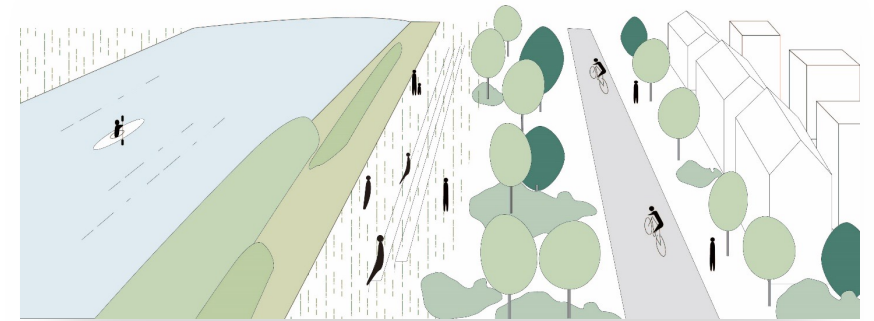


Human-river relationships - An online tool aiming to learn more about visitors of water museums and understand emotional relations with water bodies and waterscapes

Yixin CAO

Prof. Dr. Karl Matthias Wantzen



香港大學
THE UNIVERSITY OF HONG KONG

About: Unesco Chair "River Culture – Fleuves et Patrimoine"



- International cooperation, North-South-South dialogue
- Focus on "solving", rather than on "claiming" problems
- Riverscape management, dam removal, restoration of river banks, headwaters, urban waters (daylighting, human-river/lake encounters)
- River-Culture Concept: socio-ecological harmonization approach, human-cultural and biological adaptive strategies to the rhythm of water
- Book: Analysis of the drivers, menaces, and options to recover and implement adaptive strategies into basin management
- New Master Course (MWS, 2024) @UniStrasbourg: "*Path-independent* thinking"



Revise values



**Life in the
rhythm of the
waters**



**Bassin de
responsabilité**

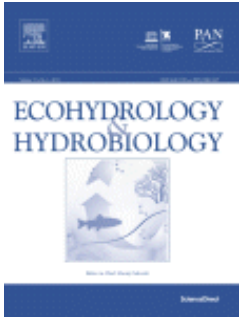
**Learn from
biotic adaptive
strategies**



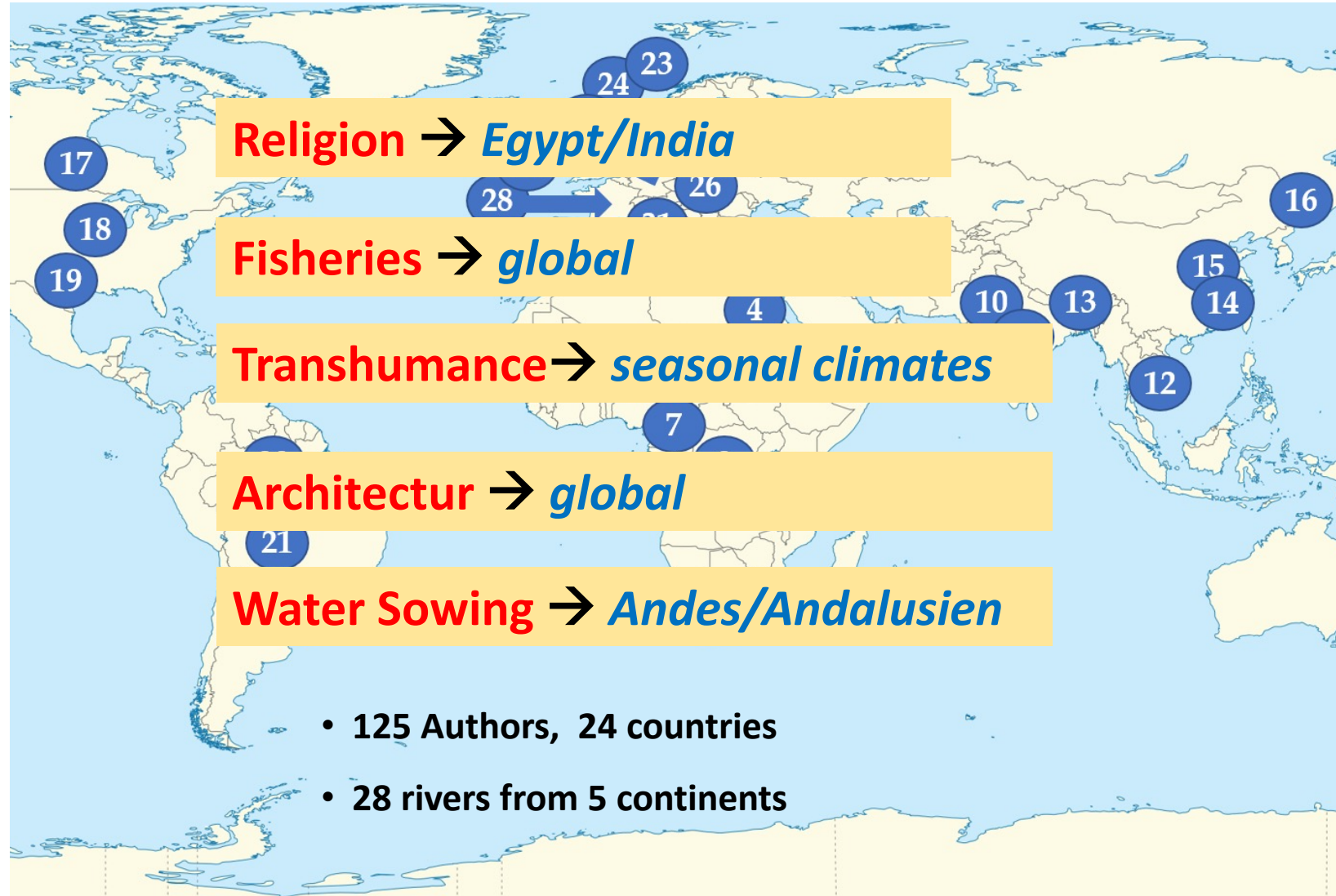
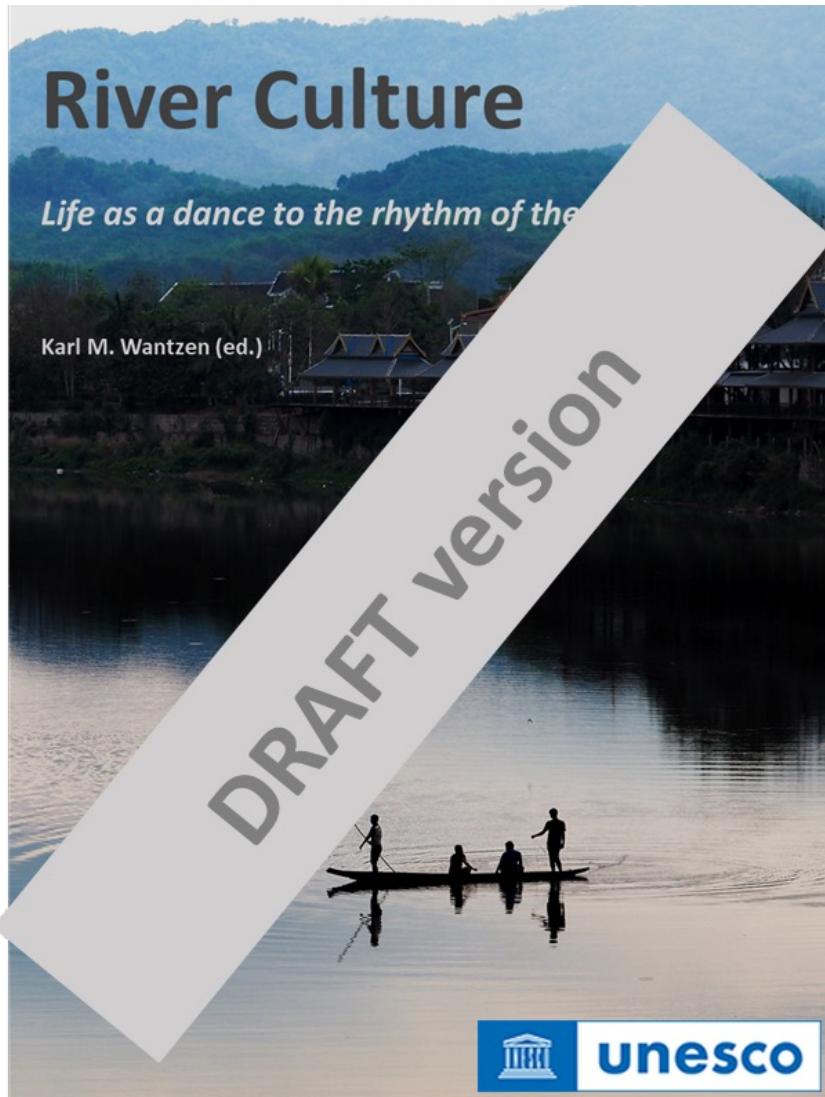
**Traditional
Ecological
Knowledge**



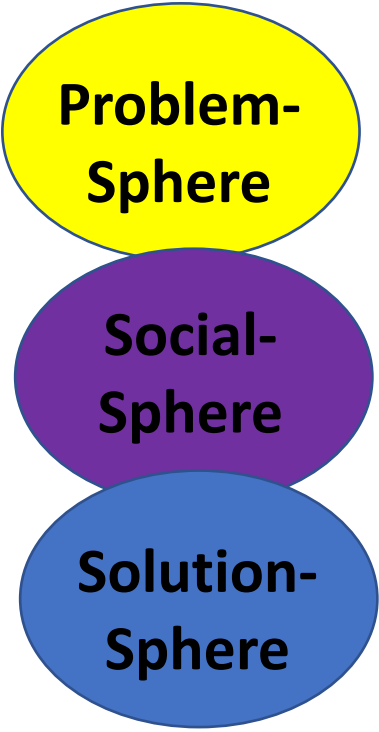
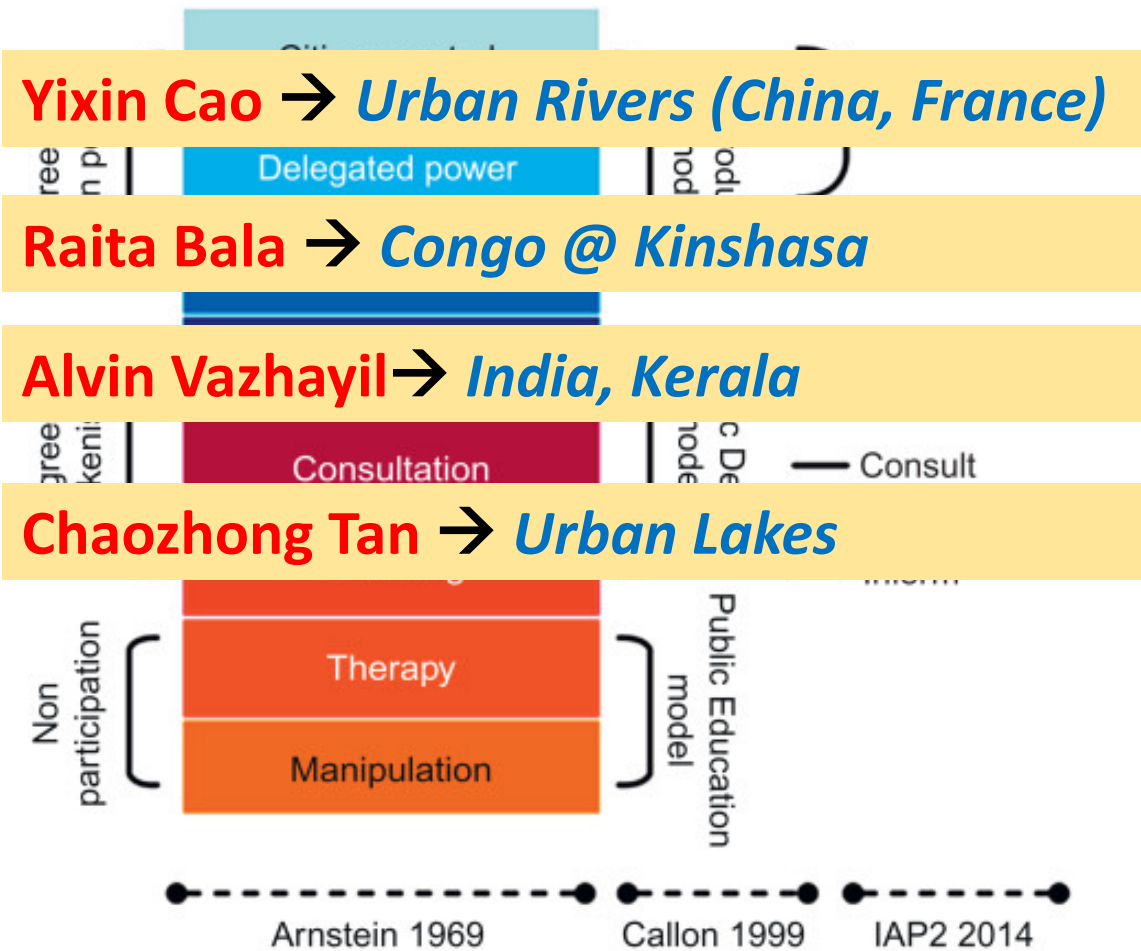
**River Culture
Concept (2016):
*learn from the river,
live with the river***



How do you live with your river? A global study



How (under which socio-environmental conditions) do people "nudge" and develop feelings and action for nature?



Conallin, John C., et al. "Stakeholder engagement in environmental water management." Water for the Environment. Academic Press, 2017. 129-150.

Wantzen et al., communication arising

What is "*subcutaneous environmental education*"?

- **Non-factual channels of perception** (i.e., no notice boards, but feelings, impressions, leveraging curiosity, pleasant impressions, enchantment)
- Provide an **invisible chain: *impression* → *curiosity* → *interest* → *care*** (e.g., from a "human-nature-encounter site" to a museum and action)
- "**Entry channels**" should be as **diverse** as the personalities of the 'audi'ence (e.g., soundscape, microclimate, aesthetics, relaxation), people should feel well/interested and then reflect, why...
- "**Educative objects**" can be very **variable in size, shape and design** (*Stolpersteine*, windows to buried streams, artwork, events, urban parks, blue-green networks, ...)
- But first, we need to know: **what does people connect with nature?** → *Yixin's presentation and questionnaire*



To know more about River Culture...

<https://www.karlmwantzen.de/>

<http://www.unesco-chair-river-culture.eu/>

<https://www.eucor-uni.org/en/seed-money/funded-projects/mws-european-master-in-continental-water-sustainability/>

https://www.canal-u.tv/video/le_studium/prof_karl_wantzen_development_s_of_the_river_culture_concept.59407

Wantzen, K.M. (ed., in press): ***River Culture – Life as a dance to the rhythm of the waters***. UNESCO publishing, Paris, 902 pp, ISBN 978-92-3-100540-4

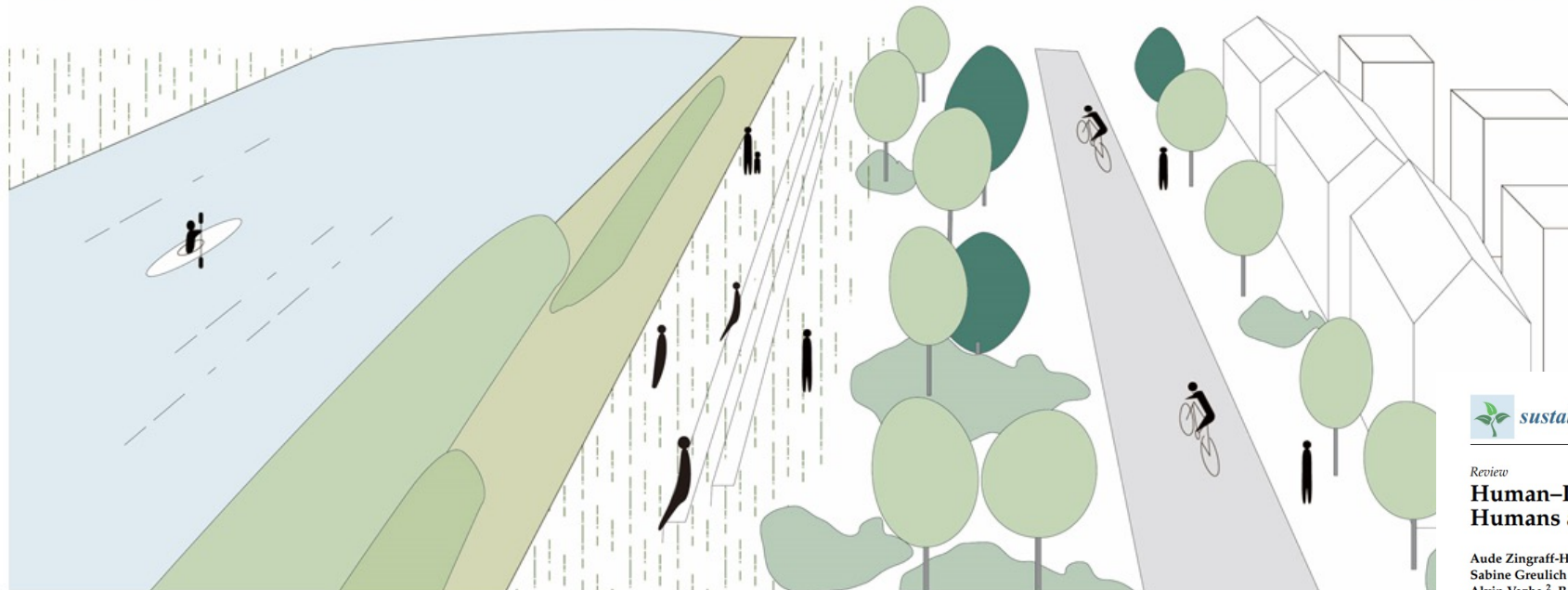
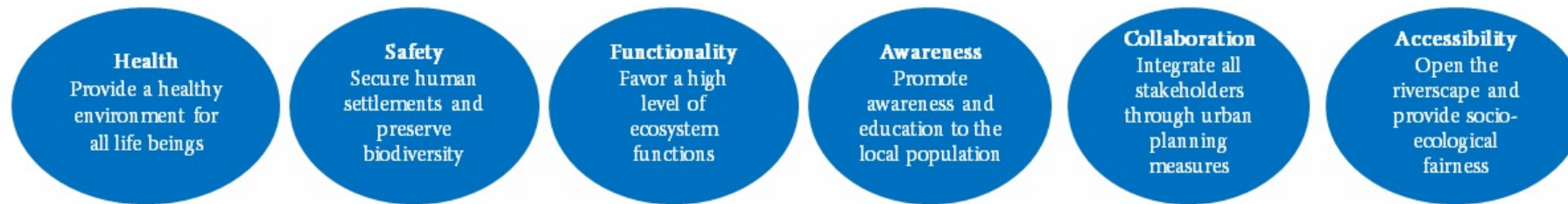
Wantzen, K. M. (2022) ***River Culture: socioecology of the rhythm of the waters***, The Geographical Journal, themed section on “Geographies of inland waterscapes: thinking with watery spaces and places” edited by Francesco Visentin (University of Udine, Italy) and Maarja Kaaristo (Manchester Metropolitan University, UK). DOI: 10.1111/geoj.12476

Zingraff-Hamed, A., Bala, R., Bonnefond, M., Bonthoux, S., Cao, Y., Greulich, S., Legay, N., Robert, A., José Serrano, J., Tharme, R., Vazha, A. and Wantzen, K.M. (2021): ***Human-River Encounter Sites: looking for harmony between humans and nature in cities***. Sustainability, 13, 2864 <https://doi.org/10.3390/su13052864>

Wantzen, K.M., Ballouche, A., Longuet, I., Bao, I., Bocoum, H., Cissé, L., Chauhan, M., Girard, P., Gopal, B., Kane, A., Marchese, M. R., Nautiyal, P., Teixeira, P., Zalewski, M. (2016): ***River Culture: an eco-social approach to mitigate the biological and cultural diversity crisis in riverscapes***. Ecohydrology & Hydrobiology 16 (1): 7-18 <http://dx.doi.org/10.1016/j.ecohyd.2015.12.003>

Urban Human-River Encounter Sites

Humans meet the river, enjoy it, without harming it



Aim of the public survey

- To understand human relationships with the river – how people perceive, interact, and evaluate the river?
- Help build human-river encounter sites in the city – how to manage urban rivers to provide multiple benefits for humans and all living beings?
- A comparative study with cross-cultural analysis – the global network of Water Museums



**WATER
MUSEUMS**
GLOBAL NETWORK



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Hydrological
Programme

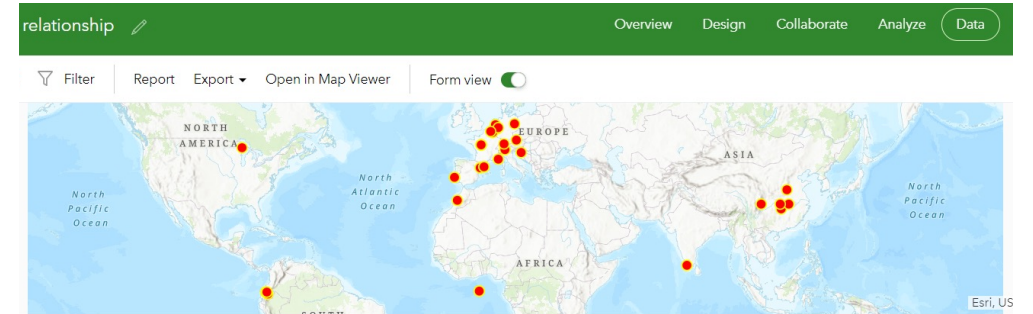
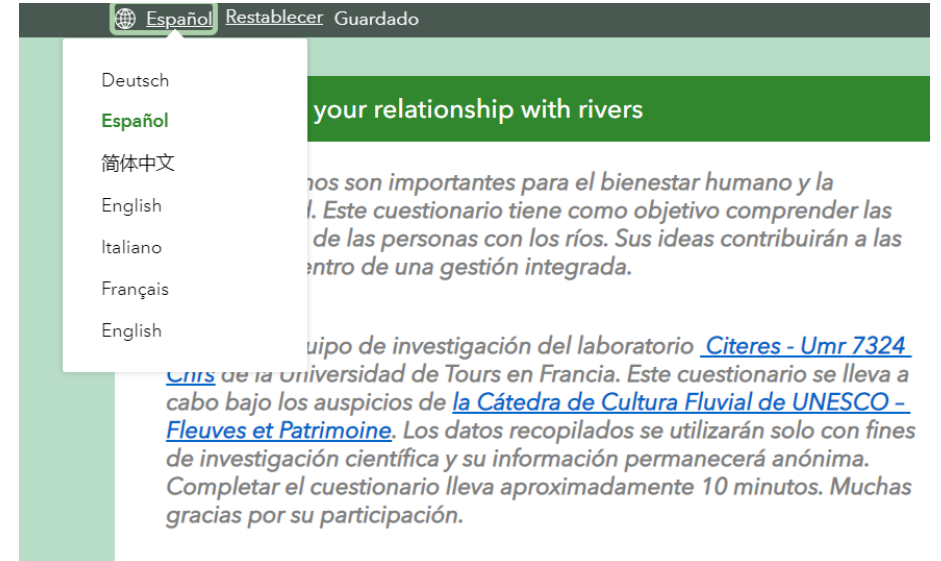


Self-introduction by participants

3 (max 5) mins each

Online survey platform: ArcGIS Survey123

- Integrated with the ArcGIS platform
- Generating spatial information: submitted surveys also include the spatial location where they were submitted
- Multiple languages available: change the language on the top left





What's your relationship with the river?

Please take a moment to fill out the survey. Your input will help us better manage our rivers!

Your Voice Matters



We are a research team from the laboratory Citeres - Umr 7324 Cnrs of the University of Tours in France.

This questionnaire is carried out under the auspice of UNESCO Chair River Culture - Fleuves et Patrimoine and coordinated by the Global Network of Water Museums.



Scan me



Access: link, QR code

- Data are collected online (not recommended manually)
- Link to the online questionnaire: <https://arcg.is/1OHDG00> (open in the browser directly)
- Allow multiple submissions: each questionnaire can be filled out on different devices as well as on the same device
- 10-15 mins to complete
- Anonymous; data used only for research purposes

Content of the questionnaire

- 6 parts
- Mostly multiple/single choice questions (required), with a few open questions (optional)

English Reset Saved YX

Understand your relationship with rivers

Urban rivers are important for human wellbeing and biodiversity. This questionnaire aims to understand people's interactions with the rivers and your ideas will contribute to the integrated management solutions.

We are a research team from the laboratory [Citeres - Umr 7324 Cnrs](#) of the University of Tours in France. This questionnaire is carried out under the auspice of [UNESCO Chair River Culture - Fleuves et Patrimoine](#). Data is collected only for scientific research and your information remains anonymous. Completing the questionnaire takes approximately 15 minutes. We thank you very much for your participation.

-

Identify your closeness to the river - ▶

Recall childhood experiences interacting with rivers - ▶

Valuation and perceptions of the river in your city - ▶

Expectations of urban river restoration - ▶















Participation of river management - ▶

Personal characteristics - ▶

Part I: Identify your closeness to the river

- Multiple/single choice questions
- Living in proximity to the river, visit frequency to the river sites, things to do on the riverside
- Whether the pandemic changes your interaction with the river

5. What do you do at the riverside? *(Multiple choice possible)*

- | | | |
|---|--|--|
| <input type="checkbox"/>  Walking | <input type="checkbox"/>  Walking dogs | <input type="checkbox"/>  Jogging, outdoor workouts |
| <input type="checkbox"/>  Biking | <input type="checkbox"/>  Swimming | <input type="checkbox"/>  Travelling, hiking |
| <input type="checkbox"/>  Picnicking, meeting with friends | <input type="checkbox"/>  Fishing | <input type="checkbox"/>  Relaxing, meditation |
| <input type="checkbox"/>  Nature observation, photography | <input type="checkbox"/>  Dancing | <input type="checkbox"/>  Canoeing, kayaking |
| <input type="checkbox"/>  Participate in environmental protection activities (e.g., clearing up litter by the riverside) | <input type="checkbox"/>  Participate in educational activities (e.g., eco-tours) | <input type="checkbox"/> Others |
-

Part II: Recall childhood experiences interacting with rivers

- Choice questions and an open question (optional)
- Childhood memories and feelings about the river

What is the most important memory of your childhood connecting with the river?-

e.g., go fishing with parents, regular visits, experiencing river floods

-

Which of the following words describes how you felt about rivers during your childhood?-*

Multiple choice

-

☐

Fear

-

☐

Worry

-

☐

Fond

-

☐

Appreciative

-

☐

Curious

-

☐

Awe

-

☐

No feeling

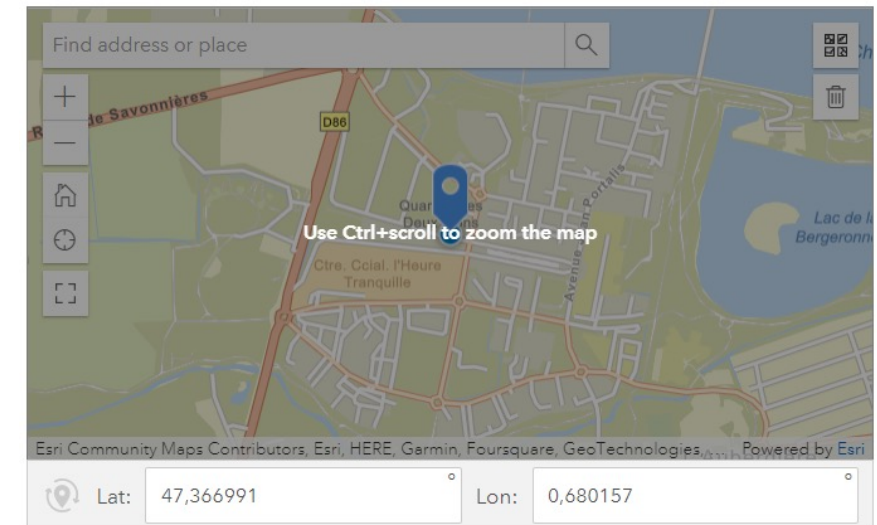
-

Part III: Valuation and perceptions of the river in your city

- Choice questions:
 - Value the riverine environment by negative (👎), positive (👍) or I don't know (🙄)
 - 15 statements about rivers' social-ecological impacts with 3 Point Likert scale (disagree, neutral, agree)
- Geo-location question:
 - Indicate the favourite river site on a map with geo-points (will display the user's location by default if the user's location is shared in the browser)
- Upload an image of the favourite river site (optional)

Where is your favourite river site in your city? Can you indicate it on the map?-

Type the address of the site in the "Find address or place" box. Alternatively, you can click the "Find my location" button to use your device's integrated GPS. Please check the accuracy after using the "Find my location" button. Not all internet browsers or security settings will allow for detecting your location. In this case, please use an address and/or drag the pin on the map. Click on 'ok' in the top right corner once you locate it accurately.



Can you give us an image of your favourite river site?-

You may take or upload a photo from your device

Drop image here or select image





Scénario 1*



Scénario 2*



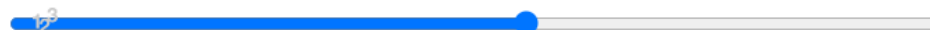
Scénario 3*



Scénario 4*

Veuillez le noter de 1 (restauration ratée) à 10 (restauration réussie)

1 10



Part IV: Expectations of urban river restoration

- Scoring question: score each hypothetical river restoration scenario from 1 (failed restoration) to 10 (successful restoration)
- No professional knowledge is required

Part V: Participation of river management

- Multiple choice questions and an open question
- Willingness to participate in river management as a citizen, which information they want to receive about the river, etc.,
- Suggestion for future river management

Part VI: Personal characteristics

- Single-choice question
- Gender, age, educational level, monthly income, etc.

As a citizen, what would you suggest for future river management in your city?-

Optional

-

A similar public survey was made with a shorter-version questionnaire in Tours, France, during the 2021 Science Festival

MUSEUM U TOURS

Que pensez-vous des rives dans les villes ?

Nous sommes une équipe de recherche du laboratoire CITERES de l'Université de Tours qui étudie la réhabilitation des rivières urbaines. Ce questionnaire est réalisé pour la Fête de la Science 2021 en région Centre-Val de Loire. Le questionnaire reste anonyme, vos informations ne seront pas utilisées à des fins commerciales. Remplir le questionnaire prendra environ 3 minutes. Nous vous remercions pour votre aide dans nos recherches !

Les rives/berges se composent de la bande de terre qui borde le cours d'eau constituant un espace transitoire entre le milieu terrestre et aquatique. Dans les villes, ils sont souvent transformés en parcs verts publics.

- Vous êtes**
 - ☐ Un homme
 - ☐ Une femme
 - ☐ Non-binaire
 - ☐ Je préfère ne pas le dire
- Quel âge avez-vous ?**
 - ☐ 18-24 ans
 - ☐ 25-34 ans
 - ☐ 35-54 ans
 - ☐ 55 ans ou plus
 - ☐ Je préfère ne pas le dire
- Vous rendez-vous souvent sur les rives de la ville où vous vivez ?**
Si oui, à quelle fréquence ?
 - ☐ 1 ou plusieurs fois par mois
 - ☐ 1 fois par semaine
 - ☐ Quelques fois par semaine
 - ☐ 1 fois ou plus par jour
 - ☐ Je ne vais pas sur les rives
- Que faites-vous sur les rives ?**
(choix multiples)

- ☐ Exercice physique
 - ☐ Baignade
 - ☐ Promenade de chien(s)
 - ☐ Rencontre avec des amis
 - ☐ Autre : _____

- ☐ Promenade
 - ☐ Pêche
 - ☐ Kayak

5. D'après votre expérience, quelle importance accordez-vous aux aspects suivants des rives urbaines ?

	Pas du tout important	Peu important	Relativement important	Très important	Extrêmement important
La qualité de l'eau de la rivière et des cours d'eau	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toucher et sentir la nature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Le niveau de biodiversité	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Un accès ouvert au public	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Les infrastructures sportives et de loisirs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1



Comment voulez-vous votre rivière ?



fête de
la Science
2021

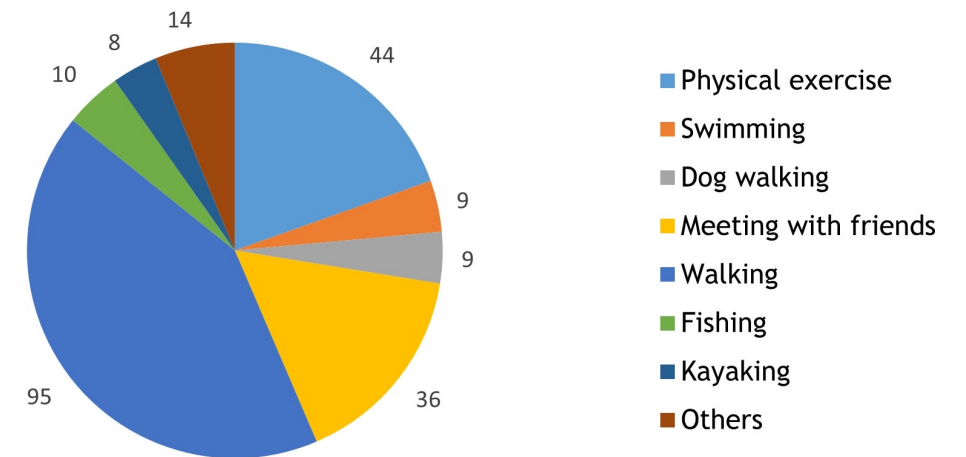
Some preliminary results...

- Inhabitants interact actively with the river and value many aspects of the urban riverfront

The paper is now accepted for publication



Suggestions for future river management in Tours



Diverse riverside activities in Tours, namely at the Loire River

Survey just finished in China



香港大學

THE UNIVERSITY OF HONG KONG

- Three water museums participated
 - National Water Museum of China, Hangzhou
 - Baiheliang Underwater Museum, Chongqing
 - Changjiang Civilization Museum, Wuhan
- From July to November 2022
- Questionnaires are completed online, in a Chinese platform (Wenjuanxing); questions are slightly different
- 657 completed answers collected in total

关于城市河流与居民福祉的调查

您好，我们正在进行一项关于城市河流与人类福祉的调查，旨在了解城市居民与河流的关系，推进城市水管理与绿色发展。您的宝贵意见对于我们的研究课题非常重要，诚邀您用10分钟时间填写这份问卷。本问卷实行匿名制，所有数据只用于统计分析。题目选项无对错之分，真诚地感谢您的支持与合作！

1. 您的住处是否位于河流附近？

☐ 是 ☐ 否

2. 最近的河流距离您的住所大概有？
请预估您的步行距离

☐ 十分钟以内的步行距离 ☐ 十至三十分钟的步行距离 ☐ 三十分钟以上的步行距离

3. 您去到河边的频率是？

☐ 每天一次或以上 ☐ 每周一次或以上 ☐ 每月一次或以上

☐ 少于每月一次 ☐ 从不



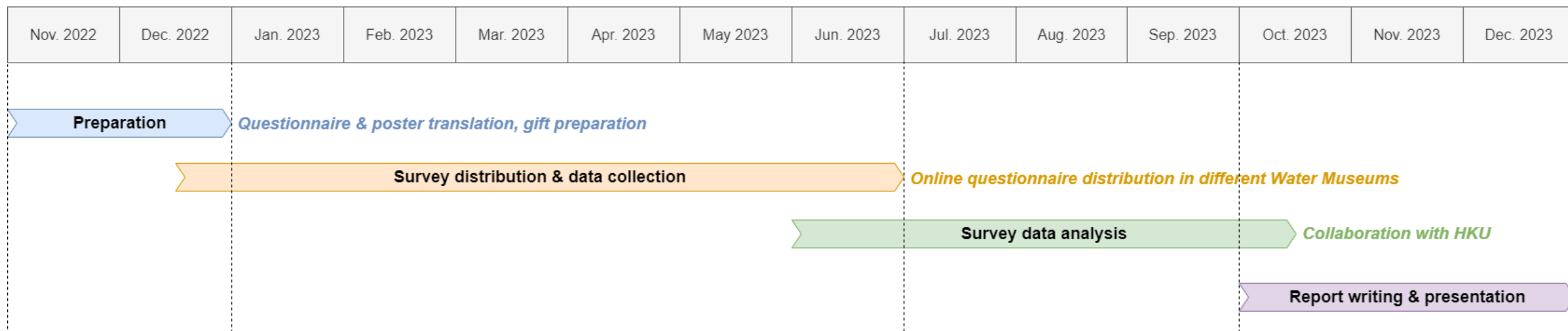
Strategies to collect questionnaires

- Poster with the QR code in the museum
- Promotion in social media (e.g., Facebook)
- Small gifts for visitors
- Assistance with filling out all questions
- Others...



The poster in the National Water Museum of China, Hangzhou (left)
Gift stickers for visitors who participate in the online survey (right)

One-year timetable



Examples of museums engaged so far...

- Yaku Water Museum Quito - Quito, Ecuador
- Le Musée de l'Eau et de la Fontaine - Ottignies-Louvain-la-Neuve, Belgium
- Museum of River Navigation (Museo Civico della Navigazione Fluviale) - Battaglia Terme, Padua, Italy



What do you need to do?

- Translate the poster into your language and add your museum's logo
- Translate/proofread the questionnaire into your language (if not available)
- Distribute it through different platforms (printed poster, poster stand, social media, public event, emails...)
- Prepare some gifts (recommended)
- Keep track of data collection with us!



 **Yaku Museo del Agua**
10月6日 · 🌐

#Encuesta | ¿Cuál es tu relación con los ríos?

Para nosotros es importante conocer tu opinión, ayúdanos a llenar 📄 esta encuesta.

📌 ¡Tus respuestas ayudan a que, a través de la investigación, se propongan ideas para el manejo de los ríos en el mundo!

👉 Dale clic en el enlace: <https://arcg.is/1OHDG0>

👉 **Importante:** al momento de abrir el link puede aparecer una versión en otro idioma, puedes cambiarla dando clic en idioma y seleccionando Español.

Contacts

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- University of Hong Kong:
 - ✓ Professor Wendy Y CHEN: wychen@hku.hk



Open discussion

All participants