

---

# TEACHING TOOLS



## NDGS Releases its First Traveling Education Trunk

by Mark A. Gonzalez

John Hoganson, Johnathan Campell (NDGS), and Brian Austin (State Historical Society of North Dakota) have produced the Survey's first Traveling Education Trunk, entitled "Geology and Prehistoric Life of the Rendezvous Region," in cooperation with North Dakota Parks and Recreation Department. This trunk contains educational materials that feature the geology and paleontology in the northeastern corner of the state, including the sand dunes near Cavalier, the geology of the Pembina Gorge and Icelandic State Park, drumlins and eskers near Langdon, the Campbell Beach ridge at Mountain, the mosasaur site near Walhalla, and much more. The educational materials are designed primarily for 5<sup>th</sup> and 8<sup>th</sup> grade courses in earth science, though other grades and even social clubs will find that the materials provide a great understanding of nearby natural phenomena. The Traveling Educational Trunk includes:

- Teacher's manual with instruction on more than a dozen student activities,
- Illustrated guide to a field trip through the Rendezvous Region (1999, NDGS Educational Series 24),
- Copy of the Survey's new *Face of North Dakota* (2000, 3<sup>rd</sup> edition, NDGS Educational Series 26),
- Geology and Prehistoric Life of the Rendezvous Region companion CD,
- Collection of 15 maps and photographs that illustrate the local geologic highlights of the Rendezvous area,
- Collection of 23 illustrations and photographs that illustrate the paleontology of the Rendezvous area,
- Collection of more than 20 fossil specimens from the area.

Two trunks have been produced. They are housed at Icelandic State Park. Teachers and other interested persons can arrange to use the trunk by contacting:

Henry Duray  
Icelandic State Park  
13571 Highway 5  
Cavalier, ND 58220  
701/265-4561  
[isp@state.nd.us](mailto:isp@state.nd.us)

The costs for using the trunk include a \$10 user fee and a \$15 shipping charge. Those located near Icelandic State Park may pick up the trunk at the Park, thereby saving shipping charges.

For more information, including an online examination of the companion CD, visit the NDGS web site (<http://www.state.nd.us/ndgs>), selecting the North Dakota Paleontology link (<http://www.state.nd.us/ndfossils>) and then the Education link to "Geology and Prehistoric Life of the Rendezvous Region."

Additional earth-science trunks are planned for distribution across the State.

.....

## Surfing Safari: Twenty Thousand Leagues Under the Sea

by Mark A. Gonzalez

The Woods Hole Oceanographic Institute and National Science Foundation have teamed up to produce an extraordinary web site (<http://www.divediscover.whoi.edu>) entitled, Dive and Discover: Expeditions to the Seafloor. This web site provides a detailed look at one of the most fascinating and least understood features of our planet—the seafloor.

Human imagination and curiosity have fueled our desire to explore the frontiers of geography and knowledge. Only an infinitesimally small number of humans has ever sailed through space or viewed the depths of our oceans. Dive and Discover provides an opportunity for virtually anyone to glimpse our ocean frontier. The web site is built around five research expeditions, three completed, one in progress, and one scheduled for the near future as of this writing (Table I).

**Table 1. Dive and Discover Expeditions**

<b>Expedition</b>	<b>Location</b>	<b>Dates</b>
Expedition 1	Guaymas Basin	January 12-22, 2000
Expedition 2	East Pacific Rise, 10 N	January 26-February 12, 2000
Expedition 3	East Pacific Rise, Galapagos Islands	March 24-May10, 2000
Expedition 4	Central Indian Ridge, 24 S	March 27-May 5, 2001
Expedition 5	East Pacific Rise	Fall 2001

In each expedition, researchers and technicians explain the types of scientific studies that they are conducting, and they demonstrate the use of various instruments (e.g., gravimeter, magnetometer, sonar, hydrophone, conductivity meter, etc.) to explain how they collect different types of data. In addition, the research is compiled in daily diaries, so that students can follow the progress of the scientific staff. Each day's activities also include slide and video shows. One can see black smokers, lava extruded from fissures, and giant tube worms and other flora and fauna of hydrothermal vents as filmed from the deep-sea submarine, *Alvin*, the remote operated vehicle (ROV) *Jason*, or the autonomous benthic explorer (ABE). When expeditions are in progress, students, teachers, and the general public can post questions and comments directly to the scientists by e-mail to learn about their studies. Never before has science been so accessible and interactive to the general public.

The site has been created with students and the general public in mind. Vocabulary terms are linked to a glossary, so that advanced and beginning students can readily comprehend the text, even when "big" words or technical terms are used. Teachers will find a number of hands-on classroom and lab activities, which help students understand various oceanographic and geologic processes. I found the material on basic oceanography, seafloor geology, and plate tectonics clearly stated and well illustrated with wonderful color graphics and animated cartoons, such as the break up of the ancient supercontinent, Pangea, and the "drift" of continents to their present positions. Students can take on-line quizzes to find out how much they have retained and what they may have missed from the various exercises and displays.

My only complaint relates to some sloppy links. Be aware that some links are dead and others lead mysteriously to unintended destinations on the Web. Teachers should preview exercises before students attempt them because of these sloppy links.

Back when I was a school boy, the thought of visiting the ocean floor was as far-fetched as life on Captain Nemo's *Nautilus*. Yesterday's science fiction is the medium by which today's students participate in an interactive science experience. A final word of caution—do not visit this site if you do not have plenty of time. It has an uncanny ability to capture and hold its audience.