

Origin of North American Prairies

Geological Time Scale of the Cenozoic Era (65 mya - present)

<u>Period</u>	<u>Epoch</u>	<u>Approximate start (mya)</u>
Tertiary	Paleocene	65.0
	Eocene	54.9
	Oligocene	38.0
	Miocene	24.6
	Pliocene	5.1
Quaternary	Pleistocene	2.0
	Holocene	0.01

Global climate changes at beginning of era—cooler, drier conditions; more pronounced during Oligocene—favored formation of savanna and grassland.

[Note: grasses evolved ca. 70 – 80 mya.]

In North America, fossil evidence indicates shift in Central Plains vegetation from woodland/savanna to more open grassland during the mid-Miocene to early Holocene.

Following end of the last glaciation, climatic changes helped shape the prairie ecosystem.

20,000 ya : maximum extent of the most recent glaciation, the Wisconsin.

Post-glacial influences on climate and vegetation of northern North America:

- under ice or water
- cold + dry (frozen) → tundra
- cold + moist → evergreen forest, muskeg
- warm + moist → deciduous forest
- warm + dry → grassland

Prairie advance from the southwest occurred ca. 12,000 – 8,000 ya.

Hypsithermal: warm, dry period immediately following last glaciation (ca. 8,000 ya), lasting 3,000 - 4,000 years.

--Resulted in greater expansion of grassland; some retraction following end of the period.

Prairie in Illinois: Pre- and Postsettlement

Pre-European settlement:

Except for the southern part of the state, most of Illinois was a mosaic of eastern deciduous forest and tallgrass prairie.

Broad Landscape Characteristics:

Rolling, undulating land with level areas.

1. Forests along streams, rivers.
2. Mesic prairie most common.
3. Drier uplands: hill prairies along the bluffs of the Mississippi River.
4. Wet prairies: fairly common in lowlands, near wetlands or areas of poorer drainage (e.g., dolomite prairie).
5. Sand prairie: near southern shore Lake Michigan, along parts of Kankakee and Mississippi Rivers.
6. Savanna: ecotonal boundary between prairie and forest; also probably found near streams and rivers.

People:

Mississippian culture—mound-builders, extensive trading, agriculture (ca. 900 A.D. to 1500?); appeared sedentary.

Algonquian tribes—Illini, Miami, Kickapoo, Potawatomi, Sauk, Fox, Winnebago
--summer villages and farms, winter hunting areas

1st Europeans—French in late 1600's; voyageurs, fur-trade.

Post-European settlement

Pattern of migration for [non-native] American settlers in Illinois was roughly from the south, northward.

First French settlements in Mississippi Valley in 1700s.

Mainly Southerners began colonizing state in the early 1800s.

--Occupied timbered areas first; moving into the edge of the grassland (grazing, some crops).

--Land was parceled by the township and range system.

Invention of Deere's steel plow in 1837 and recognition of prairie soil fertility had a profound impact on the prairies.