ENVRI^{plus} DELIVERABLE



D13.1 QUESTIONNAIRE TO ANALYSE THE ETHICAL AND SOCIAL ISSUES AND ASSESSMENT REPORT ON QUESTIONNAIRE ANSWERS

WORK PACKAGE 13 – DEVELOPING AN ETHICAL FRAMEWORK FOR RIs

LEADING BENEFICIARY: ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

Author(s):	Beneficiary/Institution
Silvia Peppoloni	Istituto Nazionale di Geofisica e Vulcanologia
Giuseppe Di Capua	Istituto Nazionale di Geofisica e Vulcanologia
Florian Haslinger	ETH Zurich

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ABSTRACT

This deliverable refers to the questionnaire implemented by WP13, addressed to all participating organizations in ENVRIPLUS, to investigate to what extent each RI involved in the project is aware of, and takes into consideration, ethical issues in relation to its scientific activities.

The questionnaire, entitled "what do you know about ethics in geosciences?", was developed following the collection and analysis of materials concerning ethical aspects already existing within scientific organizations and institutions all over the world (ethical codes, definitions, statements relative to ethics in the research activities). These documents consider different aspects of ethics, both theoretical and practical, which were then incorporated into our questionnaire. In particular these are:

- principles of research integrity and professional ethics;
- aspects related to the impact on the environment that research activity may have;
- aspects related to the repercussions of the research activities on the different categories of society (such as citizens, decision makers, politicians, local authorities, professionals, etc.), which are the end-users of the research activity and are interested in scientific data and results in different ways, on different levels, with different purposes.

The results of this questionnaire have been analyzed to identify common issues, recurring problems, aspects related to the stakeholders, to the data management, and to the societal impacts of the scientific activity. Moreover, the individual perception of ethical implications of the research activity for single participants in the project has been evaluated.

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Mairi Best	EMSO
Laura Beranzoli	EMSO

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Amendments, comments and suggestions should be sent to the authors: Silvia Peppoloni, <u>silvia.peppoloni@ingv.it</u>; Giuseppe Di Capua, <u>giuseppe.dicapua@ingv.it</u>

PROJECT SUMMARY

ENVRIplus is a Horizon 2020 project bringing together Environmental and Earth System Research Infrastructures, projects and networks 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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QUESTIONNAIRE TO ANALYSE THE ETHICAL AND SOCIAL ISSUES AND ASSESSMENT REPORT ON QUESTIONNAIRE ANSWERS

REPORT TEXT

Introduction

Over the last years, attention to ethical and social aspects of scientific research has grown remarkably. Large scientific projects that refer to environment, resources, or natural hazards assign great importance to the topics of big data and data management, environmental impact, science dissemination and education. These topics are also analyzed from an ethical and social perspective, recognizing the close relation to and evident repercussions on the life and activity of the human communities touched by those projects.

The ENVRIPLUS project aims to develop interoperability and cooperation among RIs that at different levels deal with the Earth system. The goal of the project is to create technological platforms, common tools, and shared scientific procedures, with great attention to foster cooperation among researchers involved in common objectives. Moreover, it aims at improving the relationships between scientists and end-users of the project products.

This requires the sharing of reference values, of correct behaviours and practices, of know-how, and the development of a cooperative and respectful working environment.

But, how much are researchers aware of the ethical and social implications of their activities? This deliverable summarizes the results obtained so far towards answering that question.

A questionnaire was implemented to explore how single researchers and each RI involved in the project face ethical issues in relation to their activities.

The results of the survey have allowed to identify key-points on which to act in order to:

- increase the awareness of scientists of the importance of ethical aspects in science;
- establish a shared ethical framework of reference, to be adopted by RI governing bodies;
- increase the awareness of RI management and operational levels and of the individual involved scientists of their social role in conducting research activities and in the research work environment.

Methods

The first step of the work has been the collection of documents already existing in the field of ethics applied to research activities. This has allowed us to have an overview of issues and related problems of the matter, and has been useful to arrange the structure of the questionnaire.

Significant documents have been collected, covering many aspects of ethics in science, both theoretical and practical:





- principles of research integrity and professional ethics;
- impact on the environment that scientific research and technological activity may have;
- repercussions of the research activities on the different components of society, such as citizens, decision makers, politicians, local authorities, and in general the final users of the scientific results. All these categories will be interested in ENVRIPLUS products in different ways, on different levels, with different purposes.

In particular, the main documents considered have been:

- ICOS ethical rules (draft). This document describes principles of ethics in research activities focusing on some key concepts and aspects such as: conflicts of interest, scientific freedom, data quality, acquisition and processing, principles to follow in publishing, etc. Interesting references are also indicated (Source: Werner Kutsch ICOS Director General).
- EPOS ethics issues. This document focuses on key concepts, such as security, safety, sharing, intellectual property rights, preservation (Source: Massimo Cocco EPOS Coordinator). Moreover, it considers aspects like:
 - a) data integration, sharing and access policies to be adopted;
 - b) services for diverse stakeholders;
 - c) actions to prevent misuse associated with access to solid Earth data and services;
 - d) proper cyber-infrastructure security;
 - e) procedures of registration, authentication and authorization;
 - f) solutions for data curation and preservation;
 - g) possibility to establish an external board dedicated to monitor and manage ethics issues.
- Online resources (documents and publications) available in the website of the IAPG -International Association for Promoting Geoethics. The IAPG is an international, scientific, multidisciplinary platform with the goal of widening the discussion on problems of ethics applied to geosciences. Its webpages offer a comprehensive set of links, publications, information on ethical issues (Source: <u>http://www.geoethics.org</u>).
- The **Singapore Statement**, developed as part of the 2nd World Conference on Research Integrity (21-24 July 2010), as a global guide to the responsible conduct of research. It is not a regulatory document and does not represent the official policies of the countries and organizations that funded and/or participated in the Conference. It focuses on principles that should guide the research activities such as honesty, accountability, professional courtesy and fairness in working with others, good stewardship of research on behalf of others. Moreover, it emphasizes the importance to adhere to regulations and to the scientific methods, to assure the repeatability of the studies by colleagues, to share the results, to respect the rules





on authorship and the peer review process, to avoid conflicts of interest, etc. (Source: http://www.researchintegrity.org/).

- The Montreal Statement, written in 2013 at the end of the 3rd World Conference on Research Integrity. It deals with topics similar to the previous statement, but focuses on the crossboundary research collaborations that present special challenges for the responsible conduct of research, because they may involve substantial differences in regulatory and legal systems, organizational and funding structures, research cultures, and approaches to training. It is critically important, therefore, that researchers be aware of and able to address such differences. Similar to the Singapore Statement, the principles that inspire this document are integrity, trust, transparency, communication, compliance with laws, policies and regulations, rules in publishing (Source: http://www.researchintegrity.org/).
- The Geoethical Promise, proposed by the Committee on Geoethics of the FIST Italian Federation of Earth Sciences in 2014 (Source: <u>http://www.geoethics.org/promise.html</u>). In particular, it focuses on aspects such as:
 - a) the awareness of the social implications of the scientific activity;
 - b) the necessity to protect the geosphere for the benefit of mankind;
 - c) the responsibilities towards society, future generations and the Earth;
 - d) the availability to put the expertise at disposal of the decision makers;
 - e) the duty to improve the own scientific knowledge lifelong;
 - f) the duty to respect colleagues;
 - g) the commitment to foster progress in science, dissemination of scientific knowledge and ethical approaches in managing land and resources.
- The **European Charter for Researchers**, released in 2005. It is a set of general principles and requirements which specifies roles, responsibilities and entitlements of researchers, as well as of employers and/or funders of researchers

(Source: http://ec.europa.eu/euraxess/index.cfm/rights/europeanCharter).

 The Declaration on Science and the use of Scientific Knowledge. Text adopted by the World Conference on Science, 1 July 1999, under the aegis of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council for Science (ICSU). This declaration comprises a set of principles dealing with topics such as science for knowledge and knowledge for progress, science for peace, science for development, science in society and science for society

(Source: http://www.unesco.org/science/wcs/eng/declaration e.htm).





- Standards for Ethics and Responsibility in Science, by the International Council for Science (ICSU), Standing Committee on Responsibility and Ethics in Science (SCRES), September 2001 (Source: <u>http://www.icsu.org/publications/reports-and-reviews/standards-responsibility-science/SCRES-Background.pdf</u>).
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- Best Practices for Ensuring Scientific Integrity and Preventing Misconduct, by OECD -Organisation for Economic Co-operation and Development global science forum, 2007 (Source: <u>http://www.oecd.org/sti/sci-tech/40188303.pdf</u>).
- Statement on promoting the integrity of science and the scientific record, by the International Council for Science (ICSU), Committee on Freedom and Responsibility in the conduct of Science (CFRS), September 2008 (Source:<u>http://www.icsu.org/publications/cfrs-statements/integrity-of-science-and-scientificrecord/CFRS_statement_research_integrity_09_2008.pdf</u>).
- Advisory Note "Science Communication", by the International Council for Science (ICSU), Committee on Freedom and Responsibility in the conduct of Science (CFRS), December 2010 (Source:<u>http://www.icsu.org/publications/cfrs-statements/science-</u> communication/ICSU Sci Commn Adv Note Dec2010.pdf).
- Statement of Principles for Research Integrity, by the Global Research Council, 2013 (Source: <u>http://www.dfg.de/download/pdf/dfg_magazin/internationales/130528_grc_annual_meeting/grc_statement_principles_research_integrity.pdf</u>).
- Freedom, Responsibility and Universality of Science. Booklet published on August 2014 (Source: <u>http://www.icsu.org/publications/cfrs/freedom-responsibility-and-universality-of-science-booklet-2014/CFRS-brochure-2014.pdf</u>).





- European Code of Conduct for Research Integrity revisited edition, by ALLEA All European Academies, released in 2017 (Source: <u>http://www.avcr.cz/opencms/export/sites/avcr.cz/.content/galerie-souboru/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf</u>)
- Codes of ethics and codes of conduct, carried out by scientific associations, organizations and societies, within different disciplines (mining, petroleum, engineering geology, etc.) and in different countries (among the different associations considered were e.g. the Geological Society of London and the American Geosciences Institute). These codes touch a wide range of aspects, not only related to the research activities but also to the professional practice, so that they often propose rules for behaving in an ethical manner when one works in the private field, with industry, private clients, etc. Moreover, often they refer to practical situations and real cases (Source: http://www.geoethics.org/codes.html).

Before developing the questionnaire, the authors considered potential problems that could arise during the survey, like for example the possibility of misunderstanding about concepts and words used in the questions. Paying attention to the formulation of the questions and the choice of the terms was identified as a necessary pre-requisite.

The first draft of the questionnaire was, therefore, tested on a restricted group of colleagues not involved in the ENVRIPLUS project, coming from Italy, Spain, Switzerland, Portugal and Ukraine.

This test allowed us to modify and improve the quality of the questionnaire and the understanding of the questions before starting the full survey. Moreover, the first draft was presented during the ENVRI-weeks in Prague 2015 and Zandvoort 2016 and all the suggestions that arose from those discussions were included in the final version of the questionnaire.

The topics of the questionnaire concern data integrity and truthful conduct of research, respect towards colleagues, dissemination of research results, science communication, education of the public, relationship between RIs and stakeholders, and the awareness of the responsibility of scientists towards society and the environment.

Before answering the questionnaire, the person interviewed was informed about the characteristics of the survey. The questionnaire was then filled out anonymously, aimed at people in the performance of their institutional activities, therefore without implying personal data, without any reference to the physical, physiological, mental, economic, cultural or social identity according to the Directive 95/46/EC. The questionnaire doesn't contain any reference to political, religious or racial items.

The collected data and responses to the questionnaire refer to the institutional role played by the person and to his/her activities within the research infrastructure.

The recruitment of persons for filling in the questionnaire was on a purely voluntary basis, and before filling in the questionnaire, the person interviewed had to give his/her consent.





Finally, before being published, the questionnaire was submitted to the ethical board of the University of Helsinki and to the Ethical Committee of the Italian CNR – National Council of Research, that both gave their approval.

Questionnaire's structure

The questionnaire, available online at <u>https://form.jotformeu.com/61223684182353</u> and attached as Appendix A, is composed of the following 4 sections:

Interviewee's information

This section collects general information on the person interviewed: country, age, educational qualification, affiliation, research infrastructure to which he/she belongs, working activity.

PART A - General inquiry

This section is dedicated to general aspects related to ethics applied to geosciences, research integrity and misconduct, values involved in the scientific activity, behaviours in the working environment. In general, through these questions, it has been possible to investigate and understand the level of knowledge of the matter, the personal perception of the importance of ethics in research activities, and the main values and key-words the interviewee thinks to be essential when analysing the relationship between ethics and science. Moreover, four levels of interaction of the researcher were investigated: his/her sense of responsibility towards him/herself, colleagues, society and the environment. Finally, a question was asked about several types of unethical behaviours existing in their own working environment, such as plagiarism, conflicts of interest, uncooperative attitudes, harassment and discrimination.

So, this section touches the individual dimension of the people interviewed, with questions that can stimulate them to reflect on their actions, roles, responsibilities, and behaviours towards colleagues, society and the environment. To facilitate the answers, in some cases a rating scale has been provided, in other cases a list of terms to choose.

PART B – Inquiry on specific aspects related to their own Research Infrastructure (RI) and Institute/University

This section is dedicated to investigate the state of organization of RIs and Institutes/Universities to which interviewees belong, and which initiatives and activities these organizations have developed to face ethical and social issues. In particular, questions addressed the presence of ethical boards, communication offices, geo-education laboratories, corruption offices, and guarantee committees for equal opportunities.





Further questions related to the existence of codes of ethics/conduct, data policies, policies related to publications, gender balance policies, policies to limit the environmental impact of activities or initiatives that enhance sustainability, access policies to laboratories, policies about inclusivity and access policy for personnel with disabilities.

Questions on communication channels used as well as on geoeducation tools were also asked. Special attention was given to the relationship of the RIs and Institutes/Universities with industry and the media, and possible conflicts of interest and misuses of scientific results that these relationships can trigger. A reference to the financing bodies of the research was included in order to understand if and how much these sources of funds are perceived to affect the research activity.

Conclusion

This final section summarizes in a few questions the general opinion of the interviewee on the ethical matters related to his/her work. In particular, interviewees were asked to associate to the concept "ethics in geosciences" at least 10 nouns chosen from a list of more than 50 nouns, with positive, neutral or negative meaning.

The final question regards specifically the ENVRIplus project and its implications with themes of close connection with ethics.

Analysis of the results

The results of the survey are available in Appendix B, expressed in graphs.

The questionnaire was sent to all the participants in the ENVRIPlus project, through the internal mailing list, 270 people in total. 70 of them (about 26%) participated in the survey in the end.

Interviewees from France and Italy constituted the majority (64%), and 66% came from the age range of 41-60 years.

The more frequent affiliations of survey's participants were INGV and CNRS, and among the RIs, EPOS and EMSO.

50% of the people interviewed work in project management, 37% in the field of data management and science communication, 27% in educational activities.

Part A - Questions from 1 to 14

The analysis of the Part A "General inquiry" highlighted that 31% of the interviewees never heard about ethics applied to geosciences. The remaining 69% heard on it mainly through meetings, colleagues and projects. Few mentions of traditional mass-media (TV and radio).

At least 90% of interviewees agree that ethics are important/essential for the organizations to which they belong and for activities carried out, in particular for the research activity.

More than 80% heard about research integrity and misconduct.





The most important values of reference are honesty and accountability in all aspects of research, as well as professional courtesy and fairness in working with others. Only 38.6% think that societal aspects are an important value to be considered in the scientific/technological activity.

Moreover, reliability, sharing and credibility are considered elements of highest importance in the work, while individual prestige and career are minority choices.

In the analysis of the answers concerning the concept of responsibility, the authors find that the large majority considers of great importance to be responsible towards oneself, colleagues, society and the environment. However, more than 10% of interviewees consider of little importance the responsibility towards society and the environment, partly confirming the low interest in societal aspects highlighted in the question n. 6.

Among the unethical behaviours experienced in the working environment, uncooperative attitudes and conflicts of interest seem to be the most common. In addition, harassment and gender, racial and religious discriminations should not be underestimated, since they recur in a non-negligible number of answers.

About 90% think that scientific and technological activities may have an impact on society, while the percentage decreases to 50% when the impact on the natural environment is considered.

Part B - Questions from 15 to 68

The analysis of the Part B "Specific inquiry" has shown differences in organizations, policies and activities/initiatives between RIs and Universities/Institutes. In particular:

Regarding the organization of Universities/Institutes, 40% of interviewees indicate the existence of an Ethical Board, more than 90% affirm that a Communication Office is present. Almost 50% report the existence of an office for geo-education activities, 21.4% of an anti-corruption office and 54.3% of a Guarantee Committee for equal opportunities.

Regarding the organization of RIs, the situation is quite different: in fact only 28.6% of interviewees indicate the presence of an Ethical Board, almost 50% affirm that a Communication Office is present. But only 10% report the existence of an office for geo-education activities, 4.3% of an anti-corruption office and 10% of a Guarantee Committee for equal opportunities.

About policies in the Universities/Institutes, 51.4% highlight the existence of a code of conduct/ethics, 37.1% of a data policy, 40% both of an access policy to laboratories and of a policy related to publications, 61.4% of a policy about inclusivity and access for personnel with disabilities, 54.3% of a gender balance policy, 32.9% of a policy to limit the environmental impact of activities, with 57.1% of interviewees who report of activities or initiatives that enhance sustainability.

Even in the case of policies, the situation in RIs is quite different from Universities/Institutes, with lower percentage values, except for the existence of a data policy. In fact, considering the total of interviewees, only 22.9% highlight the existence of a code of conduct/ethics within the RIs, while 64.3% mention a data policy; less than 40% indicate the existence of an access policy to laboratories and 22.9% of a policy related to publications, only 10% of a policy about inclusivity and access for personnel with disabilities, 32.9% of a gender balance policy, 21.4% of a policy to limit the environmental impact of activities, with a 37.1% of interviewees who report of activities or initiatives that enhance sustainability.





All these results, grouped into the table 1 and 2, show a lower level of organizational development of RIs compared to Universities/Institutes.

Table 1. Percentages relative to the presence of different kinds of offices, respectively within Universities/Institutes and RIs. Red background indicates higher values, blue background lower values.

	Universities/Institutes	Research Infrastructures	
Ethical Board	40.0%	28.6%	
Communication Office	91.4%	48.6%	
Geo-Education Office	48.6%	10.0%	
Anti-Corruption Office	21.4%	4.3%	
Guarantee Committee for	5/1 2%	10.0%	
equal opportunities	54.570	10.070	

Table 2. Percentages relative to the existence of different kinds of policies, respectively within Universities/Institutes and RIs. Colours as above.

	Universities/Institutes	Research Infrastructures
Code of conduct/ethics	51.4%	22.9%
Data policy	37.1%	64.3%
Access policy to laboratories	40.0%	34.3%
Publication policy	40.0%	22.9%
Policy about inclusivity and		
access for personnel with	61.4%	10.0%
disabilities		
Gender balance policy	54.3%	32.9%
Policy to limit the		
environmental impact of	32.9%	21.4%
activities		

With regard to communication activities, Universities/Institutes take more care to transfer scientific information to the general public (higher percentage values in correspondence of "citizens", "media" and "schools"). Contrary to that, RIs address their communication mainly towards "industry" and "decision-makers". Moreover, Universities/Institutes use both traditional (newspapers, TV and radio) and modern media (websites and social networks) to communicate, while RIs prefer the second one.

With regard to geo-education activities, on one hand, Universities/Institutes seem not to consider practitioners, public officers and journalists among the main addressees, by preferring the general public, students and teachers. On the other hand, RIs seem to address geo-education activities to a wider and multi-faceted public.





Overall, natural risks, environmental issues, and sustainability seem to be the most important aspects to be transferred through geo-education activities, and the tools more employed to this aim are conferences and seminars.

For the question about data misuse, the percentage of interviewees that don't know how to answer is quite high (34% for RIs and 41.4% for Universities/Institutes), and the majority of answers highlight "media scoops" and "scientific controversies" as the main issues of this potential misuse.

Regarding the stakeholders of the activities, answers don't show significant differences between RIs and universities/institutes: "government agencies" and "universities and research institutes" are the most mentioned.

Both universities/institutes and RIs have relationships with industry, but it appears that industry funds more frequently the first ones (63.5%) rather than the second ones (14.6%).

A specific question on "conflicts of interest" was asked: a significant percentage of interviewees ignore this issue, but in cases of the existence of this problem, it would seem not to affect the activities of RIs or universities/institutes much.

Conclusion - Questions from 69 to 71

The analysis of the final part of the questionnaire "Conclusion" showed which are the most frequent words used by interviewees to define ethics in geosciences, chosen from a predefined list (fig. 1).



Fig. 1 - Cloud of the most frequent words used by participants in the survey, to define ethics in geosciences.

The most recurrent words are: responsibility, transparency, honesty, respect, reliability, integrity. Quite frequent are: awareness, cooperation, sustainability, communication, trust, knowledge, education, deontology, science, information.





Only a small percentage of choices (less than 3%) refer to "not positive" nouns for describing ethics in geosciences, as bureaucracy, ideology, manipulation, doubtfulness, or vagueness.

Finally, no one chose "negative" nouns like control, obstacle, monopoly, censorship, abstraction, regression, damage.

In general, the perception of this subject would seem very positive for the most of participants.

A specific question regarding which themes are the most important for the ENVRIPlus project (chosen from a predefined list) was asked, with the request to give a score to evaluate the importance of each theme.

Research integrity, data management and environmental monitoring are considered the most relevant themes for ENVRIPIUS (more than 80% chose them with a high or very high score). Also, sustainability, communication, climate change, relationships between scientists and other components of society (media, decision-makers, citizens, industry) represent important themes of the project. Less importance was given to issues like natural resources, resilience, inclusivity policy, conflicts of interest, gender balance, geoheritage enhancement (more than 50% has given them a low or moderate score).

Discussion

The first significant information arising from the survey is the low number of participants (26% of 270 people in the ENVRIPLUS mailing list), despite that ethical and societal aspects in science represent important issues of the ENVRIPLUS project, which are specifically included as a whole work package in theme 4.

To this number we have to add the significant percentage that has never heard about ethics applied to geosciences (31% of 70 interviewees). In any case, the remaining 69% heard about it only through meetings or projects, demonstrating that awareness of this issue is limited to the scientific community, and only to a small part of it.

It is encouraging that ethics is important for a large majority of those who responded, and that honesty, accountability, reliability and credibility are considered the main values of reference in research activities. Moreover, unethical behaviours in the working environment, like conflicts of interest, harassment and discrimination seem quite common, more than expected.

Another significant element emerging from the survey is the greater importance that interviewees give to the responsibility towards colleagues, rather than towards society and the environment, highlighting a relatively low perception of societal and environmental implications of their work, despite that the ENVRIPLus project was born out of the need to provide solutions for science and society.

Regarding the two types of organizations considered (Universities/Institutes and RIs), the answers to the survey highlighted that Universities/Institutes would be more prepared to face ethical and social issues. In fact, more than RIs, they have established Ethical Boards, Communication offices and offices for geo-education activities. Also anti-corruption offices and Guarantee Committees for equal opportunities seem to be present at least in some cases. The





same positive situation may be found when we analyse the existence of codes of conduct/ethics, the adoption of access policies to laboratories, policies related to publications, inclusivity and access for personnel with disabilities, gender balance policies and policies to limit the environmental impact of activities. Only in the case of data policies, it seems that RIs are more advanced than universities/institutes. This may reflect the relative age of these organisations, as the RIs are all relatively young.

In order to better understand if the answers to the questionnaire were reliable and reflected the real situation of the organizations, we have considered the answers of people belonging to the Institute INGV and to the RI EPOS. In reality, INGV has Communication, Geo-Education, anti-Corruption offices and a Guarantee Committee, but it has no ethical board. As for EPOS, it has an ethical board and a communication office, but it does not have a Guarantee Committee, an office for geo-education activities or an anti-Corruption office.

From fig. 2 it is possible to appraise the percentage of interviewees belonging to INGV, who gave the right answers. Only in the case of the existence of the ethical board (not present in INGV), the percentage of interviewed persons that gave the right answer is less than 50%, and the percentage of people who ignore this is more than 25%.



Fig 2 - Results of the questions relative to the existence of different types of office at INGV. The column on the right indicates if each office really exists.

In fig. 3 it is possible to see the percentage of interviewees belonging to the RI EPOS, who gave the right answers. There is a very high percentage of people who don't know how to answer, even when the offices in reality exists. About the ethical board and the communication office, more than 50% seem to be unaware of their existence.







Fig 3 - Results of the questions relative to the existence of different kinds of offices at EPOS. The column on the right indicates whether each office really exists.

In general terms, RIs seem to be more oriented to use modern technologies in transferring their data and products, while Universities/Institutes use preferably traditional tools.

Finally, despite that some differences surely exist between the two types of organizations, a common result is the large number of answers "I don't know". This could be interpreted as a superficial attitude in filling in the questionnaire, but probably it refers to significant limitations in knowledge about facts, structures, developed contents, activities of the own organization and more in general to a low involvement in the life of the universities/institutes or RIs to which one belongs.

Timing of deliverables and review

As these reports are important for the stakeholders (RIs) and to the overall project review, we will conduct internal reviews of the documents. Each document thus has three additional persons besides the Deliverable writing team going through the document before it is submitted to the Commission by the project office. Table 1 shows the roles of these persons.

Role	Task	Appointed by
Mairi Best (Technical expert)	Technical, editorial and scientific review of the document – done by internal expert.	WP leader

TABLE 1 ROLES OF THE DELIVERABLE REVIEW





Laura Beranzoli (RI expert) Consultation in Activecollab	User community (RI) representative who mainly analyses the usability of the deliverable for Stakeholders.	WP leader
Silvia Peppoloni (usually WP leader)	Decision that the reviewer comments are sufficiently well taken care and the deliverable quality is acceptable	Theme leader

CONCLUSIONS

The results of the survey show positive and negative points. On one hand the importance of ethical and social aspects of scientific activity is recognized by most of the interviewees, on the other hand the real perception of these issues and the knowledge of the instruments to face them seems to be not adequate, especially with regard to society.

Considering that the ENVRIplus project is aimed at providing shared solutions for science and society, it becomes a priority to increase the ethical awareness and the social responsibility of the RIs' community. This can be supported by developing an ethical framework that supports scientists in their work and can make the science-society interface more effective, in order to translate results of scientific activity into tangible benefits. Finally, it is indispensable to strengthen the cooperation among colleagues, to improve the institutional communication within each RI regarding activities and organizational structure, and to face and reduce some unethical practices like misconduct, uncooperative attitudes, conflicts of interest and discrimination. This may improve the quality of the working environment, which is the fundamental prerequisite for doing excellent science.

Based on these results, the definition of Ethical Guidelines for RIs as well as the development of associated outreach materials, which are the remaining tasks of WP13, will be highly important and have the potential to becoming particularly useful.

IMPACT ON THE PROJECT

The deliverable 13.1 described in this report is in line with the objectives of the ENVRIPlus project, and helpful to focus on some elements that are relevant to achieve the goals of the project.

Since the questionnaire was used to investigate the level of knowledge and awareness of the ethical and social aspects of scientific activities among participants to ENVRIPLUS, its impact on the project is evident. In fact, the survey results are useful to identify key points that must be included in the ethical guidelines. The questionnaire allowed also to collect feedback and indications from the participants that will improve the sharing of values and contents within the ENVRIPLUS community, once they will be incorporated in the guidelines.



Moreover, the participation in the survey has already had in itself an impact on the project, since many scientists for the first time have had to deal with issues that usually are not subjects of the scientific/technical discussion or part of their usual research activity.

Finally, activities and results described in this report, that is the final product of task 13.1, could represent a relevant contribution especially for those participants in the project who are working on issues related to data management, on geo-education/communication aspects, or on science-industry relationships.

IMPACT ON STAKEHOLDERS

Regarding the usability of the Deliverable for the RIs, the main indication received from the survey, and already reported in the conclusions, is the necessity to call upon RIs to improve their internal institutional communication, in order to increase the awareness and knowledge of staff and affiliated members about activities and organizational structure.

Moreover, the graphs in the Appendix B could provide other useful input to RI managers, to improve their institutional activity through the implementation of structures and offices dedicated to ethical and social issues, the improvement of the work environment, and other aspects that could increase the quality of the relationships with their stakeholders and society in general sense.

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APPENDICES

Appendix A: Questionnaire

Appendix B: elaborations and results of the survey.







ENVRI PLUS - 2015/2019

ENvironmental Research Infrastructures

Providing shared soLUtions for science and Society

Theme 4: Societal relevance and understanding – WP13: Developing an Ethical Framework for RIs Deliverable 13.1: QUESTIONNAIRE

Authors:

Silvia Peppoloni and Giuseppe Di Capua

(Istituto Nazionale di Geofisica e Vulcanologia - EMSO/EPOS)

Online Form by:

Silvia Filosa and Luca Postpischl

(Istituto Nazionale di Geofisica e Vulcanologia - EPOS)

Responsible Person of data collection and storage:

Giuseppe Di Capua (<u>giuseppe.dicapua@ingv.it</u>)

(Istituto Nazionale di Geofisica e Vulcanologia - EMSO/EPOS)

Objectives

The questionnaire aims to make a reconnaissance on how participants involved in the project faces ethical issues in relation to their scientific activities. The results of this questionnaire will be analyzed to understand common issues and recurring problems.

Topics

Some of the considered problems concern data integrity and truthful research conduction, respect towards colleagues, dissemination of research results and uncertainties, risk and science communication, education to the public, relationship between the RI and stakeholders, awareness of responsibility by scientists towards society and environment.

Remarks before compiling (disclaimer)

The questionnaire is addressed to participants in the ENVRI PLUS project (researchers and technicians, involved or not as Task, WP and Theme leaders).

The questionnaire is filled in anonymously by people in the performance of their institutional activities, therefore without implying personal data or information related to their private life.

Collected data refer to the institutional role played by the person and to his/her activities within the research infrastructure to which he/she belongs. So, these data don't include information relating to an identified or identifiable natural person, neither directly nor indirectly, or to one or more factors specific to his/her physical, physiological, mental, economic, cultural or social identity, according to the Directive 95/46/EC.

The recruitment of persons for filling in the questionnaire is on a voluntary basis and the interviewee can stop answering at any moment, without telling the reason. The questionnaire doesn't contain any reference to political, religious or racial items.

The questionnaire is done using a web-based form (JotForm), and will take approximately 20 minutes to answer.

Filling in the questionnaire can only be done, if the interviewee gives his/her consent.

Procedures for data management

About the procedures for data collection, storage, protection, retention and destruction, the EU Directive adopted in 1995, which regulates the processing of personal data within the European Union (Directive 95/46/EC) will be followed.

Questionnaire: WHAT DO YOU KNOW ABOUT ETHICS IN GEOSCIENCES?

The ethical standards and guidelines of Horizon 2020 will be rigorously applied, regardless of the country in which the research is carried out.

The questionnaire is developed taking into account the <u>Deliverable D19.2 INITIAL</u> <u>DATA MANAGEMENT PLAN – Ethical and privacy issues</u>, concerning the data policies of the ENVRI PLUS project.

MORE INFORMATION:

For more information, please, send an email to:

silvia.peppoloni@ingv.it or giuseppe.dicapua@ingv.it

QUESTIONNAIRE:

WHAT DO YOU KNOW ABOUT ETHICS IN GEOSCIENCES ?

CONSENT FORM *

	l accept
I confirm that I have read and understood the above information on the questionnaire and I have had the opportunity to ask questions	0
I declare to be a participant in the ENVRI Plus Project	\bigcirc
I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without my legal rights being affected	0
I know that it isn't required to indicate my name for filling in the questionnaire, as it is completely anonymous. In case I need more information, I have the opportunity to contact the Responsible Person of the questionnaire	0
I agree for the answers to be recorded, and for each recording to be kept until associated report is completed. No identification information will be collected and in any case, all the information will be destroyed immediately after the questionnaire results are analyzed	0

Date		-	
	Month	Day	Year

Interviewee's information

▼

Country *

Questionnaire: WHAT DO YOU KNOW ABOUT ETHICS IN GEOSCIENCES?

Age *	○ < 20
	0 20-40
	0 41-60
	◎ >60
Educational	Secondary school
Educational qualification *	
4	
	Other
	• Other
Affiliation *	
Research Infrastruct	ure (acronym) *
Working activity *	researcher/ technologist
	\bigcirc senior researcher/ technologist
	O director researcher/ technologist
	professor
	technician
	Other
Type of activity *	data acquisition
,, ,	data management
	measurements
	models
	methodologies
	technologies
	practices
	laboratory activities
	educational activities
	science communication
	project management
	information and communications technology
	administration
	Other

PART A - General inquiry

- 1) Have you ever heard about ethics applied to geosciences? *
- Yes
- No

2) If yes, how did you hear about it? (multiple choice) *

- websites
- social networks
- newspapers
- television
- 🗌 radio
- scientific meetings
- scientific publications
- projects
- colleagues
- Other

3) How much is ethics important *

	irrelevant	of little importance	important	essential
for geosciences?	0	\bigcirc	\bigcirc	\bigcirc
in research activity?	0	\bigcirc	\bigcirc	\bigcirc
for the Research Infrastructure to which you belong?	\bigcirc	\bigcirc	\bigcirc	0
for the Institute/University to which you belong?	0	0	\bigcirc	0

4) Have you ever heard about research integrity? *

- yes
- 🔲 no

5) Have you ever heard about research misconduct? *

- yes
- 🔲 no

6) When doing research what are the most important values of reference for you among the following? (Please, choose up to 3 values) *

- honesty in all aspects of research
- accountability in the conduct of research
- professional courtesy and fairness in working with others
- good stewardship of research on behalf of others
- societal considerations

Other

7) In your work, what elements among the following are of most importance? (Please, choose up to 3 values) *

reliability

sharing

credibility

- prestige
- career

Other

8) How much is ... *

	irrelevant	of little importance	important	essential
the awareness of your individual responsibility important in your activity?	\bigcirc	\bigcirc	\bigcirc	\bigcirc
the responsibility towards colleagues important in your activity?	\bigcirc	\bigcirc	\bigcirc	\bigcirc
the responsibility towards society important in your activity?	0	\bigcirc	\bigcirc	0
the responsibility towards the natural environment important in your activity?	0	\bigcirc	0	0

9) Have you ever heard about some of the following behaviours within your working environment? *

- plagiarism
- disrespect of authorship
- harassments
- conflict of interests
- uncooperative attitudes
- gender, racial or religious discriminations
- negligence in applying methods
- falsification of data

Other

10) Among the following research and technological activities, where do you see clear ethical and/or social implications? *

- natural risks reduction
- climate change studies
- environmental monitoring
- data acquisition, storage, elaboration and management
- science education and communication
- natural resources exploitation
- energy supply
- studies on pollution and waste storage
- ecosystems and biodiversity conservation
- Other
- 11) Do you think that your activities have an impact on society? *
- 🖌 yes
- 🔲 no
- don't know
- 12) If yes, on which social component in particular? *
- citizens
- decision makers
- Iawmakers
- scientists
- authorities
- industry
- practitioners
- Other

- 13) Do you think that your activities have an impact on the natural environment?
- 🗹 yes
- 🔲 no
- don't know
- 14) If yes, on which environmental system in particular? *



PART B – Inquiry on specific aspects related to the own Research Infrastructure (RI) and Institute/University

- 15) Is there an ethical board or office in your Research Infrastructure (RI)? *
- yes
- 🔲 no
- don't know

16) Is there an ethical board or office in your Institute/University? *

- yes
- 🔲 no
- don't know

17) Has your Research Infrastructure (RI) a code of conduct or a code of ethics? *

- yes
- 🗌 no
- don't know
- 18) Has your Institute/University a code of conduct or a code of ethics? *

- yes
- 🔲 no
- don't know

19) Is there a communication office in your Research Infrastructure (RI)? *

- 🗹 yes
- no 🗌
- don't know

20) If yes, to whom is the communication addressed? (multiple choice) *

- citizens
- decision makers
- media
- universities
- schools
- authorities
- industry
- practitioners
- don't know
- Other

21) What type of channels are used for communication activities? (multiple choice) *

- website
- newspapers
- television
- 🔲 radio
- newsletter
- social networks
- don't know
- ✓ Other

22) Is there a communication office in your Institute/University? *

- ✓ yes
- 🔲 no
- don't know

23) If yes, to whom is the communication addressed? (multiple choice) *

citizens
decision makers
media
universities
schools
authorities
industry
practitioners
don't know
✓ Other

24) What type of channels are used for communication activities? (multiple choice) *

website

- newspapers
- television
- 🗌 radio
- newsletter
- social networks
- don't know

Other

25) In your opinion, what are the most important elements to be communicated? (multiple choice) *

- 🔲 raw data
- elaborated data
- scientific results
- scientific methods
- technologies
- research uncertainties
- practices
- Other

26) Is there an office for geo-education activities in your Research Infrastructure (RI)? *

- 🗹 yes
- 🔲 no
- don't know

27) If yes, to whom are its activities addressed? (multiple choice) *

- general public
- students
- teachers
- practitioners
- journalists
- public officers
- don't know

Other

28) Which tools are used for geo-education? (multiple choice) *

- seminars
- didactic laboratories
- museums
- conferences
- videos
- webinars
- e-learning modules
- exhibitions
- don't know
- Other

29) Is there an office for geo-education activities in your Institute/University? *

- 🖌 yes
- 🗌 no
- don't know

30) If yes, to whom are its activities addressed? (multiple choice) *

- general public
- students
- teachers
- practitioners
- journalists
- public officers
- don't know

	Other
--	-------

- 31) Which tools are used for geo-education? (multiple choice) *
- seminars
- didactic laboratories
- museums
- conferences
- videos
- webinars
- e-learning modules
- exhibitions
- don't know
- Other

32) In your opinion, which are the most important aspects to be transferred through geo-educational activities? (multiple choice) *

- scientific knowledge
- news about technological innovations
- information on hazards
- awareness about natural risks
- appropriate behaviours during emergency
- strategies for energy supply
- data on pollution
- value of environmental heritage and sustainability
- importance of ecosystems and biodiversity
- Other

33) Has your Research Infrastructure (RI) a data policy? *

- 🗹 yes
- 🔲 no
- don't know

34) If yes, which are the main aspects considered? (multiple choice) *

- data acquisition
- data storage
- data elaboration
- data management
- data sharing among colleagues
- data dissemination to public
- data dissemination to industry
- data dissemination to government agencies
- don't know

Other

35) Do you think that data produced by your Research Infrastructure (RI) may be subject to misuse? *

- 🖌 yes
- 🔲 no
- don't know

36) If yes, for what purpose? (multiple choice) *

- terrorism
- industrial espionage
- financial speculations
- crime
- media scoop
- ideological matters
- scientific controversies
- don't know
- Other

37) Has your Institute/University a data policy? *

- 🗹 yes
- 🔲 no
- don't know

38) If yes, which are the main aspects considered? (multiple choice) *

- data acqusition
- data storage
- data elaboration
- data management
- data sharing among colleagues
- data dissemination to public
- data dissemination to industry
- data dissemination to government agencies
- don't know

Other

39) Do you think that data produced by your Institute/University may be subject to misuse? *

- 🖌 yes
- 🔲 no
- don't know

40) If yes, for what purpose? (multiple choice) *

- terrorism
- industrial espionage
- financial speculations
- crime
- media scoop
- ideological matters
- scientific controversies
- don't know
- Other

41) Has your Research Infrastructure (RI) an access policy to laboratories? *

- yes
- 🔲 no
- don't know

42) Has your Institute/University an access policy to laboratories? *

- ves
- no no
- don't know

43) Has your Research Infrastructure (RI) a policy related to publications? *

- 🗹 yes
- 🗌 no
- don't know

44) If yes, which aspects are considered? (multiple choice) *

- copyright
- patent policy
- dispute resolutions
- authorship
- plagiarism
- don't know

Other

45) Has your Institute/University a policy related to publications? *

- 🗹 yes
- 🗌 no
- don't know

46) If yes, which aspects are considered? (multiple choice) *

- copyright
- patent policy
- dispute resolutions
- authorship
- plagiarism
- don't know
- Other

47) Has your Research Infrastructure (RI) an anti-corruption office? *

yes

no 📃

don't know

48) Has your Institute/University an anti-corruption office? *

- yes
- 🔲 no
- don't know

49) Has your Research Infrastructure (RI) a Guarantee Committee for equal opportunities? *

- yes
- 🔲 no
- don't know

50) Has your Institute/University a Guarantee Committee for equal opportunities?

- yes
- 🔲 no
- don't know

51) Has your Research Infrastructure (RI) a policy about inclusivity and access for personnel with disabilities? *

- yes
- 🗌 no
- don't know

52) Has your Institute/University a policy about inclusivity and access for personnel with disabilities? *

- yes
- 🔲 no
- don't know

53) Has your Research Infrastructure (RI) a gender balance policy? *
- yes
- no no
- don't know

54) Has your Institute/University a gender balance policy? *

- ves
- no no
- don't know

55) Who are the stakeholders of your Research Infrastructure (RI)? (multiple choice) *

- universities and research institutes
- government agencies
- public officers
- public companies
- private companies
- decision makers
- Iawmakers
- practitioners
- teachers
- citizens
- don't know
- Other

56) Has your Research Infrastructure (RI) relationships with industry? *

- 🗹 yes
- 🔲 no
- don't know

57) If yes, does it receive funding from industry? *

- yes
- 🗌 no
- don't know

58) Who are the stakeholders of your Institute/University? (multiple choice) *

- universities and research institutes
- government agencies
- public officers
- public companies
- private companies
- decision makers
- Iawmakers
- practitioners
- teachers
- citizens
- don't know
- Other

59) Have your Institute/University relationships with industry? *

- ✓ yes
- 🗌 no
- don't know
- 60) If yes, does it receive funding from industry? *
- yes
- 🗌 no
- don't know

61) Are there possible conflicts of interest in your Research Infrastructure (RI)? *

- 🗹 yes
- 🔲 no
- don't know

62) If yes, how much this affects the activities of your Research Infrastructure (RI)? *

- very much
- enough
- not much
- not in the least
- don't know

63) Are there possible conflicts of interest in your Institute/University? *

- 🗹 yes
- no no
- don't know

64) If yes, how much this affects the activities of your Institute/University? *

- very much
- enough
- not much
- not in the least
- don't know

65) Is there in your Research Infrastructure (RI) a policy to limit the environmental impact of activities? *

- yes
- 🗌 no
- don't know

66) Is there in your Institute/University a policy to limit the environmental impact of activities? *

- yes
- 🗌 no
- don't know

67) Are there in your Research Infrastructure (RI) activities or initiatives that enhance sustainability? *

- yes
- 🗌 no
- don't know

68) Are there in your Institute/University activities or initiatives that enhance sustainability? *

- yes
- 🗌 no
- don't know

69) Ethics in geosciences consists of..... (please, choose up to 10 nouns) (multiple choice): * awareness responsibility respect collaboration knowledge progress transparency protection reliability deontology care sustainability trust safety good sense usefulness necessity enhancement education communication cooperation inclusiveness honesty integrity balance right duty change development theory practice science opinion culture pragmatism observation information management exploitation utopia bureaucracy control obstacle ideology monopoly censorship moralism manipulation vagueness abstraction doubtfulness regression damage Other

70) Among the following themes, which are the most importantPLUS project? Please, give a score to evaluate the importance of (1 (lowest) to 4 (highest). *

Only numbers from 1 to 4

	Click to edit
data management	
environmental monitoring	
natural resources	
natural risks	
resilience	
climate change	
sustainability	
geoheritage enhancement	

Questionnaire: WHAT DO YOU KNOW ABOUT ETHICS IN GEOSCIENCES?

geo- and bio-diversity protection	
research integrity	
conflicts of interest	
deontological codes	
inclusivity policy	
gender balance	
communication	
geo-education	
relationships scientists-media-decision makers	
relationships scientists-industry	
relationships scientists-citizens	

71) Do you want to suggest other themes?

	Click to edit
1)	
2)	
3)	

Final comment (optional)

Submit

ENVRI^{plus} **DELIVERABLE**



D13.1

Appendix B

Elaborations and results of the survey

WORK PACKAGE 13 – DEVELOPING AN ETHICAL FRAMEWORK FOR RI

LEADING BENEFICIARY: ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

Author(s):	Beneficiary/Institution
Silvia Peppoloni	Istituto Nazionale di Geofisica e Vulcanologia
Giuseppe Di Capua	Istituto Nazionale di Geofisica e Vulcanologia
Florian Haslinger	ETH Zurich
Michele Marti	ETH Zurich

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What type of channels are used for communication activities? - RI	
What type of channels are used for communication activities? -	
Institute/University	16
In your opinion, what are the most important elements to be	
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communicated?	17
Is there an office for geo-education activities in your Research Infrastructure	
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Is there an office for geo-education activities in your Institute/University?	17
If you to whom are its activities addressed? DI	
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Which tools are used for geo-education? - RI	
Which tools are used for geo-education? - Institute/University	18
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Has your Institute /University a data policy?	10
	15
If yes, which are the main aspects considered? - RI	
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Do you think that data produced by your Research Infrastructure (RI) may	
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	20
If yes, for what purpose? - RI	
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If was which as a second and 2 D	
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Has your Research Infrastructure (RI) an anti-corruption office?	
Has your Institute/University an anti-corruption office?	23
	 What type of channels are used for communication activities? - RI What type of channels are used for communication activities? - Institute/University In your opinion, what are the most important elements to be communicated? Is there an office for geo-education activities in your Research Infrastructure (RI)? Is there an office for geo-education activities in your Institute/University? If yes, to whom are its activities addressed? - RI If yes, to whom are its activities addressed? - Institute/University Which tools are used for geo-education? - RI Which tools are used for geo-education? - Institute/University In your opinion, which are the most important aspects to be transferred through geo-educational activities? Has your Research Infrastructure (RI) a data policy? Has your Institute/University a data policy? If yes, which are the main aspects considered? - RI If yes, which are the main aspects considered? - Institute/University Do you think that data produced by your Research Infrastructure (RI) may be subject to misuse? Do you think that data produced by your Institute/University may be subject to misuse? If yes, for what purpose? - RI If yes, for what purpose? - Institute/University Has your Research Infrastructure (RI) an access policy to laboratories? Has your Institute/University a policy related to publications? Has your Institute/University a policy related to publications? Has your Institute/University a policy related to publications? Has your Research Infrastructure (RI) an anti-corruption office? Has your Research Infrastructure (RI) an anti-corruption office? Has your Research Infrastructure (RI) an anti-corruption office?





49)	Has your Research Infrastructure (RI) a Guarantee Committee for equal opportunities?	
50)	Has your Institute/University a Guarantee Committee for equal opportunities?	23
51)	Has your Research Infrastructure (RI) a policy about inclusivity and access for personnel with disabilities?	
52)	Has your Institute/University a policy about inclusivity and access for personnel with disabilities?	24
53) 54)	Has your Research Infrastructure (RI) a gender balance policy? Has your Institute/University a gender balance policy?	24
55) 58)	Who are the stakeholders of your Research Infrastructure (RI)? Who are the stakeholders of your Institute/University?	25
56) 59)	Has your Research Infrastructure (RI) relationships with industry? Have your Institute/University relationships with industry?	25
57) 60)	If yes, does it receive funding from industry? - RI If yes, does it receive funding from industry? - Institute/University	26
61) 63)	Are there possible conflicts of interest in your Research Infrastructure (RI)? Are there possible conflicts of interest in your Institute/University?	26
62)	If yes, how much this affects the activities of your Research Infrastructure (RI)?	
64)	If yes, how much this affects the activities of your Institute/University?	27
65)	Is there in your Research Infrastructure (RI) a policy to limit the environmental impact of activities?	
66)	Is there in your Institute/University a policy to limit the environmental impact of activities?	27
67)	Are there in your Research Infrastructure (RI) activities or initiatives that enhance sustainability?	
68)	Are there in your Institute/University activities or initiatives that enhance sustainability?	28
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69) 70)	Ethics in geosciences consists of	29
70)	ENVRIplus project?	30



INTERVIEWEE'S INFORMATION

Country



Age







Educational qualification



Affiliation











Working activity



Type of activity







PART A - GENERAL INQUIRY



1) Have you ever heard about ethics applied to geosciences?

2) If yes, how did you hear about it? (multiple choice)







3) How much is ethics important



4) Have you ever heard about research integrity?



5) Have you ever heard about research misconduct?



















8) How much is ...



9) Have you ever heard about some of the following behaviors within your working environment?











11) Do you think that your activities have an impact on society?





12) If yes, on which social component in particular?





13) Do you think that your activities have an impact on the natural environment?



14) If yes, on which environmental system in particular?





PART B – INQUIRY ON SPECIFIC ASPECTS RELATED TO THE OWN RESEARCH INFRASTRUCTURE (RI) AND INSTITUTE/UNIVERSITY



15) Is there an ethical board or office in your Research Infrastructure (RI)?







17) Has your Research Infrastructure (RI) a code of conduct or a code of ethics?







18) Has your Institute/University a code of conduct or a code of ethics?

19) Is there a communication office in your Research Infrastructure (RI)?



22) Is there a communication office in your Institute/University?





20) If yes, to whom is the communication addressed? (multiple choice) - RI



23) If yes, to whom is the communication addressed? (multiple choice) - Institute/University

21) What type of channels are used for communication activities? (multiple choice) - RI

24) What type of channels are used for communication activities? (multiple choice) - Institute/University







25) In your opinion, what are the most important elements to be communicated? (multiple choice)

26) Is there an office for geo-education activities in your Research Infrastructure (RI)?



29) Is there an office for geo-education activities in your Institute/University?



27) If yes, to whom are its activities addressed? (multiple choice) - RI



30) If yes, to whom are its activities addressed? (multiple choice) - Institute/University

28) Which tools are used for geo-education? (multiple choice) - RI



31) Which tools are used for geo-education? (multiple choice) - Institute/University







32) In your opinion, which are the most important aspects to be transferred through geoeducational activities? (multiple choice)

33) Has your Research Infrastructure (RI) a data policy?



37) Has your Institute/University a data policy?





34) If yes, which are the main aspects considered? (multiple choice) - RI



38) If yes, which are the main aspects considered? (multiple choice) - Institute/University

35) Do you think that data produced by your Research Infrastructure (RI) may be subject to misuse?



39) Do you think that data produced by your Institute/University may be subject to misuse?



36) If yes, for what purpose? (multiple choice) - RI



40) If yes, for what purpose? (multiple choice) - Institute/University

41) Has your Research Infrastructure (RI) an access policy to laboratories?



42) Has your Institute/University an access policy to laboratories?



43) Has your Research Infrastructure (RI) a policy related to publications?



45) Has your Institute/University a policy related to publications?

44) If yes, which aspects are considered? (multiple choice) - RI



Institute/University

46) If yes, which aspects are considered? (multiple choice) - Institute/University

Research Infrastructure



47) Has your Research Infrastructure (RI) an anti-corruption office?



48) Has your Institute/University an anti-corruption office?

49) Has your Research Infrastructure (RI) a Guarantee Committee for equal opportunities?



50) Has your Institute/University a Guarantee Committee for equal opportunities?





51) Has your Research Infrastructure (RI) a policy about inclusivity and access for personnel with disabilities?



52) Has your Institute/University a policy about inclusivity and access for personnel with disabilities?

53) Has your Research Infrastructure (RI) a gender balance policy?



54) Has your Institute/University a gender balance policy?





55) Who are the stakeholders of your Research Infrastructure (RI)? (multiple choice)



58) Who are the stakeholders of your Institute/University? (multiple choice)

56) Has your Research Infrastructure (RI) relationships with industry?



59) Have your Institute/University relationships with industry?



57) If yes, does it receive funding from industry? - RI



60) If yes, does it receive funding from industry? - Institute/University

61) Are there possible conflicts of interest in your Research Infrastructure (RI)?



63) Are there possible conflicts of interest in your Institute/University?



62) If yes, how much this affects the activities of your Research Infrastructure (RI)?



64) If yes, how much this affects the activities of your Institute/University?

65) Is there in your Research Infrastructure (RI) a policy to limit the environmental impact of activities?



66) Is there in your Institute/University a policy to limit the environmental impact of activities?



67) Are there in your Research Infrastructure (RI) activities or initiatives that enhance sustainability?



68) Are there in your Institute/University activities or initiatives that enhance sustainability?



CONCLUSION

69) Ethics in geosciences consists of..... (please, choose at least 10 nouns) (multiple choice)

responsibility	80,0%
transparency	77,1%
honesty	68,6%
respect	62,9%
reliability	60,0%
integrity	60,0%
awareness	48,6%
collaboration	48,6%
cooperation	48,6%
sustainability	47,1%
communication	45,7%
trust	44,3%
knowledge	40,0%
education	40,0%
deontology	37,1%
science	37,1%
information	35,7%
observation	24,3%
good sense	21,4%
progress	20,0%
care	20,0%
safety	17,1%
inclusiveness	17,1%
management	17,1%
protection	14,3%
usefulness	14,3%
culture	11,4%
duty	10,0%
practice	8,6%
enhancement	7,1%
balance	7,1%
exploitation	7,1%

development	4,3%
moralism	4,3%
right	2,9%
opinion	2,9%
pragmatism	2,9%
utopia	2,9%
bureaucracy	2,9%
ideology	2,9%
manipulation	2,9%
doubtfulness	2,9%
necessity	1,4%
change	1,4%
theory	1,4%
vagueness	1,4%
other	1,4%
control	0,0%
obstacle	0,0%
monopoly	0,0%
censorship	0,0%
abstraction	0,0%
regression	0,0%
damage	0,0%





70) Among the following themes, which are the most important for the ENVRIPlus project? Please, give a score to evaluate the importance of each theme, from 1 (lowest) to 4 (highest).



Score: 1. low; 2. moderate; 3. high; 4. outstanding





		1.	2.	3.	4.
	Γ	low	moderate	high	outstanding
	data management	7,1	12,9	20,0	60,0
	environmental monitoring	5,7	14,3	14,3	65,7
	natural resources	8,6	44,3	28,6	18,6
	natural risks	7,1	38,6	28,6	25,7
	resilience	14,3	41,4	28,6	15,7
	climate change	4,3	21,4	45,7	28,6
	sustainability	1,4	21,4	34,3	42,9
Among the	geoheritage enhancement	18,6	54,3	17,1	10,0
following	geo- and bio-diversity protection	4,3	40,0	31,4	24,3
are the most	research integrity	4,3	14,3	30,0	51,4
important for the ENVRI PLUS	conflicts of interest	25,7	35,7	27,1	11,4
project?	deontological codes	25,7	21,4	37,1	15,7
	inclusivity policy	22,9	35,7	30,0	11,4
	gender balance	22,9	42,9	25,7	8,6
	communication	4,3	18,6	37,1	40,0
	geo-education	10,0	30,0	41,4	18,6
	relationships scientists-media- decision makers	5,7	22,9	42,9	28,6
	relationships scientists-industry	5,7	31,4	42,9	20,0
	relationships scientists-citizens	4,3	25,7	40,0	30,0

