

Iowa's Famous Meteorites

Manson Meteorite: Iowa's most famous meteor impact occurred long before there were any humans around to witness it. That is very fortunate, because all life in the state was completely wiped out after impact. The estimated 1.5 mile diameter meteor crashed into the ancient shallow sea at the site of the present day city of Manson about 74 million years ago. Almost instantly, all life within 650 miles of the site was wiped out. Unfortunately the impact vaporized the meteor, so there are no pieces left.

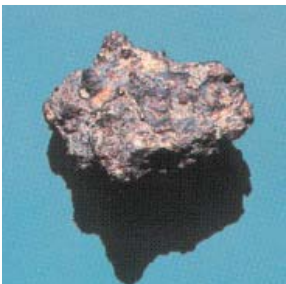
Marion Meteorite: The first historic meteorite in Iowa (photo right) fell south of Marion in Linn County just before 3:00 p.m. on February 25, 1847. This was the same day that the University of Iowa was formally established in Iowa City.



Residents of Iowa City were alarmed by the series of loud explosions to the north. The largest fragment is on display in the Old Capitol Building.

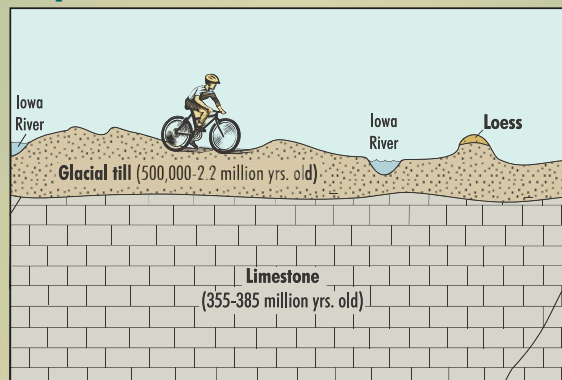
Estherville Meteorite:

Residents of Estherville in Emmet County received an extra-terrestrial visitor at 5:00 p.m. on May 10, 1879. An exploding meteorite roared to Earth along a seven-mile path from south of



Superior in Dickinson County to north of Estherville. Three large fragments weighing 431, 152, and 101 pounds and hundreds of smaller pieces were recovered (photo of one fragment above). A monument near Estherville commemorates the event.

Day 5 Milestones



Start: Tama

Iowan Surface: 0.1 miles

Salt Creek: 27.3 miles

Amana Wetland Reserve: 42.5 miles

Iowa River: 53 miles

Coralville Reservoir: 65.1 miles

Finish: North Liberty – 74 miles

For more information...

Along with the Amana Sandstone, there are plenty of geological interesting building materials used in the state. Some of the more famous structures include: a Coal Palace, built in 1890 near Ottumwa, the Grotto of the Redemption, which began construction in 1912 and is made out of an amazing assortment of geologic materials, and even the Iowa State Capitol, which has a granite foundation and magnificent sandstone exterior. More detailed information on these can be found at www.igsb.uiowa.edu/Browse/buildngs/buildngs.

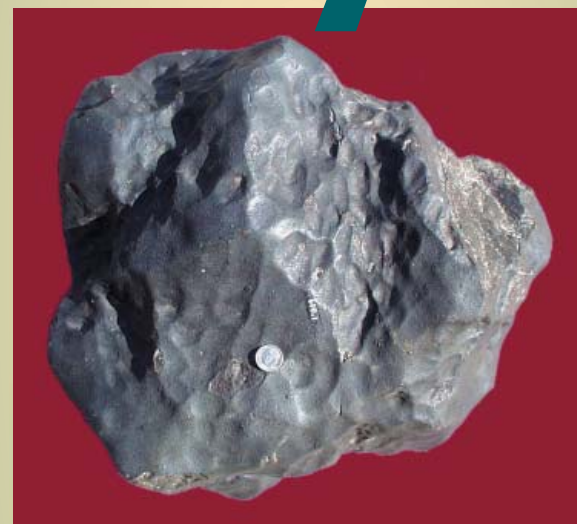
A longer article explaining the runaway flowing artesian well that was "Jumbo" can be found at: www.igsb.uiowa.edu/Browse/jumbo/jumbo.htm.

RAGBRAI 2008

Learn about the Land

Thursday, July 24

Day 5



Iowa DNR – Geological and Water Survey

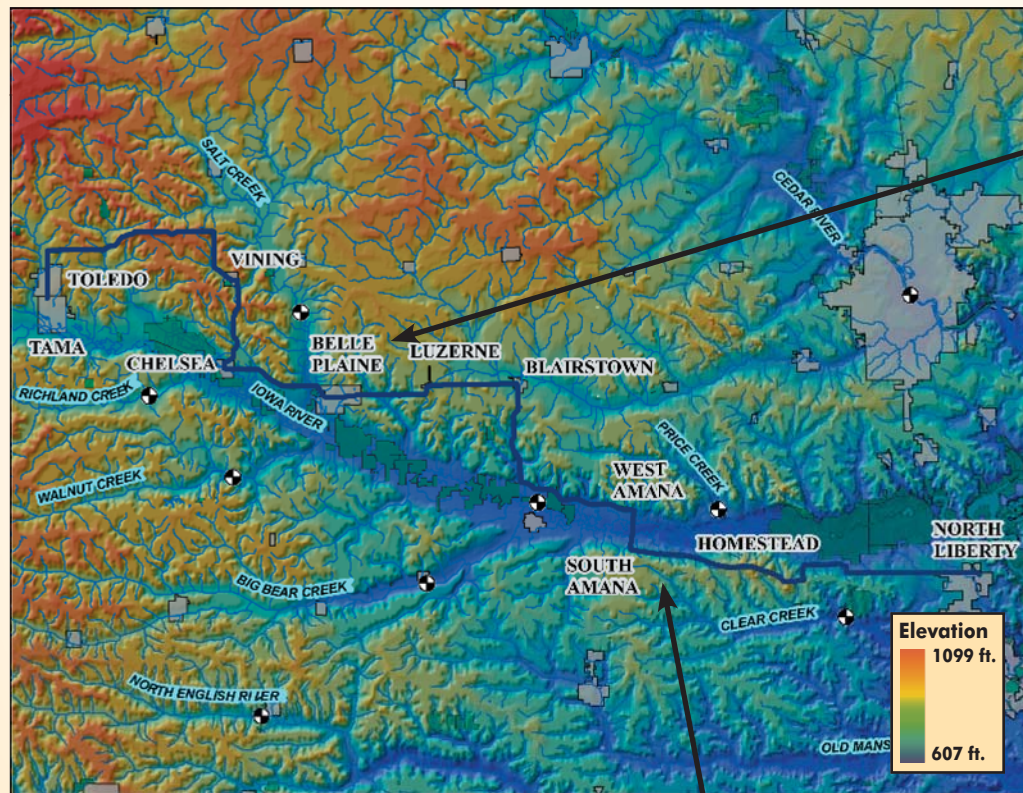
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US Geological Survey

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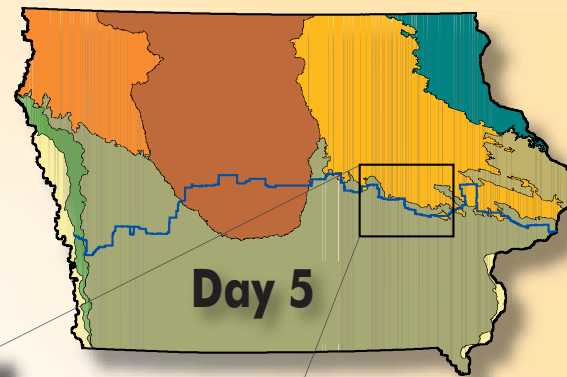
Today, after you descend into the valley of the Iowa River north of Marengo, the route turns east on county road F15 and approaches the historic **Amana Society**. Settled in the late 1850s by German immigrants of the Community of True Inspiration, the new arrivals utilized the local timber and stone resources to construct their buildings. During these early years several stone quarries were opened in the hills along the north wall of the Iowa River valley near East, Middle, and West Amana. Riders will pass close to one of these old quarries 0.7 miles west of West Amana. The stone taken from these quarries is beautiful quartz-rich sandstone that is cemented by light brown to orange tinged iron oxide. This stone was used in the construction of many buildings in Amana.

The famous **Amana meteorite** flashed into Iowa on Friday night, February 12, 1875. Its arc across the starlit sky lasted about 10 seconds and was visible throughout the Midwest. After entering the atmosphere in the area of Pleasantville, Missouri, the meteorite traveled in a northeasterly direction, and exploded several times before landing in the Amana area. Observers noted that the meteorite brightened the landscape as if it were mid-day. Fragments of the meteor rained down over an area 3 miles wide and 5 miles long, extending south of the Iowa River and southwest of Homestead. About 200 pieces of Amana meteorite were recovered, with a combined weight of about 800 pounds (only about 10% of the estimated 3 ton original meteor). The largest 74 pound fragment is currently on display at the Amana Heritage Museum.



USGS streamflow station
Parks and Preserves

The geologic origin of the **Amana sandstone** relates to ancient river systems that drained the rising Appalachian Mountains during the Pennsylvanian Period 300 million years ago. The Euro-North American continent collided with southern continents to form the super-continent Pangea. At this time North America straddled the equator. Rising mountains shed vast quantities of water and sediment from river systems, flowing towards an ocean to the west of Iowa. Sand was deposited within the channels of these rivers while clay and coal were deposited in adjacent flood basins and deltas.



Belle Plaine is home to Iowa's most famous well, **Jumbo** (photo below). Drilled in 1886, Jumbo tapped into a highly pressurized aquifer in an ancient river valley. The natural pressure in the well was enough to lift water almost 70 feet in the sky, jettisoning thousands of gallons of water out of the hole every minute! Jumbo made news across the world, and was related by some to distant earthquakes and the geysers in Yellowstone. Futile attempts to plug Jumbo went on for 13 months. Emergency ditches were dug to direct the deluge of water away from the center of town. Eventually the flow was controlled and the hole was plugged. Today a bronze plaque in the Belle Plaine city park marks where Jumbo ran away and shot itself into history.

