



# Notes from Third Knowledge Sharing Workshop

Deliverable 4.3. HORIZON-INFRA-2021-DEV-01-02



Funded by  
the European Union

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| PROJECT NUMBER  | OFFICIAL NAME  | EXTERNAL COMMUNICATIONS NAME |
|---|--|------------------------------|
| HORIZON-INFRA-2021-DEV-01-02  | KADI Knowledge and climate services from an African observation and Data research Infrastructure | KADI                         |
| DUE DATE OF DELIVERABLE   | REFERENCE WP AND TASK  | BENEFICIARY IN CHARGE        |
| 30.08.2025  | WP4 AND TASK 4.1   | TCD                          |
| PROJECT URL   |  | EU PROJECT OFFICER           |
| <a href="https://www.kadi-project.eu">https://www.kadi-project.eu</a> |  | Pierre Quertenmont           |

## VERSION LOG

| NAME      | DATE       | AUTHORS       | COMMENTS |
|-----------|------------|---------------|----------|
| Version 1 | 15/08/2025 | Matt Saunders |          |

## LIST OF AUTHORS

| NAME          | INSTITUTION            |
|---------------|------------------------|
| Matt Saunders | Trinity College Dublin |
|               |                        |
|               |                        |
|               |                        |
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## Executive Summary

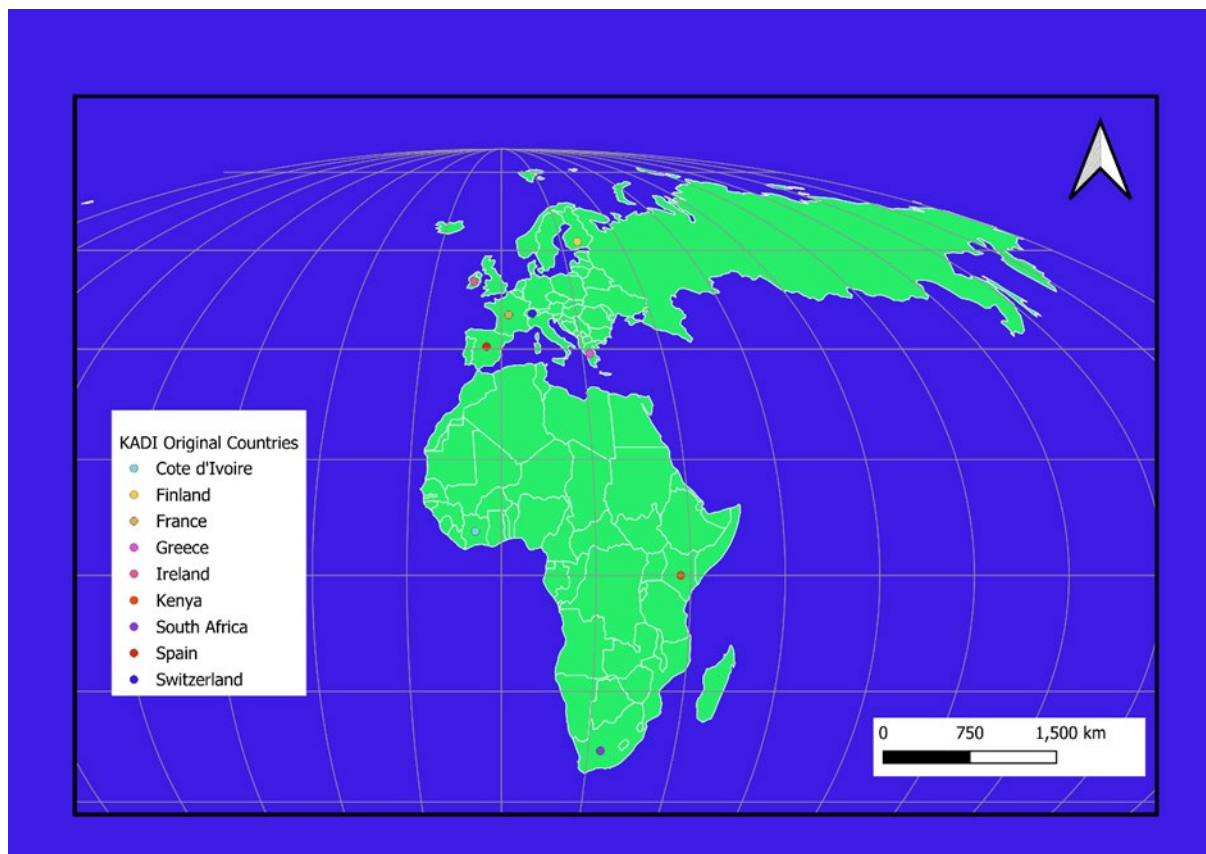
This report provides an overview of the three stakeholder workshops organised during the KADI project. The first workshop provided an overview of the individual activities and synergies between each of the work packages (WPs) in the KADI project and how these would then engage with stakeholders to inform climate service needs and development of a proposed observational infrastructure across Africa. The second workshop was designed to build on the activities of the first, where an overview of the KADI project activities were presented to the wider stakeholder community, and key knowledge gaps within the project and means to address these were identified and discussed. The third and final knowledge exchange workshop centred on the discussion of the wider KADI outputs, with a clear roadmap detailing how stakeholder knowledge had been utilised to inform project activities. The workshop was also used to discuss the blueprint design for a pan-African research and knowledge infrastructure and how the wider stakeholder community could utilise this. Together, these workshops have contributed to establishing and sustaining Communities of Practice (CoPs), by developing networks of scientists, practitioners, residents, volunteers and local decision-makers. These opportunities to exchange knowledge have refined solutions, provided mutual learning opportunities and support, and have co-created climate services with common goals and a regular agenda for community activities. Through KADI, three CoPs have been established and maintained through the activities related to urban climate issues, ocean observations and analysis of meteorological data.

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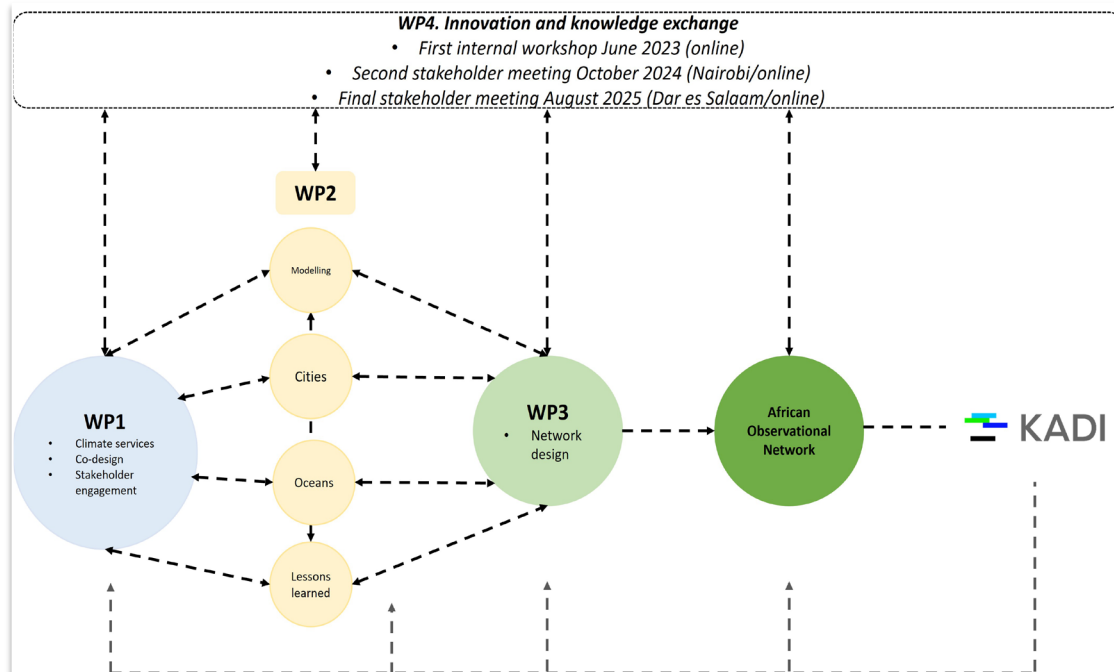
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## Introduction

The knowledge exchange platform was designed to maximise the dissemination and discussion of information regarding the climate services needed in Africa between European and African stakeholders. This platform was developed by the KADI project consortium, who are from ten different countries, 4 from Africa and 6 from Europe (Figure 1). This platform aimed to fully utilise the knowledge, experience and networks of the project consortium to engage with key stakeholders in the discussion and co-creation of climate service needs, and how this understanding can then be translated into the observational and infrastructural capacity across domains. As outlined in previous deliverables (D4.1), three online workshops were proposed in the project that 1. focused on consortium experience through an internal discussion on lessons learned and plans for stakeholder engagement and knowledge exchange within the KADI project, 2. assessed the progress made within the project and through the stakeholder lens and identify knowledge gaps and 3. ensured that the key outputs and knowledge derived from KADI is collated and disseminated to key African and European stakeholders. As the project progressed a strategic decision was made in discussion with the wider KADI team and approved as part of the executive board meetings to adjust the timelines for these events to provide the greatest opportunity for continued engagement and input from key stakeholders through the project work package (WP) activities, in combination with the cross-cutting knowledge exchange activities in WP4 (Figure 2).



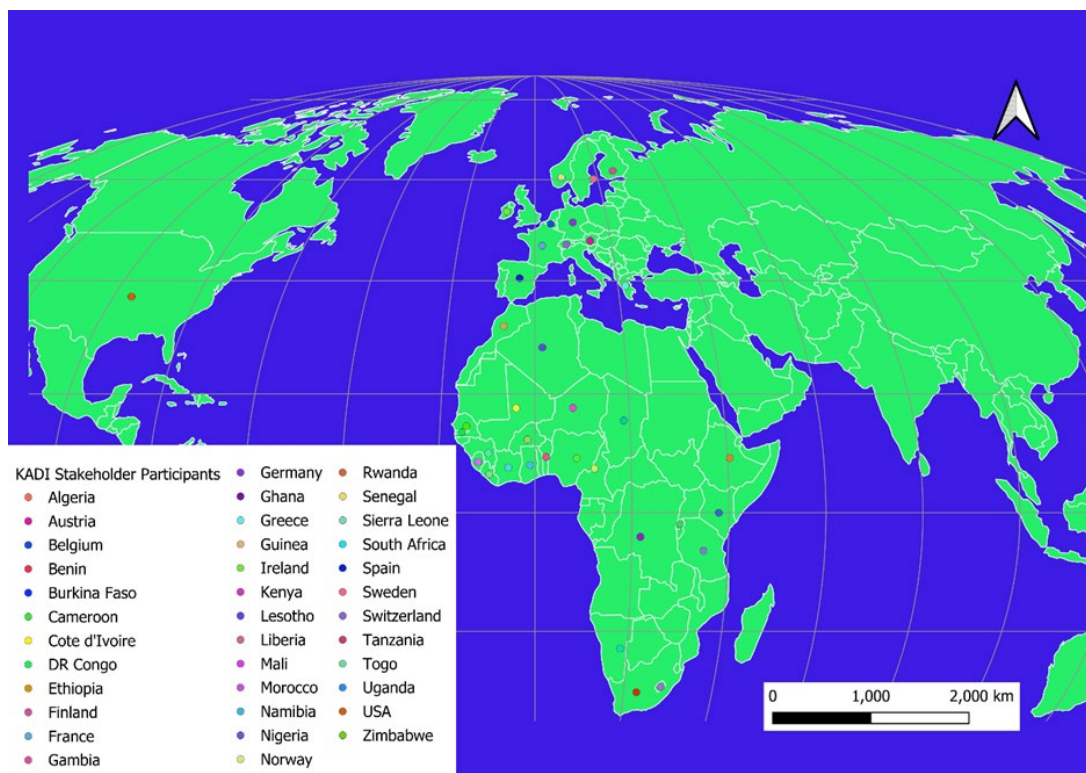
**Figure 1** A map showing the location of the member countries of the KADI consortium (map credit Omobola Eko).



**Figure 2 The structure of the KADI project showing the reciprocal flow of information between work packages and activities and the overarching integration of knowledge exchange activities through Work Package 4.**

The revised plan distributed the workshops more evenly throughout the timeline of the project to give the project team the opportunity to develop the initial stakeholder engagement activities as part of the WP activities, and to discuss these as part of the first workshop which was an internal meeting, held online in June 2023, where each WP discussed the key activities undertaken or proposed, and how the stakeholders were involved with this process. In the proposal the second stakeholder event was scheduled within three months of the first, however it was beneficial to extend the period between these meetings further to allow for the stakeholder engagement activities outlined in the first workshop to be undertaken and any actions that were beneficial with regards to guiding the structure and progress of the KADI project to be implemented. The second workshop was then held in October 2024, as a hybrid event both in person at the Regional Centre for Mapping of Resources for Development (RCMRD) located in Nairobi, Kenya, and online via Zoom. This meeting was designed as an opportunity to present and discuss project progress across all WPs with the wider stakeholder community, to demonstrate how their input had been utilised within the project, and as an opportunity to provide iterative feedback to the activities of the project team as the work continued in the final year of the project. The final stakeholder meeting was then held in August 2025, again as a hybrid event both in person at the Slipway Hotel, Dar es Salaam, Tanzania and online via Zoom. This workshop was also held in conjunction with a training and knowledge sharing workshop as part of the WP2 Cities Pilot and WP4 activities (Task 4.2) and was focused on Open geospatial data, low-cost tools and participatory approaches for urban climate services in Africa. The final stakeholder workshop was designed as an opportunity to present the overall outputs of the project and to discuss with the stakeholder audience about pathways to build on the accomplishments of KADI and to sustain impact after the end of the project.

Over the course of the KADI project the knowledge exchange activities associated with Task 4.1 have engaged with stakeholders in 37 countries globally, the distribution of these is shown in Figure 3 below.



**Figure 3** The location of stakeholders who have engaged with the Knowledge exchange activities as part of Task 4.1 of the KADI project (map credit Omobola Eko).

## Knowledge exchange meetings

### Knowledge exchange workshop 1

This workshop was held online in June 2023 and included project partners only, as activities within the project were at an initial stage with several staff still to join the project. This gave the project team an opportunity to present the planned activities in each work package and allow colleagues in other areas of the project to develop wider synergies with the planned work undertaken. The meeting focused on key aspects of the wider KADI objectives, and this workshop allowed the team to explore the knowledge gained and experience of team members who were involved in previous/related projects to identify knowledge gaps. From this the team discussed how this knowledge could be used to shape activities in KADI and how each of the proposed WP/pilot activities will address the knowledge gaps and key stakeholder requirements building impact through the WP and wider project outputs. Further details on the outputs of this workshop can be found in Deliverable 4.1

### Knowledge exchange workshop 2

This workshop was held in October 2024 as a hybrid event both in person at the Regional Centre for Mapping of Resources for Development (RCMRD) located in Nairobi, Kenya, and online via the Zoom platform. This workshop had 27 in person participants (Figure 4) with a further 42 joining online. The workshop opened with

a welcome address from Dr Emmanuel Nkurunziza, the director of RCMRD followed by Dr Werner Kutsch, the director general of ICOS ERIC. The welcome address centred on the need to exchange experience between the African Union and the European Union and explored the diverse aspects of research infrastructures. The overview also provided perspectives on the need for climate services to be supported by impactful science through the development of common research projects, the exchange of ideas and information, and a community of practice that can take ownership of driving, enacting and implementing the development of an integrated research infrastructure (RI) for Africa.

Stakeholder interactions were actively encouraged during this workshop and series of ice-breaker activities were held, engaging participants both in person and online, to explore the current challenges and needs associated with climate service delivery in Africa. These activities identified key data related challenges, requirements for human capacity and technical resources, the need to review policy drivers, consider the sustainability of funding, and explore effective means of stakeholder engagement and communication. The workshop then followed the structure as presented in Figure 1, where a series of presentations from the KADI work package (WP) teams were given to further expand the discussions on climate service needs and their co-creation (WP1); how climate service development and delivery were being explored through the project pilots (WP2), with examples that assessed heat stress and air pollution in key African cities (Abidjan, Nairobi and Dar es Salaam), monitoring ocean biogeochemistry, integrating multiple data streams into Earth system models to improve predictive capacity, and how long-term collaborations between African and European meteorological institutions have benefitted climate service development in Kenya. The integration of these activities and how they could be used to inform the development of a RI blueprint design for Africa was presented by WP3 followed by an overview of how the RI links to current and future climate policy development (WP5).





**Figure 4 In person participants at the second stakeholder workshops held in Nairobi, Kenya, October 2024**

Following presentations by the KADI project team a wider, interactive discussion was held with all stakeholders present (both in person and online) to discuss the project activities and how these could focus on the development of a pan-African research infrastructure. The key topics raised as part of these discussion included:

- The need to consider a RI that integrates both top-down and bottom-up and co-creation pathways when considering climate service requirements.
- How the local context and knowledge systems need to be considered when scaling climate services.
- How the public can participate in the identification and development of climate services, and their role in providing data to underpin these (e.g. community-based data collection initiatives).
- An emphasis on the need for long-term data records to understand the climate trends and importance of knowledge sharing.
- The challenges of data sharing and how data access policy needs to integrate with data privacy.

- Issues surrounding the vandalism of instrumentation that might be deployed into the wider environment, and how local communities could be engaged to enhance involvement and ownership of activities.
- The consideration of sustained funding for both human resources and infrastructure maintenance and development.

The discussions continued with a focus on how we could build a community of practice to sustain and energize the long-term observations. These discussions highlighted that there is a clear need for:

- The development of pan-national research agreements across Africa to harmonise RI development activities.
- Consideration of accessibility to data across African that can be used to underpin climate service needs.
- A demonstrated emphasis on the value of research in the development and delivery of climate services to secure funding to implement and maintain an integrated pan-African RI.
- A clear plan to collaborate with the private sector to develop private-public partnerships that will ensure the sustainability of a RI.
- The importance of capacity building and training opportunities across Africa.
- Improved standards for harmonised data calibration, management and access to high-performance computing resources.
- The promotion of environmental education and awareness across all sectors of society as well as the dissemination of information from the RI back into stakeholder communities.
- A pathway to empower women to take up key roles in the development of an RI for Africa.

The feedback through the discussions held were summarised and utilised by the KADI team to provide iterative and insightful feedback to the project activities and helped to shape the activities in the final year of the project. One key aspect that became a unifying factor across all KADI stakeholder engagement and training workshops were the aspects of developing a community of practice and embedding stakeholder champions within this network to provide long-term, regional sustainability in continuing the discussion around the RI development and implementation during and post-KADI.

## Knowledge exchange workshop 3

The final stakeholder workshop was held on the August 14, 2025, as a hybrid event both in person at the Slipway Hotel conference suite located in Dar es Salaam, Tanzania and online via Zoom. This workshop was also held in conjunction with a KADI training workshop on *“Open geospatial data, low-cost tools and participatory approaches for urban climate services in Africa”*. The stakeholder workshop had twenty-six (26) in person participants (Figure 5) with a further thirty (30) joining online. The workshop agenda can be found in Appendix 1. The meeting opened with a welcome address from Dr Werner Kutsch, the KADI project coordinator and Director general of ICOS ERIC. The welcome address centred on the main objectives of the KADI project, the underlying needs for a harmonised research infrastructure for climate services in Africa, and focused on the inspiration and hope that has been generated as part of the KADI project, by working with the stakeholders from across all sectors to achieve this. The objectives of the workshop were then presented, to outline the structure, format and primary focus of the workshop, to present the summary outputs of the KADI project. The workshop had strong stakeholder connections throughout, focussing on the co-creation of climate services, the benefits of collaboration and knowledge exchange, how this had been leveraged to

inform the blueprint design for a pan-African research infrastructure and what were the next steps towards implementation. The workshop finished with an open discussion on the overall outcomes of the project and the steps required to continue this work post-KADI and facilitate ownership for African stakeholders to maintain the connections made and activities undertaken as part of KADI, and to support these stakeholders on the roadmap for the next steps towards implementation.



Figure 5. In person participants at the third and final stakeholder workshop held in Dar es Salaam, Tanzania, August 2025.

Following presentations by the KADI project team an interactive discussion was held with all stakeholders present (both in person and online) to discuss the project activities. This focussed on two key areas, the first centred on the consideration of integrating multiple data sources and their scalability into the RI and recommendations for maintaining infrastructure and data provision in remote areas. The second was a wider discussion on how the project team proposed to maintain the network and associated activities post-KADI.

In the first topic the wider group discussed examples of design applications that could be used to combine high-precision measurements and observations (e.g. ecosystem towers) with the deployment of low-cost tools (e.g. IoT sensors) and other alternative data acquisition methods (e.g. surveys) to address information acquisition, scalability and transfer of observations. The discussions integrated KADI experiences where a combination of low-cost sensors and human experiences have been tested in the city pilots in KADI and how operational systems could partner with global initiatives, international agencies, and funders to increase capacity within and across key RI domains (e.g. data acquisition, analysis, usage of new technologies, co-creation practices, and policy). The second topic was then addressed and the participants explored how the project capacity could be facilitated and maintained through the development of Communities of Practice (CoPs) and/or Regional Hubs around these partnerships, which have been explored within KADI through the urban climate and ocean observations. The discussions focused on how the development of CoPs through KADI has played a vital role in facilitating the exchange of knowledge, experiences, and best practices. Through these the project has supported local ownership, built trust, and promoted a platform to integrate the KADI framework into future RI development.

## Summary

The stakeholder workshops during the KADI project have provided a platform to focus how the project team engaged with the stakeholder community (meeting 1) and to discuss the concepts, activities and progress of the KADI project with a global stakeholder community (meetings 2 and 3). Stakeholder feedback has both contributed to and refined/improved the project activities through critical thinking around the KADI framework.

These workshops have also promoted knowledge networks and CoPs that have fostered collaboration among researchers, policymakers, and local actors to co-create climate services tuned to the societal needs, and are operating virtually, spanning multiple disciplines, institutions, and countries in Africa. This has been extremely beneficial as it has embedded partnerships and strengthened the scientific autonomy of African institutions and their innovation potential, reducing dependence on external support and providing agency to develop context-appropriate climate solutions.

## Appendix 1



Provisional agenda - KADI stakeholder workshop: 14<sup>th</sup> August 2025 (2-5pm EAT)

Zoom link: <https://icos-ri-eu.zoom.us/j/83995550623?pwd=Vg40vIoIG2dkeKh8aX8fUH1EDJf4Mf.1>

| Time        | Topic   | Presenter  |
|-------------|---|--|
| 14:00-14:10 | Welcome and Introduction to the KADI project  | Werner L. Kutsch   |
| 14:10-14:15 | Objectives of the workshop  | Matthew Saunders   |
| 14:15-14:30 | Co-creation of climate service needs  | Remi Akanbi  |
| 14:30-15:00 | Benefits of collaboration (10 minutes) <ul style="list-style-type: none"> <li>City pilots</li> <li>Long-term observations</li> <li>Ocean systems</li> <li>Earth System Modelling</li> </ul> | <ul style="list-style-type: none"> <li>Patricia Nying'uro</li> <li>Christine Mahong</li> <li>Tommy Bornman</li> <li>Yolandi Ernst</li> </ul> |
| 15:00-15:30 | <i>Refreshments and comfort break</i>   |  |
| 15:30-15:50 | Knowledge exchange and community of practice: examples from City Pilots and Ocean workshops   | Matt Saunders, Nelly Babere, Oceans Stakeholder champion   |
| 15:50-16:20 | KADI research infrastructure design and blueprint concept   | Gregor Feig and Niina Käyhkö   |
| 16:20-16:30 | Next steps for RI implementation and continuation of KADI   | Emmanuel Salmon  |
| 16:30-17:00 | Group discussion  | Chair: Matthew Saunders  |



