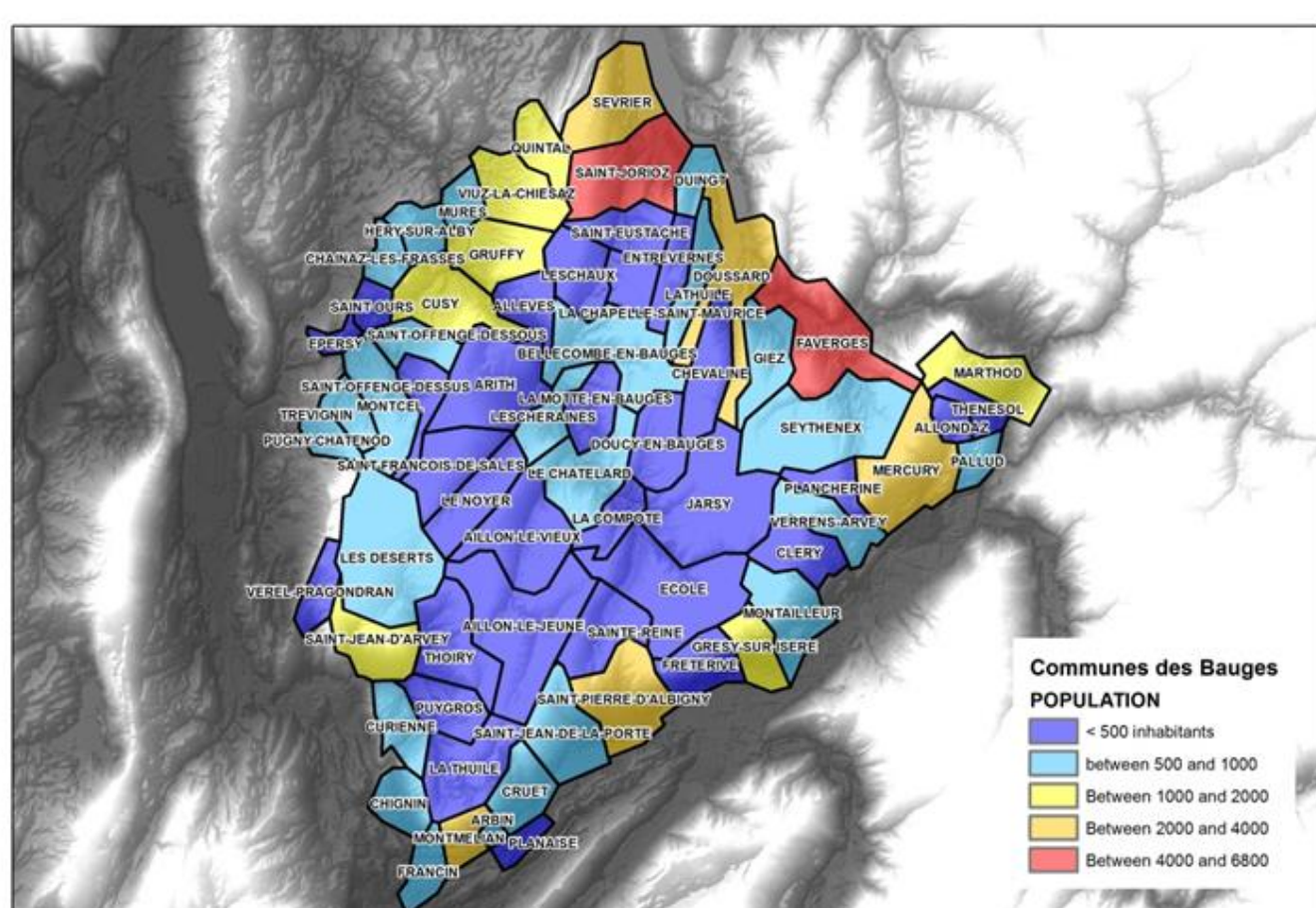


Parc Naturel Régional du Massif des Bauges

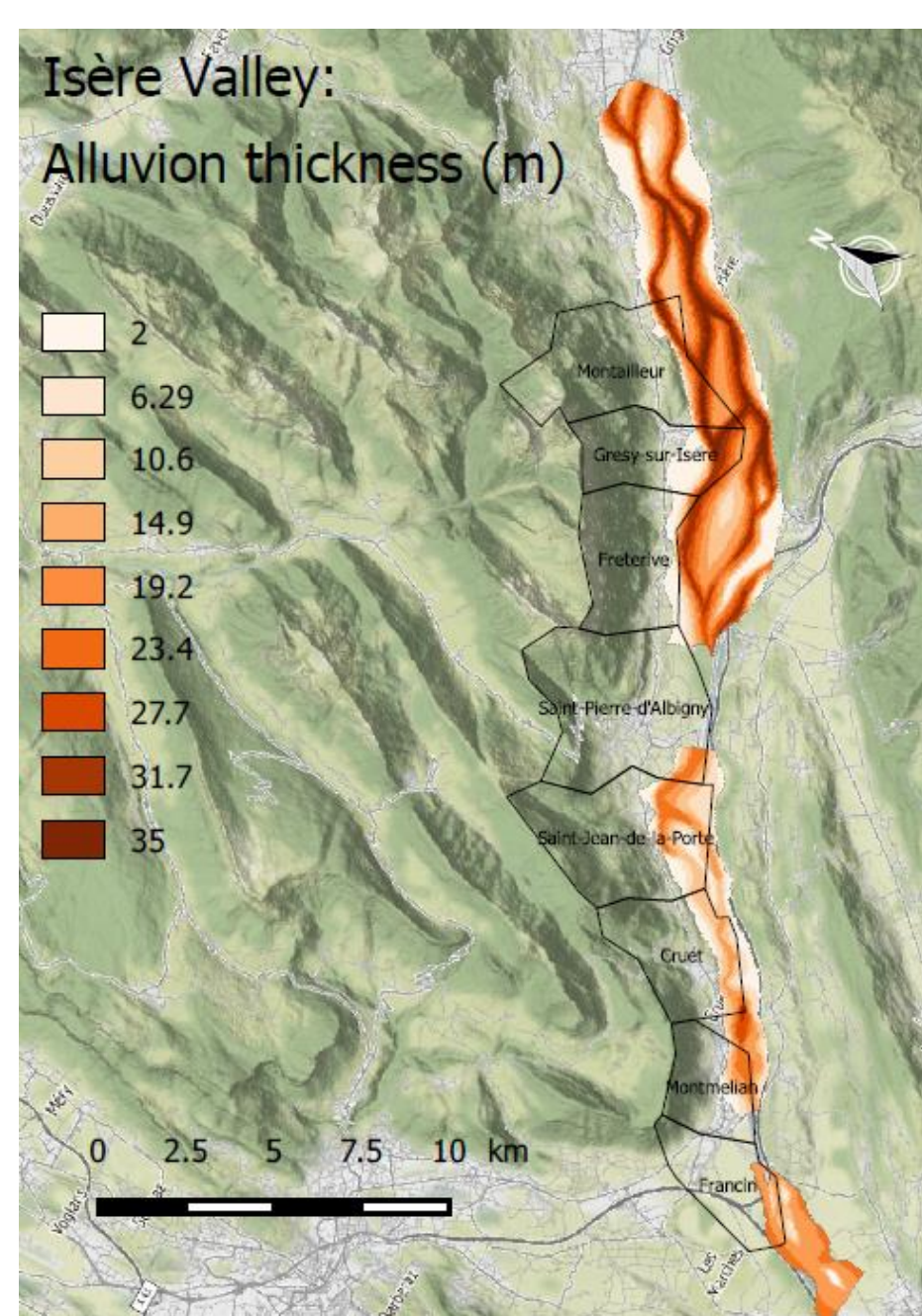
Case study area presentation

The PNR Massif des Bauges is a regional natural park located in the northern western Alps of France. It encompasses 64 municipalities and about 70,000 inhabitants. The park covers diverse areas, from rural communes located in the heart of the park to urban and residential areas on outer edges of the park, with stronger links to the major agglomerations of Chambéry and Annecy.



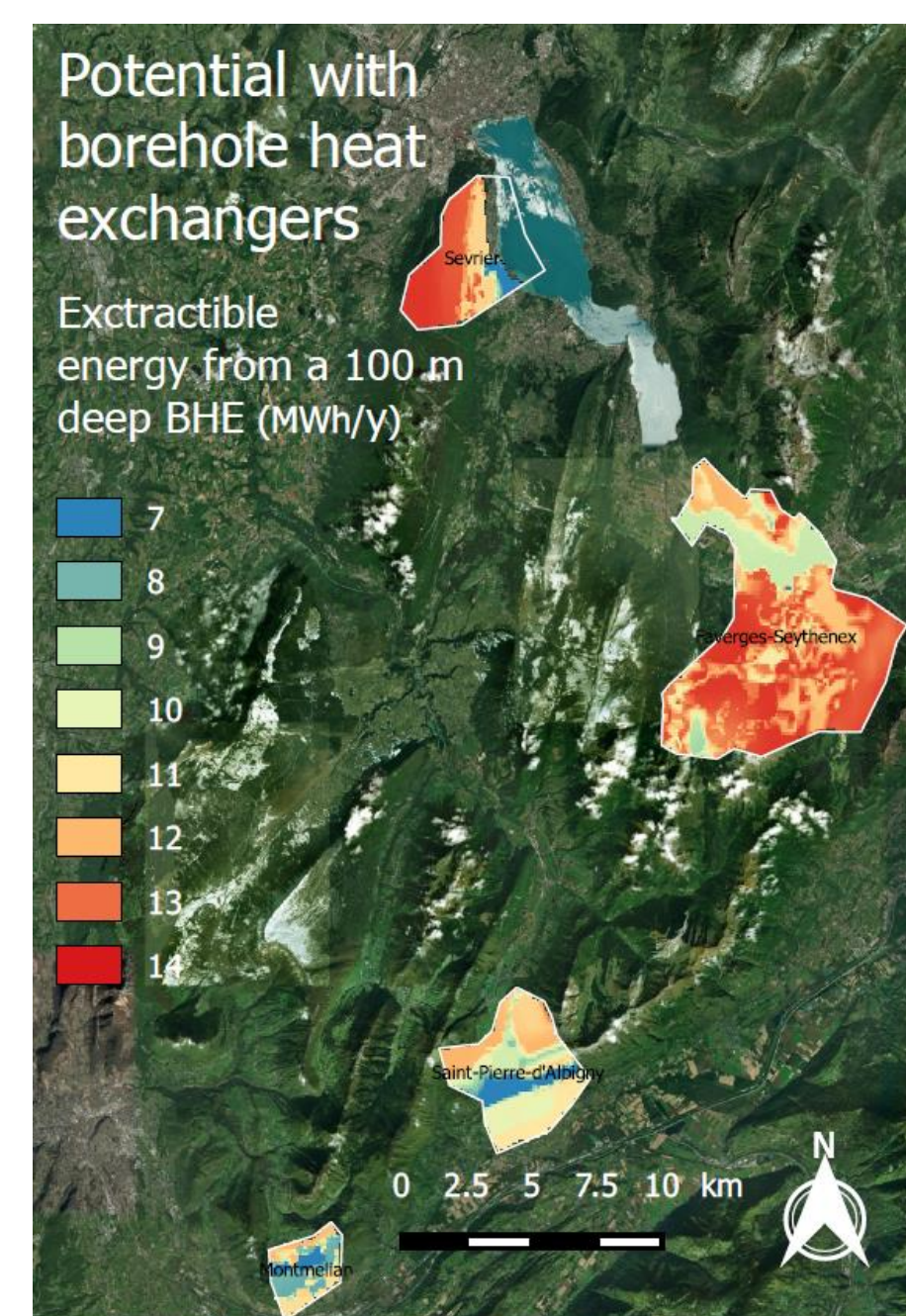
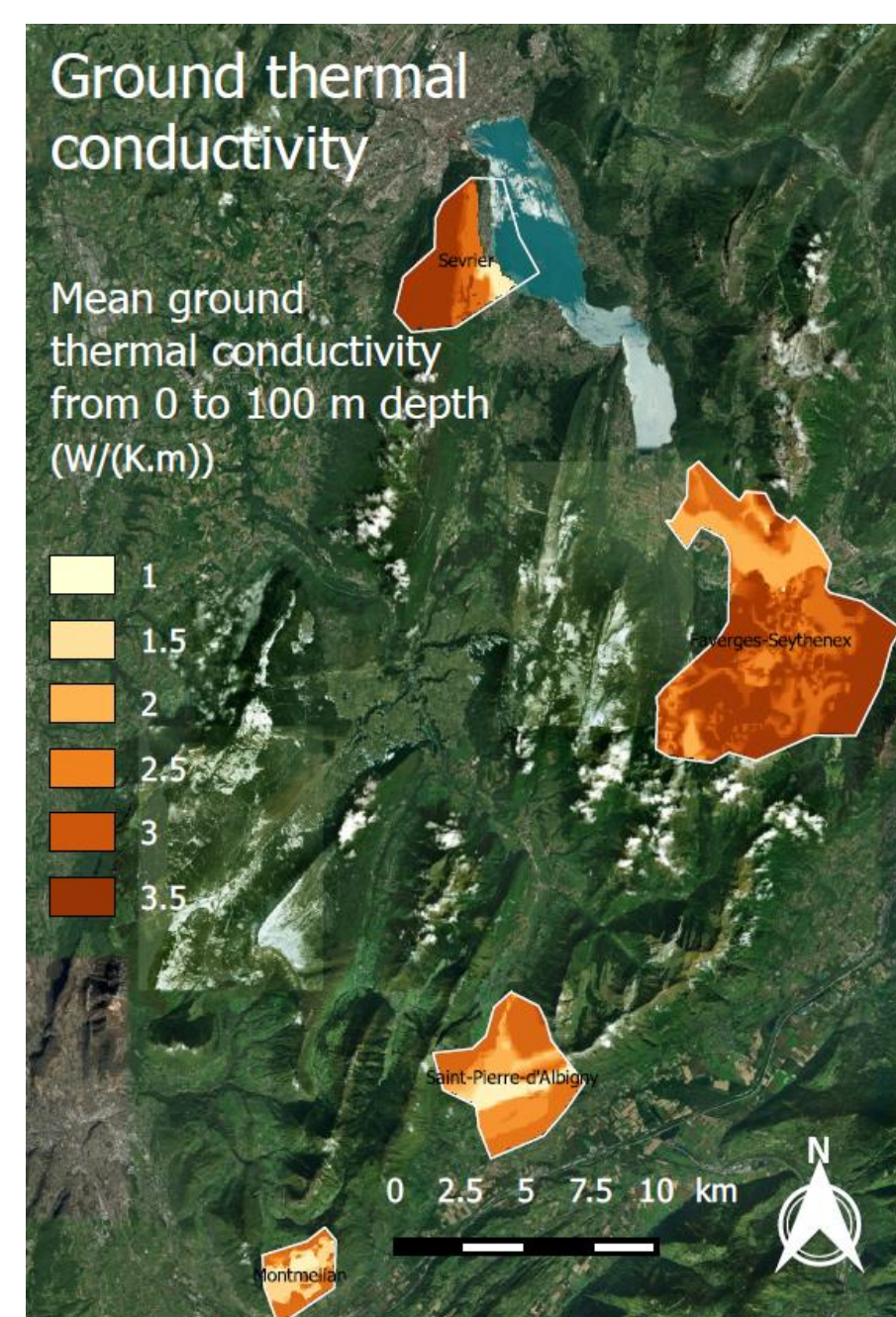
Geological and hydrogeological features

The Bauges massif is mainly made of folded and faulted carbonated sedimentary rocks, with an increase of deformation to the east. The Isère course runs along the southern edge of the Massif des Bauges. During the last phases of the Quaternary, the glacial eras allowed the alpine glaciers to go forward and over-dig the valleys. The warming/receding phases resulted in the formation of lakes and filled these over-dug valleys. Laterally, many alluvial fans (cones) came to feed the valley with more or less coarse materials. The size of these cones can vary both laterally (up to 2 km) and vertically (up to 60 m).

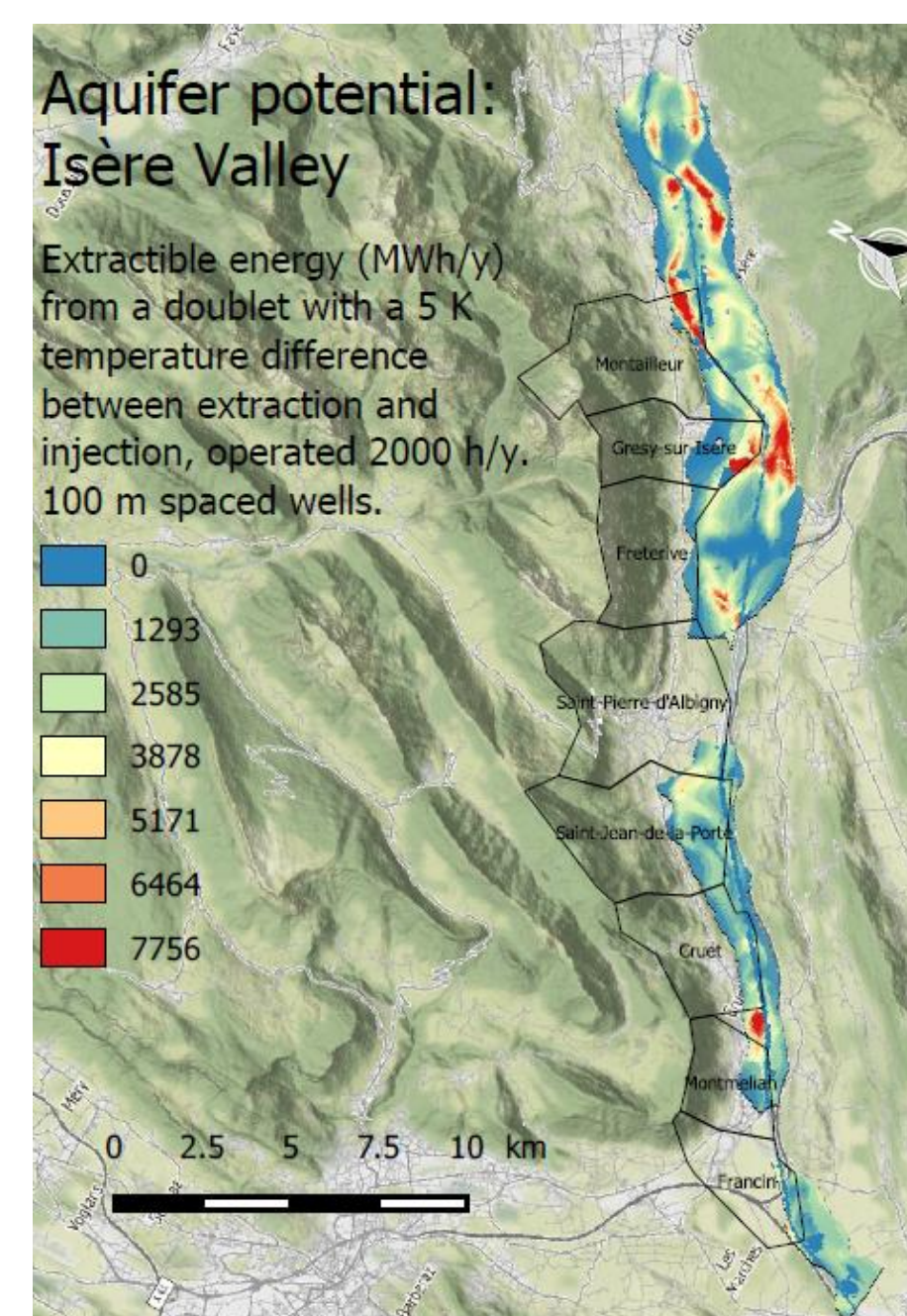
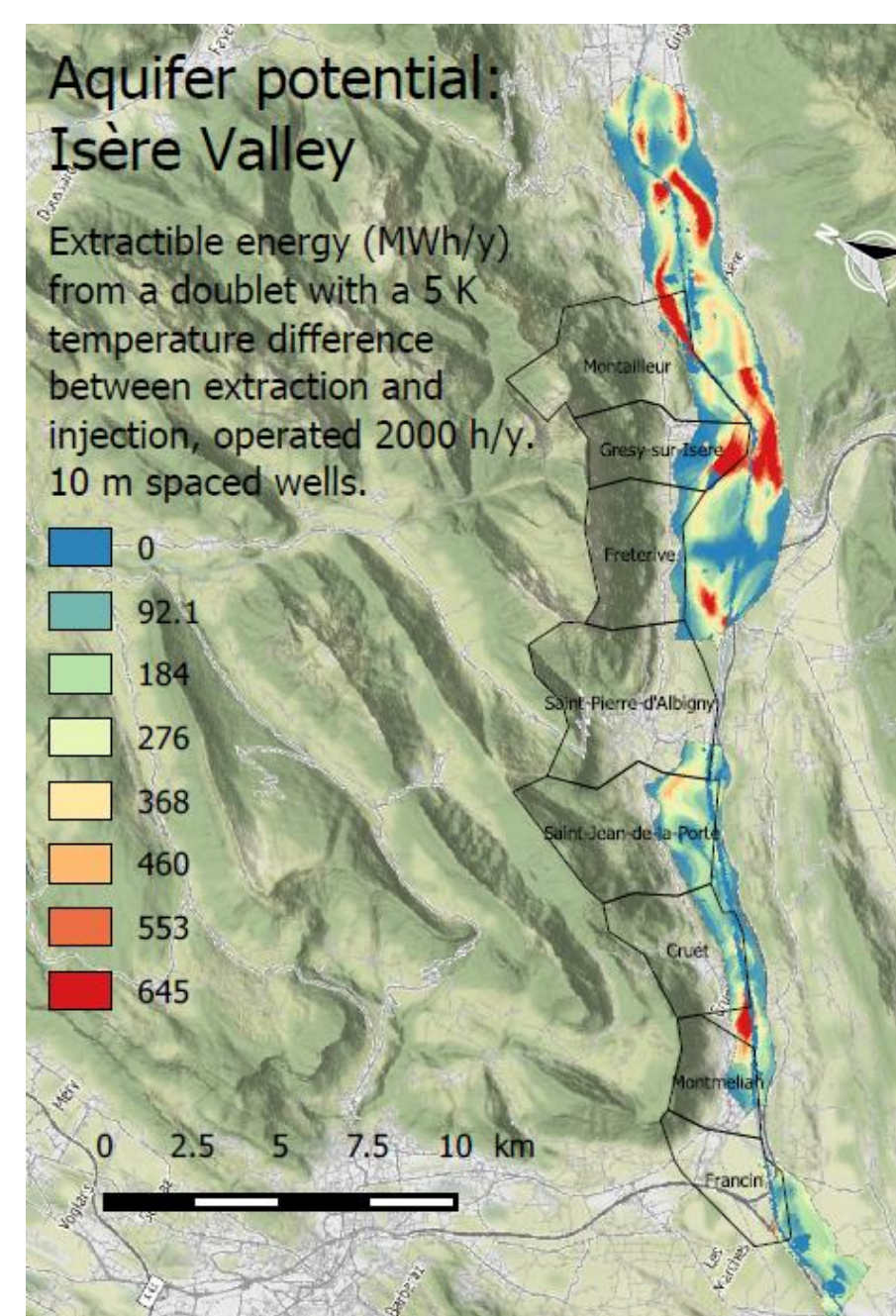


Estimation of shallow geothermal energy potential

The geothermal potential of Borehole Heat Exchangers has been assessed with the G.POT method in the most populated municipalities (c.a. 20,000 inhabitants). Rocks have been sampled and thermal properties measured in laboratory. Over the alluvial deposit, the potential is lower than 10 MWh/y, while on the valley slopes, values rise up to 15 MWh/y. The lowest values are reached over the Isère plain in the municipalities of Montmelian and Saint-Pierre-d'Albigny.



The potential of shallow aquifers has been assessed in the Isère Valley applying the method developed by TUM. This potential is extremely heterogeneous, mainly due to aquifer thickness heterogeneity.



Dissemination activities

70+ professionals gathered during a day of information about near-surface geothermal energy in October 2017. The derived potential will be presented to the Parc administration in November 2018.