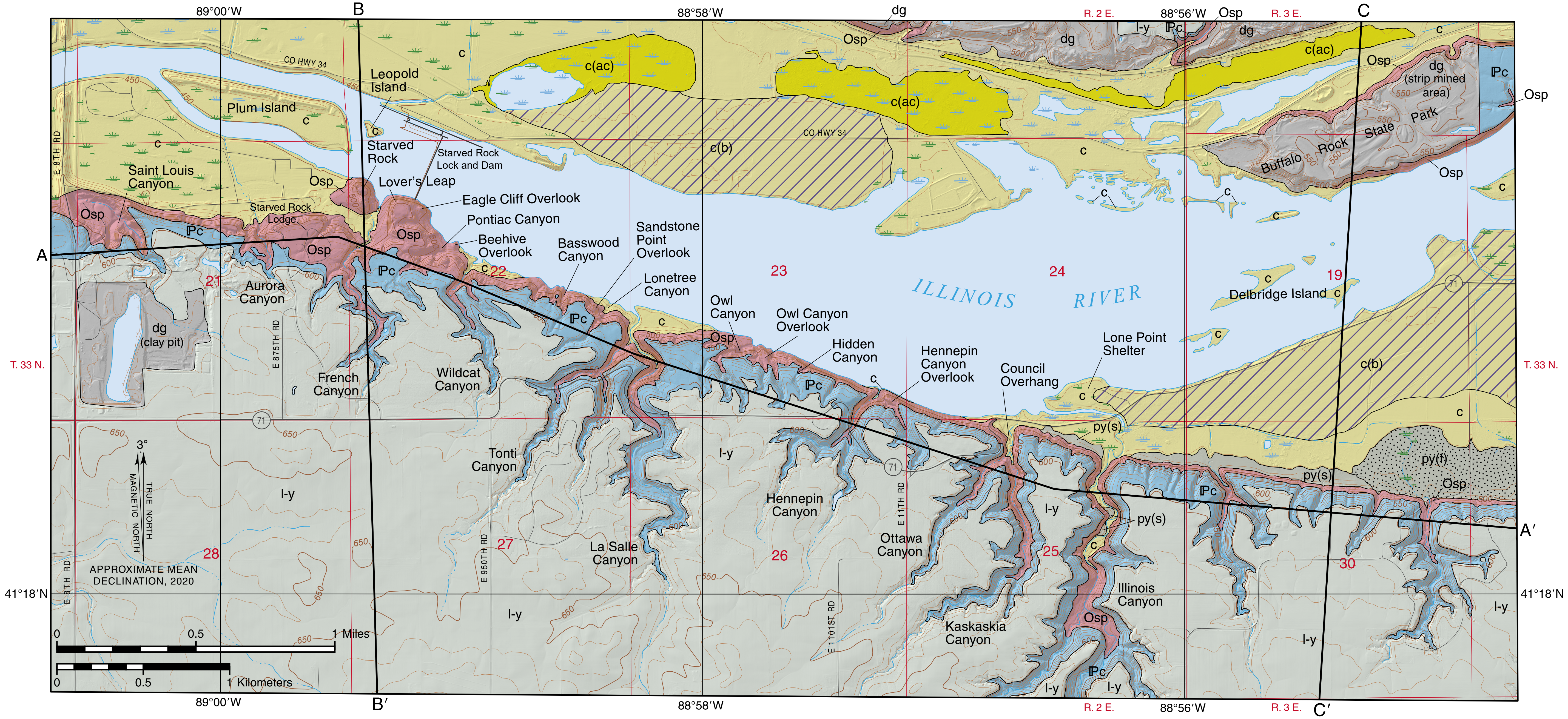
Special Report 8 2020

Geology of Starved Rock State Park and Surrounding Area

La Salle County, Illinois

2020



Geologic Time | Glacial Episode

Quaternary Period 2.58 million years ago (Ma) to today

- dg — **Disturbed ground:** Human-made fill or excavations composed of a wide range of possible materials; includes former coal strip mines, silica mines, and clay pits.
- c — **Cahokia Formation (undivided):** Sorted silty sand, sand, or both; deposited in modern streams and floodplains within active stream valleys.
- c(b) — **Cahokia Formation (thin over bedrock):** Thin, sorted silty sand, sand, or both over bedrock; deposited in modern streams and floodplains where bedrock is very near land surface.
- c(ac) — **Cahokia Formation (abandoned channels):** Organic-rich silty sand, sand, or both; deposited in abandoned stream channels and wetland areas.
- py(s) — **Peyton Colluvium (sandy):** Poorly sorted sand and sandy silt; slope wash or slump deposits along canyon walls.
- py(f) — **Peyton Colluvium (fan facies):** Sorted sand; redeposited alluvium in fans at mouths of canyons.

Hudson Episode ~14,700 years before present (B.P.) to today

- l-y — **Lemont Formation – Yorkville Member:** Unsorted clay, silt, sand and gravel (i.e., till); deposited beneath glacial ice.

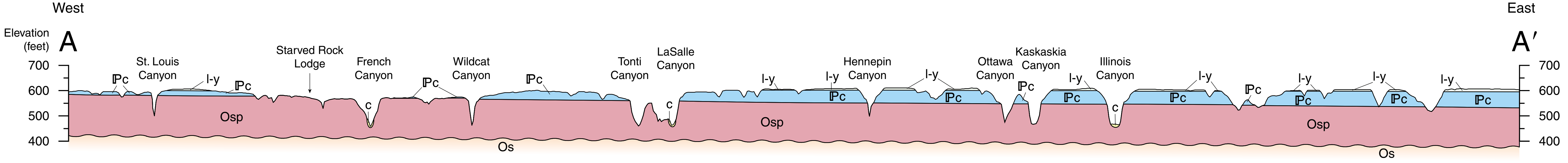
Wisconsin Episode ~29,000–14,700 B.P.

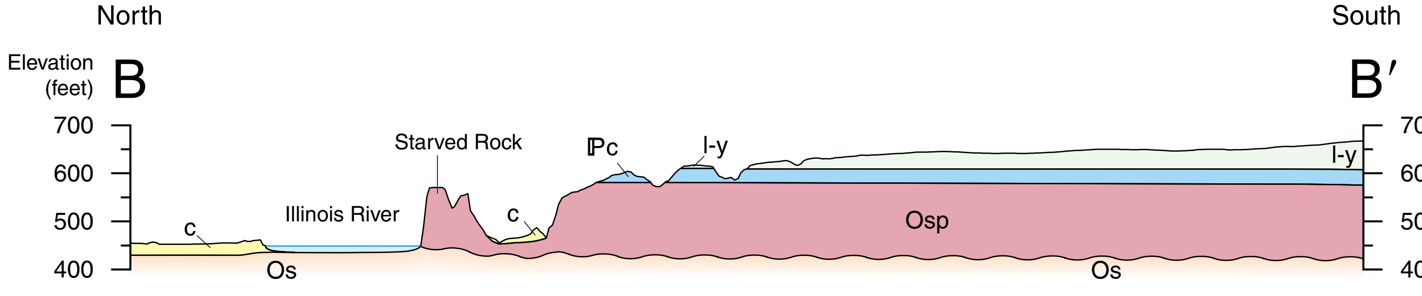
Carboniferous Period 358–298 Ma

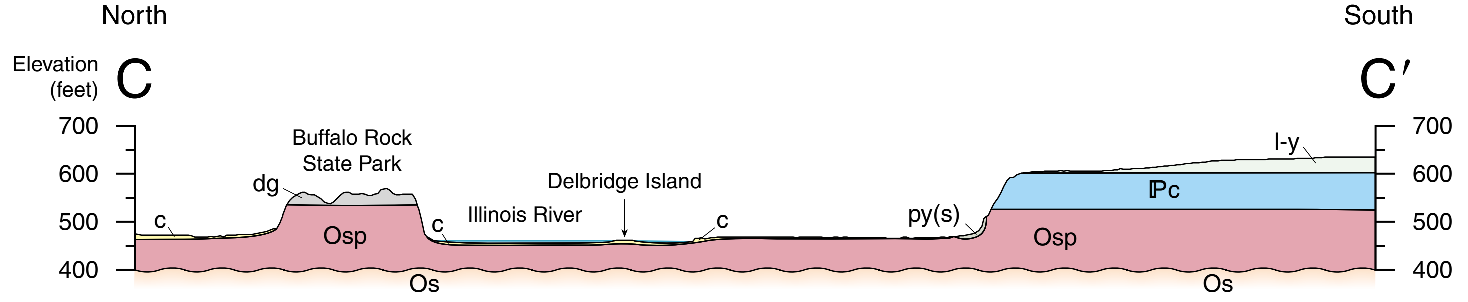
- ℙc — **Carbondale Formation:** Thin beds of dark gray silty shale to fissile black shale, bituminous coal, mudstone, gray limestone, and quartz sandstone; deposited in a shallow marine environment.

Ordovician Period 485–444 Ma

- Osp — **St. Peter Sandstone:** Fine- to medium-grained well-rounded quartz sand; deposited in a coastal marine environment.
- Os — **Shakopee Dolomite:** (cross sections only) light gray, crystalline dolomite with common shaley zones; deposited on an ancient sea floor; upper contact with St. Peter Sandstone is unconformably irregular.







Cross sections show the geology below land surface. The St. Peter Sandstone comprises the cliff faces of the park's canyons. The canyons were carved in part by glacial-meltwater flood events that occurred between 18,800 and 15,100 years ago.

Horizontal Scale: 1 inch = 2,000 feet
Vertical Scale: 1 inch = 400 feet
Vertical Exaggeration: 5×
Cross sections are for general use only to reflect the regional geology and do not conform precisely to the map.

Geology by Jason F. Thomason, Illinois State Geological Survey. Digital cartography by Emily Bunse, Shaina Lohman, Jason F. Thomason, and Deette Lund, Illinois State Geological Survey.

Base map compiled by the Illinois State Geological Survey from digital data (2018 U.S. Topo) provided by the U.S. Geological Survey. Shaded relief derived from 2017 lidar elevation data provided by the U.S. Geological Survey and the Illinois Height Modernization Program (ILHMP). Contour interval 10 feet.

References

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