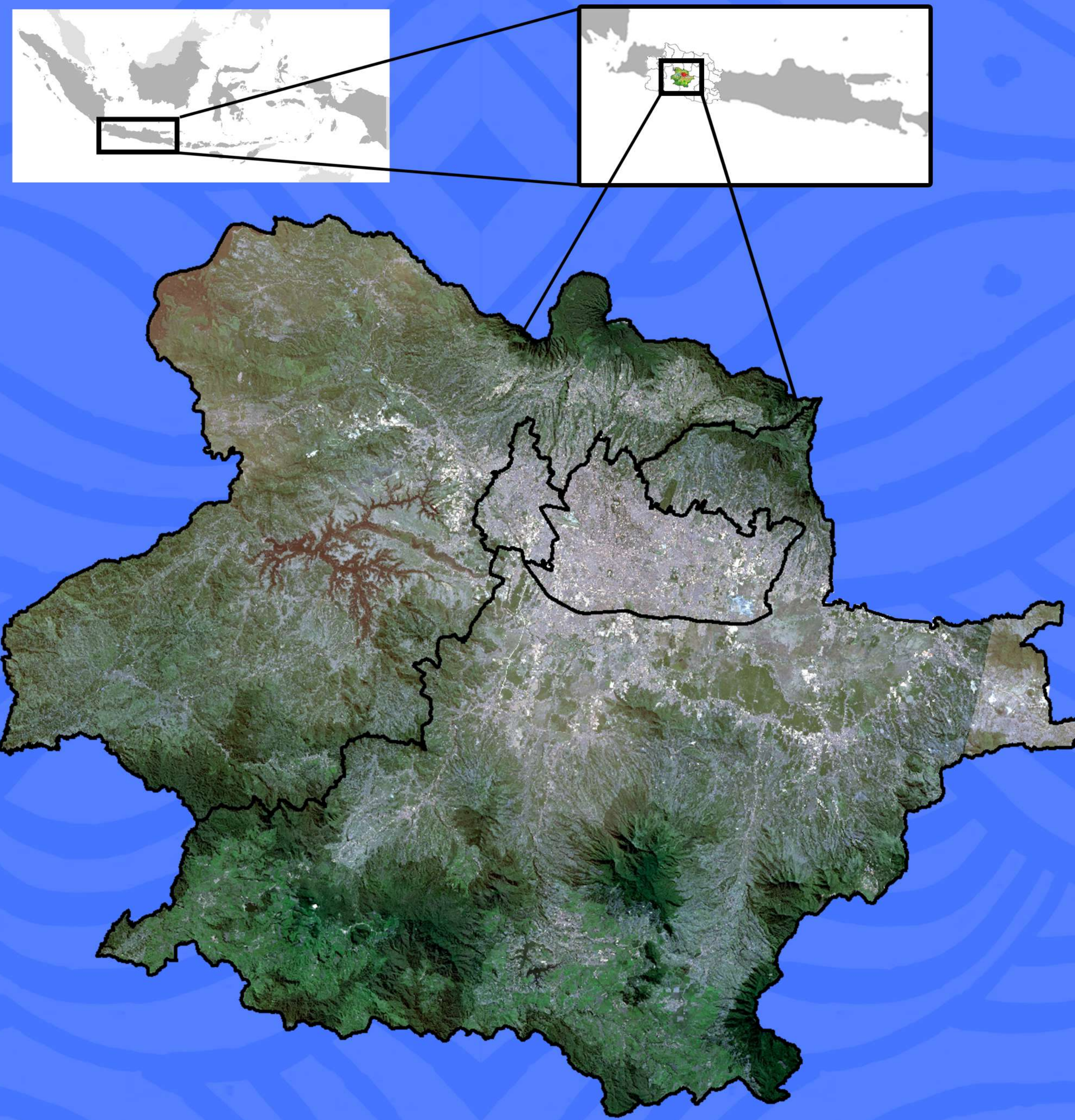
CLASSIFICATION

$$C_{cum} Indeks = 0.2F + 0.3A + 0.4B + 0.1W$$

- F = Percentage of forest area
- A = Percentage of agricultural area
- B = Percentage of built-up area
- W = Percentage of waterbody area

No	Status	Range of C_{cum}
1	Bad	>0.4
2	Moderate	0.3 - 0.39
3	Good	0.29 - 0.2
4	Excellent	< 0.2

RESULT AND CONCLUSION



A robust watershed carrying capacity methodology is crucial for sustainable river management, especially given recent land-use alterations caused by unplanned urbanization. This methodology should encompass key land-use types to effectively manage watersheds and balance human activities. By integrating measures of these land uses, the approach aims to create a single, dimensionless index reflecting cumulative runoff and its impact. This modified approach simplifies communication of watershed health to stakeholders. Careful analysis and implementation of appropriate management strategies based on this methodology can ensure the long-term health of watersheds. Additionally, it serves as a valuable tool for policymakers, enabling informed decisions that promote sustainable development while safeguarding watersheds.



▶ Visit gewex.org to learn more about us

9TH GLOBAL ENERGY AND WATER EXCHANGES OPEN SCIENCE CONFERENCE

JUL 7 - 12, 2024 | SAPPORO, JAPAN

[ABOUT](#) [PROGRAM](#) [ECR](#) [REGISTRATION](#)

[PRACTICAL INFORMATION](#) [SPONSORS](#) [CONTACT](#)

Water | 水
● ●
Climate | 気 候



Call for Abstracts

The 2024 GEWEX Open Science Conference is organized around three themes:

1. Water and Climate in the Anthropocene,
2. Extremes and Risks, and
3. Water, Energy and Carbon Processes.

Sessions will focus on the GEWEX science goals as described in the [GEWEX Science Plan 2023-2032](#) and will specifically address the Asian Maritime continent and the Australasian Monsoon, the [GEWEX Regional Hydroclimate Projects](#) AsiaPEX and the Third Pole Environment, The [Global Precipitation Experiment](#) (GPEX) and Society and Climate Science Interfaces – finding optimal solutions for water challenges in a changing climate.

We are inviting abstracts that contribute to research in the following areas:

1. Determination of the extent to which Earth's water cycle can be observed and predicted
2. Quantification of the inter-relationships between Earth's energy, water and carbon cycles to advance our understanding of the system and our ability to predict it across scales
3. Quantification of the anthropogenic influences on the water cycle and our ability to understand and predict changes to Earth's water cycle
4. Extremes in the water cycle and risks to society

When registering, you can submit a maximum of two abstract per registrant for the sessions as indicated in the overview of research areas and associated topic(s) and sessions below.

The body of your abstract(s) should be between 300-1000 words per abstract.

**To
Registration**

Please note that the non-refundable abstract submission fee of JPY9000 per abstract must be paid directly after submitting your registration. Your abstract(s) will not be considered submitted until the non-refundable abstract submission fee has been received by us.

Topics and Sessions

Abstracts can be submitted to the following areas of research and associated topic(s) and sessions.

1. Determination of the extent to which Earth's water cycle can be observed and predicted

- Topic – Observing the energy, water, and carbon cycles

Sessions:

- Observing the Water Cycle from Space
- Global Precipitation Experiment (GPEX)
- Novel observation methods from ground-based, airborne, and space platforms for closing observational gaps in the water, energy, and carbon cycles
- Reconstruction of Historical Global and Regional Hydroclimate Systems
- Sustainability of groundwater resources

- Topic – Energy, water, and carbon cycle balance studies

Sessions:

- Earth's energy imbalance and the role of the water cycle
- Progress in closing the water, energy, and carbon budgets at basin to global scales

- Topic – Regional and catchment scale perspective on the water and energy cycles

Sessions:

- The global and regional water and energy budget
- Observational and Modeling Initiatives for the Asian Monsoon Field Campaign (AsiaPEX and AMY-II)
- The Mountain and cold region (cryosphere) Water Cycle
- Regional Hydroclimate Projects
- Understanding “actionable” information in hydroclimate research

- Topic – Emergent issues

Sessions:

- AI/ML applications in the water-energy nexus
- Climate Intervention in the Water and Energy Cycle

2. Quantification of the inter-relationships between Earth's energy, water and carbon cycles to advance our understanding of the system and our understanding of the system and our ability to predict it across scales

- Topic – Atmospheric processes (*Centennial celebration of atmospheric science education and research in China*)

Sessions:

- Understanding Subdaily Rainfall Extremes and the Diurnal Cycle of Precipitation
- Cold Regions Earth Systems Change (Including Cold Air Outbreaks, Precipitation Occurring Near 0°C and the role of snowfall in the water and energy cycle)
- Global Energy and Water Cycles, Clouds and Radiation
- Changes in Rainfall Intensity and Distribution in Time and Space and their Effect on Surface Water Partitioning
- Climate and Weather Processes in the Asian Maritime Continent
- Organized convection – observation, tracking, modeling, and process understanding
- Upper troposphere-Lower Stratosphere interactions
- Mesoscale organization of deep convection
- Atmospheric boundary layer observations and modeling
- Aerosol-cloud-precipitation interactions
- Shallow mesoscale organized convection
- Cloud processes
- Storms and High-Impact Weather
- Challenges for Lightning Prediction and Early Warming
- Atmospheric dynamics-physics interactions

- Topic – Land Surface processes

Sessions:

- Evapotranspiration Determination
- Moving beyond MOST (Monin Obukhov Similarity Theory): Towards the next generation of land-atmosphere coupling in Earth system models
- Monitoring and modeling of water and carbon cycle coupling incl. Solar Induced Fluorescence (SIF) over a range of

ecosystems and climates

- Groundwater modeling and observations
- Comparisons of observations and land model output: Insights on process understanding and representation (Benchmarking and Metrics)
- Novel mechanistic modeling and monitoring of the soil-vegetation system for the improved prediction of Land-Atmosphere interactions
- Leveraging land surface temperature to advance understanding and modeling of land-atmosphere interactions

- Topic – Land/atmosphere coupling

Sessions:

- Land-Atmosphere Interactions and Climate Predictability, Including Subseasonal to Seasonal (S2S)
- Land-Atmosphere Interactions and Water Cycle over the Third Pole Region
- Grand Challenges in Land-atmosphere Interaction in Asia
- Land-Atmosphere System – synergetic observations, modeling for improved process understanding (incl. Atmospheric boundary layer //GLAFO)

- Topic – Modelling the Earth System

Sessions:

- Km-scale regional and global modeling – advancements, opportunities, and challenges
- Monsoon – Atmospheric-Land and Atmospheric-Ocean Interactions
(Special Celebratory Session of 150 Years of the Indian Meteorology Department – Together with SPARC/ACAM)
- Water, energy and carbon processes: Advances and challenges to bridge between models and current observational data records across scales

3. Quantification of the anthropogenic influences on the water cycle and our ability to understand and predict changes to Earth's water cycle.

- Topic – Interactions between the human and geophysical systems

Sessions:

- Advances in Irrigation Hydrology and Its Impact on the regional climate
- Human-Climate Water Nexus, Climate Change, and Water Security, water management & Sustainability

- Water and climate in urban and/or coastal environments
- Land-Atmosphere Interactions for Cities and Urban Climate
- High Resolution Hydrological Modeling incorporating Anthropogenic Interventions
- The role of freshwater in sea level rise and near-coastal subsidence on water resources
- Coupled Human-Earth System Modeling

4. Extremes in the water cycle and risks to society

- Topic – From extremes to risks to society.

Sessions:

- Satellite Observations for Climate Extremes
- Heatwaves and droughts in Present and Future Climate
- Monsoon processes and society
- Documenting Extremes
- Addressing the Challenge of Cascading and Compound Events
- Predictability and prediction of extreme events
- Early warning of climate and disaster risk management
- Generating climate information for smaller-scale decision-making
- Advance in flood research, its prediction, impact assessment and mitigation strategies

Additionally, there is a Water and Climate Science Open Session for those abstracts that do not fall under any of the above mentioned sessions.



[HOME](#)

[ABOUT](#)

[MEETINGS](#)

[REPORTS](#)

[PROFILES](#)

[PHOTO GALLERY](#)

[CONTACT US](#)



Copyright © 2024 IGPO, All rights reserved. [Privacy Policy](#)



▶ Visit [gewex.org](https://www.gewex.org) to learn more about us



9TH GLOBAL ENERGY AND WATER EXCHANGES OPEN SCIENCE CONFERENCE

**JUL 7 - 12, 2024 |
SAPPORO, JAPAN**

[ABOUT](#) [PROGRAM](#) [ECR](#) [REGISTRATION](#)

[PRACTICAL INFORMATION](#) [SPONSORS](#) [CONTACT](#)

Water | 水
● ●
Climate | 気候



ECR Workshop and Competition

Overall organization of the ECR Workshop and Competition

- Faten Attig Bahar (YESS | AU4C)
- Danyka Byrnes (AGU-H3S | University of Waterloo)
- Lucía M. Cappelletti (YESS | CIMA/UBA-CONICET)
- Abhinav Dengri (Hokkaido University)
- Carla Gulizia (YESS | CIMA/CONICET-UBA)
- Naoki Koyama (CHUO University)

Yiwen Mao (Hokkaido University)
Yuta Ohya (Hokkaido Research Organization)
Hiroki Okachi (Hokkaido University)
Valentina Rabanal (YESS | Servicio Meteorológico Nacional (SMN) Argentina)
Joshua Roundy (Lead ECR Competition, University of Kansas)
Lina Stein (YHS | University of Potsdam)
Yoko Taniguchi (National Institute of Technology, Tomakomai College)
Faranak Tootoonchi (YHS | Swedish University of Agricultural Sciences)
Masashi Watanabe (Nanyang Technological University)
Natsuki Yoshida (Yamaguchi University)
Xudon Zhou (YHS-CN | University of Tokyo)

Organizing Committee

Planning and organizing all aspects of the conference

Misako Kachi (JAXA)
Shannon Macken (International GEWEX Project Office | George Mason University)
Jun Matsumoto (Tokyo Metropolitan University)
Riko Oki (JAXA)
Jan Polcher (Laboratoire de Météorologie Dynamique, Institut Pierre Simon Laplace)
Tomonori Sato (Co-Chair, Hokkaido University)
Peter van Oevelen (Co-Chair, International GEWEX Project Office | George Mason University)
Fernande Vervoort (International GEWEX Project Office | George Mason University)
Tomohito Yamada (Co-Chair, Hokkaido University)
Xubin Zeng (University of Arizona)

Program Committee

Planning and organizing of the conference program

Myount-Hwan Ahn (EWHA Womans University)
Suryachandra Rao Anguluri (ITTM, Pune)
Paola Arias (University of Antioquia)
Gianpaolo Balsamo (European Centre for Medium-range Weather Forecasts)
Sandrine Bony (CNRS, LMD/IPSL, Sorbonne University)
Michael Bosilovich (NASA's Goddard Space Flight Center)
Leila Carvalho (University of California, Santa Barbara)

Nathaniel Chaney (Duke University)
Susanne Crewell (University of Cologne)
Qingyun Duan (Hohai University)
Michael Ek (NCAR)
Benjamin Lamptey (Suez Consulting Company)
Tristan L'Ecuyer (University of Wisconsin)
Ruby Leung (PNNL)
Kirsten Findell (Geophysical Fluid Dynamics Laboratory)
Daniel Klocke (Max-Planck-Institut für Meteorologie)
Hirohiko Masanuga (Co-chair, Nagoya University)
Jun Matsumoto (Tokyo Metropolitan University)
Linda Mearns (NCAR)
Ali Nazemi (Concordia University)
Christa Peters-Lidard (NASA Goddard Space Flight Center)
Maria Piles (University of València)
Andrew Pitman (ARC Centre of Excellence)
Jan Polcher (Co-Chair, Laboratoire de Météorologie Dynamique, Institut Pierre Simon Laplace)
Anna Stewart Ibarra (Inter-American Institute for Global Change Research)
Tomonori Sato (Hokkaido University)
Claudia Stubenrauch (Laboratoire de Météorologie Dynamique | IPSL | CNRS)
Zhongbo Su (University of Twente)
Peter van Oevelen (Co-Chair, International GEWEX Project Office | George Mason University)
Anne Verhoef (University of Reading)
Rogier Westerhof (GNS Science)
Tomohito Yamada (Hokkaido University)
Xubin Zeng (Co-Chair, University of Arizona)

Scientific Committee

Providing scientific and programmatic guidance

Jared Entin (NASA)
Jin Huang (NOAA)
Jake Kaye (NASA)
Toshio Koike (ICARM)
Jürg Luterbacher (WMO Research)
Hal Maring (NASA)
Anil Mishra (UNESCO)
Taikan Oki (University of Tokyo)
Paolo Ruti (EUMETSAT)

Detlef Stammer (WCRP)
Stefan Uhlenbrook (WMO Hydrology)
Guoxiong Wu (LASG, CAS)



[HOME](#) | [ABOUT](#) | [MEETINGS](#) | [REPORTS](#) | [PROFILES](#) | [PHOTO GALLERY](#)

[CONTACT US](#)



Copyright © 2024 IGPO, All rights reserved. [Privacy Policy](#)

9th GEWEX OSC Excursions and Program

Dari: contact@gewex.org (contact@gewex.org)

Kepada: robbyyussac@yahoo.com

Tanggal: Rabu, 22 Mei 2024 pukul 04.52 WIB

Dear Mr. Robby Yussac Tallar,

We are in our final preparations for our conference program. We thank you very much for participating in this conference and hope that you are looking forward to the conference as much as we do!

Our Japanese colleagues have put together several wonderful options for excursions after the conference. We highly recommend these, and you can find more information below!

The dates and times for the oral and posters sessions are finalized and can be found at:

<https://www.gewexevents.org/meetings/gewex-osc2024/program/program/>

For those of you who have a poster in session **29**, those are split over two days. The poster numbers 29-2 until 29-36 will be presented on Monday afternoon. The poster numbers 29-37 and further will be presented on Tuesday afternoon.

For those few presenters that have not paid your registration fee yet please do so before end of next week!! After that we unfortunately must eliminate the unpaid registrations from the program.

There are still some changes in the oral presentations. Early June you will receive an updated file with your final oral and/or poster designation, day, and time.

Thank you for your attention and do not forget to check out the excursions!!

Kind regards,

GEWEX Open Science Conference Organizing Committee

EXCURSION PROGRAM GEWEX-OSC2024

To All Participants,

As posted on the website:

<https://www.gewexevents.org/meetings/gewex-osc2024/practical-information/#Exc>

We have prepared a variety of excursion tours for participants and their companions to experience flood control and the rich natural environment of Hokkaido. There are still plenty of available spots, so we would be delighted if you could actively sign up.

The details and registration URLs for each tour are as follows:

1. Technical Tour

Hosted by the GEWEX-OSC Sapporo Organizing Committee

Date: Saturday, July 13, 2024, 8:30 AM - 4:30 PM

Fee: ¥15,000JPY (¥10,000JPY for Accompanying person)

This tour is specially organized by the LOC for GEWEX participants. It explores themes such as "water and climate," starting from the Hoheikyo Dam and examining the natural surroundings and infrastructure along the river, discussing societal adaptation to climate change, and stable water supply. The tour concludes at a beautiful park designed by a contemporary artist, where participants can enjoy a lunch prepared by a chef using Hokkaido's specialty ingredients, along with local wine and sake.

<https://peatix.com/event/3886121/view>

2. Cycling Tour

Hosted by T2 Link

Dates: Monday, July 8, 2024 - Friday, July 12, 2024 (daily)

Meeting Time: 1:00 PM on site, Disbanding: 5:00 PM

Fee: ¥5,000JPY

A half-day ride tour that families and friends can easily join. This program covers about 25 km around Sapporo and the Ishikari River, with rental bicycles and a guide included.

Enjoy the beautiful scenery and a rest stop at Royce Cacao & ChocolateTown, engaging all your senses.

<https://ttlink.co.jp/gewex/lp/en/>

3. Tour for accompanying person ① Otaru Area

Hosted by Tobu Top Tours

Date: Tuesday, July 9, 2024, 9:00 AM - 6:00 PM

Fee: ¥17,000JPY

This tour explores the historic city of Otaru, visiting sake breweries, old canals, and former fishermen's houses, learning about Hokkaido's history.

Enjoy cherry picking in Niki Town as a fun activity. An English-speaking guide will accompany the tour.

<https://forms.gle/etyW6tdDoPggGBdcA>

4. Tour for accompanying person ② Upopoy

Hosted by Tobu Top Tours

Date: Thursday, July 11, 2024, 9:00 AM - 6:00 PM

Fee: ¥17,000JPY

Visit the National Ainu Museum to learn about the history and culture of Hokkaido's indigenous people. Then, relax at a vast horse ranch and visit a unique salmon aquarium, a symbol of Hokkaido.

An English-speaking guide will accompany the tour.

<https://forms.gle/yH8hnaWYc18BF7H9>

5. Experience Tour ① Eastern Hokkaido

Dates: Saturday, July 13, 2024 - Monday, July 15, 2024

Hosted by Tobu Top Tours

Fee: ¥230,000JPY (per person for double occupancy)

This tour takes you through the dynamic volcanic landscapes, vast wetlands, and unique coastal terrains of national parks in Eastern Hokkaido, with activities like cycling and kayaking.

These activities can be adjusted according to the participants' fitness levels. The tour includes an English-speaking guide and activity guides for each location.

<https://forms.gle/2rn16M6KwrQW4dH48>

6. Experience Tour ② Southern Hokkaido

Dates: Saturday, July 13, 2024 - Monday, July 15, 2024

Hosted by Tobu Top Tours

Fee: ¥230,000JPY (per person for double occupancy)

This tour focuses on the unique history of Southern Hokkaido. Starting from Jomon-era World Heritage sites, it traces the route through different eras to the present day,

visiting historical spots such as samurai castles and battle sites, and enjoying the dramatic night view of Hakodate. An English-speaking guide will accompany the tour.

<https://forms.gle/2LXvbx4xRRGRCyv26>

We look forward to your participation.

GEWEX-OSC2024 Sapporo Organizing Committee
Excursion Coordinator

Abstract Notification 9th GEWEX Open Science Conference

Dari: contact@gewex.org (contact@gewex.org)

Kepada: robbyyussac@yahoo.com

Tanggal: Selasa, 9 April 2024 pukul 23.40 WIB

Dear Mr. Robby Yussac Tallar,

Thank you for submitting your abstract to the 9th GEWEX Open Science Conference. We appreciate all the work you are putting in your presentation.

Below you will find the latest information regarding your presentation:

Presentation title: 'Developing Watershed Carrying Capacity Methodology For Sustainable River Management: A Case Study Of Upper Citarum Watershed, Indonesia'

Format: Poster Presentation

Session: 23

Paper number: 23-45

The schedule still might change and some authors with presentations currently designated 'Poster' or 'Poster / Backup oral' can be asked at a later stage to give an oral presentation.

All presenters must register and pay their registration fee by May 15, 2024. After May 21 all accepted abstracts that are not covered by a fully paid registration will be removed from the program.

For additional information on how to pay your registration fee visit:

<https://www.gewexevents.org/meetings/gewex-osc2024/registration/edit-submission/>

After April 19, the preliminary schedule of the program and sessions can be found online along with other information regarding the conference at:

<https://www.gewexevents.org/meetings/gewex-osc2024/>

If you have any questions, have encountered an issue you like to report please contact us at:

contact@gewexevents.org.

We look forward welcoming you to Sapporo!

The 9th GEWEX Open Science Conference

Organizing Team.

GEWEX-OSC2024: Announcement of your presentation schedule

Dari: GEWEX (announce_gewex@eng.hokudai.ac.jp)

Kepada: robbyussac@yahoo.com

Tanggal: Senin, 10 Juni 2024 pukul 11.13 WIB

Dear Mr. Robby Yussac Tallar,

We look forward welcoming you as presenter and attendee to the 9th GEWEX Open Science Conference in Sapporo, Japan.

Please find below the details regarding your presentation.

Your presentation title: *“Developing Watershed Carrying Capacity Methodology For Sustainable River Management: A Case Study Of Upper Citarum Watershed, Indonesia”*

Presentation Type: *Poster presentation*

Presentation Number: 23-45 with poster board number: P88

Session: 23: Human-Climate-Water Nexus, and Water Security, Management, and Sustainability

Presentation Date: Tuesday, 7/9/2024

Presentation Time: 12:00:00 AM

Room: Plaza Hall

Oral presentations have 15 minutes in total including 3 minutes for questions from the audience. (We ask presenters to be present at the beginning of their session!)

Poster presenters are expected to be at least 1 hr present at the poster during the core session (16:00 – 17:30) to engage with the attendees.

Posters can be affixed to the poster boards in the morning and should be taken down after the end of each daily poster session (18:00).

The format for posters is not to exceed: A0 landscape for a single poster with Width of 1189 mm and Height of 841 mm.

Information regarding presentations format, uploading and other relevant conference matters can be found on: <https://www.gewexevents.org/meetings/gewex-osc2024/>

We are having issues with our mail servers such that some of you might have received this email twice. We apologize for any confusion that might have caused.

Please do not hesitate to contact: contact@gewex.org if you have any questions.

With kind regards,

The 9th GEWEX Open Science Conference Organizing Committee

Re: 9th GEWEX OSC Excursions and Program

Dari: Gewex Events Contact (contact@gewexevents.org)

Kepada: robbyyussac@yahoo.com

Cc: contact@gewex.org

Tanggal: Jumat, 24 Mei 2024 pukul 06.09 WIB

Dear Robby,

Thank you for your message.

I hope to be able to have the poster information posted on the website in two weeks time.

For now, the size is A0 landscape 841 x 1189 cm.

If you have any other questions or concerns, do not hesitate to contact us.

Kind regards,
Fernande

On May 21, 2024, at 21:59, robby yussac <robbyyussac@yahoo.com> wrote:

Dear Committee,

Thank you very much for the information. Can I get the format for the poster?

Regards,
Robby

Pada Rabu, 22 Mei 2024 pukul 04.52.08 WIB, contact@gewex.org <contact@gewex.org> menulis:

Dear Mr. Robby Yussac Tallar,

We are in our final preparations for our conference program. We thank you very much for participating in this conference and hope that you are looking forward to the conference as much as we do!

Our Japanese colleagues have put together several wonderful options for excursions after the conference. We highly recommend these, and you can find more information below!

The dates and times for the oral and posters sessions are finalized and can be found at:

<https://www.gewexevents.org/meetings/gewex-osc2024/program/program/>

For those of you who have a poster in session **29**, those are split over two days. The poster numbers 29-2 until 29-36 will be presented on Monday afternoon. The poster numbers 29-37 and further will be presented on Tuesday afternoon.

For those few presenters that have not paid your registration fee yet please do so before end of next week!! After that we unfortunately must eliminate the unpaid registrations from the program.

There are still some changes in the oral presentations. Early June you will receive an updated file with your final oral and/or poster designation, day, and time.

Thank you for your attention and do not forget to check out the excursions!!

Kind regards,

GEWEX Open Science Conference Organizing Committee

EXCURSION PROGRAM GEWEX-OSC2024

To All Participants,

As posted on the website:

<https://www.gewexevents.org/meetings/gewex-osc2024/practical-information/#Exc>

We have prepared a variety of excursion tours for participants and their companions to experience flood control and the rich natural environment of Hokkaido. There are still plenty of available spots, so we would be delighted if you could actively sign up.

The details and registration URLs for each tour are as follows:

1. Technical Tour

Hosted by the GEWEX-OSC Sapporo Organizing Committee

Date: Saturday, July 13, 2024, 8:30 AM - 4:30 PM

Fee: ¥15,000JPY (¥10,000JPY for Accompanying person)

This tour is specially organized by the LOC for GEWEX participants. It explores themes such as "water and climate," starting from the Hoheikyo Dam and examining the natural surroundings and infrastructure along the river, discussing societal adaptation to climate change, and stable water supply. The tour concludes at a beautiful park designed by a contemporary artist, where participants can enjoy a lunch prepared by a chef using Hokkaido's specialty ingredients, along with local wine and sake.

<https://peatix.com/event/3886121/view>

<PNG image>

2. Cycling Tour

Hosted by T2 Link

Dates: Monday, July 8, 2024 - Friday, July 12, 2024 (daily)

Meeting Time: 1:00 PM on site, Disbanding: 5:00 PM

Fee: ¥5,000JPY

A half-day ride tour that families and friends can easily join. This program covers about 25 km around Sapporo and the Ishikari River, with rental bicycles and a guide included.

Enjoy the beautiful scenery and a rest stop at Royce Cacao & ChocolateTown, engaging all your senses.

<https://ttlink.co.jp/gewex/lp/en/>

<PNG image[60].>

3. Tour for accompanying person ① Otaru Area

Hosted by Tobu Top Tours

Date: Tuesday, July 9, 2024, 9:00 AM - 6:00 PM

Fee: ¥17,000JPY

This tour explores the historic city of Otaru, visiting sake breweries, old canals, and former fishermen's houses, learning about Hokkaido's history.

Enjoy cherry picking in Niki Town as a fun activity. An English-speaking guide will accompany the tour.

<https://forms.gle/etyW6tdDoPggGBdcA>

<PNG image[98].>

4. Tour for accompanying person ② Upopoy

Hosted by Tobu Top Tours

Date: Thursday, July 11, 2024, 9:00 AM - 6:00 PM

Fee: ¥17,000JPY

Visit the National Ainu Museum to learn about the history and culture of Hokkaido's indigenous people. Then, relax at a vast horse ranch and visit a unique salmon aquarium, a symbol of Hokkaido.

An English-speaking guide will accompany the tour.

<https://forms.gle/yH8hnaWYc18BF7H9>

<PNG image[36].>

5. Experience Tour ① Eastern Hokkaido

Dates: Saturday, July 13, 2024 - Monday, July 15, 2024

Hosted by Tobu Top Tours

Fee: ¥230,000JPY (per person for double occupancy)

This tour takes you through the dynamic volcanic landscapes, vast wetlands, and unique coastal terrains of national parks in Eastern Hokkaido, with activities like cycling and kayaking.

These activities can be adjusted according to the participants' fitness levels. The tour includes an English-speaking guide and activity guides for each location.

<https://forms.gle/2rn16M6KwrQW4dH48>

<PNG image[5].>

6. Experience Tour ② Southern Hokkaido

Dates: Saturday, July 13, 2024 - Monday, July 15, 2024

Hosted by Tobu Top Tours

Fee: ¥230,000JPY (per person for double occupancy)

This tour focuses on the unique history of Southern Hokkaido. Starting from Jomon-era World Heritage sites, it traces the route through different eras to the present day, visiting historical spots such as samurai castles and battle sites, and enjoying the dramatic night view of Hakodate. An English-speaking guide will accompany the tour.

<https://forms.gle/2LXvbx4xRRGRCyv26>

<PNG image[84].>

We look forward to your participation.

GEWEX-OSC2024 Sapporo Organizing Committee
Excursion Coordinator

<PNG image[98].><PNG image[60].><PNG image[5].><PNG image[36].><PNG image><PNG image[84].>

Resi PayPal Anda

Dari: service@intl.paypal.com (service@intl.paypal.com)

Kepada: robbyyussac@yahoo.com

Tanggal: Rabu, 10 April 2024 pukul 21.37 WIB

Halo, robby yussac tallar



Anda membayar ¥80.000 JPY ke GEWEX-OSC2024札幌実行委員会委員 長山田朋人

Buat rekening dengan PayPal dan belanja dengan penuh percaya diri.

[Buat Rekening PayPal](#)

Perincian pembelian Anda

ID transaksi Anda:
1S899082XB8975001

ID Transaksi Pedagang:
1F817297GE801714F

Tanggal Pembelian:
10 April 2024

Pembayaran ke:
GEWEX-OSC2024札幌実行委員会委員長山田朋人

Pembayaran dari:
robby yussac tallar

Jumlah	1
Barang	Registration Fee
Nomor ID	
Harga	¥80.000 JPY

Subtotal ¥80.000 JPY

Total ¥80.000 JPY

Anda membayar menggunakan: Visa x-4988

Transaksi kartu kredit ini akan ditampilkan pada laporan Anda sebagai PAYPAL

*SHANTIANPEN.

Perlu diketahui bahwa tidak mencakup biaya lain yang mungkin dikenakan penerbit kartu Anda - periksa laporan kartu Anda untuk mengetahui jumlah akhirnya.

Buat Rekening PayPal



[Bantuan dan Hubungi](#) | [Keamanan](#) | [Aplikasi](#)



PayPal berkomitmen untuk mencegah email penipuan. Email dari PayPal akan selalu mencantumkan nama lengkap Anda. [Pelajari cara mengenali phishing](#)

Harap tidak membalas email ini. Untuk menghubungi kami, klik [Bantuan & Hubungi](#).

Tidak tahu mengapa Anda menerima email ini? [Pelajari lebih lanjut](#)

Hak Cipta © 1999-2024 PayPal. Hak cipta dilindungi oleh undang-undang.

PayPal Pte. Ltd. memiliki lisensi dari Monetary Authority of Singapore sebagai Lembaga Pembayaran Utama berdasarkan Payment Services Act 2019.

PayPal RT000398:id_ID(id-ID):1.4.0:f843911977296



▶ Visit gewex.org to learn more about us

9TH GLOBAL ENERGY AND WATER EXCHANGES OPEN SCIENCE CONFERENCE

JUL 7 - 12, 2024 | SAPPORO, JAPAN

[ABOUT](#) [PROGRAM](#) [ECR](#) [REGISTRATION](#)

[PRACTICAL INFORMATION](#) [SPONSORS](#) [CONTACT](#)





[日本語ウェブサイト](#)

Important Dates

The implications of a shifting climate on our water and food resources demands an increased understanding of the intricate interplay between humans and the water, energy, and carbon processes, as well as of the dynamic transformations unfolding within them.

The 9th Global Energy and Water Exchanges (GEWEX) Open Science Conference, **Water • Climate**, is organized under the auspices of the Global Energy and Water Exchanges (GEWEX) core project of the World Climate Research Programme together with Hokkaido University and Science Council of Japan. The conference will take place from 7 to 12 July 2024 at the Keio Plaza Hotel in Sapporo, Japan.

The conference will celebrate [30+ years of GEWEX research](#), the strong role of the Japanese research community and set the stage for the next phase of research addressing the World Climate Research Programme (WCRP) main challenges on water resources, extremes and climate sensitivity through observations and data sets, their analyses, process studies, model development and exploitation, applications, technology transfer to operational use, and research capacity development and training for the next generation of scientists worldwide.

Themes

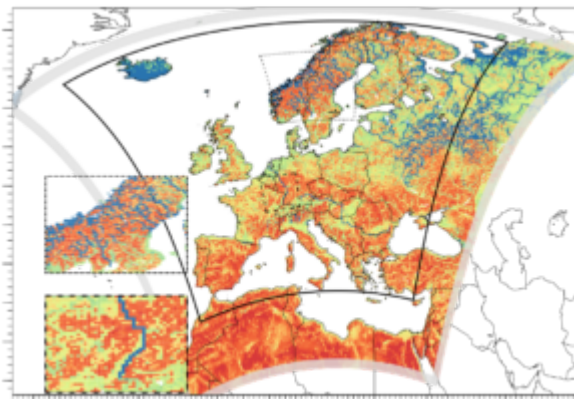
The conference is organized around three themes:

- Water, Climate, Anthropocene
- Extremes and Risks
- Water, Energy and Carbon Processes

In the context of the conference themes, the sessions will focus on research that contribute to the following areas:

1. Determination of the extent to which Earth's water cycle can be observed and predicted
2. Quantification of the inter-relationships between Earth's energy, water and carbon cycles to advance our understanding of the system and our ability to predict it across scales
3. Quantification of the anthropogenic influences on the water cycle and our ability to understand and predict changes to Earth's water cycle
4. Extremes in the water cycle and risks to society

An overview of each research area with associated topic(s) and sessions can be found at <https://www.gewexevents.org/meetings/gewex-osc2024/program/themes-and-sessions/>



Simulated water table depth over Europe (Jessica Keune)

Groundwater Workshop

A special Workshop on Groundwater has been organized by Laura Condon (University of Arizona, USA) and Stefan Kollet, Research Center Juelich (Germany).

The Groundwater Workshop takes place on 6 + 7 July 2024 (1,5 days) and participation is free of charge. For additional information and to register visit <https://www.gewexevents.org/meetings/gewex-osc2024/program/groundwater-workshop/>.

Registration and Abstract Submission

Abstract submission is closed!

To participate in the 9th GEWEX Open Science Conference without an abstract submission go to <https://www.gewexevents.org/meetings/gewex-osc2024/registration/registration/>.

Registration and Abstract submission fees

Early Bird Conference Fees

Full week	80000 JPY	~535 USD
Full week Early Career Scientists ¹	58000 JPY	~385 USD
One day attendance	45000 JPY	~300 USD
Abstract submission fee (non-refundable)	9000 JPY	~ 60 USD

Regular Conference Fees

Full week	90000 JPY	~600 USD
Full week Early Career Scientists ¹	65000 JPY	~435 USD
One day attendance	45000 JPY	~300 USD
Abstract submission fee (non-refundable)	9000 JPY	~ 60 USD

¹An Early Career Scientists (ECS) is an undergraduate or postgraduate (Masters/PhD) student or a scientist who has received the highest degree (BSc, MSc, or PhD) within the past seven years. Provided parental leave fell into that period, up to one year of parental leave time may be added per child, where appropriate with a maximum of four years total.

Program

The program of the 9th Global Energy and Water Exchanges Opens Science Conference will become available in the second half of May 2024.

Important Dates

Abstract submission and Registration open : Late November 2023

Abstract submission closed	: 1 February 2024 19 February 2024 23:59 HST
Travel support application closed	: 1 February 2024 19 February 2024 23:59 HST
Abstract acceptance notification	: 19–23 February 2024 Mid-March 2024
ECR Workshop acceptance notification	: 26 February–1 March 2024 Mid-March 2024
Travel support notification	: 4–8 March 2024 second half of March 2024
Early Bird registration closed	: 4 March 2024 at 24:00 UTC 21 April 2024 at 23:59 HST

Venue and Practical information

Venue

The 9th Global Energy and Water Exchanges Opens Science Conference will take place at

[Keio Plaza Hotel](#)

2-1, North 5 West 7, Chuo-ku
Sapporo, Hokkaido
Japan
Tel. +81-11-271-0111

Sapporo Station is a 5-minute walk from the meeting venue.



Accommodation, transportation and things to do

Please visit [Practical Information](#) for information about accommodation, transportation and things to do in Sapporo, Japan.

Tours

GEWEX-OSC 2024 in Sapporo offers a variety of tour opportunities during and after the conference to enhance your understanding of Hokkaido's culture. These tours are exclusively available for GEWEX-OSC attendees and their guest(s). The Technical Tour "Establishment of Hokkaido: Water Management in the Past and Future" is specially designed for GEWEX scientists and is hosted by the Local Organizing Committee. Please visit [Practical Information](#) for additional information.

Visa

Any foreign visitor entering Japan must have a valid passport for the duration of their stay, and all visitors must comply with the conditions of their visas.

For visa information for a stay of up to 90 days for tourism, business, visiting friends or relatives, etc. that does not include remunerative activities, visit https://www.mofa.go.jp/j_info/visit/visa/index.html.

An overview of countries that are visa exempt can be found [here](#). If you have any other questions or concerns, send a message to support_gewex@ec-mice.com



Background image "[Jozankei Onsen Town](#)" and image top right corner "[Odori Park](#)" courtesy of Sapporo Travel

[HOME](#) | [ABOUT](#) | [MEETINGS](#) | [REPORTS](#) | [PROFILES](#) | [PHOTO GALLERY](#)

[CONTACT US](#)



Copyright © 2024 IGPO, All rights reserved. [Privacy Policy](#)

<input type="text" value="Search"/>	GO
-------------------------------------	-----------

