**The Envri Plus Project**

**ENVRI PLUS** is a Horizon 2020 project bringing together Environmental and Earth System Research Infrastructures (RIs), projects and networks with technical specialist partners to create a more coherent, interdisciplinary and interoperable cluster of Environmental Research Infrastructures across Europe (http://www.envriplus.eu/).

One theme of the project deals with the **societal relevance and understanding**, and within that theme an entire work-package (WP13) aims at developing an ethical framework for RIs.

**Objectives** of the WP13 are:
- increase the awareness of both the scientists and the public on the importance of ethical aspects in Earth sciences;
- establish a shared ethical framework of reference, to be adopted by RIs governing bodies;
- increase the awareness of RIs management and operational levels and of the individual involved scientists on their social role in conducting research activities and research work environment;
- assess the ethical and social aspects related to the results achieved and deliverables released within the project.

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**Ongoing activities**

They include:
- review of the **state of art** on ethical issues useful for the goals of the project (collection and analysis of materials already existing within scientific organizations, institutions all over the world);
- creation of a **questionnaire**, through which to investigate how each RI participating in ENVRI PLUS faces ethical issues in relation to its activities, and so to understand the level of perception that researchers and technicians involved in the project have on the ethical implications of their scientific activities;
- definition of **ethics guidelines** to be used by partners for building their policies and their own codes of conduct;
- elaboration of an **ethical label template** to characterize each product of the project, that partners will be able to use in order to give essential information about the ethical and social implications of their products;
- dissemination of all the results of the previous activities on websites and social networks, so that they are suitable for the public.

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**State of art**

**Collection and analysis** of materials already existing within scientific and professional organizations, institutions, bodies (documents, declarations, statements), regarding ethics applied to research activities.

**Societal Relevance and Understanding**

**Organization** of the collected documents considering the different aspects of ethics covered, both theoretical and practical: principles of **research integrity** and of **professional ethics**, aspects related to the impact on the **environment** that research activity may have.

Aspects related to the repercussions of research activities on the different components of the **society** (such as citizens, decision makers, politicians, local authorities, etc.). These categories are the final users of the research activity and are interested in our data and results in different ways, on different levels, with different purposes.

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**Ethical framework for Research Infrastructures**

**Objectives**

Definition and development of a framework of reference for the RIs, concerning ethical and social aspects of the research activities, a set of principles within which to develop the activities and carry out the final products of the ENVRI Plus project. This group of principles will be the base on which to develop the Ethical Guidelines for RIs and the Ethical Label template to characterize each product of the project.

**Steps**

Starting from the state of art already carried out, a preliminary ethical framework for describing ethical and social aspects involved in the activities of RIs has been defined. It has been developed by considering different level of behavior and relationship among the researchers: with themselves, with other colleagues, with society (intended in all its components) and with the environment.

**Preliminary results**

Identification of key-concepts that express the principles to be used as basis for the definition of the ethical guidelines for RIs and to carry out the ethical label template:
QUESTIONNAIRE: WHAT DO YOU KNOW ABOUT ETHICS IN GEOSCIENCES?

Objectives
The questionnaire aims at making a reconnaissance on how each RI involved in the project faces ethical issues in relation to its scientific activities. The results of this questionnaire will be analyzed to understand common issues and recurring problems. In particular, a general framework for describing ethical aspects environmental RIs will be developed based on interviews with core people in RIs and Themes of ENVRI Plus.

Topics
Some of the considered problems concern:
- data integrity and truthful research conduct;
- 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 the society and environment.

GENERAL QUESTIONS
1. Have you ever heard about ethics applied to geosciences?
2. And about research integrity and misconduct?
3. When doing research, what are the most important values of reference for you among the following?
   - 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
4. In your work, what elements among the following are of most importance?
   - reliability
   - sharing
   - credibility
   - prestige
   - career
5. In your experience, did you ever hear some of the following behaviours within your working environment?
   - plagiarism
   - disrespect of authorship
   - harassments
   - conflict of interests
   - falsification of data
   - uncooperative attitudes
   - gender or racial discriminations
   - negligence in applying methods
6. Among the following research and technological activities, where do you see clear ethical or social implications?
   - natural risks mitigation
   - climate change studies
   - science education and communication
   - natural resources exploitation
   - environmental monitoring
   - data acquisition, storage, elaboration and management

Examples of questions regarding RIs and/or Institutes
- Has your RI/Institute a code of conduct or a code of ethics?
- Is there a communication office in your RI/Institute? If yes, to whom is addressed the communication?
- In your opinion, what are the most important aspects to be communicated?
  - raw data
  - elaborated data
  - results
  - information on risks
  - scientific methods
  - technologies
  - research uncertainties
  - practices
- Has your RI/Institute a data policy? If yes, which are the main aspects considered?
  - acquisition and storage
  - elaboration and management
  - sharing among colleagues
  - dissemination to public, industry and government agencies
- Do you think that data produced by your RI/Institute may be subject to misuse? If yes, for what purpose?
  - terrorism
  - industrial espionage
  - financial speculations
  - scientific controversies
  - crime
  - media scoop
  - ideological matters
  - other
- Has your RI/Institute a policy related to publications? If yes, which aspects are considered?
  - copyright
  - patent policy
  - dispute resolutions
  - authorship
  - plagiarism
  - financial conflicts of interest
- Who are the stakeholders of your RI/Institute?
  - private companies
  - public offices
  - citizens
  - decision makers
  - professional world
  - public companies
  - technicians
  - universities
  - lawmakers
  - government agencies

The first European project in which ethics applied to geosciences finds space as a fundamental issue, at the base of scientific activities.