|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Variable influence on process** | | | **Process influence on variables** | | |
| **Influence present? (Yes/No Description)** | **Time period/Climate domain** | **Handling of influence (How/If not - Why)** | **Influence present? (Yes/No Description)** | **Time period/Climate domain** | **Handling of influence (How/If not - Why)** |
| Temperature in bedrock | Yes | Excavation/operation | Diffusion coefficients at constant temperature. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater flow | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater pressure | Yes | Excavation/operation | Diffusion coefficients at constant temperature. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Gas phase flow | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Repository geometry | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Fracture geometry | Yes | Excavation/operation | Site-specific descriptions of fracture and fracture zone geometry in groundwater flow modelling including diffusion of salt between mobile and immobile groundwater, see Section 3.1. | No | Excavation/operation | — |
| Temperate | As above for exchange of salt and reference waters in groundwater flow modelling. Geometry of flow paths and matrix porosity, see Section 6.1. | Temperate |
| Periglacial | Site-specific descriptions of fracture and fracture zone geometry in groundwater flow modelling including diffusion of salt between mobile and immobile groundwater, see Section 3.1. Transport of radionuclides, discussed in Section 6.1. | Periglacial |
| Glacial | Glacial |
| Rock stresses | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Matrix minerals | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Fracture minerals | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater composition | Yes | Excavation/operation | Exchange of salt between mobile and immobile water through diffusion included in groundwater flow modelling, see Section 3.1. | Yes | Excavation/operation | Effects on salinity of exchange of salt between mobile and immobile water included in the groundwater flow modelling, see Section 3.1. |
| Temperate | Exchange of salt and reference waters between mobile and immobile water through diffusion included in groundwater flow modelling, see Section 3.1. Transport of radionuclides, see Section 6.1. | Temperate | Effects on salinity and reference waters of exchange of salt and reference waters between mobile and immobile water included in the groundwater flow modelling, see Section 3.1. Transport of radionuclides, see Section 6.1. |
| Periglacial | Exchange of salt between mobile and immobile water through diffusion included in groundwater flow modelling see Section 3.1. Transport of radionuclides, see Section 6.1. | Periglacial | Effects on salinity of exchange of salt between mobile and immobile water included in the groundwater flow modelling, see Section 3.1. Transport of radionuclides, see Section 6.1. |
| Glacial | Glacial | Same as for periglacial above. Modelling of the effects of matrix diffusion on the consumption of oxygen present in infiltrating glacial melt waters. |
| Gas composition | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Structural and stray materials | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Saturation | Yes | Excavation/operation | Little significance compared with other influences. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |