

OBJECTIVES

The objectives of your project

- Permafrost extent map for Italian Alps
- Ground Surface temperature for mean annual year of 2018
- Active layer estimation over Italian Alps
- Classifying cloud coverage and snow coverage extent for a time series dataset (2018) to be used as a base layer for permafrost extent modeling
- Daily vegetation, solar radiation, emissivity, vegetative fraction and albedo maps for the year 2018 to be used as a base layer for permafrost monitoring

The description of how using tools and data within cloud environments helped you to achieve your goals

- Using command line prompt for directly bulk downloading udm2 bands without using the allotted package plan to download planetscope images was quite efficient.
- Although the data was not clipped after bulk download it had to be manually done using other software's.
- Cloud, haze, shadow were quite important for my study as one of the major base layer and assumption for my model needed cloud and shadow created by cloud extent to be classified as a separate layer. And udm2 already provided me with this classified layer.
- Similarly snow extent for time series dataset were already classified on a daily basis in udm2 dataset.

The highlights of any benefits to society derived from your project

- Climate change effects on Alpine environment for the year 2018;
- Change and shifts in vegetation coverage in 2018;
- Changes in active layer thickness in the permafrost layer for the year 2018;
- Changes in ground surface temperature for 2018;
- Changes in permafrost extent in 2018;
- Snow thickness and snow extent for 2018 varying pattern based on slope and aspect of the topography;
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Input variables created from udm2 planetscope as a parameter for the project



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