

# The role of accessibility on the supply of aesthetic values

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## Background

**Mountain landscapes** are often characterized by high aesthetic landscape values and are appreciated for **recreational activities** by residents and tourists. However, to benefit from aesthetic values, **infrastructure (mainly roads and paths)** has a crucial role, as it facilitates the **access to places of high aesthetic value**.

## Method

On the example of the municipality of Sölden (Austria), this study evaluates **the role of accessibility on the supply of aesthetic values**. We analysed the following aspects:

- changes in accessibility** by mapping roads and paths for several time steps since the beginning of tourism
- changes in the actual supply of aesthetic values** along roads and paths. Aesthetic values were estimated applying a spatially explicit modelling approach.

## Results

**Increased accessibility** resulted in a general **increase in the supply of aesthetic values** until 1950, as many new roads and paths were constructed in higher elevated areas, particularly in aesthetically attractive landscapes. Although the accessibility to high-elevation areas continued to increase until 2017, aesthetic values rather decreased because of altered landscape patterns, resulting from the declining agricultural use, especially in the alpine grassland area.

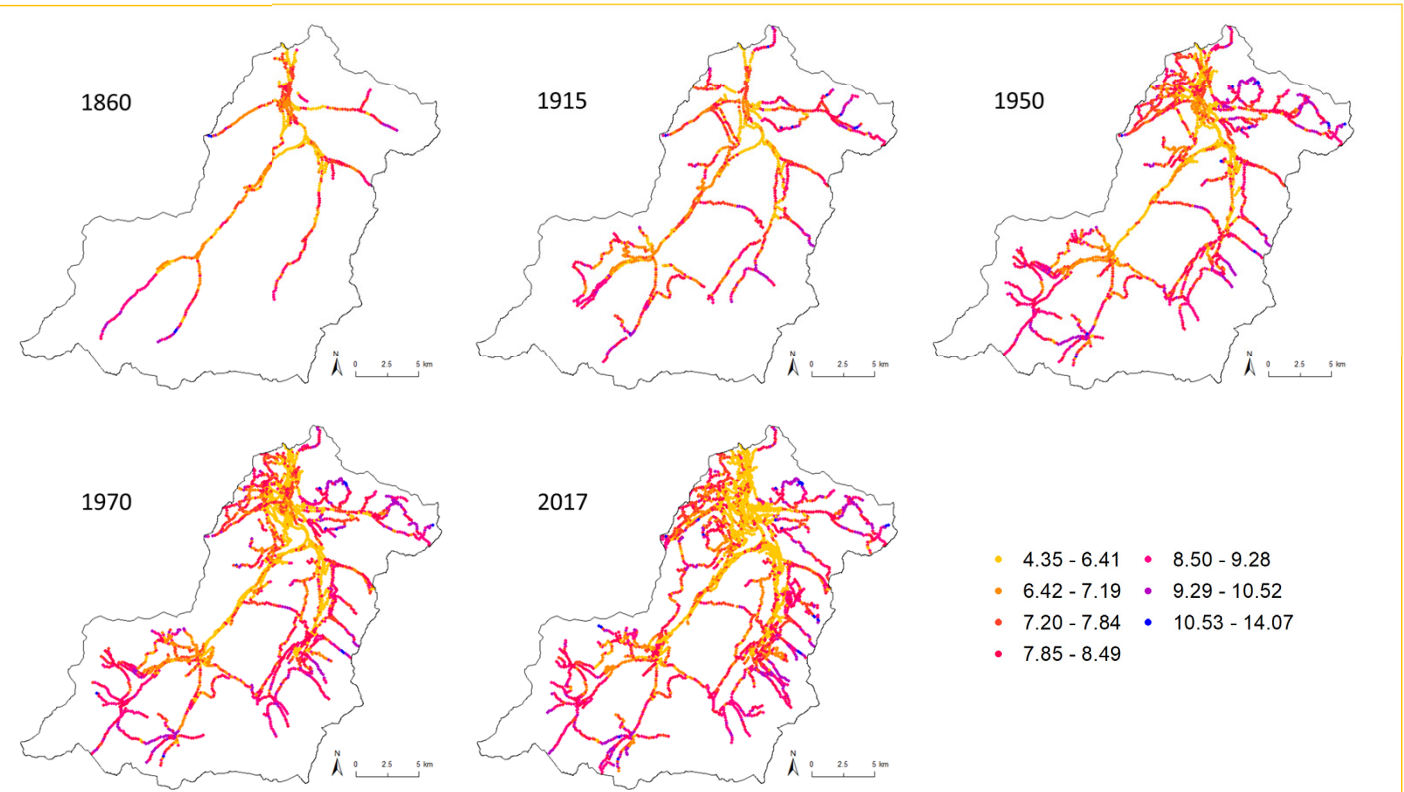


Figure 1: Changes in roads and paths as well as aesthetic values over the past 150 years

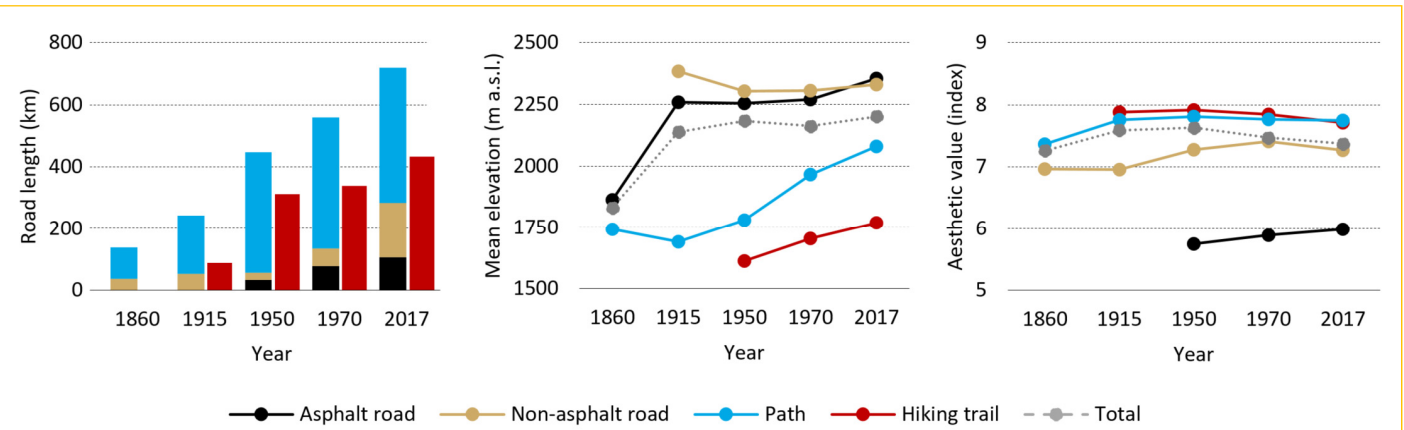


Figure 2: Development of road length (left), mean elevation of roads and paths (middle) and aesthetic values (right) for different road types

## Conclusions

In the future, the supply of aesthetic values is likely to be affected even more severely due to further **landscape changes** (e.g. forest increase, decline of glaciers) and **reduced access to landscapes of high aesthetic values** due to **difficulties in the maintenance of hiking trails**, as examples of Stubai Valley (Austria) and Matsch Valley (Italy) indicate. As similar developments occur in many other mountain regions worldwide, our results can serve to highlight general implications of changes in accessibility. Moreover, our results emphasize the **importance of agricultural activities** in alpine grassland to maintain aesthetic values.

## Further information

Schirpke, U. et al. (2019). Change from agricultural to touristic use: Effects on the aesthetic value of landscapes over the last 150 years. *Landscape and Urban Planning*, 187, 23-35.  
<https://www.sciencedirect.com/science/article/pii/S0169204618308727>