

Analysis of structural connectivity between HCV wetlands

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Prepare wetness data

The nmd wetness data has four holes with nodata in the mountain range.

1. Five polygons were created manually to cover the nodata holes (nodata_polygons). The polygons were in the same vector but with different categories (cat).
2. Land classified as water in the nodata_polygons were set to the maximum wetness value (240)
3. All missing values outside of the nodata_polygons were set to the maximum wetness value (240) using the nodata_polygons as an inverse mask
4. Buffers of 10 km around the nodata_polygons were created (nodata_buffer).
5. For each nodata_buffer polygon (cat), univariate statistics (r.univar) were calculated to identify the mean wetness value for each land-use class (i.e., on land surrounding the nodata holes).
6. For each nodata_polygon, nodata cells were populated with the respective average wetness value, based on their land-use class. Freshwater was set manually to the maximum wetness value (240). This resulted in five wetness rasters, containing estimated wetness values for the previous nodata cells in the five nodata_polygons, respectively.
7. Finally, the original wetness data were patched with the five new wetness rasters to provide continuous wetness data across the county.

Wetlands in the mountain range

1. The HCV wetland data (VMI) do not include wetlands in the mountain range. According to the county administration, all wetlands in the mountain range can be considered "unaffected".
2. The natural geographic regions in the mountain area that were excluded from the VMI were identified and saved as vector.
3. Within this vector, all land classified as wetland in the national land-use map (NMD) were identified (wetlands_mountains_raster).
4. The wetlands in the mountains were saved as vector (wetland_mountains_vector) using the VMI data as an inverse mask.
5. Wetlands larger than 1 ha were selected and the attribute table was harmonized with the VMI. The hydrological status was set to 0 (unaffected).
6. Finally, the VMI and the selected wetlands in the mountain range were patched (v.patch).