



D18.3

REPORT ON USER COMMUNITY WORKSHOPS

WORK PACKAGE 18 – DISSEMINATION, LIAISON AND COLLABORATION

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Author(s):	Beneficiary/Institution
Jacco Konijn	University of Amsterdam

Accepted by: Helen Glaves (WP leader)

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ABSTRACT

During the lifetime of the ENVRIplus project, in total 10 events were organized in user oriented events, to explain and promote the objectives and aims of ENVRI as a community of Research Infrastructures. Users were both defined as scientists, data specialists and end users for upstream and downstream products and services.

The activity clearly was an added benefit for the project and the ENVRI community. It generated positioning in the full spectrum of initiatives to monitor and study planet earth and was able to act as accelerator for related projects and initiatives. The activity also demonstrated that a focus on multi-domain, multi-disciplinarity etc. is valuable, but not always required to be useful as Research Infrastructure community.

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RI Reviewer	Sanna Sorvari (FMI-ACTRIS)

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TERMINOLOGY

A complete project terminology can be found here:

<https://confluence.egi.eu/pages/viewpage.action?pageId=14452608>

PROJECT SUMMARY

ENVRIplus is a Horizon 2020 project bringing together Environmental and Earth System Research Infrastructures, projects and networks together with technical specialist partners to create a more coherent, interdisciplinary and interoperable cluster of Environmental Research Infrastructures across Europe. It is driven by three overarching goals: 1) promoting cross-fertilization between infrastructures, 2) implementing innovative concepts and devices across RIs, and 3) facilitating research and innovation in the field of environment for an increasing number of users outside the RIs.

ENVRIplus aligns its activities to a core strategic plan where sharing multi-disciplinary expertise will be most effective. The project aims to improve Earth observation monitoring systems and strategies, including actions to improve harmonization and innovation, and generate common solutions to many shared information technology and data related challenges. It also seeks to harmonize policies for access and provide strategies for knowledge transfer amongst RIs. ENVRIplus develops guidelines to enhance transdisciplinary use of data and data-products supported by applied use-cases involving RIs from different domains. The project coordinates actions to improve communication and cooperation, addressing Environmental RIs at all levels, from management to end-users, implementing RI-staff exchange programs, generating material for RI personnel, and proposing common strategic developments and actions for enhancing services to users and evaluating the socio-economic impacts.

ENVRIplus is expected to facilitate structuration and improve quality of services offered both within single RIs and at the pan-RI level. It promotes efficient and multi-disciplinary research offering new opportunities to users, new tools to RI managers and new communication strategies for environmental RI communities. The resulting solutions, services and other



project outcomes are made available to all environmental RI initiatives, thus contributing to the development of a coherent European RI ecosystem.

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Report on user community workshops

Introduction

" Mapping of the wider cross-disciplinary user communities and targeted actions with these RI user communities are vital for ensuring that the full potential of the high-quality cross-disciplinary/domain data and RI services that are being made available by the ENVRIPLUS initiative will be used."

This is the opening sentence of Task 18.3 in the ENVRIplus project. Research Infrastructures of course aim to service better research as some ultimate goal; projects like ENVRIplus spend a lot of effort in providing the prerequisites for that, by construction works, alignment among RI initiatives and build bridges to actually perform this crossdisciplinary research.

The 'risk' in all this is that ENVRIplus loses contact with this most important end-user community: the actual researchers, working daily to expand their knowledge on the way planet earth is functioning, satisfying an intrinsic curiosity, but at the same time with the clear aim to contribute to preserving and improving life on this fragile planet. Another community of end-users could be identified broadly as 'policy makers': Organisations like GEO, IPBES, IPCC, the UN, the CBD express ambitions and set targets concerning the Planet Earth and being able to actually measure results of their efforts and follow up on these targets require relevant and unbiased information. RI's can provide this information, or at least contribute to it.

This task specifically targets towards these end-users of the data, facilities and services that ENVRIplus aimed to offer on a multi-disciplinary and multi-domain scale. This is not as straightforward as it seems; ENVRIplus is great and complicated effort in itself, as said, mostly working on getting the conditions right to do better research on the environment. Researchers at the same time are mostly interested in the end result of these efforts and want to benefit from it. Policy usually sets their standards even higher, in requiring unambiguous indicators that give a clear picture of trends and predictions.

It is therefore that this task mostly focused on showing what Research Infrastructures can mean for research and policy, and what products are available: the fact that RI's exists, and that they collaborate is more important than knowing what ENVRIplus is all about.

This task has organised 10 events in conferences, both scientific and policy oriented to approach these end-user groups in explaining the relevance for science and society. The following conferences were targeted:

- EGU General Assembly, April 2016, 2017, 2018 and 2019, Vienna, Austria
- FIXO3, ENVRIplus conference on Time series analysis in environmental science and applications to climate change, November 2016, Tromsø, Norway
- ILTER first global Open Science Meeting, October 2016, Skukuza, South Africa
- EuroGOOS International Conference: Operational Oceanography serving sustainable marine development, October 2017, Bergen, Norway
- GEO week, October 2017, Washington, USA
- GEO week, October 2018, Kyoto, Japan
- AGU conference, December 2018, Washington USA

Report per event



EGU General Assembly, April 2016, Vienna, Austria

The main aim of ENVRIplus in EGU2016 was awareness raising. This is the first EGU since the project started and through a booth, dedicated session talks, a splinter meeting and the Townhall meeting, ENVRIplus should be planted in the mindset of the scientists that can benefit from its results and products.

As first ENVRIplus user community workshop, the Townhall meeting will act as summarizing event for other ENVRIplus related sessions in the conference. The relationship between (scientific) users, the technology and infrastructure should play a central role, to justify the *raison d'être* of this meeting on top of the others.

The speakers were suggested to take into account one or more of the following angles:

- Where are connections between the science as presented and the objectives of ENVRIplus;
 - How can Research Infrastructures play a role in the presented research in the session;
- Cross Domain aspects: Can ENVRIplus play a role in bringing in resources (data, hardware, services) from other domains to further improve the science ;



The target Audience should be the scientific user community that is interested in using or contributing to RI services. Especially if cross domain links are relevant.

The conveners/moderators of the relevant other sessions. Invitations were sent to several ENVRIplus project staff that convened sessions in the conference.

As first organizer, Jacco Konijn acted as moderator of the session, with the help of the project director Ari Asmi, who also did a short introduction.

The Session program was as follows:

- 19.00: Ari Asmi (project director ENVRIplus) explaining the project, the community and the services ENVRIplus can offer to Environmental science
- 19.10: Andreas Petzold (IAGOS), summary talk on session AS 4.18: Aircraft-based observation of the atmosphere and atmosphere-surface exchange processes
- 19.20: Daniele Bailo (EPOS), summary talk on session SM 7.1: Integrated Research Infrastructures and Services in Geosciences
- 19.30: Mairi Best (EMSO), summary talk on session OS 4.3: Advances in water column and seafloor fixed point observatories
- 19.40: Wim Hugo (SAEON South Africa), summary talk on session ESSI 2.4: International cross-project collaboration and interoperability of data management systems
- 19.50: 10 minutes for discussion and questions.

Location:

The meeting took place on April 20, 1900-200h. It was appointed a room (-2.85) in the conference venue.

Promotion:

The conveners/speakers advertised the event in their own sessions and flyers were distributed in the booth to promote the session. The session was closed with drinks and snacks.



ILTER first global Open Science Meeting, October 2016, Skukuza, South Africa

The main aim of this presentation was reaching out to specific communities, in this case the Ecosystems Research community. During the first global conference of the International Long Term Ecological Research Network (ILTER), the project coordinator Werner Kutch presented ENVRIplus as a European effort to align data policies across domains.

The conference was attended by over 200 participants from all over the world. A full program can be found here: <https://www.eiseverywhere.com/ehome/156435>

FIXO3, ENVRIplus conference on Time series analysis in environmental science and applications to climate change, November 2016, Tromsø, Norway

Preceding the conference that was co-hosted by ENVRIplus and FIXO3 (<http://www.fixo3.eu>) in Tromsø, Norway, a training workshop was organized where the concept of the ENVRIplus project and European Research Infrastructure was presented to the participants.

The 40 participants were mainly early career researchers in marine/ocean and atmospheric science.

Also during the actual conference, attended by 67 participants, the concept and opportunities of ENVRIplus were presented by the organizers, Benedicte Ferré (University of Tromsø), Ingrid Puillat (IFREMER) and Jacco Konijn (ENVRIplus).



FIGURE 1 GROUP PICTURE OF THE CONFERENCE PARTICIPANTS

More information on the conference can be found here:

<http://www.fixo3.eu/events/time-series-analysis-in-environmental-science-and-applications-to-climate-change/>

EGU General Assembly 2017, April 2017, Vienna, Austria

During EGU2017, ENVRIplus hosted a PICO session titled: **Towards CMIP6 internationally coordinated climate modelling experiments: the role and use of modelling and observation research infrastructures**

The session aimed at exploring the role and use of research infrastructures for both model data and observations in preparation for CMIP6, with a particular focus on Earth's climate system model evaluation.

The full program

- New developments in the global ocean observing system Argo and its European component EuroArgo
- Effects of repetitive droughts on carbon, nutrient and water cycles of heathland ecosystem
- Selection of meteorological conditions to apply in an Ecotron facility
- Responding to complexity: Building an improved modeling infrastructure for CMIP6 Highlight
- Documenting CMIP6 with ES-DOC
- CMIP6 Citation Services and the Data Services of the IPCC Data Distribution Centre for AR6
- The climate4impact platform: Providing, tailoring and facilitating climate model data access
- The UK Earth System Models Marine Biogeochemical Evaluation Toolkit, BGC-val Highlight
- Integrating data on radiative forcing from Research Infrastructures for Climate Modelling
- Interactive presentations at PICO screens

The session presentations were attended by around 40 persons, most of them also attended the PICO screens for more information. 24 participants completed a short survey which had as main conclusion that (early career) scientists do understand the concept of Research Infrastructure and the services they can offer to them, but the interest or awareness of ENVRI or the efforts to operate these RI's cross disciplinary or cross-domain is of less importance to them.

EuroGOOS International Conference, October 2017, Bergen, Norway

ENVRIplus specifically targeted this conference to reach out to the Marine RI community in ENVRI and their related stakeholders in other projects and initiatives. A side event, prior to the actual conference was hosted by EuroGOOS with the aim to explore opportunities and needs for collaboration across relevant European research infrastructures and projects, to support multidisciplinary marine monitoring and data collection.

The full program was as follows:



Marine monitoring and data capture for multidisciplinary research: the ENVRIplus approach

ENVRIplus side event at the EuroGOOS International Conference

Date and place: 2 October 2017, 15:00-18:00, Bergen, Norway

Rationale and objectives: This event will explore the opportunities and needs for a collaboration across relevant European research infrastructures to support efficient multidisciplinary marine monitoring and data collection. It will bring together those ENVRIplus partners engaged in activities linked to the marine environment or related domains (e.g. climate, atmosphere, carbon, etc), and other stakeholders with an interest in ocean research and/or data stewardship. This event is organized by EuroGOOS as part of its contribution to the H2020 ENVRIplus project. It will take place prior to the EuroGOOS International Conference starting the following morning (3-5/10/2017, Bergen).

Programme

Monday 2 October 2017, 15:00-18:00

Welcome and introduction

Glenn Nolan, EuroGOOS

ENVRIplus: unlocking the full potential of European research infrastructures through cross-disciplinary collaboration

Werner Kutsch, ENVRIplus

Requirements for a multidisciplinary approach to ocean monitoring and data collection

TBD

Research Infrastructures underpinning European policy

Agnes Robin, DG R&I

Panel discussion: Technological and data challenges

Moderator: **Truls Johannessen, ICOS Marine Thematic Centre**

Johannes Karstensen, AtlantOS / GEOMAR, Germany

Dominique Durand, JERICO-NEXT / COVARTEC, Norway

Sylvie Pouliquen, Euro-Argo ERIC / Ifremer, France

Juanjo Dañobeitia, EMSO ERIC

Wrap up: Way forward for multidisciplinary marine research infrastructures - next steps

FIGURE 2 PROGRAM FOR THE EUROGOOS CONFERENCE SIDE EVENT

Main topics that were discussed during the round table discussion:

- RIs need a common position on EOSC
- Enhance cooperation among RIs, as well as among RIs and EU projects
- For RIs being part on an international activity helps sustain the network, e.g. Euro-Argo
- RIs are not cutting-edge technologies but are mature and deliver quality data. RIs should focus on this

- Quality of data and data management is vital for long-term sustainability
- Focus on the collaboration rather than new initiatives
- EOSC should follow that example to develop in close collaboration with experienced experts
- Identification of various user needs is not yet done on a systematic basis in ENVRI plus
- What is the scope for increased collaboration among RIs and between RIs and research activities?
 - International collaboration required to address global challenges
 - RI cooperation is important for integrated solutions
 - RIs should have better defined goals
 - ENVRI can help cross-domain cooperation: technical, best-practices and innovation, as well as user interface
 - RIs should map their products valuable internationally and for EU research projects
- Various parameters can be outsourced to different networks for quality control. Building a system that exchanges data on the fly will serve users
- Speak the same language and see that the priorities are common.

GEO week 2017, Washington DC, USA

Although the Group on Earth Observations doesn't immediately qualify as a scientific user community, it does contain many scientifically oriented people, working in various positions on Earth Observation. Research Infrastructures like the ones organized in ENVRI are a worthy contributor of data on the planet Earth from an in-situ perspective. Through scientific research the products of this data ends up in end-user services that GEO is supporting for better decision making, monitoring and conservation.



To this end, task 18.3 dedicated parts of its efforts to this community. The first opportunity taken was the GEO week in Washington in 2017. The GEO week consisted of two days of side events, followed by the official conference of the parties. The venue also offered a booth area where ENVRI presented a booth with the aim to demonstrate the connections between in-situ data providing RI's and major policies like GEO flagships, initiatives, sustainable development goals and grand challenges.

ENVRIplus organized a side event, the program can be found below.



The European Environmental Research Infrastructure Community as sustainable in situ contribution to EuroGEOSS

Side-event, Monday 23 October 2017, 11:00 – 12:30, Continental C

The European Environmental Research Infrastructure (ENVRI) community wishes to send a strong signal to the Earth Observation community, that it is committed to contributing to the challenges laid down in the most recent GEO workplan. There are already established considerable contributions from ENVRI to many GEO Flagships, Initiatives and Community Activities, and it is important to acknowledge and build on that.

Program

- 11:00 – 11:15 Welcome and Introduction (**Werner Kutsch**, ICOS DG and ENVRIplus coordinator)
- 11:15 – 11:25 The European Commission Perspective (**Robert-Jan Smits**, DG RTD)
- 11:25 – 11:35 The GEO Perspective (**Barbara Ryan**, Director GEO secretariat)
- 11:35 – 12:15 Case studies (10 min each)
 - ICOS contribution to the GEO-C Initiative (**Jouni Heiskanen**, ICOS ERIC)
 - GEO BON expectations (**Laetitia Navarro**, Executive Secretary of GEO BON)
 - eLTER & ILTER contribution to the GEO Ecosystem Initiative (**Michael Mirtl**, ILTER Chair)
 - EUFAR contributions to GEO BON and the Aquawatch CA (**Ils Reusen**, VITO)
- 12:15 – 12:30 Discussion and wrap-up

Specific aims

The aim is to create a clear awareness on the matching between the European “supply” of data, information and knowledge to the in situ component of GEOSS through ENVRI, and GEO’s “demand” of knowledge for its Flagships, Initiatives and Community Activities. The ENVRI community wishes to acknowledge and underline the importance for Europe to play its role in supplying the necessary data and information. This will allow for GEO to satisfy the demand for these products, and to achieve its mission as stated in the Mexico City Ministerial Summit Declaration during the GEO XII Plenary in 2015 and in the most recent work programme.

Come visit us at the exhibition (booth #320)! www.envri.eu @ENVRIplus #ENVRIcomm



FIGURE 3 LEAFLET FOR THE GEO WEEK 2017 SIDE EVENT

Although Robert-Jan Smits finally didn't make it to the session, with the Secretariat Director of GEO, Barbara Ryan the session was well attended with over 40 participants. The message conveying ENVRI as the reliable partner for in-situ monitoring data was well received and contributed to the participation of ENVRI in the EuroGEOSS initiative.





FIGURE 4 ATTENDANCE TO THE GEO WEEK 2017 SIDE EVENT

EGU General Assembly, April 2018, Vienna Austria

The focus of the ENVRI presence in EGU 2018 was around the data management and virtual research environments for Environmental Science.

The main session ENVRIplus convened was titled '*Environmental physical and data infrastructures: practices, access and technologies - towards system level understanding*'. It consisted of the following presentations:

- Further integration of European Research Infrastructures related to terrestrial ecosystem research (solicited) Highlight
- Enriching the EnvThes controlled vocabulary via aggregated semantic concepts
- DiSSCo: The physical and data infrastructure for Europe's Natural Science Collections
- The ENVRIplus Architecture
- Interoperable Publication of Sensor Observation Data: The SeaDataCloud SWE Ingestion Service
- Accelerating minerals exploration with in-field characterisation, sample tracking and active machine learning

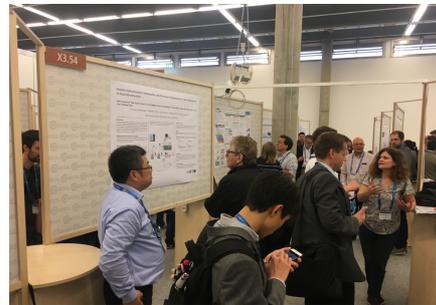


FIGURE 5 POSTER SESSION AT EGU 2018

The session was attended by approx. 45 persons and had a poster session organized as well.

GEO Week, October 2018, Kyoto, Japan

ENVRI hosted a side event during the GEO week 2018 in Kyoto. The side event focused on end user applications using both remote sensing and in-situ data. Invited speakers presented decision support systems based on both types of data, and stressed the importance of having that mix of data. The target message of ENVRI being a professional supplier of in-situ environmental data appeared to be well understood, as was the general concept of having in-situ data availability, in this mainly satellite dominated community. A full agenda of the session can be found here: <http://earthobservations.org/geo15.php?t=schedule>

A major downside of the Kyoto meeting was the attendance. Besides the plenary sessions of the parties to the official conference, the interest in the side events was low. Attendance in all sessions was lower than the event in Washington DC and the ENVRI session had to compete with 5 other parallel sessions.

At the same time, ENVRI hosted a booth in the exhibition area, which basically suffered from the same problem. The exhibition was nicely set up, but attendance was minimal.

It needs consideration if ENVRI wants to present itself in the next GEO week. Although the 2019 edition will host a ministerial meeting, with all the extra's that come with it, it takes place in Canberra, Australia - a location which probably will suffer from the same issue as Kyoto: difficult and expensive to reach for anyone not directly involved in the official GEO conference of the parties.

EGU General Assembly, April 2019, Vienna, Austria

During EGU2019 the ENVRIplus project was presented in three sessions:

GIFT Workshop for geo sciences teachers

In the annual GIFT workshop, Giuliana d'Addezio from INGV presented the e-learning platform that was developed within task 15.5 for high school teachers. The platform contains a number of materials for high school teachers to use in classrooms. The development is the final part of an action within the GIFT workshop, to investigate the needs from these high school teachers.

EOS2.4: Games for geo science

In this session, Jacco Konijn presented on behalf of Alberto Basset, Savina Gioni and Magdalena Brus the serious game for high school students that ENVRIplus developed in collaboration with LifeWatch. The talk was well received in front of an audience of at least 60 persons.

Town Hall Meeting TM5

ENVRIplus hosted a Town Hall meeting on the topic of world wide collaboration of Research Infrastructures and other types of datasets/repositories/initiatives. This was done in cooperation with the ESS12.6 session which was a joint effort with the AGU session as reported above.

The session had an esteemed set of pannelists giving short statements on a number of topics that were predefined and a lively discussion in the room created lots of enthousiasm.

Participating initiatives besides ENVRI were AUSCOPE, ESIP, AGU, EARTHCUBE and EPOS.

One of the main outcomes was to at least follow up on this session in the next AGU conference (December 2019) and EGU2020. The ENVRIFAIR project should be able to pick up the hosting of another one of these Town Halls next year in EGU.



FIGURE 6 THE AUDIENCE DURING THE TOWNHALL MEETING



FIGURE 7 THE LEAFLET FOR THE TOWNHALL MEETING WITH AGENDA AND SPEAKERS

CONCLUSIONS

IMPACT ON PROJECT AND STAKEHOLDERS

Where ENVRI and its project ENVRIplus is mainly governed, organized and populated by Research Infrastructures, of course its aim is to reach end users of the data and services it produces. This is done both through the individual RI's and also -increasingly- through multidisciplinary applications developed in ENVRI. Task 18.3 specifically was looking for that connection with (scientific) end users.

The described events clearly show a wide audience that has been reached during the life time of the project. Experiences were mixed but mainly positive in a number of ways:

- Strictly spoken, (young) scientists don't care much about ENVRI or its community. they care about working services of (data)products and if ENVRI can offer it to them, they're happy (conclusions from a little questionnaire during EGU 2017);
- Sessions like this remain important to make sure the concept of ENVRI sticks to everybody's minds. GEO weeks worked, but ENVRI needs to continue this promotion of the name and concept to secure a sustainable position in this political landscape;
- The session in the EUROGOOS conference and the Town Hall meeting in EGU2019 proved that ENVRI can be an accelerator to bigger projects and initiatives to seek synergies and future collaborations.
- It seems time to not only work on positioning the ENVRI 'brand' but also demonstrate products and services from RI's in the field of Environmental Science. This task focused mainly on multi-domain activities (like the entire project was positioned of course), but we could and should show individual RI's and their opportunities to contribute to better research and societal issues. Like parts of a family.