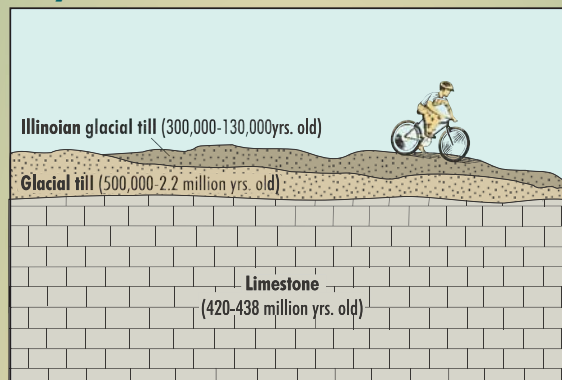


RAGBRAI Quiz

- Although crinoids are often called "sea lilies" they are related to _____.
a. mastodons b. starfish c. sponges
- Currently there are about _____ ethanol plants in Iowa.
a. 15 b. 70 c. 30
- More than ____ of Iowa's prairie pothole marshes have been drained.
a. 95% b. 70% c. 30%
- Iowa's state soil is the _____.
a. Dunbar slough b. Tama silt loam
c. Bemis Moraine
- The last glacial advance in Iowa occurred over the region known as the _____.
a. Des Moines Lobe b. Iowan Surface c. Loess Hills
- The Fremont Channel is actually a(n) _____.
a. local cable station b. ocean
c. ancient river valley
- Drilled in 1886 in Belle Plaine, _____ is Iowa's most famous well.
a. Jumbo b. Dakota c. Jordan
- In Cedar Rapids, the 2008 flood crested _____ ft. higher than the previous record set in 1851.
a. 3 b. 7 c. 11
- The State Quarry has rocks from the ____ Period.
a. Cretaceous b. Devonian c. Tertiary
- Anoxic "Dead Zones" in the Gulf have reached the size of _____.
a. Davenport b. Manhattan c. New Jersey

Answers: 1.b, 2.c, 3.a, 4.b, 5.a, 6.c, 7.a, 8.c, 9.b, 10.c

Day 7 Milestones



Start: Tipton

Sugar Creek: 2.3 miles

Bennett Park: 12.7 miles

Illinoian Till Plain: 12 miles

Cameron Timber: 25 miles

Maysville: 25.9 miles

LeClaire: 48.1 miles

Finish: Mississippi River – 53 miles

For more information...

Iowa's land was mapped long before it was declared a state. Since Lewis and Clark published their journey across the North American west in 1814, many different uses for maps have been found. Today there are maps of Iowa's roads, waterways, landscape features, geology, and land use. One of the more recent mapping efforts has involved using a technology called **LiDAR**. This technology creates a topographic map of Iowa's elevation that is accurate to within eight inches, ten times higher resolution than in previous elevation maps. To learn more about LiDAR and its uses visit: www.iowadnr.gov/mapping/lidar/index.html.

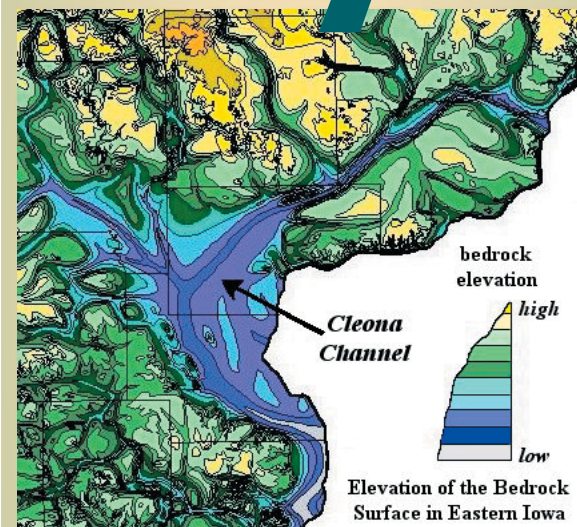
The USGS has many maps, resources, and images available in its new online store at <http://store.usgs.gov>

RAGBRAI 2008

Learn about the Land

Day 7

Saturday, July 26



Iowa DNR – Geological and Water Survey

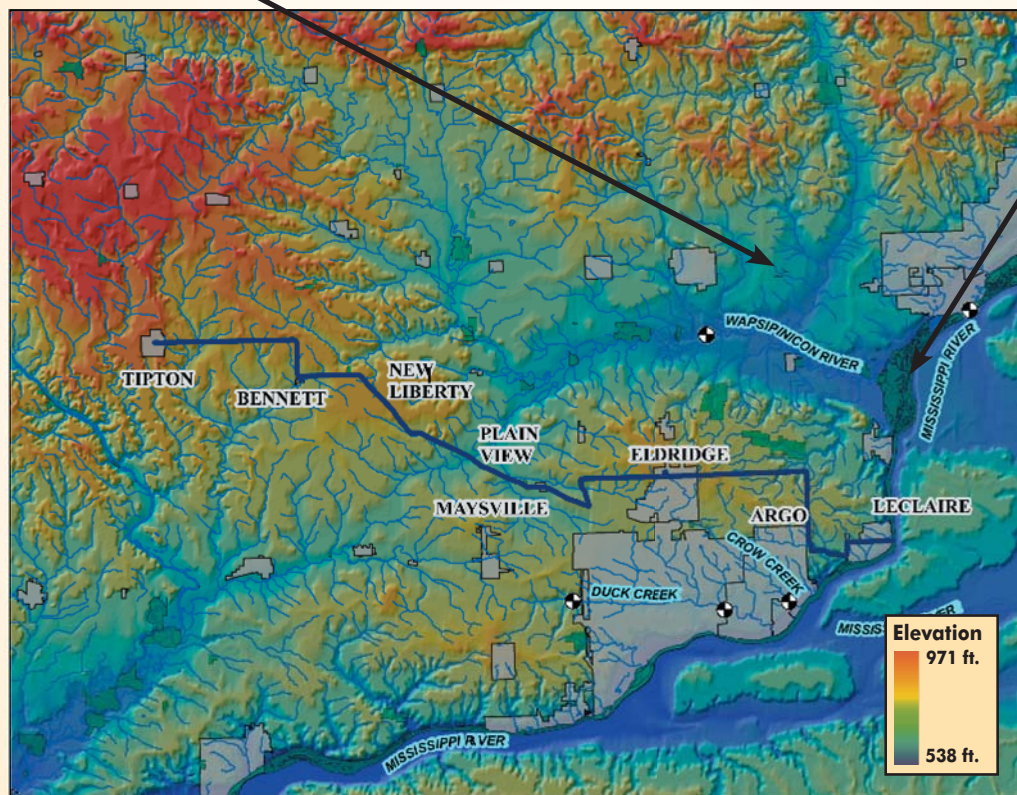
109 Trowbridge Hall
Iowa City, IA 52242-1319
(319)-335-1575
www.igsb.uiowa.edu

US Geological Survey

Iowa Water Science Center
400 S. Clinton St.
Iowa City, IA 52240
(319) 337-4191
<http://ia.water.usgs.gov>

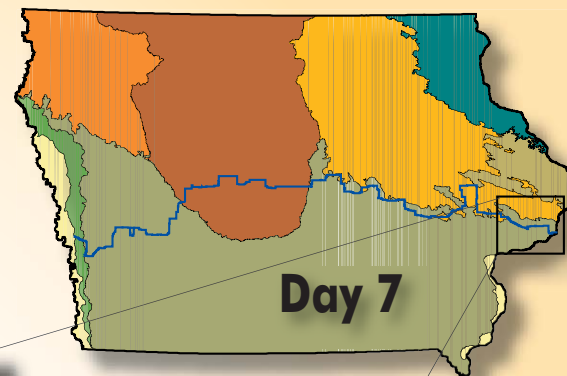
The **Cleona Channel** is an ancient bedrock valley originally cut by the Mississippi River. The channel formed when the river was forced from its original path in central Illinois by a glacial ice advance about 2 million years ago (map on front cover). The channel is incised up to 350 feet into the bedrock of Scott, Muscatine, and Louisa counties. In early Illinoian time, about 300,000 years ago, the Mississippi River reoccupied the Cleona Channel. In middle Wisconsinan time, about 21,000 years ago, the river was again forced into the channel, returning to its current channel about 16,000 years ago. Although the Cleona Channel is buried by a thick sequence of sand, gravel, and glacial till, it still forms an identifiable channel feature on the land. These portions are currently drained by the Wapsipinicon, Cedar, and Iowa rivers.

The little town of LeClaire, Iowa is nestled along the Mississippi River in an area once known as the **Rock Island Rapids**. These rapids were once noted as the most impossible to navigate along the entire Mississippi River. LeClaire was known as the city "where the river pilots lived" because it had some of the best pilots along the Mississippi. These elite pilots maneuvered ships through 15 miles of rocky rapids and narrow twisting channel. Eventually the construction of dams and revetments made the once deadly rapids passable by all boats. This eliminated the need for the choice river pilots. Today LeClaire is visited by many who come to learn about one of its most famous residents- William F. "Buffalo Bill" Cody, whose homestead is located just two miles North of LeClaire.



● USGS streamflow station
 ■ Parks and Preserves

Although most of Iowa was ice-free, a limited area of southeastern Iowa was glaciated during the **Illinoian Glacial Episode** around 130,000-300,000 years ago. Much of Day 7 will be spent crossing the Illinoian till plain. The Wapsipinicon River marks the northernmost extent of the Illinoian ice advance and Mud Creek marks the approximate western margin. The Illinoian ice advance into Iowa ranged from four to twenty miles, with the most extensive advance occurring north of Burlington.



In recent years, large anoxic "**Dead Zones**" have formed in the Gulf of Mexico near the mouth of the Mississippi River. The lack of oxygen is caused by blooms of algae, "fertilized" by excess nutrients from the Mississippi River. Recent findings show that much of the nutrients are coming from the upper Midwest, especially eastern Iowa. The nutrient rich water from Iowa's streams fuel blooms in the lower Mississippi River and its estuaries which are then swept into the ocean. When the bloom reaches the gulf, the algae die and settle with other suspended organic particles. As these particles decompose the oxygen in the water is consumed. This phenomenon has become increasingly common and has grown in size, in recent years it has been as large as the state of New Jersey! Many fish and nearly all immobile species such as shellfish are killed each summer in this important commercial and recreational fishing area.