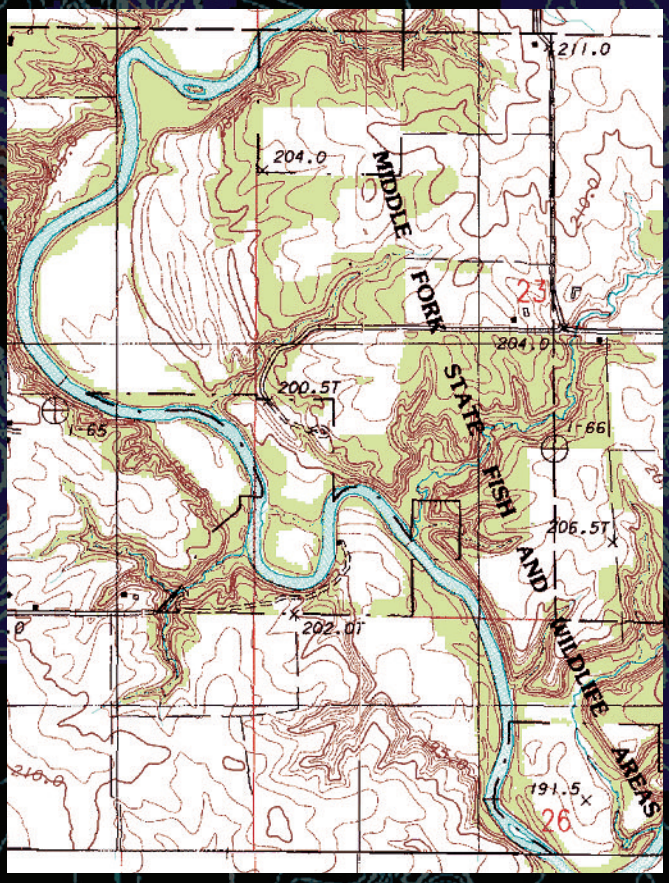
The U.S. Geological Survey offers state-of-the-art resources to aid outdoor enthusiasts pursue their sport of choice.

More than Topographic Maps



Advances in the technological revolution have made accessing U.S. Geological Survey topographic maps as easy as surfing the Web.

Story By Gary P. Johnson
Figures Courtesy U. S. Geological Survey

One of the common themes in most outdoors how-to stories on camping, hiking, hunting or fishing is the suggestion that users be familiar with the geography of the land. Often, authors suggest obtaining U.S. Geological Survey topographic maps of the area to be visited.

Topographic maps provide detailed information about elevations, landmarks, latitude/longitude coordinates and locations of streams or lakes. Traditionally produced as large paper maps, the technological revolution has greatly improved the delivery of this information to the general public. Today, by surfing the World Wide Web, interested persons can find volumes of information on virtually anything, including detailed maps of places they plan to visit.

One aspect of particular interest to anyone enjoying time in the outdoors is river and lake data collected by USGS Water Resources scientists. The USGS provides this information on water levels and stream flow from more than 7,000 river and lake gauges established throughout the Nation—including more than 200 gauges in Illinois. Formerly published only in paper annual reports, state-of-the-art data serving software now provides the opportunity for this information to be transmitted near real-time to any computer with Internet access or hand-held devices with text messaging.

Application of Data

Interested in canoeing a particular river this weekend but aren't sure whether the stream is navigable because of the dry weather? Chances are you could access data from a USGS gauge on that river from the USGS Web site to check the elevation of the water. You also can easily retrieve information or graphic plots of what the water elevation has been doing the last 24 hours, 7 days, 30 days or any other time period.

Likewise, if the lake you like to fish has a flooded tree or stump field, the fish may use that area more during higher or lower water conditions. Without knowing the water elevation until you arrive, you don't know anything about fishing conditions and have to make your decisions once you arrive.

I like to hunt a particular site around Danville when the Middle Fork of the Vermilion River is flooded. The higher water creates a peninsula, which forms a funnel deer have to pass through to get to a thick bedding area.

A typical USGS streamflow gauging structure, located on Salt Creek near Greenview.

To access U.S. Geological Survey lake and river elevation data, go to www.usgs.gov where you will find links to the four disciplines in USGS: Geography (where topographic maps are available), Geology (earthquake and volcano scientists), Biology and Water Resources. Click on "water" to find links to water data, including "Real-time" data for waters of the United States. Follow the easy instructions to retrieve plots or tables of historical or real-time water-elevation data from lakes and streams.

A summary table of sites in Illinois is available at http://waterdata.usgs.gov/il/nwis/current/?type=flow. At this link you'll find a list of the gauges in Illinois listed by county. Click on the blue station number for a gauge of interest to view a 7-day plot of data.

Questions regarding this data may be directed to gs-w-il_NWISWeb_Data_Inquiries@usgs.gov or (217) 344-0037.

During extremely high water the whole area is flooded, with no possibility of hunting. Checking the river elevation from my personal computer, I know whether the area is good for hunting, and more than once this has saved me from a disappointing, long drive home.

Lake and river elevation data also can be helpful to duck and goose hunters needing to know water elevation with respect to their blinds.

The water level information also is helpful to campers interested in knowing whether to go to their favorite riverside campsite or select one on higher ground. Hikers and birders also will be able to select the best routes for travel well in advance of arriving on site.

Regardless of the activities you plan to undertake, before you head out on your next great adventure in Illinois, invest a little time surfing the Web to scout the area.

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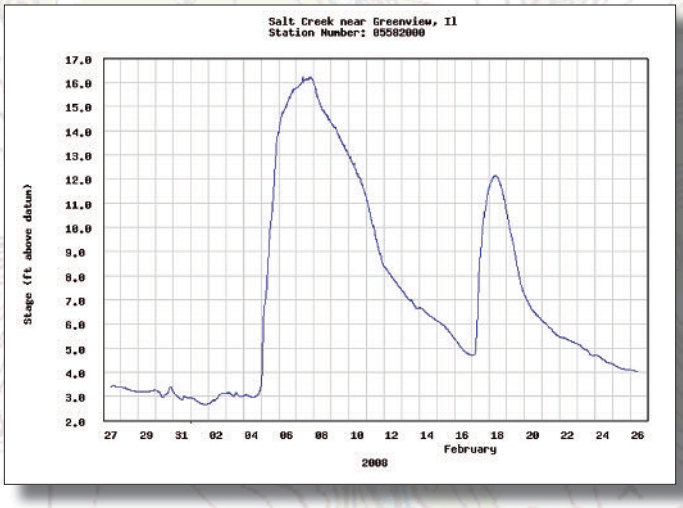
River stage data retrieved from the Web is useful for outdoor enthusiasts planning a river-front outing.