
FloodVar-CC

Plan de gestion de données créé à l'aide de DMP OPIDoR

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Modèle du PGD : ANR - DMP template (english)

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Résumé du projet :

Societies are currently under increasing threat from river flooding that is among the most destructive of natural hazards. While climate change is expected to exacerbate flood hazard, there is limited to medium confidence available to assess such changes in present and future times. Moreover, paleoflood data seems to contradict the theoretical/expected increase in flood frequency and magnitude with the temperature. The FloodVar-CC project aims to evaluate the ability of general circulation models (used for projections) to simulate realistic regional hydroclimatology and better understand climate drivers of flood hazard at multi-decennial to centennial timescales, i.e. timescales relevant for projections like those performed at horizons 2050-2100. This is envisioned through a data-model comparison over the last millennium, a period well-documented and long enough to study noticeable changes in extreme-event frequency in response to both external climate forcing and internal variability.

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Droits d'auteur

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1. Data description and collection or re-use of existing data

- Paleoflood and instrumental/historical data: existing alpine paleoflood series as well as gauge data and/or historical flood information will be gathered by contacting authors/producers (task made easier with the PAGES Floods Working Group). These data will be re-used for analysis without any alterations. Further publications based on their reanalysis will respect the citation of original data producers. The process leading to gather systematic reviews datasets will follow the guidelines of the [PRISMA](#) international group for systematic reviews.
 - Sedimentary data: new data will come from the sedimentological, geochronological and geochemical analyses of a set of sediment cores retrieved from three large, deep lakes. Fieldwork information will be gathered on the field and uploaded to the [national scientific coring data repository](#). All data subsequently acquired on those samples will be collected and stored following the O&M standard ([doi:10.13140/2.1.1142.3042](https://doi.org/10.13140/2.1.1142.3042)), hence guarantying easy re-use among the project consortium and beyond.
 - Climate data: new millennial-long, local temperature and precipitation data series will come from the statistical downscaling of GCM outputs applied to some alpine catchments.
 - Hydrological data: new millennial-long, discharge data will be produced using a hydrological model and the produced climate data (see below) as inputs.
- Newly acquired data will all follow state-of-the-art data management processes. All published datasets, including both re-used and newly acquired data, will be made fully available in international data repository. At the end of the project, if some parts of datasets are not published yet, they will be gathered and made available publicly through one or several data papers in order to avoid their disappearance.

- Paleoflood and instrumental/historical data: text (txt) or excel (xls) spreadsheets, which are standard formats of producers of sedimentary, historical and gauge data. Data volume expected to be lower than 500Mo.
 - Sedimentary data: text (txt) or excel (xls) spreadsheets, which are standard formats of sedimentary data producers. Data volume expected to be lower than 2Go.
- Tu peux envisager d'utiliser les archives LiPD : http://wiki.linked.earth/Creating_a_LiPD_file
- Climate and hydrological data: netcdf files, open standard format by climate and hydrological data producers, allowing to easily store and visualize 4D data. Data volume expected to be lower than 50Go. The netcdf format

2. Documentation and data quality

Fieldwork information will be gathered on the field and uploaded to the [French national scientific coring data repository](#).

All data subsequently acquired on those samples will be collected and stored following the O&M standard ([doi:10.13140/2.1.1142.3042](https://doi.org/10.13140/2.1.1142.3042)), hence guarantying easy re-use among the project consortium and beyond.

For all sedimentary analyses, standard protocols will be systematically followed and fully described in a lab notebook. The protocols include a calibration step before the analyses for each planned analyses (i.e. XRF core scanner measurement, grain-size analyses).

3. Storage and backup during the research process

All gauge, historical and sedimentary data will be stored and backed both on external hard disks (including in project budget) and lab server with automatic backup. This parallel storage aims to strongly limit the lost of data. Climate and hydrological data that reach much larger volumes will be stored and backed in the lab server as well as in an external server of UMS GRICAD services (cost including in the project budget), both with automatic backup. The ways these datasets will be backed up (frequency, contact person) and structurally organized will be identified at the beginning of the project, taking advantage of a long experience from collaborators.

There is no sensitive data in this project.

4. Legal and ethical requirements, code of conduct

There is no personal data in this project.

All published datasets, including both re-used and newly acquired data, will be made fully available in international data repository such as PAGES, NOAA or Copernicus under the CC-BY licence (i.e. free re-use with reference to the publication). At the end of the project, if some parts of datasets are not published yet, they will be gathered and made available publicly through one or several data papers in order to avoid their disappearance. The same licence will be used for these datasets.

There is no ethical issues in this project.

5. Data sharing and long-term preservation

Data will be shared and promoted as soon as their publication under CC-BY licence (i.e. free re-use with reference to the publication). These datasets will be first hosted on its [webpage](#) as well as on the [NOAA repository](#) to guarantee data visibility and accessibility. [COPERNICUS](#) services will also be considered to ensure the easy access and use of these datasets to a broader community. Promotion of these datasets will be undertaken through the PAGES Floods WG network and by contributing to international (e.g. UNESCO [Sustainable Developments Goals, Future Earth](#) group on Extreme Events and Environments, IPCC [Special Report on Extremes](#) and WCRP Grand Challenge on [Weather and Extreme Events](#)), regional (e.g. [Alpine Convention](#), [Mountain Research Initiative](#), [Interpraevent](#)) and local ([PARN](#)) initiatives.

At the end of the project, if some parts of datasets are not published yet, they will be gathered and made available publicly through one or several data papers in order to avoid their disappearance.

Fieldwork information will be uploaded to the [national scientific coring data repository](#).

Paleoflood datasets will then be preserved through the PAGES Floods WG [webpage](#) as well as NOAA repository, which is one the favorite repositories of the paleo-science community. [COPERNICUS](#) services will also be considered to ensure the easy access and use of these datasets to a broader community such as researchers, engineers or stakeholders.

Any specific tool is required to download and use most of data due to their preferred text (.txt / .csv) format. The netcdf format of the climate data can be read with many open software such as R.

- 1) The French national Cyber-repository declare :
 - all samples by an IGSN number (Sesar Allocating Agent or CNRS (Allocating Agent))
 - all the field report will have a DOI for each campaign
- 2) Datastore in national or international repository would have a DOI

6. Data management responsibilities and resources

The PI (Bruno Wilhelm, Associate Professor, IGE-UGA) will coordinate the whole data management, while the recruited PhD student and the postdoc will be in charge of the data they will produce respectively in the frame of WP1 and WP2. Data curators for sedimentary and hydroclimate data will be identified at the beginning of the project for helping data managers to work in a consistent and up-to-date way.

Financial effort is provided through the recruitment of a PhD student and a postdoc, who will be in charge of the management of the data they will produce respectively. This will be completed by time used by the PI to coordinate the whole data management.