



SD-WISHEES



Data Management Plan

Deliverable 1.1 - July 2023

OUTPUT SUMMARY Project information	
Project Name	Supporting and Developing Widening Strategies to tackle Hydroclimatic Extreme Events: impacts and Sustainable solutions for cultural heritage
Project Acronym	SD-WISHEES
Call	Horizon-WiderA-2022-ERA-01
Type of Action	HORIZON Coordination and Support Actions
Project Number	101095322
Starting Date	1 January 2023
End Date	31 December 2026
Web-Site Address	www.sd-wishees.eu
Coordinator	Antonio Lo Porto
Management Team	Emanuele Romano, Jessica Amadio
E-Mail	sdw-cnr@irsa.cnr.it
Phone Number	
Deliverable Title	Data Management Plan
Deliverable Number	D1.1
Work Package	WP1
WP leader	Antonio Lo Porto
Nature	DMP (Data Management Plan)
Dissemination	PU - Public
Editor (s)	Antonio Lo Porto, Emanuele Romano, Jessica Amadio, Oriane Wiser
E-Mail (s)	antonio.loporto@cnr.it emanuele.romano@irsa.cnr.it

jessica.amadio@irsa.cnr.it	
Phone Number	+39 3471604003
Date of Delivery	31/07/2023

–

Verification by	Emanuele Romano
Date	28/07/2023
Validation by	Antonio Lo Porto)
Date	28/07/2023

Acknowledgements

SD-WISHEES receives funding from the European Union's Horizon Europe Framework Programme (HORIZON), under grant agreement No.101095322.

Disclaimer: This document reflects the views only of the author, and the European Commission cannot be held responsible for any use which may be made of the information contained therein

TABLE OF CONTENTS

List of acronyms	5
Summary	6
1. Introduction	7
2. Main principles of data management	9
3. Fair data	11
3.1. Making data findable, including provision for metadata	11
3.2. Making data openly accessible.....	12
3.3. Making data interoperable	13
3.4. Data reuse	14
4. Allocation of resources.....	14
5. Data security	15
6. Ethical aspects.....	15
7. Other	15
Appendixes (to be developed in the next version)	Errore. Il segnalibro non è definito.

LIST OF ACRONYMS

Acronym	Full title
CDEP	Communication, Dissemination and Exploitation Plan
DfG	Data for Good
DMP	Data Management Plan
ERA	European Research Area
FAIR principles	Findability, Accessibility, Interoperability, and Reuse
JPI	Joint Programming Initiative
KPIs	Key Performance Indicators
NGO	Non-Governmental Organisation
RFO	Research Funding Organisations
RPO	Research Performing Organisations
R&I	Research and Innovation
TAP	Thematic Annual Programming
UN SDGs	United Nations Sustainable Development Goals
WP	Work Package

SUMMARY

The **Data Management Plan (DMP)** of SD-WISHEES is prepared as part of **Task 1.1. SD-WISHEES consortium coordination**. The present DMP addresses two sources of data management in the project.

1. The first source is related to the project's own activities. It covers issues related to personal and scientific data generated through implementation of project's activities, including surveys, mapping exercises, desk studies, knowledge hubs, events and webpages among others. Such activities are essential to fulfil the expected impacts of the project from the European Commission's side by communicating, disseminating and exploiting the outcomes of SD-WISHEES activities in different formats, which frequently include various data sources. The first source of data covers also the development of dashboards on which the partner Data for Good (DfG) aims to facilitate the tracking of the project by monitoring both activities and KPIs, and the UN SDGs selected by the project.

The second source covers the data produced by both a Thematic Annual Programming (TAP) action and the interaction with existing European and international initiatives, such as Water JPI, JPI Climate, Cultural Heritage JPI and PRIMA. It is mostly quantitative and qualitative research data and metadata that fall under this category. Throughout this DMP it is made clear that all the TAP selected projects will be expected to produce their own data management plans to address specific issues related to their own research activities-

SD-WISHEES will create opportunities to strengthen R&I capacity and to optimise funding resources, in particular through actions related to open science.

SD-WISHEES will promote the application of open science, open data practices and the respect of the FAIR - Findability, Accessibility, Interoperability, and Reuse - principles across all its activities and WPs, while considering the European Union (EU) principles "as Open as Possible, as Closed as Necessary".

1. INTRODUCTION

The SD-WISHEES (Supporting and Developing Widening Strategies to tackle Hydroclimatic Extreme Events) is the result of a joint effort between the Water JPI, JPI Climate and PRIMA submitted under Horizon Europe's Horizon-WiderA-2022-ERA-01 call (Widening work programme). The Consortium gathers organisations with strong expertise in the European Framework Programme, multilateral instruments for Research and Innovation (R&I) collaboration, participatory approaches, impact analysis and innovation. During the next four years, SD-WISHEES will strive to enhance collaboration with widening countries to the Horizon Europe Programme through the launch of joint activities.

The SD-WISHEES project aims to enable strategic coordination and cross-sector collaboration between national (R&I) funding members, researchers, innovators and a wide variety of stakeholders to address together the protection of cultural heritage in Europe and beyond in response to more and more frequent and severe hydroclimatic extreme events such as droughts and floods. Cultural heritage here refers to historical sites, natural sites and intangible assets (i.e. knowledge, traditions).

The sharing of knowledge and data is of utmost importance for reaching the objectives of the project. The SD-WISHEES Consortium assumes that research funders should not fund one-use research. The role of Open data and Open science as enablers for cooperation, accessibility of knowledge for all, innovation and scientific integrity is fully acknowledged by the consortium. The sharing and uptake of information and knowledge is hence of utmost importance for reaching the objectives of the project. The knowledge generated within SD-WISHEES will be widely communicated and disseminated to relevant stakeholders, end-users and decision makers (WP4). Supporting partners to the project will strengthen the global outreach of results.

SD-WISHEES will promote the application of open science, open data practices and the respect of the **FAIR - Findability, Accessibility, Interoperability, and Reuse** - principles across all its activities and WPs, while considering the European Union (EU) principles "**as Open as Possible, as Closed as Necessary**" (opting-out option could be required in some cases requiring protection of intellectual property rights, or cases of national security and protection of public health). These principles should apply to data (or any digital object), metadata (information about that digital object), models and infrastructure newly developed.

SD-WISHEES' work plan will support the achievement of its main objectives for four years (2023-2026), following a structure of six Work Packages (WPs), depicted in Figure 1. There are interlinkages clearly identified among all the different WPs: internal communication activities are therefore essential in all project stages for data and information sharing and the development of synergies.

Data Management Plan

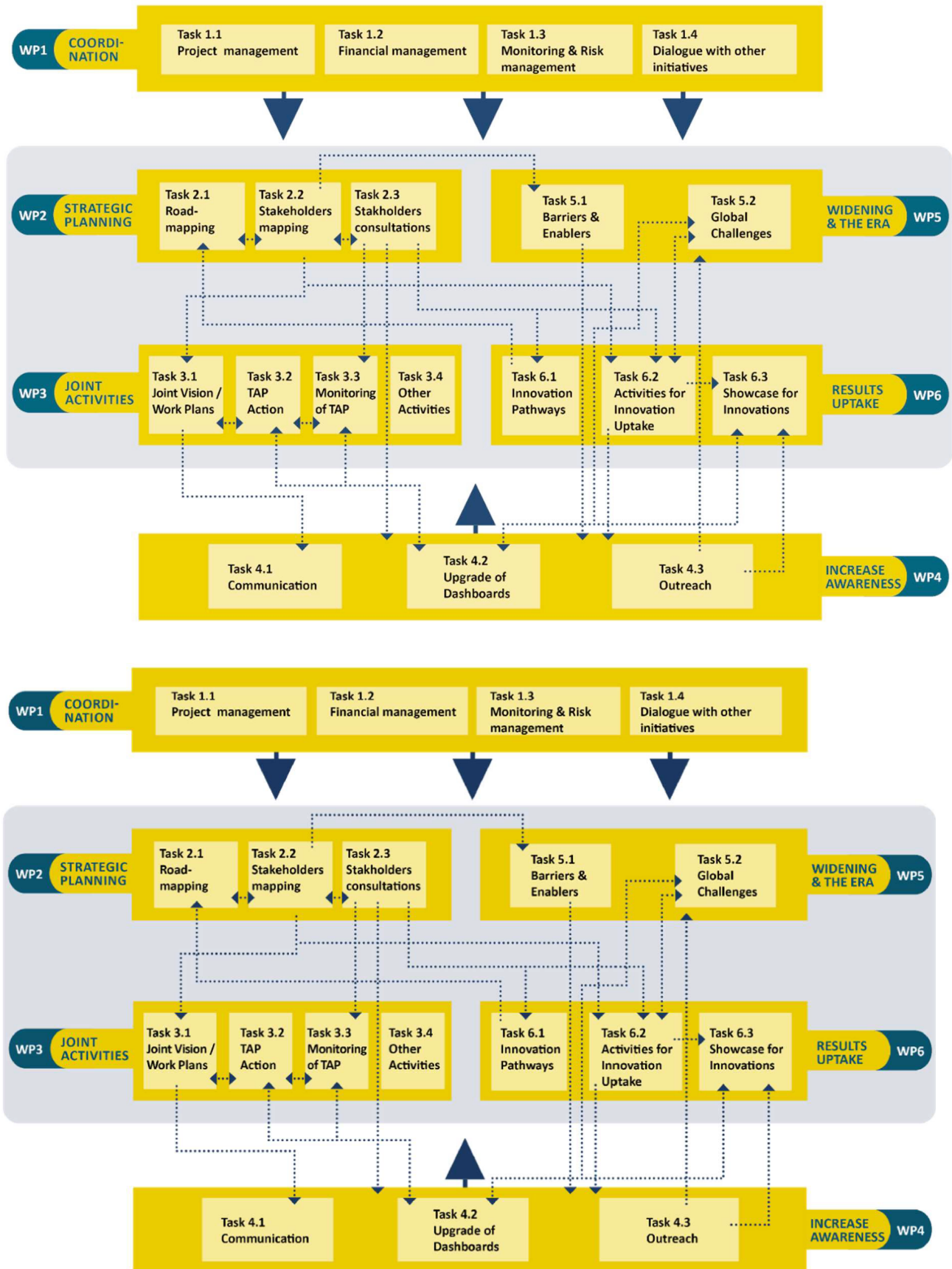


Figure 1. Linkages between Tasks and WPs in the SD-WISHEES Project.

2. MAIN PRINCIPLES OF DATA MANAGEMENT

The projects which will be selected for the TAP action should apply the FAIR principles through development and efficient implementation of Data Management Plans (DMP).

The activities of the SD-WISHEES Project will also generate data which should be FAIR (e.g. surveys results, results of calls, mapping studies, etc.). As a general principle, the data generated by these additional activities of the SD-WISHEES Project will be communicated, disseminated and exploited via communication channels and tools of the Project, including the SD-WISHEES website, social networks, GSES dashboard and public events. Management of data that is generated by such additional activities will be subject to General Data Protection Regulation (GDPR) as usual and personal data will be made accessible only after informed consent of the person or via proper anonymization that leaves no room for identification of person. The list of communication activities to promote FAIR principles in SD-WISHEES activities are explained further in the D4.1 “Communication Plan”.

This DMP does not deal with protection of personal data that is generated via additional activities of the SD-WISHEES Project, including all kinds of communication activities and public events.

A Data Protection Officer (DPO) under WP1 (Coordination and Management) will be appointed to ensure the full compliance of the GDPR and the FAIR principles as well as the development and update of the Data Management Plan (DMP) to be updated in correspondence of each reporting period (M12, M30, M48).

The data produced in SD-WISHEES Project can be split into four groups: DfG dashboards, WPs’ activities, TAP action, interaction with other initiatives.

1) SD-WISHEES will develop dashboards under WP4 on which the partner Data for Good (DfG) aims to facilitate the tracking of the project’s activities by monitoring both activities and KPIs and the UN SDGs, selected by the project. The dashboards made by DfG are already used by companies to track their SDG-related projects, as well as governmental agencies who have chosen to showcase their climate pledges on DfG’s regional dashboards. While DfG has designed dashboards for three main different stakeholder group –civil society, organizations (NGOs and private sector), and policy/decisionmakers— the platform also developed regional dashboards which are all connected to an interactive map accessible to all on the website. The DfG platform is about inclusivity and interconnectedness; all the dashboards can be connected, whether because they represent projects in the same region or because they target the same SDG(s). It is worth noting that because the dashboards have already been developed and used by governmental and corporate stakeholders on the DfG platform it will be a smooth process to use them to reflect the impact of SD-WISHEES, with focus on the needs of WP3, 5 and 6 (Task 4.2 - Optimization and upgrade of existing dashboards as the strategy to raise awareness; D4.2 – Dashboards).). The optimization of the dashboards will essentially enable all SD-WISHEES members to collaborate on an ‘Alliance Dashboard’ and efficiently track the projects’ progress. Through the use of the DfG platform, targeted information sharing will be made possible, with the utilisation of regional dashboards and presenting the workshops and strategies enabled for their specific needs in managing water-linked adversities. The dashboards enabled and supported by the DfG platform are one key added value in this outreach strategy (Task 4.3 - Outreach towards the stakeholders from researchers to policymakers & civil society).

2) The data generated by WPs' activities is broader in nature as it refers to all sorts of data and categorization of data formats for this group is not possible in advance due to the variations of these activities. SD-WISHEES foresees the creation of the following types of information:

- Mapping of key stakeholders in the field of hydroclimatic extreme events and cultural heritage;
- Stakeholders and experts' views on relevant R&I priorities related to hydroclimatic extreme events and cultural heritage that should be addressed in transnational programmes;
- Barriers and enablers for cross-sector collaboration and innovation;
- Framework for the monitoring and assessment of proposed instruments towards widening;
- Best practices for widening;
- Key lessons for results uptake.

The organization of networking and consultative workshops will foster an exchange of information amongst stakeholders and support collaboration with widening countries. Stakeholders will be questioned about their key knowledge gaps for the management of their cultural heritage in a situation of climate change as well as for existing barriers in the development of transnational collaboration in R&I activities. Workshops will gather different perspectives, concerns and strategies; hence, researchers in cultural heritage, water and climate will be invited to join as well as innovators, cultural heritage managers, water managers and planners, policy and decision makers, etc. Opportunities for further collaboration will also be explored.

All publications resulting from SD-WISHEES funding will be required to adhere to Horizon Europe requirements on Open Access and to be published via green or gold open access (with exceptions for confidentiality, security or personal data).

3) The third group of data is generated by a TAP action, which will be launched as a way to strengthen collaboration and enhance the overall impact of R&I activities. The TAP consists of coordinated national calls aimed at enabling the alignment of national research programmes in order to increase the overall impacts of activities, allow the networking of teams, create critical mass, develop synergies with other programmes, and promote the sharing of results. To this end, SD-WISHEES will apply an inclusive and human rights-based approach in which experts and stakeholders will strongly contribute to the definition, design and evaluation of proposed activities. Given the expected variation of scientific areas and associated data formats over the years, it is important to develop a highly adaptable repository for data management with interoperable data interfaces. It is likely that the call funded projects will use data generated by other projects and existing national/regional/global databases as necessary. Different sorts of external data will also be used for the implementation of additional activities of the Project.

4) SD-WISHEES intends to interact with other relevant European initiatives, such as Joint Programming Initiatives (JPIs), Horizon Europe Partnerships, Knowledge and Innovation Communities (KICs), as well as with international initiatives. The aim is to avoid that SD-WISHEES duplicates the work done elsewhere and, when appropriate, to work together to build synergies. Collaboration with other initiatives will be arranged through the organisation of regular meetings, targeted interviews and the direct involvement of representatives of those initiatives in the consultative activities foreseen within different WPs.

Data origins

The data of the other funded projects might originate from observation, experiments, theory and other sources, while various data collection methods will be used. Projects that are dealing with monitoring activities will rely on observational data over a period of time or in a continuous way for the projects that utilize real time data. Models and simulations will be the focal point for projects that aim at developing decision support and scenario tools, thus the data will be derived from long term projections. Finally, some projects may utilize participatory citizen-science approaches to obtain the necessary data.

The data coming from additional activities will originate from various sources depending on the nature of activity. These may include foresight and insight studies via literature reviews, consultation activities with expert groups, surveys and monitoring activities among others.

The expected amount of storage required for the SD-WISHEES Project is not possible to estimate at this stage. (e.g., due to unknown participation at the TAP action).

The data outcomes of the funded projects and WPs activities will be of interest to the broader SD-WISHEES community which includes R&I funders, relevant ministries, policy makers, decision makers, local authorities, regional networks and research performing organizations. Citizens and the general public are by default also among the target groups of the projects' data.

3. FAIR DATA

3.1. Making data findable, including provision for metadata

The ambition is to make all data discoverable with metadata. The projects participating at the TAP action are requested to develop a DMP and to submit metadata of all the data resources directly generated by the project. The projects are encouraged to use standard unique identification mechanisms to identify metadata, datasets, features (HTTP URIs, Digital Object Identifiers).

Metadata of deposited data and publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following:

- publication (author(s), title, date of publication, publication venue);
- datasets (description, date of deposit, author(s), venue and embargo);
- Horizon Europe or Euratom funding;
- grant project name, acronym and number;
- licensing terms;
- persistent identifiers for the publication and/or data, the authors involved in the action and, if possible, for their organizations and the grant.

Where applicable, the metadata must include persistent identifiers for any research output, related publication, any other tools and instruments needed to validate the conclusions of the publication and/or research output.

As an overall measure to ensure FAIRness in data management activities, inventory of global standards ([Plan S](#), [Dora Principles](#)-Declaration of Research Assessment) will be investigated and

endorsed as appropriate. Current trends and best practices of open repositories will be evaluated including [European Open Science Cloud \(EOSC\)](#), [EU Data Spaces](#), [Open Geospatial Consortium \(OGC\)](#), [INSPIRE Directive](#), [Zenodo](#), [OpenAIRE](#).

Internationally agreed upon interoperability Standards and Best Practices (OGC, International Standardisation Organisation - ISO, INSPIRE, World Wide Web Consortium - W3C, Research Data Alliance - RDA, ...) will be the basis for making SD-WISHEES data FAIR.

3.2. Making data accessible

Open Science will be an integral element that will be fostered in all the activities and stages of the project in order to increase the openness of climate and cultural heritage science. The ultimate goal will be to make the data openly accessible at utmost level, by complying with the “as Open as Possible, as Closed as Necessary” principle. There might be ethical and legal issues that impact data sharing, which will be handled at project level and reflected accordingly in the project DMPs.

As a general condition of Horizon Europe, all projects will support **Open Access to scientific publications**.

The partners must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications
- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and
- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Partners (or authors) must retain sufficient **Intellectual Property Rights (IPR)** to comply with the open access requirements. In case of any IPR issue for some project data and products the consortium may decide to go for **Opt Out Option** and cover this within the project consortium agreement (thereby freeing themselves from the associated obligations) on the following grounds:

- incompatibility with the need for confidentiality in connection with security issues;
- incompatibility with rules on protecting personal data;
- if there are other legitimate reasons not to provide open access to research data.

Depending on the funding rules of the Funding Performing Organizations, the costs related to the implementation of these provisions are eligible for reimbursement during the duration of the grant. In the case of publications, the eligibility of such costs depends on the condition that the article should be published in a full open access venue. Publication fees in hybrid venues are not reimbursable. The European Commission’s open access publishing platform, **Open Research Europe** provides a no-costs option for the projects to publish freely.

How will the data be made available?

The target is to make projects' data available through SD-WISHEES dashboards, website and social media.

The coordination of data publication will have to be jointly discussed with the funded projects. Indeed, the overall target being to apply FAIR principles won't help people interested in reusing data generated within SD-WISHEES if they are exposed differently regarding FAIR principles from a project website and the dashboard.

The SD-WISHEES dashboard developed by DfG SGES, which will be launched in late 2023, will be sufficiently secure and will ensure the data is backed up and can be recovered.

To increase accessibility explanatory guidelines and manuals will be available on the data platform to help users easily access the data.

Accessibility of the SD-WISHEES activities' data

Data and its associated products (reports, audio-visual material, public deliverables, etc) will be made available on the SD-WISHEES official webpage. To increase their publicity and accessibility, news about openly accessible products will be promoted via various channels such as newsletters, social media and online/physical public events. Details of such activities are explained further in the communication plan. Furthermore, disclosure and accessibility of each public deliverable will be the responsibility of the partner who is in charge of the task. This means that the partner in charge should ensure proper communication with the Coordinator (WP1 leader) and the WP4 lead partners to make sure that the data and knowledge product is disseminated effectively.

3.3. Making data interoperable

Will you use a standard vocabulary for your data types to enable interoperability between data repositories?

Ensuring interoperability across different data types is a complex issue but will hold a top priority when designing the DfG dashboards.

Will you provide any support for data reuse?

Data will be described (semantic interoperability) and made accessible (technical interoperability) according to internationally agreed upon practices (OGC, INSPIRE, W3C, RDA ...).

Guidelines will be made available to help researchers to better use the data. These guidelines can be derived for the projects themselves or new guidelines can be prepared for different data types if necessary. The staff behind the development and coordination of the data platform can also provide technical support (FAQs, support/info email, etc) to the platform users.

How long do you intend to support data reuse?

Data condensed in the platform will be accessible for the duration of SD-WISHEES Grant Agreement (2026). Possibilities to support the data dashboards for a longer period will be investigated over the years.

3.4. Data reuse

The Internationally recognized open licences will be investigated and recommended to the funded projects to increase the reusability of data. Timeline for making the project data available for reuse will be set up by the funded projects in DMPs. As stated in the Annex 5 of the Grant Agreement (Specific Rules):

“Beneficiaries which have received funding under the grant must — up to four years after the end of the action (see Data Sheet, Point 1) — use their best efforts to exploit their results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.

If, despite a beneficiary’s best efforts, the results are not exploited within one year after the end of the action, the beneficiaries must (unless otherwise agreed in writing with the granting authority) use the Horizon Results Platform to find interested parties to exploit the results.

If results are incorporated in a standard, the beneficiaries must (unless otherwise agreed with the granting authority or unless it is impossible) ask the standardization body to include the funding statement (see Article 17) in (information related to) the standard.”

SD-WISHEES will build on the work and the extensive audiences developed by the JPIs Water and Climate and PRIMA to positively influence and inform science-based cultural heritage policies, strategies and decisions. The project will produce a series of tangible results, thoroughly described in WP6, and including knowledge exchange platforms and showcase events. Through the application of the Open Science approach in the communication, dissemination and exploitation measures, SD-WISHEES will accelerate the uptake of results by different communities. An initial set of key directly exploitable results, which will be described in the “Exploitation” section of the Communication, Dissemination and Exploitation Plan, is expected to include technical and synthesis reports and publications from consultative workshops; the Joint Vision document, expected to guide activities of RFOs during and after the duration of the project; stakeholder mapping to be broadly used in other R&I projects; processes, methods, tools and approaches to encourage more synergy, and bridge the gaps, between the science and decision-making communities. These will have a long-term value and will feed into future projects and initiatives.

4. ALLOCATION OF RESOURCES

Resources for managing research data: When developing the SD-WISHEES dashboard, relevant existing capacities will be used to utilize the resources more effectively. As an active partner of SD-WISHEES DfG will facilitate the optimization of the dashboards and will provide the technical support needed throughout the process. All SD-WISHEES members will benefit from a live tutorial and general workshop to make sure the implementation of the tracking method is rightfully executed.

Resources for ensuring open accessibility of data. Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Resources to ensure data reuse after the Project ends. All options regarding resources to ensure continuity of the DfG dashboards in an archive after the lifespan of SD-WISHEES will be investigated during the foreseen consultations and workshops.

Resources to store other data related to the additional activities in SD-WISHEES website, intranet and document sharing platform (Microsoft TEAMS): These costs will be covered in-kind by the PCT and reimbursable costs will be reported to EC under the coordination and management costs.

5. DATA SECURITY

Overall data security of the Project will be subject to EU, international and national laws on data protection. Protection of Personal Data (POPD) & Non-EU Countries framework will be developed with the support of the EDB to demonstrate the engagement of all SD-WISHEES partners to ensure compliance with the European regulations. Both for the funded projects and for the additional activities of the Project each party will remain responsible to set up internal processes to comply with the personal data regulations.

The technical specifications for data security of the GSES dashboard will be addressed in due course as the process evolves. The privacy policy of the Project will include further information about how the personal data will be used.

6. ETHICAL ASPECTS

Any relevant ethical aspects should be dealt with due diligence by the funded projects in their research plans. It is expected that by the time that projects produce their data the ethical aspects should not be a concern anymore, so that data can be integrated into the dashboard directly.

Ethical aspects concerning the activities of the Project will be subject to the provisions of the Consortium Agreement, and thus binding regulations at EU and national levels.

7. OTHER

The Project data will not be subject to any additional data management procedures for the moment. This DMP is considered as a living document and will be updated regularly in correspondence of each reporting period (M12, M30, M48), so the future iterations may include new provisions.



SD-WISHEES

Tackle Hydroclimatic Extreme
Events Impacts - CSA

www.sd-wishees.eu