



STARS 4 Water

STARS4Water Future Exploitation and Sustainability Plan

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STARS4Water Future Exploitation and Sustainability Plan

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Summary

This Future Exploitation and Sustainability Plan defines how the principal STARS4Water results will remain available, be used and be further developed after the funded project period. The partnerships between research partners and stakeholder partners build during the execution of the project is already a valuable fundament for sustainable use and further exploitation of the results. The partnerships co-created shared ownership of project outcomes and promote further application, uptake and upscale, also beyond the lifetime of the project.

The Plan addresses the three exploitation levels stated in the Grant Agreement:

- i. practical use by river basin managers, planners and regulators;
- ii. re-use by researchers, engineers and water resources managers, and practitioners;
- iii. uptake at national and European policy level.

The Plan concentrates on eight portfolio clusters referring to the output delivered in the STARS4Water project:

1. the Metadata Portal and associated novel data sets;
2. next-generation modelling frameworks and model innovations;
3. improved projections of changes in water resources availability and use;
4. co-designed dashboards;
5. learning materials: STARS4Water academy and guidance for river basin management practitioners;
6. policy synthesis and policy products;
7. story maps;
8. online impact reporter.

For each cluster, the report present target users, value proposition, exploitation route, ownership, relevant documents and URLs, partner actions, maintenance incl. resources, and IPR. It also presents the implementation route, including organisation, time planning, further exploration of activities and resources as well as portfolio indicators for monitoring.

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1. Introduction

1.1. STARS4Water project

STARS4Water (Supporting Stakeholders for Adaptive, Resilient and Sustainable Water Management) is a four-year Horizon Europe research project that contributes to the implementation of the European Water Resilience Strategy and broader EU water policies. The project seeks to improve understanding of how climate change affects water resources and related vulnerabilities across ecosystems, communities, and economic sectors at the river basin scale. To ensure that project outcomes respond to real-world needs, STARS4Water applies a stakeholder-driven co-creation approach. Working closely with river basin organisations and other key actors in seven European river basins, namely the Rhine, Danube, Messara (Crete), Duero, Seine, East Anglia, and Drammen (Norway) (Figure 1), the project co-designs data services, assessment methods, and decision-support tools tailored to stakeholder requirements. Central to this approach is the establishment of dedicated stakeholder communities within each river basin. These communities provide a platform for dialogue, knowledge exchange, and collaborative development, ensuring that STARS4Water solutions are relevant, usable, and capable of supporting climate-resilient and sustainable water management. STARS4Water integrates new datasets and models into their existing river basin management planning processes, improving projections and decision-making for more resilient water policies.

The ambitions of STARS4Water are:

1. To create a new generation of data services and data-driven models tailored to stakeholders' needs and requirements;
2. To enhance the knowledge base and the scientific underpinning of climate risks and impacts at river basin scale;
3. To provide improved projections on future water resources availability;
4. To improve decision making by stakeholders through the development of a safe operating space framework, and the provision of actionable information.

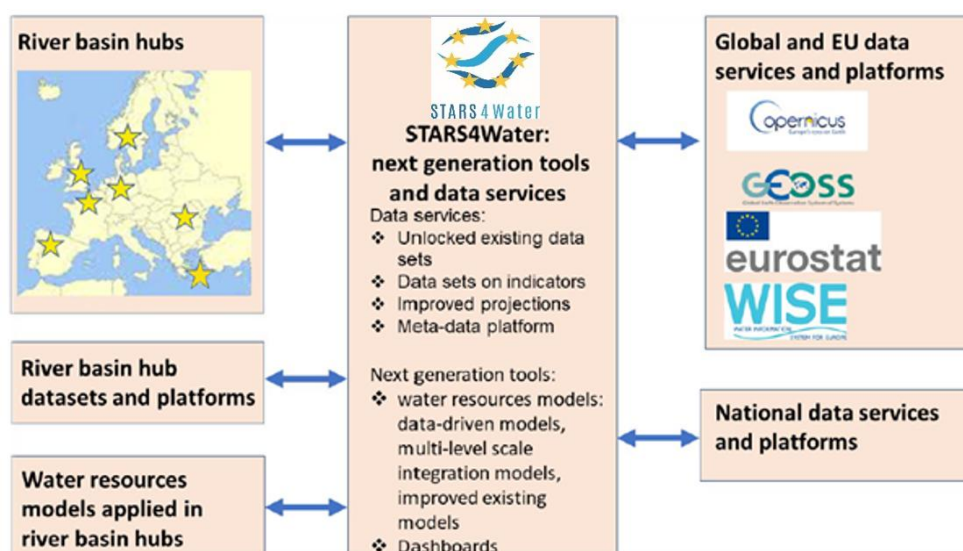


Figure 1. Overview of STARS4Water activities within the context of stakeholders and data providers

1.2. Communication, dissemination and exploitation

This report is specifically associated with Work package 6 (WP6) of the STARS4Water project. The overall objective of WP6 is to disseminate the project results, products and knowledge to a broad audience, maximize the uptake of the foreground, and the potential for future exploitation.

WP6 builds on the outcomes of the other project work packages of the project. Its activities are guided by the stakeholder co-design process undertaken in WP1, draw on the data services developed in WP2 and the modelling innovations developed in WP3, and are informed by the integrated assessments of future water resources conducted in the river basin hubs under WP4. As well as by WP 5 that delivered synthesis reports for guidance to river basin management practitioners on new STARS4Water data and modelling innovations and the STARS4Water co-creation approaches. Together, these components provide the base needed to support the wider adoption and application of STARS4Water solutions (Figure 2).

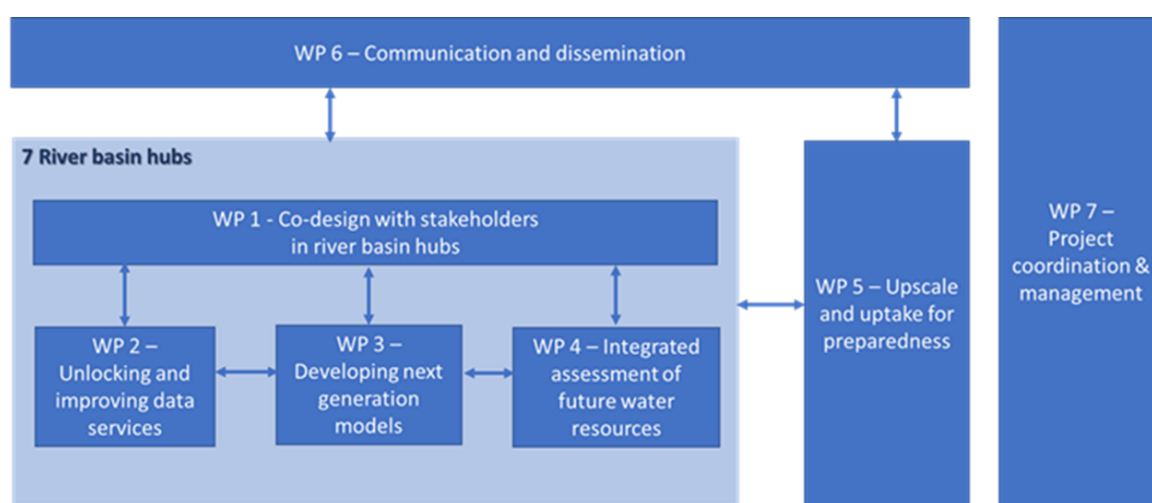


Figure 2: Work package structure of the STARS4Water project: the development of the next generation models (WP3) through a co-creation approach (WP1), benefitting from data sources available (WP2) and integrated safe-operating-space assessments activities in WP4 to explore future water resources availability in European river basins (WP4). WP5 takes care of upscale and uptake for preparation, while WP6 has responsibility for communication, dissemination and exploitation. WP7 is for project coordination and management

Specific objectives of WP 6 include:

- Design and implement a dissemination strategy in a targeted and effective manner to maximize its impact.
- Produce dissemination products and ensure timely distribution to the different target audiences.
- Exploit the full potentiality of dissemination media (social media, networks, etc.).
- Develop and use innovative tools that facilitate diffusion of the results and further support stakeholders' interaction and exchange (tailored to the end-users).
- Build capacity of targeted groups, develop a Community of Practice (CoP), networks and EU-wide alliances, and maximize the involvement of citizens, end-users and stakeholders in water management
- Design and implement educational activities.
- Link research and innovation to the regional and EU policy.
- Develop an Exploitation Plan (including IPR) for the uptake and commercialization of the foreground.

This report (Deliverable 6.6) presents the results of the last specific objective (activities under task 6.6 of WP6).

1.3. Future exploitation and sustainability plan

STARS4Water has produced exploitable results at multiple levels. First at the level of river basin managers, planners and regulators: tailored dashboards are co-developed and delivered including guidance and training. Outcomes of assessments (story maps) on future water resources availability, hydrological extremes and water use and messages on risks and actions for adaptation to enhance climate resilience are produced at river basin level. Second is the level of researchers, engineers and water resources planning practitioners that will get access to the open new generation data services and models. Third level is the national and EU policy level where policies are made that are setting targets and goals, stimulate or support climate resilient water resources planning at river basin scale.

This report (Deliverable D6.12) lays down the activities for exploiting STARS4Water results. It is intended as an operational handover document: it identifies the results with continuing value, links them to users and routes to uptake, and specifies the decisions and actions needed to sustain them after project closure.

The scope of this plan is deliberately focused on the exploitable results committed to the European Union, rather than attempting to catalogue every output generated by the project. Supporting deliverables, datasets, software, training materials and communication products are therefore considered enabling components of these result clusters.

The plan seeks to validate the promised result categories and their long-term sustainability, while recognising that key implementation details, such as joint ownership, licensing arrangements, maintenance budgets and explicit partner commitments, have not yet been fully confirmed for every result and needs further exploration in the first half year of the implementation of the plan.

During the process of writing of the Plan the sustainability and future exploitation of STARS4Water has been discussed with stakeholders and researchers and feedback has been collected, in particular during the Final STARS4Water Conference in Delft on September 16th, 2026. The value input from stakeholders and researchers has been incorporated in the final plan.

1.4. This report

This report is structured as follows:

- **Chapter 2** describes what sustainability and exploitation means for the STARS4Water consortium and presents the proposed pathway to sustain and exploit future use of the results.
- **Chapter 3** reports an overview of the output delivered by STARS4Water according 8 portfolio clusters.
- **Chapter 4** introduces each portfolio cluster and present per cluster the future exploitation and sustainability plan according to different fields: foreground of the result, target users, value proposition, exploitation route, responsible owner including point of reference, documentation and/or URLs, and Intellectual Property Rights (IPR).

- **Chapter 5** captures the implementation of the plan, describing the time planning, the organisation and tasks, the envisioned further exploration of activities and resource modes and indicators for monitoring and evaluation.

2. Pathway for exploitation and sustainability to create impact

2.1. What sustainability means for STARS4Water

In Deliverable 5.4 *Guidance on data and model innovations* the STARS4Water the conceptual pathway from innovation outputs to sustainable uptake has been reported. The approach is illustrated in Figure 3. It shows how STARS4Water innovations can progress to sustained use in river basin management. The framework consists of five connected layers, moving from co-creation and stakeholder engagement at the base to adaptive and resilient water management at the top. Each layer builds on the foundations provided by the layer below. Innovations in data services, models and decision-support and communication tools (layer 2, 3 resp. 4) become valuable when they address relevant management questions, are credible and understandable to users (layer 1 and 5), and have ownership and can be maintained within the organisations expected to use them for making informed decisions on adaptive and resilient water management and planning. The figure also report success factors, risks and cross-cutting principles that were identified during the project.

For more details on this pathway for sustainable uptake, see Ter Maat et al (2026).

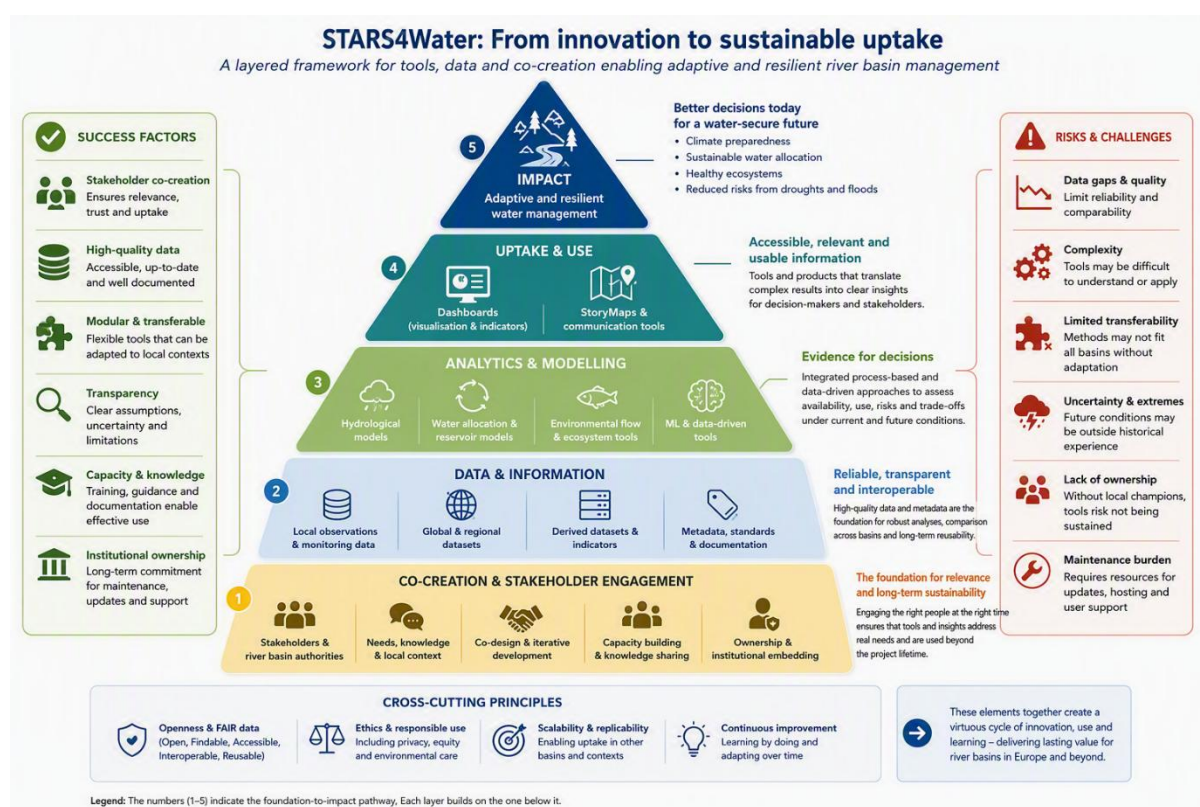


Figure 3. The STARS4Water conceptual pathway - from stakeholder engagement to lasting impact (Hegdahl – design assistance copilot) (Figure 3 in Deliverable 5.4, Ter Maat et al., 2026).

Sustainable partnerships

To ensure effective stakeholder engagement and foster shared ownership of project outcomes, also beyond the lifetime of the project, the river basin organisations played a leading role in establishing and coordinating basin-specific stakeholder communities. These communities provided a platform for collaboration throughout the project, supporting the identification of user needs and information

requirements, the co-design of data services and modelling tools, and the co-development, testing, and validation of new data-driven solutions. The stakeholder champions are the primary end users of the project's products, services, and knowledge outputs, while the benefits of the STARS4Water results extend to a broader range of stakeholders. The stakeholder champions were teamed up one or more research organisations that are responsible for organising the scientific activities and serve as focal point for the research partners within STARS4Water (see Table 1). These partnerships will continue after the end of the project, in ongoing or new project. For example, models developed in the project at INRAE will continue to be developed together with the stakeholder EPTB SGL in the next 3 years (PhD thesis starting in March 2027 under INRAE supervision). The partnership will then continue at least until 2029/2030. Another example is the partnership in the Rhine basin. There the three CHR works on knowledge on the hydrology in the Rhine river basin with involvement of the national research institutes BfG and RWS (the official national delegates) and Deltares; this collaboration is already institutionalized in official agreements (Memorandum of Understanding, etc).

Table 1. The STARS4water science-stakeholder partnerships for the selected river basins.

River basin	Basin stakeholders (stakeholder champions)	Research organisations (research focal points)
Danube	- International Commission for the Protection of the Danube River (ICPDR) - Lower Danube River Administration (AFDJ)	- University of Life Science Vienna (BOKU) - Romanian Research-Development Institute for Marine Geology and Geoecology (GeoEcoMar)
Rhine	- International commission for the hydrology of the Rhine basin (CHR) - International Commission for the Protection of the Rhine River (ICPR) - Central Commission for the Navigation of the Rhine (CCNR)	- Deltares - Rijkswaterstaat (RWS) - Bundesanstalt für Gewässerkunde (BfG)
Seine	- EPTB Seine Grands Lacs	- INRAE
Duero	- Confederación Hidrográfica del Duero (CHD)	- Institute of Geology and Mineral Exploration in Spain (IGME)
Messara	- Region of Crete - Hellenic Ministry of Environment and Energy (HMEE)	- SEVEN
East Anglia	- Anglian Water Services Ltd (AWS)	- UK Centre for Ecology and Hydrology (UKCEH)
Drammen	- Norwegian Water Resources and Energy Directorate (NVE)	- Norwegian Water Resources and Energy Directorate (NVE)

2.2. What exploitation means for STARS4Water

For STARS4Water, exploitation is broader than commercialisation. The project results have been developed through a demand-driven co-creation process with river basin organisations and stakeholders in the basin, ensuring that the data services, modelling tools and methods address real management needs and are embedded in existing decision-making processes. This strong stakeholder ownership is a key foundation for long-term sustainability, as many of the intended users have been directly involved in shaping the results and are committed to their continued use beyond the project.

Exploitation therefore includes operational uptake in river basin planning, re-use in research and professional practice, integration into institutional data and software services, training and capacity

building, replication in other basins, and use in policy development. Commercial services, consultancy, tailored implementation and follow-up projects are possible routes where partners choose them and where background rights allow.

While river basin stakeholders are expected to continue using the project results, many do not have the technical capacity, resources or mandate to independently maintain and further develop them. For this reason, a significant proportion of the tools, models, data services and methodologies will continue to be maintained, improved and supported by the scientific and technical partner organisations, often in close collaboration with the key stakeholders to ensure further use in new projects. This ensures that users can benefit from ongoing updates, scientific advances and operational support, while maintaining the long-term relevance and usability of the project outcomes.

2.3. Exploitation and sustainability principles

STARS4Water has defined a set of guiding principles for exploitation of its results. These principles are derived from the STARS4Water process during the execution of the project and are key to its strategic approach throughout the project as reported in other STARS4Water deliverables (stakeholder-driven way of working, local contextualisation of modelling frameworks, open access, etc.). These cross-cutting principles for exploitation and sustainability are presented in Table 2.

Table 2. STARS4water principles for exploitation and sustainability.

Principle	Application in STARS4Water
User relevance and needs-driven way of working	Build strong partnerships between research and stakeholder partners. Begin with a concrete water-management, research or policy need and bring water managers-in-the-loop of innovation and research for climate resilient water resources planning.
Institutional and/or scientific ownership and maintenance	Assign a responsible organisation and a named point of reference for each result. Since several products are created in co-creation and partnership between science and stakeholder partners, it can also be a joint ownership. Match technical ambition to available staff, infrastructure and funding.
Openness, transparency, responsible use and FAIR data by default	Use open repositories, open standards and clear licences unless restrictions are justified and supports findability, accessibility, interoperability, and reusability (FAIR) of digital assets and scientific data. Document assumptions, uncertainty, limitations and linkages.
Scalability and replicability based on local contextualisation, modularity and adaptation	Enable uptakes in other basins and contexts but treat transfer to another basin as local contextualisation and adaptation, not simple copying. Allow datasets, models and decision support components to evolve independently and configuration in workflows that is adapted to local context.
Evidence of uptake	Monitor actual use, re-use, training, replication, scientific and policy references. New releases if applicable via research, consultancy, capacity-building and/or European, regional or national projects.
Continuous improvement	Learning by doing and adapting over time. Share lessons learned in research and stakeholder communities.

2.4. Sustainable uptake and exploitation pathway

Each result follows a common sustainable and exploitation pathway:

- Identify exploitable results:
 - confirm the result, scope and its foreground
 - identify STARS4Water research partner and stakeholders involved in the development
 - identify envisioned primary target users
- Create exploitation and sustainability plan:
 - formulate the value proposition and exploitation route
 - define ownership, contact point and access rights;
 - refer to available material, documentation and/or url.
 - secure maintenance and resources;
- Implementation, including monitoring and evaluation:
 - make results available (by website, publications, partners infrastructure, etc.)
 - promote and support re-use and operational uptake;
 - use and impact (application in basin, organisation, project, working groups or policy context).

The pathway is iterative because user feedback, new data, software dependencies and policy needs continue to change and incorporate lessons learned.

3. Portfolio of exploitable results

The Future Exploitation and Sustainability Plan concentrates on eight result clusters or portfolios, the key products that STARS4Water has developed and delivered:

1. Metadata Portal and new data services
2. Next-generation modelling frameworks and model innovations
3. Improved projections of changes in water resources availability
4. Co-designed dashboards for decision support
5. Learning material: STARS4Water Academy and guidance reports for river basin practitioners
6. Policy synthesis and policy-facing products
7. Story maps at river-basin and pan-European level
8. Online Impact Reporter

For each cluster, the consortium has identified the primary targeted users and the pathway or main route to create impact: see Table 3 for the result.

Table 3. STARS4water eight result clusters or portfolios.

ID	Exploitable result	Primary users	Main route
ER1	Metadata Portal and novel data services	Researchers, developers, practitioners and knowledge brokers	Institutional service, open data discovery and integration
ER2	Next-generation modelling frameworks and model innovations	Modellers, engineers, practitioners and service providers	Open-source reuse, tailored implementation and research
ER3	Improved water resources availability projections and reusable project datasets	Researchers, service providers, planners and agencies	Open data reuse and follow-up assessments
ER4	Co-designed dashboards for decision support	River basin authorities, planners and knowledge brokers	Operational use and adaptation to local decisions
ER5	Learning material: STARS4Water academy and guidance reports for river basin practitioners	River basin organisations, consultants and professional communities	Capacity building and professional services, Academy reuse
ER6	Policy synthesis / policy-facing products	European Commission, national authorities and basin commissions	Policy uptake, briefings and future initiatives
ER7	Story maps at river-basin and pan-European level	River basin communities, agencies, NGOs and governments	Communication, policy dialogue and replication
ER8	Online impact reporter	RBOs, communities, policymakers, agencies, NGOs and researchers	Open knowledge base, institutional uptake and expansion

The original promise in the grant agreement also names the STARS4Water website and scientific publications. In this Plan these are treated as sustainability and uptake channels that support several exploitable results, rather than as isolated products.

4. Result-specific exploitation and sustainability plans

4.1. Metadata Portal and associated novel data services

STARS4Water developed a **Metadata Portal for river basin management** to improve the findability and accessibility of relevant water-related datasets. The Portal responds to a recurring challenge identified by basin stakeholders: useful climate, hydrological, socio-economic and water use information exists across many organisations and platforms, but it can be difficult and time-consuming to identify what is available, whether it is suitable for a particular purpose, and where it can be accessed.

The Metadata Portal therefore functions primarily as a **catalogue of datasets and data services rather than as a central data repository**. Each metadata record describes a dataset, including what it covers, its spatial and temporal scope, its provider and where the underlying data can be accessed. The Portal follows FAIR principles —supporting the findability, accessibility, interoperability and reusability of data— and includes both existing external datasets and datasets generated or compiled within STARS4Water. By the end of the project, the Portal contained **more than 490 datasets** at global, European, regional and basin scales. These include climate data, hydrological observations, model outputs, socio-economic information and other datasets relevant to integrated river basin management.

In parallel, the project developed other new data services based on a three-tiered indicator approach:

1. Tier-1 indicators efficiently translate readily available global data into river catchment scales to show projected relative changes through 2050 against a historical baseline.
2. Tier-2 indicators combine global data with auxiliary sources to yield practical management metrics, such as precipitation deficits for agricultural drought monitoring or estimating current and future water demand. The datasets are stored in Zenodo and available for further use.
3. Tier-3 indicators utilize advanced numerical or ML and data-driven models to precisely capture local hydrology per river basin.

The three tiers are complementary. Tier 1 and Tier 2 products provide relatively transferable and scalable information, while Tier 3 outputs respond to more specific basin contexts and management questions. The underlying datasets generated by STARS4Water are preserved in [Zenodo](#) with persistent digital object identifiers (DOIs), while their corresponding descriptive information has been documented in the publicly accessible STARS4Water Metadata Portal.

The main post-project exploitation objective is therefore twofold: maintain the Metadata Portal as a durable discovery service and ensure that project-generated datasets and data services remain accessible and reusable through stable repositories and clear metadata records (Table 4).

Table 4. Metadata Portal exploitation plan.

Field	Exploitation plan
Result and scope	A public catalogue for discovering existing (external) and STARS4Water-generated and collected water datasets, supported by open standards, metadata, links to repositories and data-service documentation.
Primary users	River basin authorities and planners; researchers; developers; data scientists; environmental agencies; consultants; knowledge brokers; policymakers; and

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Field	Exploitation plan
	practitioners seeking relevant data for water resources assessment and planning.
Value proposition	The Metadata Portal reduces the time and effort required to identify relevant datasets, understand their scope and access conditions, and locate the original data source. It improves the discoverability and reusability of STARS4Water outputs and provides a common entry point to otherwise fragmented data. The Tier 1–3 approach additionally demonstrates how global, regional and local data can be combined at different levels of complexity depending on user needs and available capacity.
Exploitation route	Short term: Deltares will continue hosting and maintaining the Metadata Portal within its digital infrastructure. Guidance for adding or updating metadata records should remain available. Medium term: maintain the Portal as a public discovery service. New addition of metadata will be facilitated on request (guidance on how to upload, including review data quality, is available). Deltares may further investigate opportunities to connect the Portal with other domains, projects or metadata services where this provides added value. Long: Deltares has committed to maintaining the Metadata Portal until at least the end of 2031. During this period, the preferred pathway is continued institutional hosting within Deltares, while further integration with other data infrastructures or projects may be explored where appropriate. The long-term ambition should remain focused on maintaining a reliable and useful discovery service rather than continuously expanding the catalogue without demonstrated user demand. Possible extensions may include adding metadata for new water-related datasets and services; improving interoperability with other catalogues or metadata infrastructures; expanding thematic or geographical coverage; improving search and filtering functionality; linking more directly to project repositories and data services; and using the Portal as a discovery layer in future river basin or European water-data initiatives. Further development should remain demand-driven and consistent with available maintenance resources.
Responsible owner / point of reference	Deltares is responsible for hosting and maintaining the Metadata Portal and for exploring opportunities for further integration with future projects and related domains. The organisations that generated individual datasets remain responsible for their scientific content, documentation and repository records.
Relevant documentation	The Metadata Portal development process, data inventory, metadata approach and associated data services are documented in the relevant WP2 deliverables
Relevant URL	Metadata Portal: https://stars4water.openearth.eu/Zenodo repository WP2 deliverable: https://stars4water.eu/output/public-deliverables/ (Beckers et al, 2025).
IPR and access-rights position	Portal software, project-specific configuration, metadata records and third-party source links require separate rights statements. Metadata should carry clear reuse terms; external datasets retain their own licences.

4.2. Next-generation modelling frameworks and model innovations

STARS4Water used the existing modelling systems in the seven River Basin Hubs as a starting point and further developed them in response to stakeholder needs. Depending on the basin context, this included developing new model applications, upgrading existing modelling frameworks, incorporating additional datasets, improving model reliability, adding new processes or thematic components, and linking hydrological, water allocation, reservoir management and environmental flow tools.

The resulting **modelling frameworks are therefore not a single uniform STARS4Water model, but a portfolio of basin-specific modelling systems and transferable model innovations**. These include process-based hydrological and groundwater models, water allocation and reservoir management components, environmental flow tools, as well as data-driven and machine-learning applications.

A central strength of the STARS4Water approach is that model development was linked to concrete water management questions. The models were adapted to local hydrological conditions, available data, institutional settings and stakeholder requirements. Their exploitation potential consequently lies both in their continued use within the basins for which they were developed and, in the reuse, further development or adaptation of individual modelling approaches in other basins and future projects.

The sustainability pathway differs between components. Some modelling systems are already embedded within the software infrastructure or research activities of the organisations that developed them and can continue to evolve there. Other model applications may only be updated where there is a continuing user need and new resources. The objective after project closure is therefore not to maintain every model application indefinitely, but to ensure that the methods, code, documentation and responsible contacts remain identifiable and that models with continuing operational or scientific value have a clear route for maintenance and further development.

The exploitation plan of the next generation modelling frameworks and model innovations is presented in Table 5.

Table 5. Next generation modelling frameworks and model innovations - exploitation plan.

Field	Exploitation plan
Result and scope	Improved and newly developed process-based models, integrated modelling workflows, hydrological and groundwater models, environmental flow tools, water allocation and reservoir management components, and data-driven or machine-learning applications developed or enhanced within STARS4Water. The result includes both basin-specific modelling frameworks and individual model innovations that can potentially be reused or adapted elsewhere.
Primary users	River basin organisations and water-management authorities; researchers; hydrologists and groundwater specialists; engineers; model developers; consultants; data scientists; environmental agencies; and professional users carrying out water-resource planning, climate-risk or adaptation assessments.
Value proposition	The modelling frameworks provide a structured way to assess water availability, water use, allocation, reservoir operation, groundwater conditions, environmental flows and future scenarios. Because they were developed or enhanced in response to stakeholder needs, they provide locally relevant evidence for basin assessments while also demonstrating methods and model components that may be adapted to other contexts. Data-driven and machine-

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Field	Exploitation plan
	learning approaches complement process-based models by offering scalable methods for selected applications.
Exploitation route	Short term: complete model documentation, code repositories and handover arrangements where applicable; identify the responsible research organisation and contact point for each modelling framework; ensure that relevant software, configuration files, scripts and methodological documentation remain accessible; and clarify licences and dependencies. In the River Basin Hubs, partners should retain the final validated model configurations and make them available for continued scientific or operational use where agreed with stakeholders. Training and follow-up demonstrations to be pursued where necessary. Medium term: continue use and further development of selected modelling frameworks where there is stakeholder demand, scientific interest and available resources. Research partners may integrate innovations into their existing modelling systems, use them in follow-up projects, provide tailored modelling services or apply individual components in new studies. Basin stakeholders may continue using results or model applications where they have the necessary capacity and institutional role. Possible future developments may include updating models with new observations, climate projections or socio-economic scenarios; extending model domains or time horizons; integrating additional water uses or ecosystem processes; improving model coupling; adding uncertainty and scenario-analysis functionality; further developing machine-learning applications; and applying selected approaches in additional basins. Long term: models and innovations with continuing value should become embedded within the modelling infrastructure, research programmes or operational workflows of the responsible organisations. Transfer to other basins should be pursued through adaptation and local contextualisation rather than direct replication. Individual model components, methods and workflows can be reused through future research, consultancy, capacity-building and European or national projects.
Responsible owner / point of reference	Responsibility remains with the research organisation or organisations that developed or maintain each model component. The relevant maintainer contacts are listed in Table 5. Basin stakeholders remain important users and collaborators, but this does not automatically imply technical responsibility for model maintenance. For jointly developed components, responsibilities for code, configuration, documentation and future development should be agreed between the contributing organisations.
Relevant documentation	The development and application of the modelling frameworks and innovations are documented in the relevant WP3 and WP4 deliverables, basin-specific reports and scientific publications, including contributions to the STARS4Water special issue of the <i>International Journal of River Basin Management</i> . Guidance on the modelling innovations and their potential reuse is also provided through Deliverable 5.4. (Ter Maat 2026). Training modules/ webinars on the models are provided on the STARS4Water Academy. Scripts and Workflows of selected models are provided on the STARS4Water Zenodo Community
Relevant URL	STARS4Water Special Issue on the International journal of River Basin Management Deliverable 3.2: Improved modelling frameworks for better understanding of water resources at the river basin scale (Rickards & Keller, 2025) Deliverable 3.3: Improving existing models based on multi-scale model integration (Avila & Kollet, 2025)

Field	Exploitation plan
	Deliverable 3.4: Data-driven modelling tools for the STARS4Water river basins (Baron & Keller, 2026) Deliverable 4.1: Added value of the next generation tools (Habersack et al, 2026) Deliverable 5.4: Guidance to river basin management practitioners on new STARS4Water data and model innovations (Ter Maat et al., 2026) Scripts and Workflows on Zenodo Training modules on the models in the STARS4Water Academy: https://stars4water.eu/the-stars4water-academy/
IPR and access-rights position	Background model licences and ownership remain with their owners (research partners). Project modifications, scripts, trained models and documentation require explicit foreground ownership and compatible licences. Jointly developed components require written arrangements.

A detailed overview of the integrated modelling frameworks per river basin are reported in the Annexes of the Guidance on data and model innovations (Deliverable 5.4). Their re-use and potential for upscaling to other basins has also been described. An overview of the innovations on the modelling framework, developers and maintainers, are presented in Table 6.

Table 6. Overview on the STARS4Water next generation modelling frameworks in the 7 river basin hubs.

River basin	Model innovation	Developers	Maintainer contact (and research organisation)	Identified post-project exploitation / sustainability pathway
Danube	Integrated water resources management modelling framework (Wflow, Ribasim, Rsim-3D)	Glas M., Graf T., Monji F., Klösch M., Preiml M., Toma A., Scricciu A., ter Maat J. and Habersack H.	Mario Klösch (BOKU University)	BOKU will continue the use and further development through follow-up projects and in collaboration with ICPDR.
Drammen	Integrated modelling framework (LISFLOOD, HBV, wflow, EOPS, Ribasim, EFRA)	Hegdahl, T. J.; Engeland, K.; Huang, S.; Hisdal, H.	Trine J Hegdahl (NVE)	NVE will continue to maintain and use the modelling framework, supporting its continued application and further development in the Drammen basin as relevant to NVE's water-management activities.
Duero	Groundwater modelling framework (Modflow, ML)	Martinez-Santos P, Aguilera H, De la Hera-Portillo A, Gómez-Escalonilla V, Rodríguez del Rosario M, Díaz-Alcaide S	Africa de la Hera-Portillo (IGME-CSIC)	The groundwater modelling framework will be
East Anglia	Environmental flow modelling framework (ERFA)	Cedric Laize, Virginie Keller, Zara Crapper and Nathan Rickards	Virginie Keller (UKCEH)	Potential exploitation includes continued scientific use and application of the environmental flow

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				framework/ tool in additional basins.
Messara	Integrated water resources management modelling framework (SAC-SMA, Ribasim)	Kossida, M.; Fotopoulos, F.; Tsoukalas, I.	Maggie Kossida (SEVEN)	The Region of Crete has expressed interest in extending the modelling approach from Messara to the whole island of Crete. This provides a concrete pathway for replication and further development, subject to resources and follow-up arrangements.
Rhine	Integrated water resources management modelling framework (Wflow, Ribasim, ERFA)	Judith ter Maat, Devi Purnamasari, Esmée Mes, Tatjana Edler, Umi Taner and Albrecht Weerts	Judith ter Maat (Deltares)	The Rhine modelling results are already feeding into the update of the International Commission's climate adaptation strategy, providing direct evidence of policy uptake. Deltares will continue updating model components in collaboration with the Rhine River Commissions and Rijkswaterstaat.
Seine	Hydrological and reservoir modelling framework (GRSD, ML, RF-LSTM)	Collignan, J., Ramos, M.-H.	Maria-Helena Ramos (INRAE)	Co-development of the modelling framework is expected to continue, with INRAE remaining the main developer in collaboration with EPTB SGL, building on the collaboration and model developments established through STARS4Water.
EU level and various basins	ML approaches and data-driven tools	Avila, L.; Miaari, S.; Kollet, S.	Stefan Kollet (JZI)	Continued scientific development and reuse of the ML/data-driven approaches in research and applications across multiple basins.

4.3. Improved water resources availability projections and other reusable project datasets

STARS4Water generated a substantial body of projections and reusable datasets in the basins through the application of the next-generation modelling frameworks in the River Basin Hubs and through project-wide data and indicator development. These outputs include **projections of future water availability and water demand, climate risk and hydrological indicators, socio-economic information and other datasets produced or processed during the project.**

The value of these datasets extends beyond their immediate use within STARS4Water. They provide a documented evidence base that can be re-used in future research, planning studies, model development, benchmarking exercises and climate resilience assessments. For river basin organisations, the projections can support continued discussion of future water-management challenges and provide evidence for the development or revision of climate-resilient and sustainable water-management strategies.

A key element of the exploitation approach is therefore to ensure that the project-generated datasets remain findable, accessible and reusable after project closure. Where possible, datasets are archived in open repositories such as Zenodo, with persistent identifiers and accompanying metadata. Their discoverability is further supported through the STARS4Water Metadata Portal. Not all datasets require, or can realistically support, continuous updating after the project. The main sustainability objective is therefore to preserve the final validated project datasets and their documentation in durable repositories, while enabling selective updating or extension where there is a clear user need, responsible organisations and available resources.

The exploitation plan for improved water resources availability projections is presented in Table 7.

Table 7. Improved projections - exploitation plan.

Field	Exploitation plan
Result and scope	Project-generated datasets and projections related to water availability, water demand, hydrological conditions, climate risks, socio-economic developments and related indicators. The result includes final model outputs and derived datasets produced at river basin and, where applicable, broader spatial scales, together with metadata and documentation needed for interpretation and re-use.
Primary users	River basin organisations and planners; national and regional water and environmental authorities; researchers; model developers; data-service providers; consultants; climate-adaptation practitioners; and organisations carrying out follow-up assessments or planning studies.
Value proposition	These datasets provide a reusable and documented evidence base for assessing current and future water-resource conditions. They can support follow-up research, benchmarking, model calibration or comparison, planning studies and climate-resilience assessments. For river basin organisations, the projections provide evidence that can inform strategic discussions and future revisions of basin-management and adaptation plans.
Exploitation route	Short term: maintain all final project datasets and projections in durable repositories (Zenodo), with persistent identifiers, metadata and clear documentation. Ensure that relevant datasets are discoverable through the STARS4Water Metadata Portal and that links from project deliverables and the

Field	Exploitation plan
	website remain operational. The partners that generated the datasets remain the main points of reference for questions on methodology, interpretation and limitations. Medium term: promote re-use of the datasets through follow-up research, basin assessments, modelling studies and professional applications. Re-use should be encouraged through citation, repository downloads, Metadata Portal discovery and references in guidance, training and subsequent projects. Where there is stakeholder demand and resources are available, selected datasets or projections may be updated, extended or combined with new observations or scenarios (following updates of models, see section 4.2). Possible updates or extensions include updating selected projections with newer climate or socio-economic scenarios; extending time horizons; incorporating new monitoring observations; deriving new indicators from existing project outputs. These potential further developments should be needs-driven and accompanied by appropriate versioning so that original STARS4Water outputs remain identifiable and reproducible. Long term: the primary sustainability pathway is continued preservation and accessibility of the validated datasets through stable repositories. Active updating should be selective rather than assumed for the entire portfolio and should take place only where a responsible organisation, clear use case and resources are available. The datasets can also provide a baseline for future modelling exercises, new climate scenarios, comparative basin studies and replication of STARS4Water approaches in other regions.
Responsible owner / point of reference	Responsibility for the scientific content and interpretation of each dataset remains with the partner or partners that generated it. Dataset-level ownership and contact points should be documented in the relevant repository record. Deltares can continue to support discoverability through the STARS4Water Metadata Portal the project data management arrangements , while the originating partners remain responsible for decisions on any future updating, extension or reprocessing of their datasets.
Relevant documentation	Water availability projections and other datasets are reported in Deliverable 4.2 - Improved projections on water resources availability and risks in selected river basins, in related modelling and basin assessment outputs, and in project publications
Relevant URL	STARS4Water Zenodo Repository for storing datasets Deliverable 4.2: Improved projections on water resources availability and risks in selected river basins (Ramos, 2026) STAR4Water Metadata Portal
IPR and access-rights position	Project-generated output data is openly licensed where possible, with clear attribution and citation requirements. Background data and restricted third-party datasets remain subject to their original terms. Where datasets are derived from multiple sources, the applicable reuse conditions should be documented in the repository record. Personal, confidential or otherwise restricted information must not be published through open repositories.

4.4. Co-designed dashboards for decision support

STARS4Water developed interactive dashboards to make complex water resources data, indicators and modelling results more accessible and usable for river basin stakeholders. The dashboard development followed the project's co-creation approach: stakeholder information needs, preferred visualisations and intended uses were explored through workshops and iterative feedback, with the aim of translating scientific information into formats that can support communication, assessment and decision making. Two complementary dashboard approaches were developed within STARS4Water.

The **generic STARS4Water dashboard** provides a common overview across the River Basin Hubs, using European and global datasets and indicators to explore current conditions, trends and future changes. Its main value is to provide an accessible first entry point to the evidence generated and assembled by STARS4Water, allowing users to compare indicators across basins and explore the direction and magnitude of projected change. It can also support the initial stages of stakeholder dialogue by helping users identify which issues warrant further investigation, what additional information may be needed and how more detailed information should be presented.

The **tailor-made Drammen dashboard** was developed specifically for the Drammen River Basin and responds to basin-specific management needs. It integrates locally relevant information, modelling results and indicators into a decision support interface designed together with the basin stakeholders. This stronger local contextualisation increases the potential for continued operational use because the dashboard is directly connected to the information needs and working practices of the organisations involved in managing the basin.

The two dashboards therefore have different post-project exploitation pathways (Table 8). The generic dashboard is primarily a project wide communication, exploration and knowledge access product, while the Drammen dashboard has stronger potential for continued operational use and further development within the river basin.

Table 8. Co-designed dashboards - exploitation plan.

Field	Exploitation plan
Result and scope	Two complementary dashboard products: (1) a generic STARS4Water dashboard presenting climate, water resources, socio-economic and risk-related indicators on a common basis across the project River Basin Hubs; and (2) a tailor-made Drammen dashboard integrating locally relevant indicators, datasets and modelling outputs to support basin level water management dialogue and decision-making
Primary users	Generic dashboard: river basin organisations, policymakers, researchers, knowledge brokers, practitioners, NGOs and other users seeking an accessible overview of basin conditions, trends and projections. Drammen dashboard: NVE and other authorities, planners and stakeholders involved in water resources management and strategic planning in the Drammen River Basin.
Value proposition	The dashboards translate complex datasets and model outputs into accessible visual information. The generic dashboard provides a rapid entry point to STARS4Water evidence, supports comparison among basins and helps initiate discussions on priority issues and further information needs. The Drammen dashboard provides a locally contextualised interface linking scientific evidence

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Field	Exploitation plan
	more directly to basin specific management questions and therefore has stronger potential for operational use.
Exploitation route	Short term: both dashboards remain accessible and that final documentation, training material and links are available through the STARS4Water website and Academy. For the Drammen dashboard, NVE and the development partners should complete the operational handover and retain the supporting guidance and training resources. The generic dashboard should remain available as part of the STARS4Water legacy material and be linked to the broader project StoryMap and website. Medium term: the Drammen dashboard can continue to be used and, where there is user demand and available resources, updated by NVE and collaborating technical/research partners. These updates may include new observations, model runs, scenarios or indicators; integration of additional locally relevant information; adaptation to evolving management questions; and possible linkage with other NVE information systems. Experience from Drammen can also be used to demonstrate the value of tailor-made dashboards to other river basin organisations and future projects. The generic dashboard is not expected to undergo continuous active development; its primary role is to remain accessible as a reference and communication resource, subject to continued technical hosting. However, updating selected indicators if resources become available and relevant for another project could be pursued. Long term: the preferred pathway for the Drammen dashboard is continued institutional embedding within NVE or another organisation directly involved in basin management, with updates driven by operational needs and available resources. The dashboard methodology and co-design process can be replicated in other basins through future projects, consultancy or research partnerships. For the generic dashboard, long-term sustainability may consist of maintaining a stable final version or archiving its content in a durable form rather than committing to continual redevelopment. It can also serve use as an entry point for identifying information gaps and defining requirements for more detailed basin-specific tools.
Responsible owner / point of reference	Drammen tailor-made dashboard: NVE is the principal operational stakeholder, host and point of reference for continued use of the dashboard. Generic dashboard: Deltares, in collaboration with VanderSat is the principal point of reference for the project-wide dashboard and its hosting arrangements.
Relevant documentation	Dashboard design and development are documented in Deliverable 1.4 – Dashboard for supporting decision making on water resources management at river basin level: prototype, and subsequent project documentation on the final dashboards. Training and operational guidance for the Drammen tailor-made dashboard are also available through the STARS4Water Academy.
Relevant URL	Generic dashboard: https://bit.ly/stars4water-tier1 Drammen tailor-made dashboard: https://bit.ly/nve-stars4water Related training material is available through the STARS4Water Academy: https://stars4water.eu/the-stars4water-academy/tailor-made-dashboard-for-the-drammen-river-basin-how-to-navigate-interpret-and-use-it-for-basin-level-water-management-decisions/ Deliverable 1.4: Dashboard for supporting decision-making on water resources management at river basin level: prototype (Edler & Mes, 2025)

Field	Exploitation plan
IPR and access-rights position	Rights and responsibilities for the dashboard software, configuration, visualisations, connectors and underlying datasets should be documented separately. Continued operation depends on the licences and infrastructure of the software platforms used. Data displayed through the dashboards retain their original access and licensing conditions. Any future transfer or adaptation should verify that software, data and third-party licences permit continued use and modification.

4.5. Learning materials: guidance documents and STARS4Water Academy

STARS4Water has developed a set of learning and capacity-building resources to support the continued uptake of the project's approaches, methods and tools beyond the funded project period. These resources combine two complementary elements: the **STARS4Water Academy**, which provides a structured series of training webinars and tutorials, and **guidance documents that synthesise lessons from the project for river basin practitioners**.

The STARS4Water Academy is designed around the project's scientific and decision-support knowledge chain. It offers training material at different levels of depth, ranging from introductory overviews to examples and step-by-step operational guidance. The Academy therefore serves multiple audiences, including river basin managers, technical practitioners, researchers, consultants and young professionals. The current Academy includes material on data collection and services, indicators, modelling approaches, machine learning, calibration and validation, dashboards, the Impact Reporter, climate-risk assessment and other STARS4Water methods and tools.

The guidance documents complement the Academy by bringing together the project's broader methodological and practical lessons. They provide practitioners with guidance on stakeholder co-creation and on the use and sustainable uptake of data and modelling innovations for water-resilient river basin management. Together, the Academy and the guidance documents form a reusable capacity-building package that can support training, professional development, follow-up projects and replication of STARS4Water approaches in other river basins.

The long-term exploitation objective is therefore not to treat these materials as static project outputs, but to keep them discoverable and reusable, and to enable partners to incorporate them into future training, advisory activities and research or implementation projects (Table 9). Because most of the material is already produced and published, the sustainability requirement is relatively modest: maintain stable access, preserve the training assets and associated documentation, and selectively update or extend modules where there is demonstrated demand or where underlying tools and methods materially change.

Table 9. Learning materials - exploitation plan.

Field	Exploitation plan
Result and scope	A reusable capacity-building package comprising the STARS4Water Academy webinars/tutorials and the project guidance documents for river basin practitioners. The material covers stakeholder co-creation, data and data services, models and modelling innovations, indicators and risk assessment, dashboards and decision-support tools, and other approaches developed and demonstrated through STARS4Water.

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Field	Exploitation plan
Primary users	River basin organisations and authorities; water-management practitioners; consultants; researchers; model developers; data scientists; young professionals; universities and training providers; professional and policy networks; and organisations seeking to replicate or adapt STARS4Water approaches.
Value proposition	The Academy and guidance material reduce the knowledge and capability barrier to applying STARS4Water approaches. They provide different levels of learning, from introductory explanations to practical examples and step-by-step guidance, and allow users to understand which data, tools and methods may be relevant to their own river basin context. The materials also preserve practical know-how generated during the project and make it reusable beyond the original consortium.
Exploitation route	Short term: keep the Academy and guidance documents publicly accessible through the STARS4Water website. Project partners can immediately reuse the material in presentations, professional training, university teaching, stakeholder workshops and follow-up projects. Medium term: promote selective reuse of Academy modules and guidance through partner networks, river basin organisations, professional associations and new research or implementation projects. Existing modules may be combined into tailored training packages for specific audiences or basins. Modules linked to tools that remain under active development can be updated by the responsible technical partner when justified by user demand or significant methodological changes. Possible extensions may include: new Level 2 or Level 3 tutorials for tools that currently have only introductory material; updated demonstrations as models, dashboards or data services evolve; basin-specific learning packages; integration of selected Academy material into university courses, professional training and future EU or national capacity-building initiatives. Any further development should be demand-driven and focused on materials with clear evidence of continued use. Long term: preserve the Academy as an accessible knowledge base and use the modular structure as a foundation for future capacity-building. The preferred sustainability route is continued reuse through the originating partner organisations, professional and academic training, and follow-up projects, rather than maintaining a continuously updated stand-alone training programme. Where useful, individual modules or guidance material can be migrated, mirrored or incorporated into durable institutional learning platforms.
Responsible owner / point of reference	Platform and overall Academy coordination: Deltares will continue providing access through the STARS4Water website. SEVEN will support Deltares in modifying the current layout of the Academy and uploading any new material. Content responsibility remains with the partner(s) that developed each individual module or guidance product. These content owners are the appropriate points of reference for substantive updates, reuse in training and adaptation of technical material. For longer-term sustainability, platform maintenance and content maintenance should be treated separately: the Academy can remain accessible even where individual modules are no longer actively updated.
Relevant documentation	The guidance products are documented in Deliverables 5.2 and 5.4. The Academy itself provides the training webinars/tutorials and links to the associated tools and project material.

Field	Exploitation plan
Relevant URL	STARS4Water Academy: https://stars4water.eu/the-stars4water-academy/ Deliverables 5.2 (Duel et al 2024), Deliverables 5.4 (Ter Maat et al, 2026): https://stars4water.eu/output/public-deliverables/
IPR and access-rights position	Training texts, slides, recordings, figures, exercises and downloadable material should retain clear attribution and reuse conditions. Rights for third-party figures, datasets, software demonstrations and speaker recordings should remain respected. Where partners reuse or adapt a module outside STARS4Water, the original authorship and relevant licences should be maintained. Personal data should not be included in public learning assets unless an appropriate legal basis and consent are in place.

4.6. Policy synthesis / Policy-facing products

STARS4Water has produced a set of policy-facing products that translate evidence from the project's river basin assessments, stakeholder co-creation, data and modelling innovations, and cross-basin learning into concise messages for policy and practice. These products are intended to support the uptake of STARS4Water results beyond the scientific community and to connect project findings with ongoing European, national and river-basin policy processes.

The policy portfolio includes three **Policy Briefs and associated outreach material**, a **Synthesis Report for Guidance to river basin management practitioners** (Duel et al., 2026), a **Policy Synthesis Report - a blueprint for strengthening EU water policies and actions** (Kundewicz et al., 2026) and a **Layman Report** (Kossida et al., 2026). The briefs address: (1) unlocking global data for tailor-made water management strategies in Europe; (2) climate change impacts and water challenges in European river basins; (3) operationalising water resilience at the river basin scale.

The value of these products lies not only in their continued availability as project outputs, but in their reuse in policy dialogue. STARS4Water has linked these policy products to targeted events, stakeholder exchanges and European policy discussions. Their exploitation pathway therefore focuses on keeping the evidence visible and usable, bringing the recommendations into relevant policy and practitioner fora, and enabling project partners to reuse the messages in future consultations, briefings, projects and advisory work (Table 10). Policy-facing products do not require the same type of technical maintenance as a live digital service. Their sustainability depends primarily on continued discoverability, clear attribution, active dissemination through relevant networks, and periodic reuse or updating of the evidence when policy needs or the scientific knowledge base evolves.

Table 10. Policy synthesis - exploitation plan.

Field	Exploitation plan
Result and scope	A portfolio of policy briefs, outreach editions, key messages and synthesis products that translate STARS4Water evidence from river basin assessments, stakeholder co-creation, data and modelling innovations, and cross-basin learning into policy-relevant recommendations. The products address data access and use, climate change impacts on European river basins, operationalisation of water resilience, and recommendations for strengthening European water policies and actions.

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Field	Exploitation plan
Primary users	European Commission services and EU policy processes; national and regional authorities; river basin organisations and commissions; environmental and water agencies; policy networks; professional associations; NGOs; research organisations; and knowledge brokers working on water resilience, climate adaptation and river basin management.
Value proposition	The policy-facing products condense complex scientific and stakeholder evidence into concise, accessible and actionable messages. They connect practical experience from river basins with European and national policy discussions, make project findings easier to use in briefings and consultations, and provide evidence and examples that can inform the implementation and further development of water resilience and river basin management policies.
Exploitation route	Short term : ensure that all final policy briefs, outreach editions and associated policy communication products are publicly accessible through the STARS4Water website; complete targeted dissemination to relevant European, national and river-basin audiences; use the final project conference and related policy exchanges to communicate the principal recommendations; and provide partners with stable links and concise messages for further dissemination. Medium term: project partners should actively reuse the policy messages in relevant consultations, policy events, professional networks, follow-up projects and advisory activities. Where appropriate, findings should be presented through relevant EU Common Implementation Strategy (CIS) working groups and other European or national water-policy fora. Cooperation established with sister projects, river basin organisations and policy networks should be used to keep the recommendations visible and to identify opportunities for replication or implementation. Long term: retain the policy products as an accessible evidence base and use them as reference material in future research, policy-support and implementation initiatives. Future policy work can build on the existing briefs by developing targeted implementation notes, case studies or sector-specific messages. Where policy frameworks, scientific evidence or implementation experience change materially, partners may update or build on the recommendations through new projects or joint policy products with relevant European initiatives or follow-up projects. Further development should be demand-driven and linked to a defined policy process or user need.
Responsible owner / point of reference	The lead authors and responsible STARS4Water partners for each policy product remain the primary points of reference for its content. Deltares, as project coordinator and host of the STARS4Water website, provides a durable route for continued discoverability of the published deliverables. Contributing partners are responsible for reusing and disseminating the messages through their own policy, research and practitioner networks. Any future update or new joint policy product should identify a new lead organisation and participating partners.
Relevant documentation	The policy-facing products include: Deliverable 6.4 – Policy Brief “Unlocking global data for tailor-made water management strategies in Europe” (Kossida & Blind, 2025); Deliverable 6.6 – Policy Brief “Climate change impacts: water challenges of European river basins” (STARS4Water 2026); Deliverable 6.10– Policy Brief on “Operationalising water resilience” (Kossida et al, 2026a); Deliverable 5.2 - Synthesis Report for Guidance to river basin management practitioners (Duel et al., 2026).

Field	Exploitation plan
	Deliverable 5.6 - Policy Synthesis Report - a blueprint for strengthening EU water policies and actions and a Layman Report (Kundzewicz et al, 2026); Deliverable 6.11 – Layman Report (Kossida et al., 2026b); Outreach editions and related event material should be linked to the corresponding final deliverables.
Relevant URL	STARS4Water Public Deliverables: https://stars4water.eu/output/public-deliverables/ STARS4Water website: https://stars4water.eu/
IPR and access-rights position	Final policy briefs and outreach products should remain publicly accessible with clear attribution and reuse conditions. Rights in partner logos, photographs, third-party figures, maps and jointly authored material should be respected. Future reuse should cite the original STARS4Water product and authors, while substantial updates or derivative policy products should clearly distinguish new content from the original project output.

4.7. Story maps at river-basin and pan-European level

STARS4Water has developed a **suite of web-based Story Maps** across the River Basin Hubs to communicate the main findings of the project in an accessible and visually engaging way. Developed by the research partners responsible for the individual River Basin Hubs, in collaboration with basin stakeholders, the Story Maps translate modelling results, scenario assessments and other scientific evidence into narratives that explain what changing water availability and hydrological extremes may mean for individual river basins and their users.

The Story Maps complement the project's technical reports, datasets and models by providing an accessible entry point for river basin authorities, policymakers, practitioners and wider stakeholder communities. Rather than presenting model outputs in isolation, they combine maps, visualisations and explanatory narratives to communicate key water-management challenges, future risks, trade-offs and possible responses.

An important feature of the Story Maps is their local contextualisation. Each basin Story Map addresses the questions and water-management challenges considered most relevant within that basin. Together, the individual Story Maps also provide a portfolio of examples showing how the STARS4Water approach can be applied in different hydrological, institutional and socio-economic settings.

Story Maps are currently hosted through the BOKU University ArcGIS infrastructure, even where the content was developed by another STARS4Water partner. The exploitation strategy should therefore distinguish between: maintaining access to the existing Story Maps; assigning clear responsibility for their scientific and narrative content; identifying a sustainable host after the initial six-month transition period; and selectively updating or extending Story Maps where there is continued demand from basin organisations, research partners or future projects. The exploitation pathway of the Story Maps is listed in Table 11. The Story Maps were developed by the project partners listed in Table 12.

Table 11. Story maps - exploitation plan.

Field	Exploitation plan
Result and scope	Web-based narratives at river basin level that communicate assessments of future water-resource availability, hydrological extremes, water use, priority risks and potential management responses. The Story Maps combine scientific results, maps and visualisations with accessible narrative explanations and are tailored to the management context of the individual basins.
Primary users	River basin authorities and organisations; national and regional environmental and water authorities; basin communities; policymakers; NGOs; researchers; educational and professional networks; and European-level audiences interested in climate resilience and water management.
Value proposition	The Story Maps translate complex scientific evidence into accessible basin-specific narratives. They provide an entry point to STARS4Water results for non-specialist audiences, support communication and stakeholder dialogue, and help users understand the implications of scenarios, risks, trade-offs and management options. Because the Story Maps are geographically and institutionally contextualised, they can also provide examples for other river basins seeking to communicate similar assessments
Exploitation route	Short term: maintain all currently hosted Story Maps online and accessible. BOKU University will continue hosting those Story Maps currently located on its ArcGIS infrastructure for at least six months after the end of STARS4Water. During this period, the content developing partners identify which Story Maps require continued live hosting and agree a preferred long-term hosting and maintenance route with the relevant basin stakeholders. Medium term: where there is continued use and stakeholder interest, responsibility for hosting should progressively move to, or be formally agreed with, the organisation best placed to maintain the individual Story Map. Depending on the basin, this may be the originating research partner, the corresponding river basin or water-management authority, or another institutional partner with suitable ArcGIS or web infrastructure. Story Maps that do not require regular updating may remain as stable communication products on the STARS4Water website. Selected Story Maps may be updated with new data, results or policy developments through follow-up projects or continued collaboration between research partners and basin organisations. Possible extensions may include: updating projections and indicators as new information becomes available; adding new scenarios, management options or monitoring evidence; linking Story Maps more directly to dashboards, datasets and decision-support tools. These potential updates should remain needs-driven rather than attempting to maintain every Story Map continuously. Long term: the preferred route is institutional embedding of high-value Story Maps with the relevant basin organisation or research institution, rather than indefinite dependence on a project-specific hosting arrangement. Where continued maintenance of an interactive ArcGIS Story Map is not justified, content should be preserved through an appropriate archival or lower-maintenance format and remain discoverable through the STARS4Water website or another durable institutional webpage. The underlying approach and Story Map structure can also be replicated and adapted in other river basins through future research, consultancy and capacity-building activities, developing equivalent Story Maps for additional basins and using the existing examples as templates for stakeholder communication in future projects.

Field	Exploitation plan
Responsible owner / point of reference	Content responsibility: the research partners and authors that developed each basin Story Map, in collaboration with the relevant basin stakeholders, remain the primary points of reference for its scientific and narrative content (see Table XX). Current hosting: several Story Maps are hosted on BOKU University ArcGIS infrastructure. BOKU will maintain this hosting for at least six months after project closure. The Drammen Story Map, the East Anglia Story Map, the Seine Story Map, and the Duero Story Map are hosted by NVE, UKCEH, INRAE and IGME respectively, who will continue to maintain this hosting for at least six months after project closure. Long-term hosting: to be agreed during the transition period on a Story Map-by-Story Map basis, preferably with the originating research institution and/or the relevant river basin authority or other organisation with a mandate and infrastructure to maintain it. Where continued maintenance of an interactive ArcGIS Story Map is not justified, content should statically be preserved through the STARS4Water website. Deltares has committed itself to the continuation of the STARS4Water website and made final hosting arrangement with the provider
Relevant documentation	The development process and results are documented in Deliverable 4.3 Story maps (Klösch et al., 2026).
Relevant URLs	Links to the individual Story Maps are provided in Table12. The Story Maps are also accessible through the STARS4Water website: https://stars4water.eu/our-7-hubs/
IPR and access-rights position	Responsibility for content and responsibility for technical hosting are treated separately. Continued hosting depends on access to the relevant ArcGIS organisational accounts and licences. Rights and permissions associated with text, figures, photographs, maps, ArcGIS layers and underlying datasets are confirmed and should remain documented. Where a Story Map is transferred to another organisation or platform, the compatibility of licences and permissions must be checked.

Table 12. Overview on the STARS4Water story maps.

River basin	Key message	Authors	Maintainer contact (and research organisation)	Weblink to Story Map
Danube	Danube Drought Water Conditions under Climate Change	Klösch, M., Graf, T., Monji, F., Glas, M., Preiml M., Toma, A., Scrieciu, A., Habersack, H.	Mario Klösch (BOKU University)	https://arcg.is/CLfyq0
Drammen	Balancing future water, energy, and ecosystems in the Drammen basin - Using integrated modelling and stakeholder insights to support	Trine J. Hegdahl, Kolbjørn Engeland, Shaochun Huang, CA Veie, E. Gelati, H. Hisdal	Trine J Hegdahl (NVE)	Balancing water, energy and ecosystems in the Drammen Basin

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	sustainable water management			
Duero	Duero River Basin: Groundwater beneath your fields: Smarter decisions in the Duero River Basin	Prieto, A.; De la Hera-Portillo, A.; Aguilera, H.; Moreno, L.; García, O.; Martínez-Santos, P.; Gómez-Escalonilla, V.; Rodríguez del Rosario, M.	Africa de la Hera-Portillo (IGME-CSIC)	https://arcg.is/1DDifT1
East Anglia	Drier future for East Anglia's wildlife, but action can help	Crapper, Z.; Rickards, N.; Laize, C.; Read, T.; Darch, G. and Keller, V.	Zara Crapper (UK-CEH)	https://arcg.is/0aLTHq0
Messara	Messara basin under water pressure <i>Understanding water deficits, groundwater dependence and future resilience in Crete's largest agricultural plain</i>	Kossida, M.; Fotopoulos, F.	Maggie Kossida (SEVEN)	https://arcg.is/1XfWGy3
Meuse*	The Meuse River Basin in a changing climate: Towards sustainable and balanced water availability	Correa, D., Werner, M. & Cremers, N.	Deborah Dotta Correa (IHE Delft)	https://arcg.is/v40Sn1
Rhine	The Rhine under Pressure: Navigating Water Scarcity in a Changing Climate	Edler, T., Ter Maat, J.	Tatjana Edler (Deltares)	https://arcg.is/0Dy4f44
Seine	The Seine River Basin - The future of low flow management	Collignan, J., Ramos, M.-H.	Maria-Helena Ramos (INRAE)	https://arcg.is/1HDKzn0
Pan-European	From evidence to water resilience The STARS4Water journey from science to river-basin action	Kossida, M.	Maggie Kossida (SEVEN)	https://arcg.is/0nnqWW1

* The Meuse River study was carried out concurrently with STARS4Water, employing the STARS4Water methodology.

4.8. Online Impact Reporter

The **Impact Reporter** is an open-access online platform that records the impacts of past floods, droughts, storms and heatwaves, and the measures taken in response. It is a knowledge base with real experienced biophysical and socio-economic impacts, changes in vulnerability and risk, and ex-post evaluation of applied adaptation measures by different categories of stakeholders. Anyone can browse it; registered users add new events. Learning what worked, and what did not, feeds the next round of questions. The longer-term value of the Impact Reporter lies in its potential to become a centralised knowledge base on experienced climate-related impacts and responses. Information on past impacts and adaptation experiences is often fragmented across institutions, reports and databases and can therefore be difficult to find and compare. A common platform can make this evidence more accessible and support vulnerability and risk assessments, adaptation planning, policy development and learning across regions and countries. The exploitation pathway for the Impact Reporter is presented in Table 13.

Table 13. Online Impact Reporter - exploitation plan

Field	Exploitation plan
Result and scope	An open-access online application for documenting, analysing and sharing experienced impacts of floods, droughts, storms and heatwaves, including biophysical, social and cultural, economic and health-related impacts and the mitigation and adaptation measures implemented in response. The platform provides a structured knowledge base for learning from past events and adaptation experience.
Primary users	River basin organisations and managers; national and regional authorities; European institutions and agencies (European Commission, EEA, JRC); policymakers, environmental agencies; NGOs; researchers; communities; governments; the European Commission and EEA-related communities.
Value proposition	The Impact Reporter (IR) brings otherwise fragmented information on experienced impacts and responses into a common and searchable platform. It supports cross-event and cross-region learning, vulnerability and risk analysis, adaptation planning and evidence-based policymaking. Its centralised structure can reduce the effort required to locate information on past impacts and measures and makes experience from previous events more accessible for future decisions. Feedback on the added value and future uptake and development of the IR was additionally collected from stakeholders during the STARS4Water Final Conference.
Proposed exploitation route	Short term: SEVEN will continue to host and maintain the online IT, ensuring that the platform remains operational and publicly accessible. During this period, SEVEN will also seek opportunities to expand the number of cases included in the platform, although this is not a formal commitment, also through targeted networking and outreach to identify organisations and users interested in contributing new events to the IR. Also, it will reach out to organisations that may be interested in the longer-term uptake, hosting or institutional embedding of the platform. Medium term: SEVEN can continue hosting and maintaining the IR during this period. However, the primary objective will be to identify a suitable organisation with the mandate, interest and capacity to take over the platform and to work towards its transfer. Potential pathways may include transfer to an organisation with an appropriate European mandate, potentially including the

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Field	Exploitation plan
	EEA, European Commission/JRC or another suitable European-level, which can support its continued operation, expansion and integration into relevant policy, monitoring or knowledge-management processes. Long term: pursue institutional embedding, migration or collaboration with an organisation with an appropriate European mandate. Expansion through follow-up projects and tailored applications can complement this pathway.
Responsible owner / point of reference	SEVEN is the developer and current technical host of the Impact Reporter and has committed to hosting and maintaining the platform for at least 24 months after project closure. During this transitional period, SEVEN will also explore opportunities for longer-term institutional embedding or migration to an appropriate European organization.
Relevant documentation	https://ir.stars4water.eu/about/ Related material is available through the STARS4Water Academy: https://stars4water.eu/the-stars4water-academy/stars4water-impact-reporter-part-1-overview-and-navigation/
Relevant URL	Impact Reporter: https://ir.stars4water.eu/
IPR and access-rights position	The software has been developed by SEVEN. Rights associated with contributed content should be documented as part of the post-project handover arrangements. Contributor terms should enable appropriate reuse and publication of submitted information, while personal data and potentially sensitive event information must continue to be handled in accordance with applicable data-protection requirements. Any future institutional transfer will require agreement on software, database, hosting and data-management responsibilities.

5. Implementation of exploitation plans

5.1. Organisation after project closure

The organisation during the implementation of the exploitation plan after the closure of the project is indicated in Table 14. Deltares will continue as a coordinator for the activities and convene annual review and consolidate evidence based on the monitoring indicators (see section 5.4) in collaboration with all other project partners.

Table 14. Organisation after project closure.

Role	Core responsibility	Assignment
STARS4Water Project coordinator	Maintain the exploitation plan, convene annual review and consolidate evidence; Keep contact points and redirect external enquiries	Deltares, overall coordination
Metadata portal	Facilitate upload new metadata, assure quality; monitor indicators	Deltares
Modelling frameworks, model innovations	Maintain, further upgrade and transfer modelling service and manage issues and deliver new releases if applicable via training, replication, research, consultancy, policy or market route; monitor indicators	Partner that has developed the framework and/or model innovation. Monitoring coordinated by UKCEH.
Improved projections	Maintain, further upgrade and transfer dashboard service and manage issues and deliver new releases if applicable via training, replication, research, consultancy, policy or market route; monitor indicators	Partner that has delivered the projections. Monitoring coordinated by BOKU
Dashboards	Maintain, further upgrade and transfer dashboard service and manage issues and deliver new releases if applicable via training, replication, research, consultancy, policy or market route; monitor indicators	Deltares (Generic), NVE (Drammen)
STARS4Water Academy	Maintain the Academy under the STARS4Water website; monitor indicators	Deltares
Policy briefs and other policy-facing products	Distribute policy briefs in policy related channels; monitor indicators	SEVEN
Story Maps	Maintain the Story Maps under the STARS4Water website; handover to stakeholders for new releases if applicable; monitor indicators	BOKU and SEVEN, with support of research focal points for the river basin hubs (see Table 1)
STARS4Water website	Maintain and operate website; monitor indicators	Deltares
Online Impact Reporter	Maintain and operate OIR website; monitor indicators	SEVEN

5.2. Time planning

The overall planning for implementation of the Plans is indicated in Table 15. After the Plan will be finished early October 2026, the first half year will focus on further promoting STARS4Water output and discussing next steps in cooperation in the existing partnerships in the 7 river basins. After that the focus is on wider upscale and uptake, we expect an increase of research partners and stakeholders that re-use and apply STARS4Water data, tools and methods. At last, in the last three year we monitor the uptake in policy, use by practitioners and assess the health of data sets, tools and methods and other platforms.

Table 15. Time planning after project closure.

Period	Priority actions	Decision gate
Project closure	Confirm portfolio; complete repository links; confirm assigned owners and contact persons; record maintenance commitments. – September 30, 2026 Submission of the future exploitation and sustainability plan to the EU portal – September 30, 2026 Publish contact persons on the STARS4Water website – October 5-9, 2026	Project coordinator, in collaboration with STARS4Water research partners
0-6 months after project closure	Promote priority outputs by all partners; collect early reuse evidence by all partners, under guidance of project coordinator; explore within existing partnerships opportunities for new projects and further identify resources models and host partners (see section 5.3)	Confirm which results are actively maintained, archived or transferred.
6-24 months after project closure	Establish new partnerships; deliver selected re-use, replication or uptake beyond the partners in the project; update priority services if applicable; monitor policy and research uptake.	Continue only activities with demonstrated demand, mandate and resources.
Years 3-5 after project closure	Review institutional embedding, data, tools, and platforms health (Metadata portal, story maps, dashboards, modelling frameworks, guidance documents, policy briefs, STARS4Water website), funding and user value; refresh or retire responsibly.	Renew, transfer, archive or close each service within the various portfolio clusters transparently.

5.3. Further exploration after project closure

The Plan confirms the promised result categories and several sustainability commitments, but does not fully establish final ownership, joint ownership, licensing, maintenance budgets or named partner commitments for every result, neither potential for further cooperation in new projects to continue the successful STARS4Water journey and partnerships. Therefore, in the upcoming half a year the STARS4Water consortium partners will further explore the following alternative activities and resource modes for the services in the various portfolio clusters:

- Embedding services in a (research or stakeholders') partner's and/or EU infrastructure based on institutional core funding.
- Providing In-kind maintenance for service where effort is limited and responsibility is explicit .
- Mobilising national, regional or EU project and research funding for further development, validation and transfer.

- Contracting consultancy, training or tailored implementation where partners choose a commercial route.
- Establishing shared-cost partnership or service agreement for jointly used platforms.
- Responsible archiving where live maintenance is not justified.

5.4. Monitoring exploitation activities

During the implementation phase the various portfolio clusters will be jointly monitored (Table 16 – 23).

Table 16. Metadata Portal – indicators for future exploitation.

Dimension	Target / evidence source	Review point
Availability	Metadata Portal remains publicly accessible and operational at https://stars4water.openeearth.eu/ Existing metadata records remain searchable and linked to valid source locations or repositories (Zenodo); broken links are corrected where feasible.	Annual
Uptake	Website visits Documented use in research, basin assessments, data discovery or follow-up projects New metadata records added following documented user or project demand Use of the Portal or its approach in subsequent projects or related data services	Annual
Maintenance	Deltares continues hosting and maintaining the Portal in line with its digital-infrastructure policies, internal funding and the commitment to keep the service available until at least the end of 2031.	Annual

Table 17. Model innovations - indicators for future exploitation.

Indicator	Target / evidence source	Review point
Availability	Model code, configurations, documentation or operational applications remain accessible through the responsible partner, repository or institutional infrastructure, subject to applicable licences (as listed in Table 6).	Annual
Uptake	Documented use of the STARS4Water modelling frameworks or individual components (in basin assessments, operational studies, scientific analyses, planning exercises or follow-up projects). Documented integration of STARS4Water models/ tools into existing institutional modelling framework. Documented new/ updated model versions or additional functionalities. Publications, citations of the STARS4Water models and tools.	Annual
Maintenance	A named technical point of reference remains identifiable for models or components that continue to be actively used or developed. Models no longer actively maintained retain	Annual

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Indicator	Target / evidence source	Review point
	appropriate documentation and archived versions where feasible.	

Table 18. Improved projections - indicators for future exploitation.

Indicator	Target / evidence source	Review point
Availability	Final datasets and projections remain accessible through stable repositories with working links (Zenodo), metadata and, where applicable, persistent identifiers. Relevant datasets remain discoverable through the STARS4Water Metadata Portal.	Annual
Uptake	Repository downloads Documented citations, references in scientific publications, use in follow-up projects, modelling studies, basin assessments or professional applications. Documented updates, extensions, new versions or derivative datasets created in response to a defined user, research or policy needs.	Annual
Maintenance	Repository records and metadata remain accessible. Named partner contact remains identifiable for datasets that require interpretation or are actively maintained.	Annual

Table 19. Co-designed dashboards – indicators for future exploitation.

Indicator	Target / evidence source	Review point
Availability	Generic and Drammen dashboards remain accessible through their designated hosting arrangements, or an archived/stable version remains accessible where active hosting is discontinued	Annual
Uptake	Website visits Documented use in project communication, training, presentations or stakeholder discussions Documented use of the tailor-made dashboard by NVE or other relevant basin stakeholders in analysis, communication, planning, stakeholder meetings or decision-support activities. Documented updates to the Drammen dashboard (e.g. addition of new data or indicators, or adaptation of the dashboard)	Annual
Maintenance	Dashboard developer and host for the Drammen dashboard: NVE, based on internal NVE funding after the closure of the STARS4Water project. Dashboard host for the Generic dashboard: Deltares in collaboration with VanDerSat, based on internal funding of the institutions after the closure of the STARS4Water project. Where live maintenance ceases, an appropriate archival route is documented.	Annual

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Table 20. Learning material: guidance and STARS4Water Academy.

Indicator	Target / evidence source	Review point
Availability	STARS4Water Academy webpage and guidance documents remain publicly accessible. Core links to videos, tutorials and downloadable resources remain functional.	Annual
Uptake	Website visits Views of Academy webinars/tutorials Downloads of guidance documents Documented use of the material/webinars in training, teaching, stakeholder workshops or professional events New or revised tutorials developed in response to demonstrated demand	Annual
Maintenance	STARS4Water Academy webpage remains available and a functioning contact route is retained. Content owners remain identifiable for modules that continue to require substantive updates.	Annual

Table 21. Policy synthesis – indicators for future exploitation.

Indicator	Target / evidence source	Review point
Availability	All final policy-facing products (policy briefs, Layman Report, etc.) remain accessible through the STARS4Water website or another durable public repository.	Annual
Uptake	Number of downloads Documented references, citations Requests for briefings, invitations to present findings, contributions to consultations Use of recommendations in European, national, regional or river basin policy processes	Annual
Maintenance	Public links remain functional and a content contact can be identified. No routine technical maintenance is required. Substantive updates are undertaken only where there is a defined policy need, responsible partner and appropriate resources.	Annual

Table 22. Story Maps – indicators for future exploitation

Indicator	Target / evidence source	Review point
Availability	All Story Map links remain accessible (public URL) and operational during the six-month post-project transition period through the ArcGIS infrastructure of BOKU, NVE, UKCEH A documented long-term hosting or preservation route is identified for each Story Map that is intended to remain available beyond the BOKU transition period.	Annual
Uptake	Website visits	Annual

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Indicator	Target / evidence source	Review point
	Documented use in stakeholder meetings, training, presentations, basin planning processes, educational activities or policy dialogue References of the Story Maps in publications Documented updates to existing Story Maps (addition of new evidence or scenarios) Replication of the Story Map approach in another basin or project.	
Maintenance	Named content contact and technical host remain identifiable for Story Maps maintained as live products. Where active maintenance is discontinued, an archival or preservation route is documented.	Annual

Table 23. Online Impact Reporter – indicators for future exploitation

Indicator	Target / evidence source	Review point
Availability	Impact Reporter remains publicly accessible at https://ir.stars4water.eu/ and operational for at least 24 months after project closure under SEVEN hosting and maintenance.	Annual
Uptake	Website usage; number of registered contributors/users; number and geographical coverage of reported events; references or applications in research, planning and policy processes; documented engagement with European, national or regional organisations and relevant policy networks, including presentations or discussions through appropriate EU processes	Annual
Maintenance	SEVEN maintains hosting and core functionality for at least 24 months after project closure. Technical status, maintenance requirements and resources are reviewed during this period.	Annual

References.

- Avila, L. & Kollet, S. (2025) Improving existing models based on multi-scale model integration. Horizon Europe project STARS4Water. Deliverable D3.3.
- Avila, L., Kollet, S., Aguilera, H., Gomez, V., Martinez, P., Baron, H., Engeland, K., Gelati, E., Hisdal, H., Hegdahl, T.J., Salamon, P., Grimaldi, S., Bisselink, B. (2026a) Future of Europe's freshwater resources. Upscaling basin-wide assessments of climate change risks and impacts to EU-level. Horizon Europe project STARS4Water. Deliverable D4.4.
- Avila, L., Kollet, S., Aguilera, H., Gomez, V., Martinez, P., Baron, H., Engeland, K., Hisdal, H., Hegdahl, T.J. (2026b) Upscaling to other river basins. Horizon Europe project STARS4Water. Deliverable D5.3.
- Baron, H & Keller, V. (2026) Data-driven modelling tools for STARS4Water river basins. Horizon Europe project STARS4Water. Deliverable D3.4.
- Beckers, J. et al. (2025) Next generation water resources data services. Horizon Europe project STARS4Water. Deliverable D2.6.
- Blind, M. (2025) Workshop report on capacity building for using models, services and dashboards. Horizon Europe project STARS4Water. Deliverable D5.1.
- Duel, H., N. Cremers, J. ter Maat, T. Jahr Hegdahl, V. Keller, M.H. Ramos, M. Kossida, A. de la Hera Portillo, H. Habersack & A. Scrieciu (2026). Synthesis report for guidance to river basin management practitioners. Horizon Europe project STARS4Water. Deliverable D5.2.
- Edler, T. & Mes, E.M. (2024): Dashboard to support decision-making on water resources management at river basin level: prototype. Horizon Europe project STARS4Water. Deliverable 1.4.
- Habersack, H., M. Glas, T. Graf, M. Klösch & M. Prieml (2026). Added value of next generation modelling frameworks. STARS4Water. Deliverable 4.1.
- Hermawan, T, Ter Maat, J., Monji, F., Huang, S. & T. Jahr Hegdahl (2026) Co-designed dashboard to support decision-making on water resources management in the Drammen river basin. Horizon Europe project STARS4Water. Deliverable 1.8
- Klösch, M.; Graf, T.; Glas, M.; Preiml, M.; Habersack, H.; Aguilera, H.; Collignan, J.; Crapper, Z.; Cremers, N.; Correa, D.; Darch, G.; De la Hera-Portillo, A.; Duel, H.; Edler, T.; Engeland, K.; Fotopoulos, F.; García, O.; Gelati, E.; Gómez-Escalonilla, V.; Hegdahl, T. J.; Hisdal, H.; Huang, S.; Keller, V.; Kossida, M.; Laize, C.; Martínez-Santos, P.; Moreno, L.; Prieto, A.; Ramos, M.-H.; Read, T.; Rickards, N.; Rodríguez del Rosario, M.; Ter Maat, J.; Veie, C. A.; Werner, M. (2026). Web-based Story Maps on water resources availability in river basin hubs. Horizon Europe project STARS4Water. Deliverable 4.3 (D4.3).
- Kossida, M., Blind, M. (2025). Policy Brief: Unlocking global data for tailor-made water management strategies in Europe. Horizon Europe project STARS4Water. Deliverable D6.4.

- Kossida, M., Duel, H., Kahil, T., Artuso, S., Okruszko, T., Cremers, N., Muegge, M., Keller, V., Politto, E. & Macian, H. (2026a): From evidence to implementation: operationalising water resilience at river basin scale. Joint Policy Brief of STARS4Water and SOS-Water. Horizon Europe project STARS4Water. Deliverable D6.10.
- Kossida et al. (2026b). From evidence to action: how STARS4Water worked with seven European river basins towards water resilience. Layman Report. Horizon Europe project STARS4Water. Deliverable D6.11.
- Kundzewicz, Z.W.; Okruszko, T.; Duel, H.; Keller, V.; Ramos, M.-H.; Hegdahl, T.J.; Avila, L.; Blind, M.; Kollet, S., De la Hera-Portillo, A. (2026) Policy synthesis report: a blueprint for strengthening EU water policies and actions. Horizon Europe Project STARS4Water. Deliverable D5.6.
- Martínez-Santos P. (coord.) (2026). Manuscripts on Stars4Water results for special issue in peer-reviewed journal. Horizon Europe project STARS4Water. Deliverable 6.9.
- Ramos, M.H. et al. (2026) Improved projections on water resources availability and risks in selected river basins. Horizon Europe project STARS4Water. Deliverable D4.2.
- Rickards, N.J., Keller, V.D.J. (eds.) (2024) Improved modelling frameworks for better understanding of water resources at the river basin scale. Horizon Europe project STARS4Water. Deliverable D3.2.
- STARS4Water (2025) Climate change impacts: water challenges of European river basins. Policy Brief 2. Horizon Europe project STARS4Water. Deliverable D6.6.
- Ter Maat, G.J. et al. (2026): Synthesis report for guidance to river basin management practitioners on new STARS4Water data and model innovations. Horizon Europe project STARS4Water. Deliverable 5.4 (D5.4).