Origin of North American Prairies

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

<table>
<thead>
<tr>
<th>Period</th>
<th>Epoch</th>
<th>Approximate start (mya)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary</td>
<td>Paleocene</td>
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</tr>
<tr>
<td></td>
<td>Eocene</td>
<td>54.9</td>
</tr>
<tr>
<td></td>
<td>Oligocene</td>
<td>38.0</td>
</tr>
<tr>
<td></td>
<td>Miocene</td>
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<td>Pliocene</td>
<td>5.1</td>
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<td>Quaternary</td>
<td>Pleistocene</td>
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<tr>
<td></td>
<td>Holocene</td>
<td>0.01</td>
</tr>
</tbody>
</table>

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.