

RESULTS FROM THE WPs

Key aspects in climate change effects on surface facilities

ATMOSPHERE

Heavy rainfall - heatwaves - drought - freeze/thaw

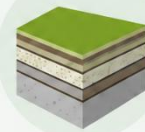
COVER

Runoff - erosion – desiccation - vegetation change - infiltration

SHALLOW HYDROGEOLOGY

Water-table variation - groundwater flow - saline intrusion

Areas of study affected by climate change: cover performance & modelling



Multilayer cover performance

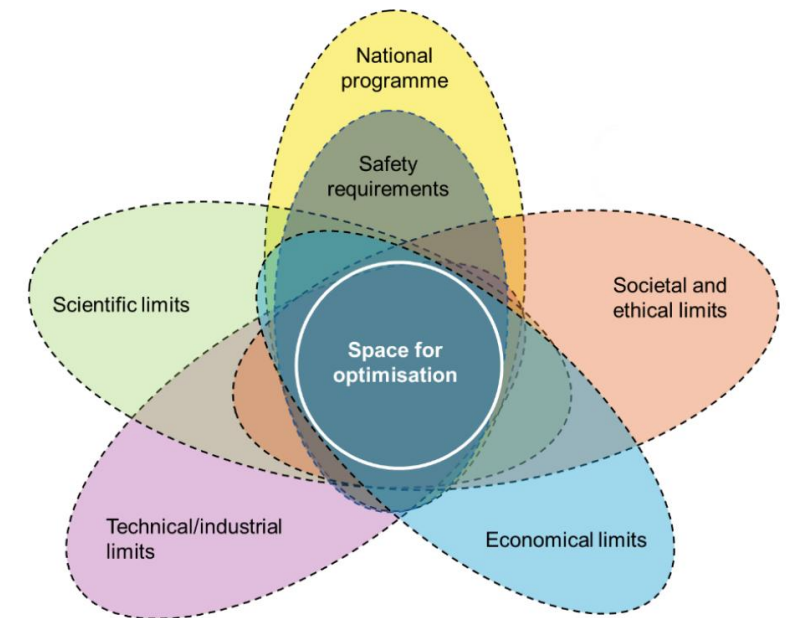
- ✓ Lab-scale experiments
- ✓ On-site experiments



Modelling of EBS evolution and radionuclide mitigation

Modelling the evolution of the engineered barrier system (EBS) and its effect on radionuclide mitigation.

Conceptual optimisation framework and drivers



Parallel discussion scenarios

Scenario 1 Drought and heavy rain

Longer **dry periods and more heavy rain** events are predicted by recent climate models.

Scenario 2 Heatwaves

Heatwaves are expected to intensify, with **+6°C summer peaks** by the end of the century.

Scenario 3 Accelerated extreme events

Climate models predict **more frequent droughts, heavy rainfall, storms, and freeze/thaw** cycles from 2050.

Scenario 4 Long-term uncertainties

Climate projections diverge significantly after 2100 (increasing uncertainty).