



FLOODS Working Group Kick-off Meeting 2024-2026

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This document describes the main points addressed during the PAGES Floods Working Group (FWG) splinter meeting SPM35 and the kick-off meeting of the third FWG phase 2023-2026.

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Attending PAGES SSC and IPO members: Marie-France Loutre and Iván Hernández-Almeida

Minutes compiled by Daniela Kröhling and Lothar Schulte

The slides of the FWG Meeting presentations can be find [here](#).

12:45 - *Meeting starts*

1. Introduction

LS presents the 3er phase of the FWG, approved on December 2023. The list of leaders, the PAGES ECN representative, the PAGES SSC liaison, and the members of the scientific committee are displayed. The co-leaders of the FWG themselves introduce (Fig. 4). LS continues with a brief presentation of the main activities such as workshops (Fig.1), co-sponsored sessions, publications, and metadata base of paleoflood records, developed during the two previous phases of the FWG. The four Work Packages (WP), that will allow the achievement of the overall goals planned for the last phase of the FWG, are presented: WP1. Anthropo-flood Integration, WP2. Disaster Risk Reduction, WP3 Map of Extreme Floods, and WP4 metadata.

2. Floods WG Work Packages

13:00 – **Work Package WP1:** LS shows ongoing regional **multi-archive pilot studies in test regions** (Fig.2) to investigate flood forcing (Swiss Alps; Spain; New Zealand; etc.). The new topic in the third phase FWG is the historical role of human action in catchments and floodplains modifying flood frequencies, hydro-sedimentary and environmental processes (e.g. contamination). These processes in turn threaten communities and cultural heritage sites located in flood prone areas. Key questions are how, when and where floodplains were heavily transformed worldwide by land-use, land reclamation, hydraulic management, industrialization, mining, etc.



Figure 1: Floods Working Group Workshops and co-sponsored sessions from 2016 to 2024.

13:15 – **Work Package WP2:** JABC presents the **Disaster Risk Reduction (DRR)**. To improve engagement with local to national stakeholders and policymakers, the added value of considering evidence-based paleoflood records for a better understanding of the flood risk is highlighted. JABC presents some cases of special actions as communications related to paleoflood and historical flood data in pilot fluvial basins and recent flood disasters stakeholder forums. He points out the need to present our data describing the reality of flood processes when communicating with other researchers and, especially, with stakeholders and policymakers. He concludes that the format should be flexible enough to include qualitative information.

13:30 – **Work Package WP3:** LE presents the **Map of Extreme Floods (MEF)** to enhance the spatial analysis and velocity of flood propagation. The MEF online ArcGIS ESRI application (yr. 1432-2002) for the Czech Republic and neighboring regions is shown, through a selection of maps of the most important historical floods.

13:45 – **Work Package WP4:** MK presents the fundamentals of the **metadata of past flood** series for the launch of a new call for contribution to the Open-access flood metadata base. Strong engagement of Asia, South America, Africa, Australia and New Zealand is encouraged. MK remarks on the documentation and storage of specific metadata for each type of archive. Standardization of data and the data structure format, with the advantages of the LiPD format are introduced. MK shows examples related to the inclusion of the subset of data from each archive.

3. cooperation and congress announcements

14:00 - LS: **cooperation and congress announcement.** Members of the INQUA-TERPRO GLOCOPH Project working groups (leader: W. Toonen) are interacting with the FWG members.

Announcement of the PAGES OSM Conference 2025 in Shanghai and the 11th IAG Conference on Geomorphology

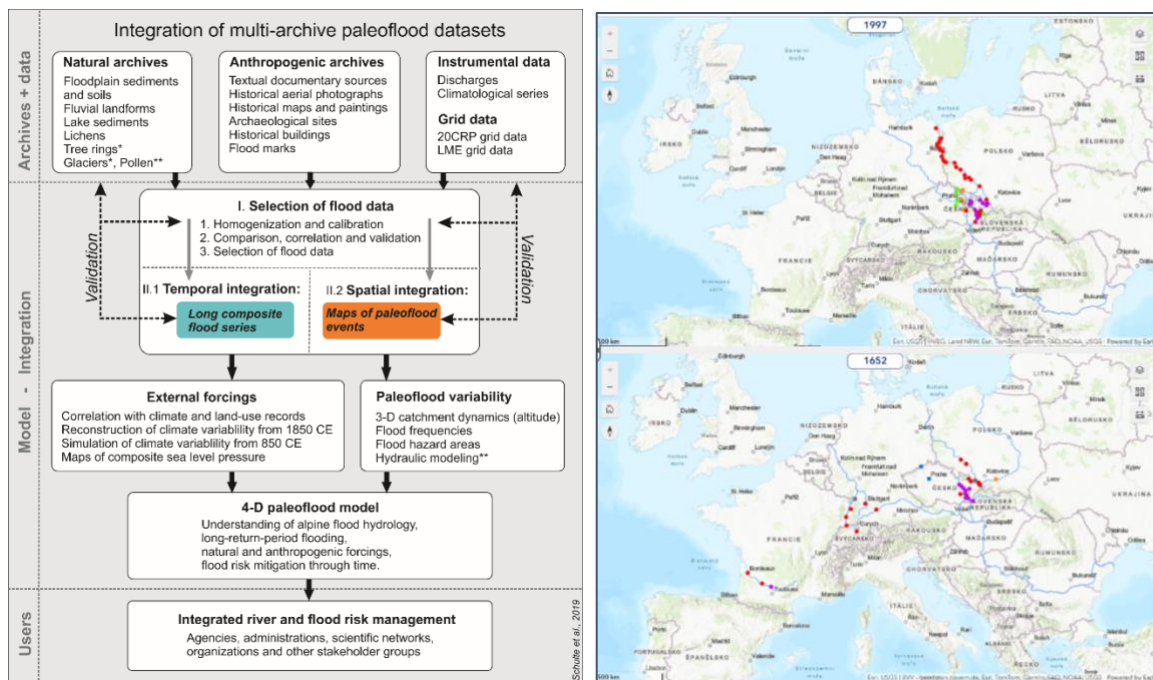


Figure 2: Right: Concept of the pilot project Bernese Alps of multi-archive paleoflood integration according to Schulte et al. (2019, *Glo. Pla. Cha.* 180). Left: Progress of the MEF online ArcGIS ESRI application (yr. 1432-2002) for the Czech Republic and neighbouring regions explained by Elleder, L. (2024). Major floods of 1997 and 1591 are compared.

4. Planned Floods WG activities

14:05 – LS: 1st year activities (2024) of the FWG

At the EGU24 Lothar Schulte, Dominik Paprotny, Thomas Roggenkamp, Daniela Kroehling, Juan Antonio Ballesteros-Canovas, Miriam Bertola, Larisa Tarasova organized the Session ITS2.9/CL0.1.10/HS2.4.1, Vienna. “Flood trends in cultural riverine landscapes: space-time dynamics, patterns, controls, and attribution” sponsored by PAGES. The session included 29 oral and poster presentations of flood-related studies from all continents. Approximately 60 delegates attended the oral session.

Between the activities list for yr. 2024, LS announces the second virtual special issue (VSI) on paleofloods of the FWG in the *Global and Planetary Change Journal*. It is entitled: “Temporal and spatial flood patterns under the effect of global changes. How multi-archive evidence help to overcome our lack of imagination and identify the unknown unknowns”. Guest-Editors are Lothar Schulte, Juan I. Santisteban, Ian C. Fuller, Juan A. Ballesteros-Cánovas. The EVISE application for paper submission is open until 31.07.2024. Six papers of the VSI were published, seven manuscripts (MS) are undergoing the review process and seven MS are in preparation. The location of the studied areas is shown in Fig. 3.

14:15 - JABC: PAGES Horizons issue. A new issue of Horizons is edited by JABC (Fig. 3). It highlights palaeoscience topics of interest for the next generations, written in an easy-to-understand, visual format. It contains strong messages about past sciences and how to prepare for a changing future.

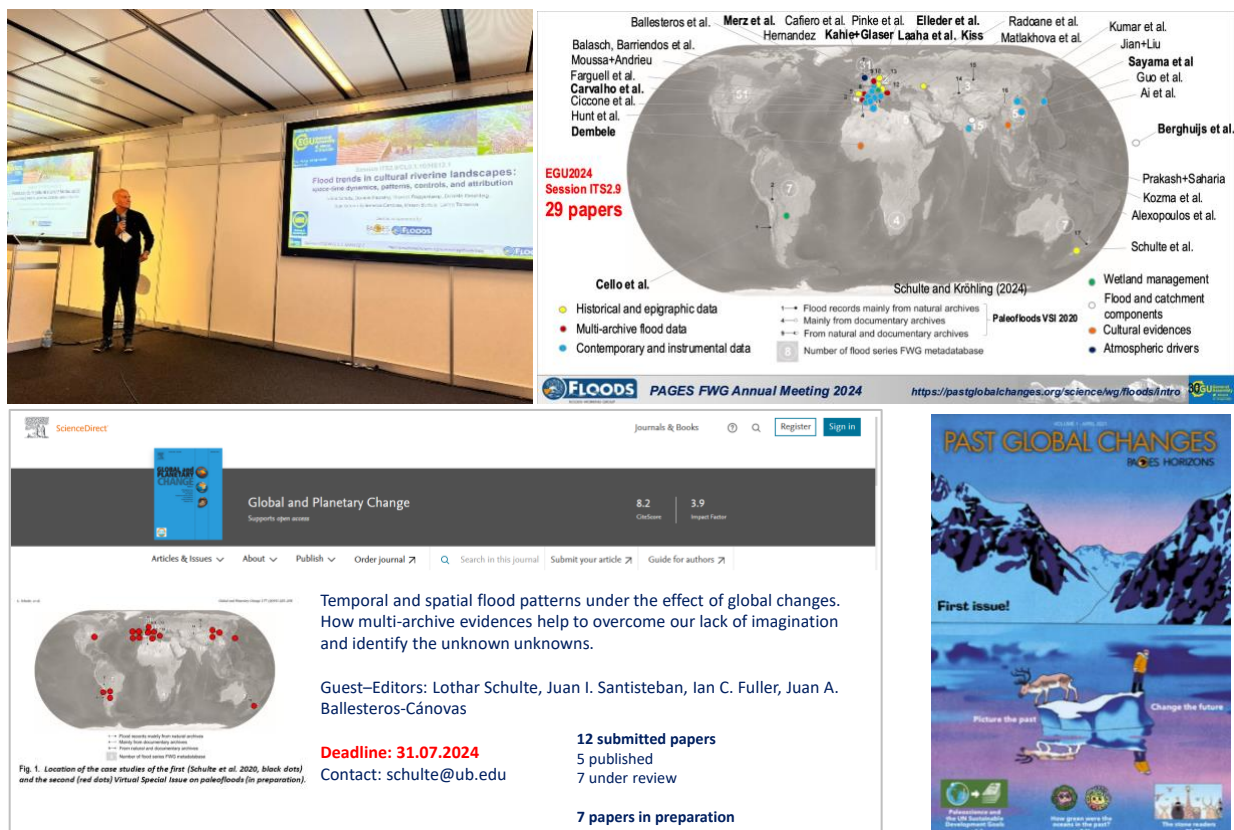


Figure 3. Top: presentation and location of the 29 flood papers and authors teams of the EGU24 session “*Flood trends in cultural riverine landscapes: space-time dynamics, patterns, controls, and attribution*”. The world map shows the location of the presented study sites during the sessions. Bottom: Announcement of the Virtual Special Issue “*Temporal and spatial flood patterns under the effect of global changes*” (Schulte et al., left figure) and the first issue of *Pages Horizons* (Ballesteros-Casanovas et al., right figure).

14:20 - LS: 2nd year planned activities (2025)

Launch of pilot studies to identify the benefits of paleofloods in DRR, in particular in mountain environments (Ordesa-Monte Perdido National Park, Spanish Pyrenees, Swiss Alps, etc.).

LS proposes the organization of a FWG Meeting at Prague, Berne or Barcelona, with a focus on i) cutting-edge methods and innovative techniques, ii) statistical time-space analysis of the flood variability and propagation and iii) and evidence for the historical floodplain development toward the Anthropocene.

A Field workshop for Young Scientists in the Bernese Alps is planned.

14:30 - LS: 3rd year planned activities (2026)

LS presents the key dates for the 11 IAG Int. Conference on Geomorphology 2026, Christchurch, New Zealand, highlighting the great opportunity to organize a FWG session and workshop. Ian Fuller, member of the Floods WG, is co-leader of the IAG Local Organising Committee.

Also, a PAGES Special Volume Highlights advanced multi-archive paleoflood reconstruction reflecting the efforts of the FWG, and a PAGES Magazine issue on Floods, is planned to communicate the main achievements in an accessible and informative style.

Finally, the launch of the next PAGES Working Group but with a new focus and title is intended at the end of 2026.

4. Questions, suggestions and comments

14:40 Q&A

After the presentations, LS opens a round of discussions of the planned scientific activities of the FWG. Which key actions could be reinforced to enable significant progress and associated deliverables expected in the coming years?



Figure 4. Floods Working Group and Work Package Leaders.

LS reinforces that it is important to stimulate and organize activities to fulfil the planned objectives of the 3rd phase of the FWG. In particular, the organization of workshops and topic sessions in conferences to facilitate the progress of the activities, in addition to special issues and a new call for the Open-access flood metadatabase. In that sense, LS says that leaders of the FWG will be participating of the PAGES Splinter Meeting at the EGU Vienna for collecting more information and ask specific questions to PAGES IPO members.

With respect to the final decision on the FWG Special Session and FWG Workshop at the OSM 2025 Shanghai, the present PAGES IPO members (M-F. Loutre and I. Hernández-Almeida) indicate the need of confirmation to PAGES of the organization of the Session and the associated Workshop in the OSP Congress in Shanghai before 15 May 2024.

Andrea Kiss (AK; Austria) indicates her interest in contributing to the VSI, especially thanks to the deadline extension (31 July 2024).

JABC suggest making formally a call to the email list and to the entire community of the FWG to contribute with the metadata (new call), with the Excel file attached.

MK recommends also sending an email to the paleo community and other groups. He suggests to download a paper by S. Brönnimann (ETH Zurich, Switzerland) on paleodata reanalysis.

AK says that she can't share some data (eg. data in the paper recently published in Nature), but of course, she can share the Nature link to make it informative.

JABC asks how to share files/documents. Could we provide them also in another format?

I. Hernández-Almeida (PAGES IPO) indicates for the PAGES Magazine issue that we could invite specialists on paleofloods and floods. He said that they are flexible because it has an open format (with an informative style of publication). It is important to consider that FWG leaders have to contact a member of the Editorial Board one year in advance due to the Magazine is published only two times a year. They have to propose the topic for the magazine issue and volunteer as guest editors, even in an informal advertisement. After that, together with the PAGES office, the editors solicit contributions and review them for scientific content and style.

Finally, is observed that there is a need to involve more people as members of the FWG, especially from Asia, America, Africa and Australia. After that, most of the members are expected to give inputs on data-related issues.

15:00 - *End of meeting*