AMSER QUARTERLY
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AMSER Spotlight: GeoTech Center

Along with collecting individual web resources that we've found, AMSER often partners with existing digital collections so we can bring the excellent materials from these collections to AMSER users. In each issue of our quarterly, we highlight a new collection of materials that we have integrated into the AMSER portal. In this issue of the AMSER Quarterly we are highlighting the GeoTech Center, which is a National Center of Excellence from NSF's Advanced Technological Education initiative. The GeoTech Center is a "collaborative effort between colleges, universities, and industry to expand the geospatial workforce."

This collaboration works together to provide professional development, teaching and curriculum resources, career pathways, and model core competencies for geospatial technicians. Resources within the GeoTech Center collection include materials for educators, students, and industry, which contains curriculum materials, new research, certification, internship and training opportunities, as well as their outstanding resource repository. Their site also provides an interactive map of two-year college geospatial education programs and a Geospatial events calendar. Overall, the GeoTech Center is a valuable collection and AMSER is pleased to have partnered with them in order to integrate their high quality materials into AMSER's own library.

Some examples of these outstanding materials include:

Growing Season Analysis Remote Sensing Lesson

http:// gistr3.delmar.edu/igett/LU_Rudi.html

This remote sensing lesson from Integrated Geospatial Education & Technology Training (iGETT) was created by Mike Rudibaugh from Land Lake College and focuses on using Image Analyzing and GIS software to analyze growing seasons. The project study area is in East-central Illinois, which has some of the most fertile soils in the world. Soil fertility is often connected to issues like soil type, slope, pest management practices, precipitation, and temperature. This learning unit will use remote sensing data to assess how regional climate shifts may be influencing crop

development calendars. The exercise uses real-world data and methods and upon completion students should: understand the timing of the row crop canopy; time of year plant stress can be detected; how to analyze when the region's land use reached maturity; and how to detect regional patterns. The exercise includes a learning unit

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summary, guides for both instructor and student, as well as supporting documents and data.

GeoTech Map Library

http:// legacy.jefferson.kctcs.edu/geotechcenter/

This site, produced by the GeoTech Center, provides a collection of maps for use in geospatial education. The collection is wide-ranging and extensive and consists of maps of the US, states, other countries, world maps and historical maps. The maps are in various file formats and should prove a valuable tool for educators teaching GIS technology in their classroom.

KanGIS

http://www.meted.ucar.edu/hao/aurora/sb_index.htm

This resource is a Google group page for the organization KanGIS. The

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group's stated purpose is to "support community for educators interested in using geotechnologies, including GIS, GPS and geocaching, digital globes, orienteering, and remotely sensed data in any educational setting - especially science." Just formed, this organization is a continuation of the PathFinder Science community and the University of Kansas's Center for Science Education. The page contains discussion links, external links and even a PowerPoint presentation. Even though simple in design, this could still be quite a useful resource for either students or educators looking for a general overview on this topic.

Mobile GIS Project

http:// map.sdsu.edu/mobilegis/

This resource provides insight into cutting edge technology in geographic information systems. The purpose of this research is "to provide park rangers and other resource mangers with integrated mobile geospatial information services that will support and help optimize their field-based management tasks." Some of technology employed includes ArcPad 6.0, ArcIMS 4.0, Image Web Server, GPS, and wireless networking technologies. The page provides a project overview and users will find it simple enough to understand, yet complex enough to be quite engaging.

You can find the GeoTech Center at: *http://geotechcenter.org*

Do you know of a great collection of resources that you'd like to see integrated into AMSER? Do you have a learning object that helps students truly understand a specific concept? If so, e-mail us at resources@amser.org, *or follow the link at the bottom of the AMSER home page to submit a resource suggestion.*

AMSER Featured Folder: Fire Ecology

Within the AMSER Collection, AMSER staff and users have created a series of Featured Folders. These folders aim to illustrate a given topic by combining multiple resources about a related topic into a single folder. The individual resources in each folder were selected from within AMSER to demonstrate various aspects of each Featured Folder's topic. For more details on how to use and find AMSER's Featured Folders, see the Summer 2008 issue of the AMSER Quarterly, which can be found at *http://amser.org/AQSummer08.pdf*.

In this issue of the AMSER Quarterly, we highlight our Featured Folder on Fire Ecology, one of over 50 Featured Folders within the AMSER collection. Forest fires have become a regular summertime occurrence in North America, sparking debate about the proper role of fire on the land. This Featured Folder provides links to resources that help examine fires and fire ecology in different ecosystems, regions, and time periods. Resources within this folder include:

Texas Tech University Fire Ecology Center

http:// www.rw.ttu.edu/fec/

This site features the Fire Ecology Center at Texas Tech University whose mission is to train resource managers to properly apply fire, serve the natural resource community through prescribed fire application, and scientifically evaluate the role of fire in grassland ecosystems. Their website contains information on current research, publications, managing pastures, managing problem plants, and more. The site also provides video demonstrations, links to further resources, recent burning activity, and a collection of fire photographs.

Fire Ecology Research

http:// http://www.werc.usgs.gov/ResearchTopicPage.aspx?id=6

This United States Geological Survey (USGS) website provides information gathered by the Western Ecological Research Center (WERC) about the importance of wildfires to ecosystem processes in the Pacific Southwest. Details are provided about fire history and ecology in the Sierra Nevada Mountains and Mojave and Sonoran deserts. Topics include the ecological impacts of fire suppression, invasive species, and changes in climate.

Fire Ecology Database

http:// www.talltimbers.org/fedb-intro.html

The Tall Timbers Research Station provides this searchable Fire Ecology Database, which covers a broad range of fire-related information. The Database currently includes citations for nearly 12,000 "references to books, chapters within books, journal articles, conferences and conference papers, state and federal documents," and abstracts. Users may search the database by author, keywords, periodical, year, or title.

To view all the resources from this folder visit:

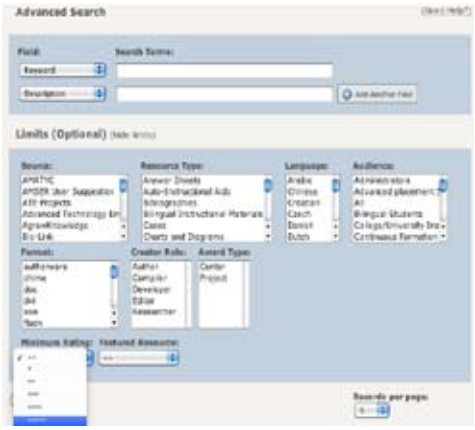
http:// amser.org/index.php?P=AMSER--ViewFolder&UN=amser&FN=topicindepthfireecology

Don't forget to become a fan of the Applied Math and Science Education Repository (AMSER) on Facebook at http://www.facebook.com/AMSER - or follow us and our tweets on Twitter @AmserDotOrg. We'll keep you connected with updates on AMSER resources, AMSER events, and all things new in AMSER.

AMSER User's Corner

In previous issues of the AMSER Quarterly, we have asked STEM educators to share some of their favorite resources from within the AMSER collection. In this issue, we instead highlight individual resources that our users have rated highly using AMSER's rating system.

Once a user has created a login to the AMSER site they gain access to many additional features. One of these features is the ability to rate the resources that they found particularly useful. This system of ratings benefits future users of the resource as they can see what has already been useful to others and they can also search by



ratings within the Advanced Search system in AMSER. There are two ways to rate a resource in AMSER: they may be rated directly from any list of resources by clicking on the star rating you wish to give the resource, or users can search for a particular resource and display the full record (by clicking on "More Info") and scrolling to the bottom to the ratings section. The more resource ratings AMSER provide, the more valuable AMSER becomes for the community as a whole. If you would like to see all of the resources rated highly in AMSER, just go to the "Advanced Search" (found at the top right of any page) and click "Show Limits". From here, find the drop down menu labeled "Minimum Rating" and click on how many stars you prefer. Users can further limit this search by entering in specific keywords. If you find resources that you enjoyed or found exceptionally useful, we encourage you to rate them yourself so other AMSER users can benefit from your feedback.

Here you will find a small sample of some of the resources that AMSER users have given a five-star rating:

Museum of Science and Industry: Simple Machines

http:// www.msichicago.org/fileadmin/Activities/Games/simple_machines/

The Museum of Science and Industry in Chicago has recently expanded their online opportunities and interactive features. One of their latest additions is the "Simple Machines" feature, and here visitors will get to meet the curious robot "Twitch". The premise behind this game is that Twitch must complete a series of tasks to finish an important project. Using fun tools, keyboard motions, and careful object selection, visitors will have a bit of fun, and learn about the principles of force, the world of inclined planes, and other related topics. All of this fun is accompanied by a jaunty soundtrack that is part electronica, part lounge music. The graphics are superb, and the entire experience is quite user-friendly.

Never Lost: Polynesian Navigation

http:// www.exploratorium.edu/neverlost/

So you are sailing around in the middle of the Pacific Ocean: What's next? Can you get your bearings? How will you get anywhere? These are all very crucial questions, and they are explored here via a fine interactive feature created by the Exploratorium Museum in San Francisco. After a brief introduction, visitors will be asked to "embark" (you can follow along in Polynesian as well), and here they will learn how Polynesians used to navigate these far-flung islands in the Pacific. The materials on the site are divided into the following areas: "Origins", "Canoe", "Navigation", and "Voyage". The "Origins" area is the place to start, and here visitors can learn "What is Polynesia?" and listen to Polynesians talk about their home. In the "Canoe" area, visitors can interact with a canoe

model by clicking on its various parts; learn about knot tying techniques; and the necessary provisions for such a journey. Moving on, the "Navigation" area features a primer on the basics of wayfinding and a slideshow that offers some insights into the voyage on the open ocean.

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User's Corner

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Carnegie Institution for Science: Multimedia Content

http:/ carnegiescience.edu/multimedia_content

What's the future of high yield crops? How is it possible that whiter clouds could mean wetter land? These are two of the many interesting questions explored on the Carnegie Institution for Science's Multimedia website. Here visitors will find video and audio files that tell the story of recent research projects and outreach efforts from various corners of the world and outer space. The materials are arranged chronologically, and they can be explored via iTunes and YouTube as well. Recent items profiled here include tropical forests, stem cells, metallic glass, and the history of silver. The materials here date back to May 2008, and there are also "Features" which include conversations with their staff scientists on mineral evolution and earthquake research.

Would you like to be featured in a future AMSER Quarterly? We'd love to hear from you and learn about your favorite AMSER resources and how you've been using them in an educational setting. Please e-mail us at amser@amser.org *for details.*

Calendar of AMSER Events

Where in the world is AMSER?

We'll be at various conferences and meetings this year and we'd love to talk to you about what you're doing with digital resources and how we can make AMSER more useful to you and your students. Here's where we'll be and when:

October

ATE PI Conference
October 27-29, 2010
Washington DC

STEMtech
Oct 31-Nov 3, 2010
Orlando, Florida
Come see us at our presentation on Wednesday, Nov 3, at 8:00 AM Location: Oceanic 6.

November

NSDL Annual Meeting
November 1-3, 2010
Washington DC

American Mathematical Association of Two-Year Colleges (AMATYC)
November 11-14, 2010
Boston, MA
Visit us at booth (#231) in the Exhibit Hall or our presentation, Nov 12 at 3:30 PM in the Wellesley Room.

December

CNI Task Force Meeting
December 13-14, 2010
Washington D.C.

For more AMSER events and links go to *http://www.amser.org/events*

Contact Information

Have a question? Want to share information about how you're using AMSER or other digital materials in your classroom? Please contact us!

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