



GEOGRAPHICAL AFFINITIES OF THE FLORA OF NORTH DAKOTA

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BACKGROUND

NORTH DAKOTA HAS 2 PHYSIOGRAPHIC PROVINCES

North Dakota is divided into 2 physiographic provinces: Central Lowlands and the Great Plains. They are divided by an indefinite east-facing escarpment.

To the east is the Young Drift section and has “gently rolling” underlying rock that is Cretaceous. On top of the Cretaceous rock, there are glacial deposits.

To the west is the Missouri Plateau and has Upper Cretaceous and Tertiary Strata.





During Cretaceous & Early Tertiary times, palms and other warm temperate species such as *Fagus*, *Metasequoia*, and *Ginkgo* were growing in the region. However, as the Rocky Mountains continued to develop, the inflow of humid air and the precipitation from the Pacific Ocean decreased and caused the region to become more arid and the area started to become more of a grassland.

GLACIATION IN NORTH DAKOTA



Glaciation in ND occurred more than once with the most recent being the Late Wisconsin.

The origin was the Keewatin Center and when expanding, it did not proceed far past the escarpment between the two provinces of ND. This glaciation had a smoothing effect on the land as it abraded the hills and filled in the valleys that the Pembina Mountains had. What is known as the Red River Valley was once the bed of the glacial Lake Agassiz.



North Dakota has extreme temperature changes with a shorter growing season that is approximately 121 days. This prevents many species from becoming established. The floristic population that does grow here should be a hardy species.

The climate of the Eastern 1/3 of the state can be called sub humid and the Western 2/3 of the state is considered semiarid.

THE PRESENT FLORA HAS ABOUT 900 NATIVE SPECIES

55% Intraneous species

- ❖ 15% are widespread species and range all over North America.

- ❖ *Geranium carolinianum* (wild flower)

- ❖ 40% are prairie species

- ❖ Tall grasses
 - ❖ Short grasses



45% Extraneous species

- ❖ 15% relicts from Northern coniferous forest

- ❖ Balsam Poplar tree

- ❖ 20% from Eastern deciduous forest

- ❖ Basswood trees

- ❖ 5% from the Rocky Mountains

- ❖ Junipers

- ❖ 5% from the deserts of Southwestern United States

- ❖ Cactus