Monitoring the Environmental Reference State
Expected product: define a guidelines for a reference state of the environment and subsequent monitoring

EF Work Group 2
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The goal of this Topic is to get a reference state of the surface environment before the beginning the construction works for the geological repository.

The reference state will also be useful for further monitoring during operations and even after, thus keeping a memory of the original environmental state.

Depending on the sensitivities, different types and levels of requirements can be requested from a place to another.

In order to avoid huge discrepancies and successive requests by comparing the situations among the countries, a common baseline of what is needed will be defined.

It will then be the basis for further recommendations.
Recommendations

- Define a generic approach which will be pertinent for different types of projects and environments.
- Take into consideration existing guidelines from NPP’s and mining operations (+ tailings). Check existing papers from IEAE and NEA.
- Evaluate, on the basis of foreseen operations what will be the most impacted parameters of the environment.
- Establish a link with the monitoring system of the underground infrastructure.
- Create SRL (Surface research laboratories) on the model of URL’s starting with generic SRL’s.
- Health surveys need to be included.
Main scientific and technical topics to be dealt with

- **Where**: The area to be observed and monitored.
- **What**: The compartments of the biosphere that should be monitored.
- **What**: The choice of the markers: biomarkers, biodiversity, quality of the environment…
- **How**: The way the selection of the monitoring systems for the repository environment will be made (scientific, and technical criteria, social requirements).
- **Why**: The definition of actions that should be adopted in order to contribute to the preservation of the environment.
- **Why**: The evaluation of the perturbations that could be induced during the exploitation phase.
- **When**: after the site selection and then as soon as possible.
Short description of the work to be done

- Establish general guidelines for environment monitoring.
- At first, a working group is constituted for a one year project
  - goal: first report and associated publication
  - associate specialists of environment (possibly outside of the nuclear circle)
- Funding is needed but at a reasonable level.
- Interested members of the WG 2
  Amphos; ANDRA;
  BGS; BRGM; GRS;
  ENEA; Nagra; NDA;
  Office for radiation protection (Germany);
  Resolution Resources International.