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16.01.2025

Digital Earth: Big Earth Data Concepts W24/25

7 Assignment: Sen2Cube.at

The existing model “01 - Observe Water Presence” is adjusted for looking at snow or ice presence over 3 areas of Austria (so-called inference).

Because of that, in the model as Color Type the classes

(1) Snow or water ice and
(2) Snow shadow were chosen (see Pictures of the model below and model file).

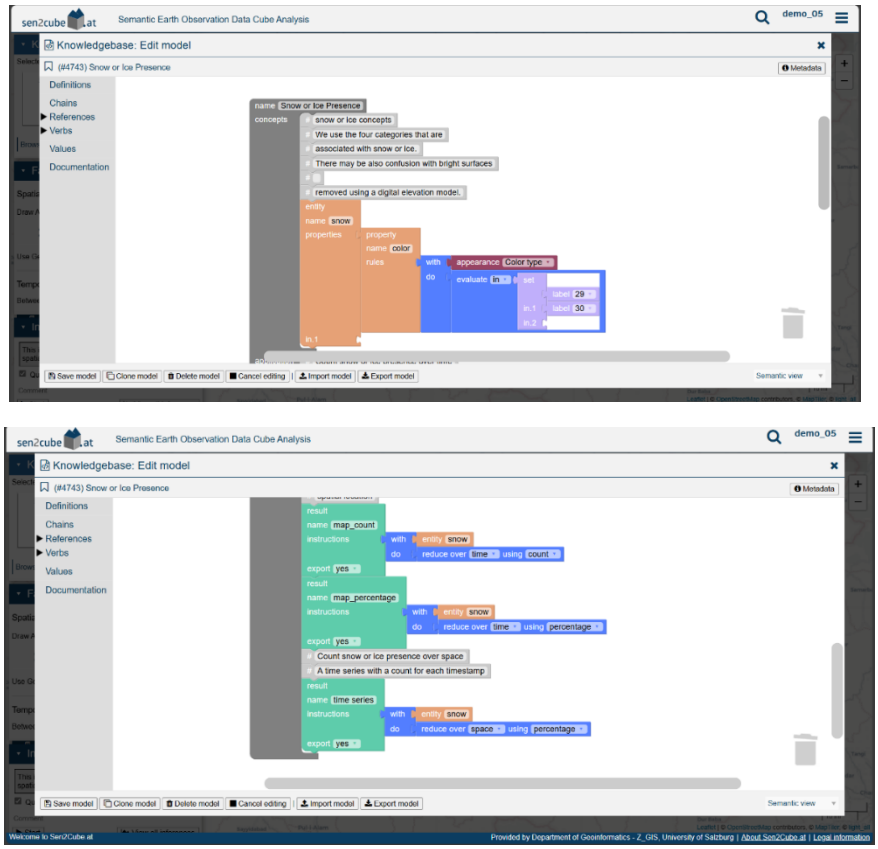

Figure 1: Model "Ice and Snow"

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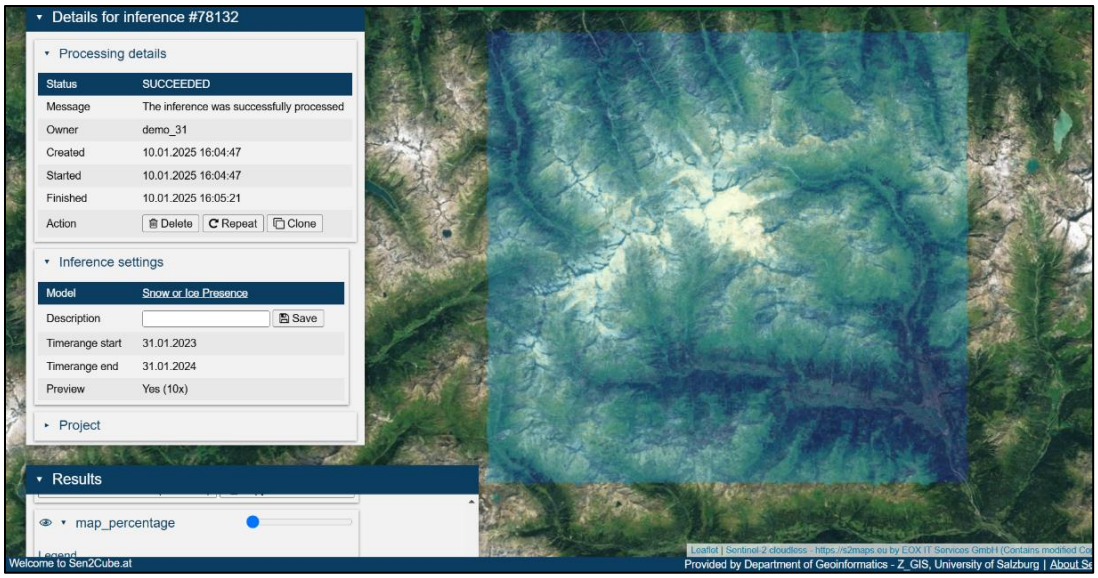

Figure 2: Study Area Hohe Tauern and Pinzgau: The appearance of Snow or Ice can be seen in the attached screenshots. The map shows geospatial raster representation, that indicates the spatial distribution of snow or ice.

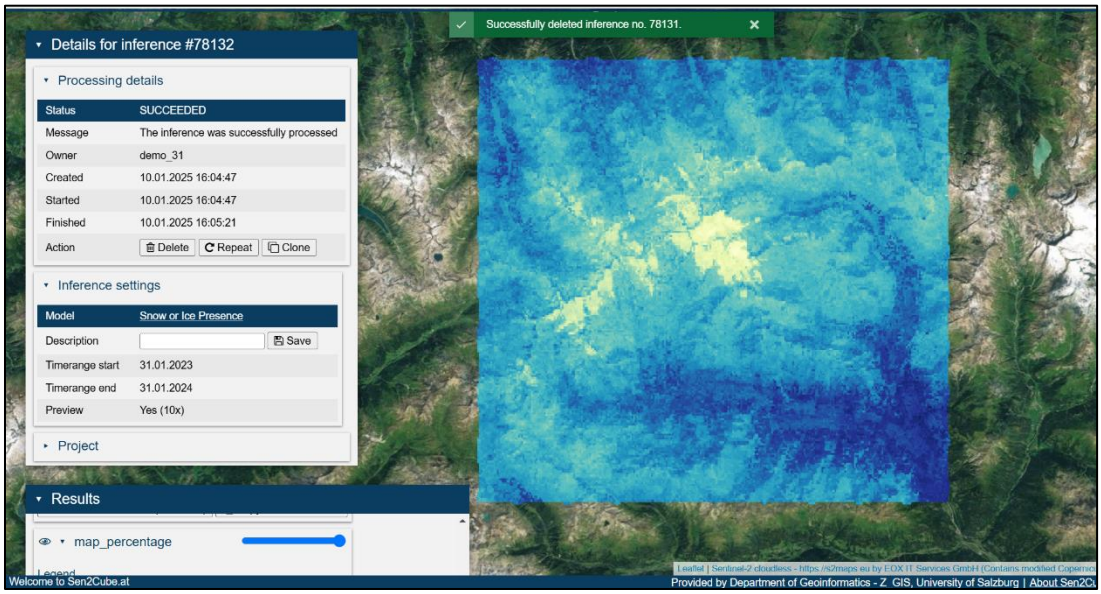

Figure 3: Study Area Hohe Tauern and Pinzgau: No transparency where now also strong snow or ice presence can be seen in the expected places (mountain caps and mountain areas).

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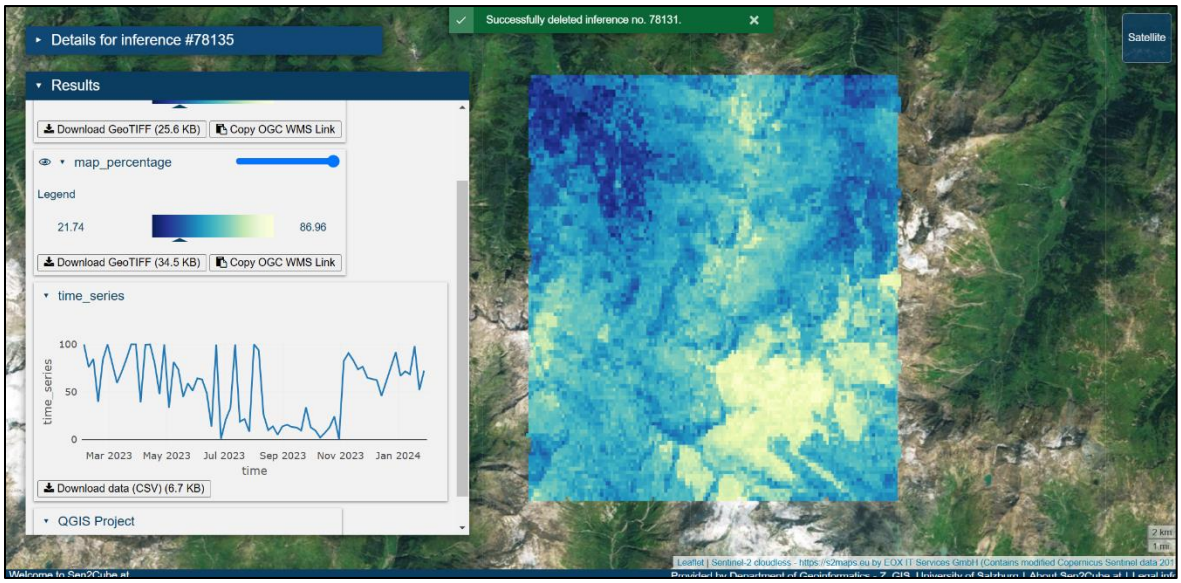

Figure 4: Study area Eiskögele Mountain: The time series plot below shows the temporal variation of the analyzed snow or ice. It fluctuates significantly with peaks spanning between July 2023 – September 2023 that shows a notable increase in the snow or ice coverage during that period. The legend ranges from 21.74-86.96 indicating the intensity of snow or ice presence.

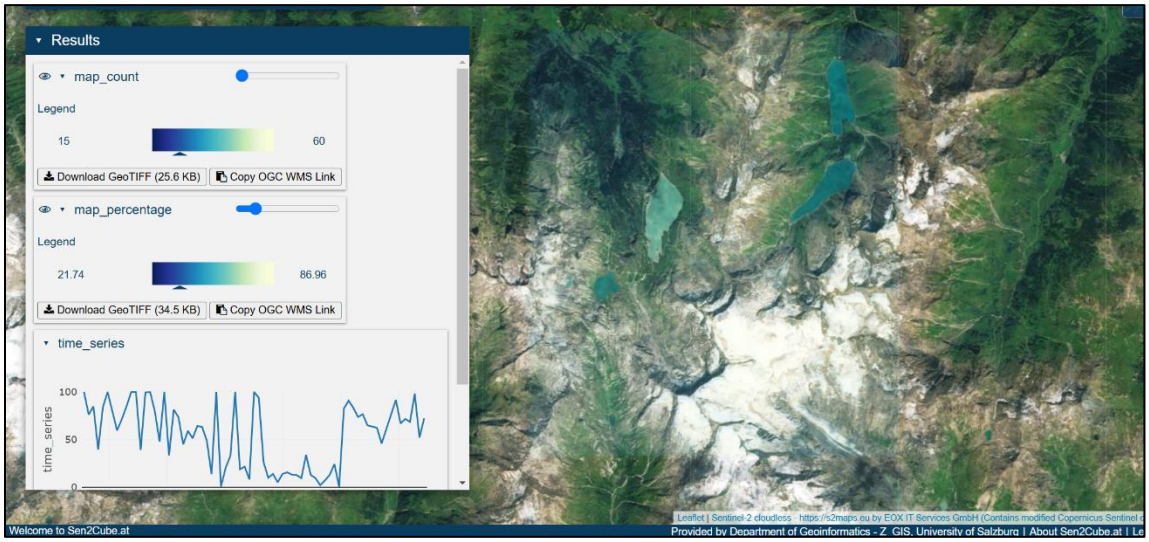

Figure 5: Study area Eiskögele Mountain: The graph in the picture shows periodic peaks and troughs, with some higher spikes that are visible between March 2023 and June 2023, that highlights the increase in snow or ice coverage during this period.

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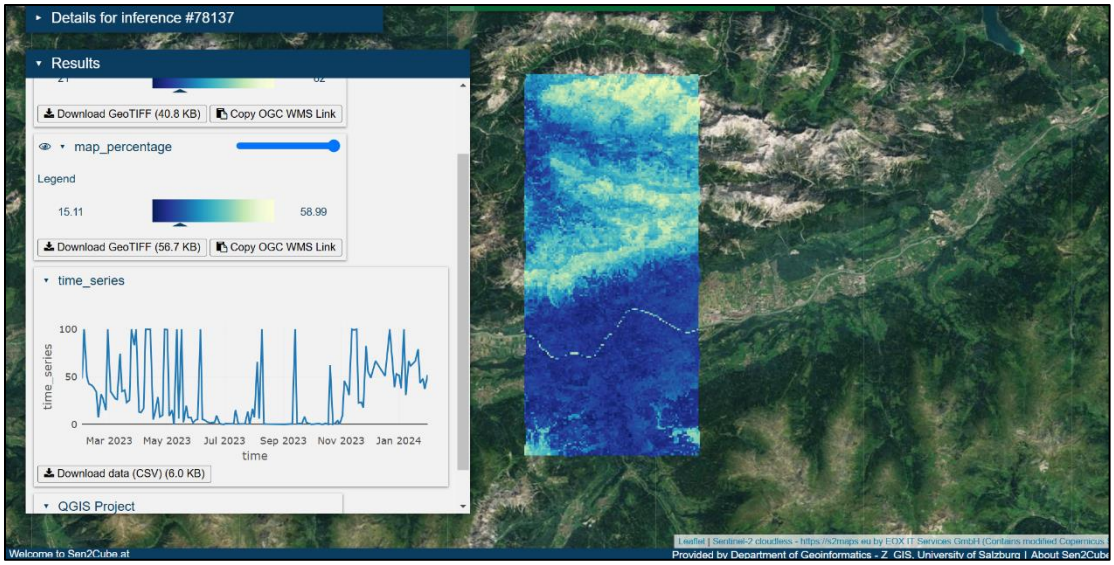

Figure 6: Study Area Innsbruck and its nearby Nordkette Mountains in the north of the city.