

## 15. Progress on an Alaska Arctic vegetation classification using the AVA-AK

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Vegetation classification has recently become the most important tool of vegetation scientists, ecologists and nature conservationists all over the world. Following the Braun-Blanquet approach, botanists in Europe created a sophisticated hierarchical system of units representing plant communities based on their floristic, ecological and structural criteria. The advantages of language

of this classification system is mainly that behind each name, which follows certain prescripts, there is whole treasure trove of taxonomic and ecological information that can be compared hierarchically with other similar or vicariant units in other regions. Up to now, the arctic parts of North America were missing this kind of overview of vegetation units that can be comparable with rest of the world. Contemporary activities led by Alaska Geobotany Centre of University of Alaska Fairbanks and other institutions resulted into establishment of Arctic Vegetation Archive that has had ambitions to put together all relevant vegetation data with available ancillary data from whole arctic biome.

The data stored in Alaska Arctic Vegetation Archive – 3026 relevés, were analyzed based on floristic criteria and their abundance using cluster analyzes. Using the methods of crispness of classification, the best interpretable number of clusters were identified that lead to exploring the structure of stored data. On the highest level of dissimilarity, the four main divisions represent i) initial, aquatic and azonal communities; ii) moist to dry acidic dwarf shrubs; iii) zonal alpine communities and iv) graminoid tundra and dwarf-shrub heath vegetation, respectively.

The next goal should be the creation of a useful classification system of arctic vegetation based on formal language which will be understandable and easy to use. Based on our preliminary results obtained by above mentioned methods together with finding the main gradients and drivers of vegetation variability in our dataset, we will be able to create logical expert system comparable and combinable with recently used units developed for the US National Vegetation Classification.