Analysis of visitors behavior patterns based on GPS tracks from Müstair Valley, Switzerland

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Nowadays, interactions between humans and nature are a very important subject in every visitors monitoring and management project. In recent years numerous scientific studies focused on human behavior in natural environments to create optimized methods for visitors management in ecologically sensitive areas.

During the last two years project "Mafreina" located in the Val Müstair (CH) has created new methods of visitors analysis based on modern GPS devices and adapted methods of data exploration and simulation.

The study focused on visitors behavior patterns in the regional nature park with a special feature. The visitors in the Val Müstair were not obligated to stay on the designated trails. As a result the diversity of visitors behavior patterns was very high and required precise algorithms which would show where the tourists left the trails and where did they return back on them.

During the creation of algorithms various qualitative and quantitative factors had to be taken under consideration. Diverse characteristics of visitors, precision of GPS devices and means of transport were some of the main factors included in the scripts which had to narrow the examined group and create reliable results. Complexity of visitors behavior patterns required using fuzzy logic to answer the final question whether the tourists followed or stayed on the trails.

Chosen factors and methods of data analysis are the main discussion points of the study and need to be examined profoundly as they will be used to draw further conclusions for the visitor management in the regional nature park "Biosfera Val Müstair".