



SCIENCE BYTES

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Floods and Flows: Exploring Mars Geology on Earth

The Lunar and Planetary Institute invites you to participate in: **Floods and Flows: Exploring Mars Geology on Earth** A NASA-sponsored field-based workshop, 13-19 July 2008 for intermediate grade level science teachers (other educators are invited)

Spend the week with planetary scientists visiting the site of Ancient Glacial Lake Missoula and tracing its flood waters through Montana, Idaho, and into Washington. Examine the geologic evidence for catastrophic flooding, as well as for past volcanism in this region. From these field experiences and accompanying classroom activities, participants will build an understanding of surface processes on Earth, including water flow, volcanism, glaciation, and sedimentation. Attendees will extend their understanding to interpret what the features on the surface of Mars suggest about the past environments and history of the red planet.

The experience will be divided between the field and lab, where participants work with classroom-tested, hands-on inquiry based activities and resources that can be used to enhance Earth and space science teaching in

the classroom. Participants receive lesson plans, supporting resources, and presentations. A limited number of grants are available to cover registration.

Join us for hands-on, real-world experience to enhance your teaching about Earth and space science — and the connections between these exciting fields of research!

For more information about costs and logistics, and to apply for the experience, please visit:

<http://www.lpi.usra.edu/education/fieldtrips/2008/>
<<http://www.lpi.usra.edu/education/fieldtrips/2008/>>

Applications are due April 7, 2008

Participants will be notified of their acceptance by April 15, 2008.

National Parks Seek Teacher Rangers

National parks enrich the lives of many in this nation. They provide access to the powerful ideas, values, and meanings associated with the remarkable cultural, natural, and recreational heritage of the United States. The National Park Service (NPS) strives to provide opportunities for all Americans to connect to their national heritage through the national parks. However, these opportunities are lacking for some - often due to a variety of social and economic factors.

The Teacher to Ranger to Teacher (TRT) Program offers a solution, by linking National Park units with teachers from low income school districts. Under this program, selected teachers spend the summer working as park rangers, often living in the park. They perform various duties depending on their interests and the needs of the park, including developing and presenting interpretive programs for the general public, staffing the visitor center desk, developing curriculum-based materials for the park, or taking on special projects.

Then, during the school year, these teacher-rangers bring the parks into the classroom by developing and presenting curriculum-based lesson plans that draw on their summer's experience. In April, during National Park Week, teacher-rangers wear their NPS uniforms to school, discuss their summer as a park ranger, and engage students and other teachers in activities that relate to America's national parks.

For additional information about the Teacher Ranger program go to <http://www.nps.gov/wupa/forteachers/trt.htm>.

National DNA Day

Good morning!

I work with the National Human Genome Research Institute at the National Institutes of Health. Every year we celebrate National DNA Day on April 25 with a variety of activities for high schools across the country. One of these activities is a live, online chatroom. For the past

3 years we have staffed a chatroom with the staff and researchers of NHGRI to answer questions about genetics from high school students and teachers. It has grown steadily each year, and we look forward to hosting the chatroom again this year.

I would like to explore the possibility of involving science classrooms from Alaska in the chatroom this year. I think it would be an excellent opportunity to reach out to schools across your state. I have attached a flier with information, and you can view past chatroom transcripts at <http://www.genome.gov/20519689>.

If you have ideas as to how we might engage more classrooms in Alaska, I would love to speak with you.

Thanks very much

Sarah Harding

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It's International Polar Year!

Teachers' Domain is pleased to announce our new Polar Sciences Special Collection <http://www.teachersdomain.org/exhibits/ipy07-ex/index.html>, which is funded by the National Science Foundation, and offers 20 new resources about the Arctic and the Antarctic, plus resources from our existing collections, a lesson plan, and our newest feature, a student activity. The Earth's polar regions may seem remote, but they are an integral part of the entire Earth system. Pollution from other areas affects Arctic and Antarctic ecosystems, and changes in the icy landscapes of the polar regions may influence global ocean circulation patterns and accelerate climate change.

Chemical Spill Control

This month's topic, "Chemical Spill Control," deserves to be reviewed regularly. Unfortunately, sooner or later, accidents happen. Since accidents can occur at any time, it's important that you are always prepared. The best preparation is to be proactive, to take steps now to prevent spills and to acquire the equipment and training to control spills when they occur. Accessible storage of spill control items is essential, so we have also provided you with suggestions on how to assemble a Homemade Spill Control Center.

Keeping essential materials and information where you can find them is good advice. That's why your 2008 Flinn Scientific Catalog/Reference Manual is such a valuable resource.

Everything you need—quality products at low prices and problem-solving safety information—is right there in one dependable source. Thank you for your support, it helps make this indispensable catalog/reference manual possible.

To print "Chemical Spill Control," please go to:

<http://www.flinnsci.com/Sections/Safety/Snotes/snotes.asp>

Campbell Creek Science Center

February 14: Planets

Dr. Travis Rector, a professor in the physics and astronomy department at the University of Alaska Anchorage, will describe how the Earth and other planets in our Solar System formed, and what will happen to them in the future. He will also talk about planets around other stars, and what the prospects for discovering life-habitable planets look like. The program begins at 7:00 pm on Thursday February 14 at the BLM Campbell Creek Science Center (6865 Elmore Road). Stargazing will follow the program if the skies are clear. For more information, please call 267-1247.

February 20: The Vikings, Glaciers, and Climate Change

What can glaciers tell us about past climates? What can they tell us about climate change today? And how do the Vikings fit into Alaska's glacial history? Dr. Kristine Crossen, professor of geology at University of Alaska Anchorage, will be our guide as we travel back in time to the Little Ice Age and then jump forward to the present day to find the answers to these and many other glacial questions. The program begins at 7:00 pm Wednesday February 20 at the BLM Campbell Creek Science Center (6865 Elmore Road). For more information, please call 267-1247.

Total Lunar Eclipse - February 20, 2008

We are scheduled for a total lunar eclipse this month on Feb. 20th. The NASA Eclipse home page is: <http://sunearth.gsfc.nasa.gov/eclipse/OH/OH2008.html>

The special web page for the Feb. 20th event is: <http://sunearth.gsfc.nasa.gov/eclipse/LEmono/TLE2008Feb21/TLE2008Feb21.html>

The following link references specifically Alaska Standard Time.

<http://sunearth.gsfc.nasa.gov/eclipse/LEmono/TLE2008Feb21/image/TLE2008Feb21-AST2.GIF>

**2008 Teacher Scholarships
In Denali National Park and Preserve
Application Deadline: February 24**

Application Information: Alaska Geographic Institute
Scholarship Page
[\[http://rs6.net/tn.jsp?e=001Q8nNESBLbtXu4Tf2NZ_Z3armKDRzfPgsVLBi9kUbrQFxEuT2RMd7frEAAi_Lrqm0vqd7J3YSbjt82mTBaK6i2FrSQsgzfqmQhpEJ_0QbNMOW6wRcBwAAH-P8WI32_ZIrzo8h-UZkWSni0508bRgQpcIFCxmGgiKL\]](http://rs6.net/tn.jsp?e=001Q8nNESBLbtXu4Tf2NZ_Z3armKDRzfPgsVLBi9kUbrQFxEuT2RMd7frEAAi_Lrqm0vqd7J3YSbjt82mTBaK6i2FrSQsgzfqmQhpEJ_0QbNMOW6wRcBwAAH-P8WI32_ZIrzo8h-UZkWSni0508bRgQpcIFCxmGgiKL)

Contact Information: courses@murieslc.org
[<mailto:courses@murieslc.org>], (907) 683-1269,
or (888) 688-1269

The Murie Science and Learning Center is awarding scholarships to teachers for accredited trainings and seminars this summer in Denali National Park. These small-group field courses use Denali as their classroom and will explore science, research, and educational opportunities. Most courses are three days in length. Participants stay at a remote field camp and explore the park by vehicle and hiking excursions. Professional development credit (1-3 credits) is made available through the University of Alaska.

For information about the courses and application process please visit the Murie Science and Learning Center

[\[http://rs6.net/tn.jsp?e=001Q8nNESBLbtVW3EZ3XEQWLOs2WtIfRUsfj8tLfl7q6L3eQzra-zIPKK4hB5t8th3zM Pj62QujsM_Kc_blkTyuX_XAtRQXzT326WcELBFW_xqei-QxI4V3Dw==\]](http://rs6.net/tn.jsp?e=001Q8nNESBLbtVW3EZ3XEQWLOs2WtIfRUsfj8tLfl7q6L3eQzra-zIPKK4hB5t8th3zM Pj62QujsM_Kc_blkTyuX_XAtRQXzT326WcELBFW_xqei-QxI4V3Dw==)

or Alaska Geographic
[\[http://rs6.net/tn.jsp?e=001Q8nNESBLbtULbLhxA1s0bxENehSqo9nOZWraD26tJp08iCv7e7UppWV-wrTQtq4Ob9KITWJZDSJN9kjQhjbXwHJx1j3INnlr8SNMy_tJYsWrJFhy-n7MSLc6TaofkDm\]](http://rs6.net/tn.jsp?e=001Q8nNESBLbtULbLhxA1s0bxENehSqo9nOZWraD26tJp08iCv7e7UppWV-wrTQtq4Ob9KITWJZDSJN9kjQhjbXwHJx1j3INnlr8SNMy_tJYsWrJFhy-n7MSLc6TaofkDm).

The Murie Science and Learning Center provides research, discovery, and learning opportunities within northern Alaska national parks to promote appreciation and caring for our national and cultural heritage.

Alaska Geographic (formerly known as the Alaska Natural History Institute) offers accredited Field Seminars and Teacher Trainings through the MSLC as the original location of its now-statewide Institute.

**Summer Course for K-12 Teachers
Understanding the Role of Permafrost in a Rapidly
Warming Climate**

25-27 June 2008
University of Alaska Fairbanks

"Understanding the Role of Permafrost in a Rapidly Warming Climate" is a one-credit course developed especially for K-12 teachers being offered on 25-27 June 2008, at the University of Alaska Fairbanks in association with the Ninth International Conference on Permafrost.

The purpose of the course is to familiarize elementary and high school teachers with the complex story of how the warming climate will impact Alaskan society, ecology, and hydrology through degradation of permafrost. The course will include local field trips around the Fairbanks area to observe and photograph evidence of permafrost degradation and its original formation during the last glaciation.

Attendees will participate in field measurements of permafrost thermal and hydrological variables to quantitatively document the interdependence among the dynamic thermal and hydrological processes. The emphasis will be upon simple measurements and observations that may be conducted by students to better understand the Alaskan environment.

Participants may earn one credit by registering with University of Alaska Fairbanks Summer Sessions (<http://www.uaf.edu/summer/>). The cost is expected to be \$60 USD. Each morning will be spent in an informal classroom-style setting where participants will discuss the relationships and controls among climate, permafrost, and hydrology. There will be two afternoon field trips where participants will visit sites to actively engage in field process studies.

For more information, please contact:
Tohru Saito
E-mail: saito@iarc.uaf.edu

Two additional classes offered at UAF in August.
Alaskan Mosses UAF - 1 credit class
Intro to Macro and Micro Mushroom ID UAF 1 credit -
Please see separate email with attached fliers for these two classes.

Enjoy - hope you find something that piques your interest.