



Happy New Year

Welcome to the New Year. After another mild holiday season ---we face a frigid beginning to 2005. But this is a great time to plan for the new term, set our goals and objectives, and seek out those resources and professional development opportunities that are valuable for us. Included in this issue are:

Summer PRCST programs
Directions
Calendar of events
Database of resources

Education News
Science Snippets
NASA news, workshops, and resources

WHAT A YEAR!

Was it Annus Horribilis or Annus Miracabilis?

Certainly it was a wettest year we can remember....but how about that long, warm fall into winter? Spring flowers started to bloom in November showing that people were not the only species confused.

And when did we ever have four hurricanes strike in one season with such vengeance? Charlie, Jean, Frances, and Ivan bore names that precluded a gender bias. Luckily we escaped the devastation of some areas that were hit directly. However this was small consolation for those of us whose lives were changed by local flooding. The rain saturated soil resulted in massive run-off putting streams and rivers out of their boundaries and causing tremendous destruction in many of our regional areas....not to mention the human impacts.

And the Worst.... TSUNAMI

A holiday horror ...December 26, 2004 – an underwater earthquake generated a monster wave –an epochal tsunami – spreading throughout south Asia! The number of dead has surpassed 150,000 with many more unaccounted for – maybe tens of thousands. More than one million people lost their means of earning a living. Estimations are jobs gone for 600,000 people in Indonesia and more than 400,000 in Sri Lanka – the second hardest hit country. In Thailand, 100,000 are out of work. And the greatest tragedy --- masses of orphaned children – added to those placed in emerging orphanages by lone surviving parents who cannot care for their children. (See related article)

A Bright Glean

On the bright side, what could be more exciting and educational than the MARS exploration by rovers Spirit and Opportunity! Not only were both landings successful, but each provided unexpected and valuable information about the surface of Mars, as they continued working well beyond their predicted “life-span”. Comparing the geology of Earth and Mars has been a project in PRCST workshops and programs, as erosion patterns and mineral deposits on Mars indicate past water activity.

Meanwhile, the Cassini Mission carried on and delivered the European Space Agency’s Huygens probe 744 million miles away to land on Titan’s frozen surface. Saturn’s largest moon appears to be lashed regularly by a rain made of liquid methane – that erodes the surface much as water does here on Earth (and apparently has done in the past on Mars). On Earth methane is a flammable gas. But on Titan the intense pressure and cold (274 degree below zero) keep the methane in liquid form. Black and white photos show a rugged terrain with ridges, peaks and vein-like channels or lake beds that are dry most of the time.

Fact, Folklore and Fantasy??

Facts are difficult to accept, because they must be grasped; fancies are quickly taken on, since they require belief only.

The North Atlantic Oscillation (NAO) seemed to have set a trend to be positive in most of the 90s.

Apparently it is becoming negative again – bad news for the East. The Great Lakes, Midwest and east Coast are predicted to have colder winters.

On February 2nd Punxsutawney Phil forecast the length of our winter cold and snows. Have you seen any “wooly caterpillars” and studied their black and brown bands for monthly predictions? The Chinese new year came in February 5th – the Year of the Rooster. So what does this portend? Perhaps 2005 will bring even more unusual times ----or revert to the same old-same old we are used to experiencing.

*Facts mean nothing unless they are rightly understood,
rightly related and rightly interpreted.*

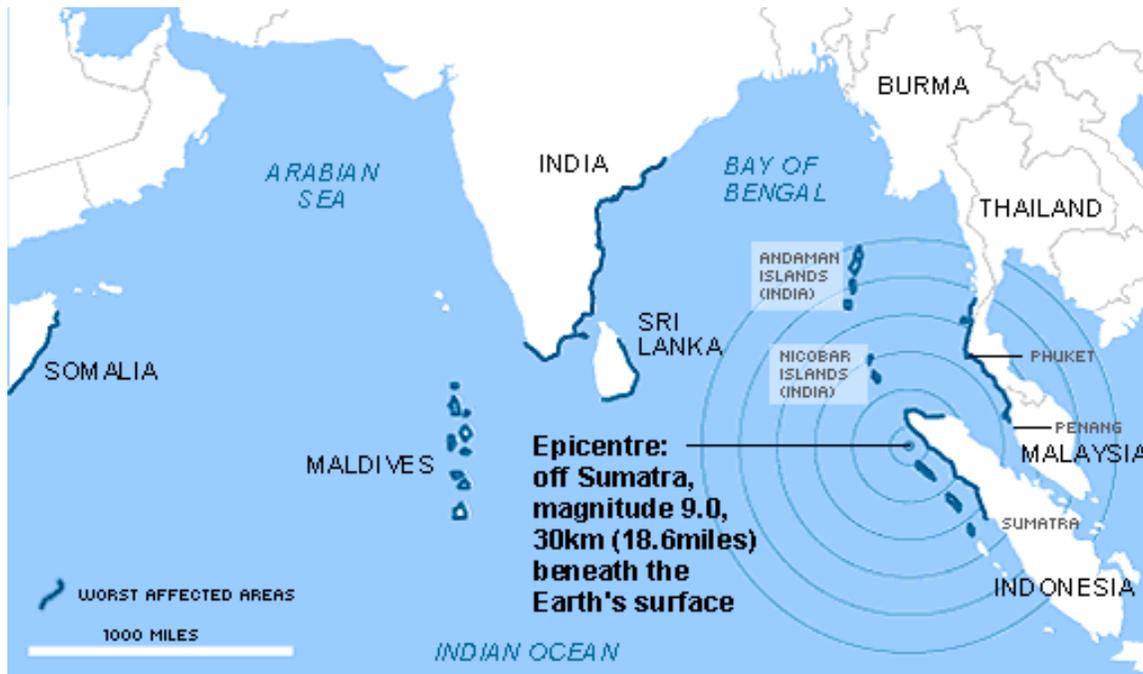
R.L. Long

TSUNAMI 2004

Read the related Tsunami article next and the story of a British girl who saved hundreds of lives – all because of information she had obtained for a project in one of her science classes. This is certainly application of knowledge that led to vital actions.

What is a Tsunami?

A tsunami is a series of waves that occur in an ocean or other large body of water caused by some activity that displaces large amounts of water. Tsunami is the Japanese word for “harbor wave”. They are usually caused by earthquakes occurring on the seafloor or in coastal areas. Waves may reach heights of 100 feet or more.



Map From Guardian Unlimited

TSUNAMI 2004

LONDON (Reuters) - A 10-year-old British girl saved 100 other tourists from the Asian tsunami having warned them a giant mass of water was on its way after learning about the phenomenon weeks earlier at school.

"I was on the beach and the water started to go funny," Tilly Smith told the Sun at the weekend from Phuket, Thailand.

"There were bubbles and the tide went out all of a sudden. I recognised what was happening and had a feeling there was going to be a tsunami. I told mummy."

While other holidaymakers stood and stared as the disappearing waters left boats and fish stranded on the sands, Tilly recognised the danger signs because she had done a school project on giant waves caused by underwater earthquakes.

Quick action by Tilly's mother and Thai hotel staff meant Maikhao beach was quickly cleared, just minutes before a huge wave crashed ashore. The beach was one of the few on the Thai island of Phuket where no-one was killed.

Her teacher, Andrew Kearney, paid tribute to his quick-thinking student.

"Tilly is a very bright, level-headed girl ... it is an incredible coincidence that our class were learning about this type of tsunami just two weeks before Christmas," he told the newspaper.

There is a growing threat of diseases such as cholera and malaria which could kill tens of thousands of people, with survivors desperate to find water uncontaminated by seawater and sewage, said health officials from Sri Lanka to Indonesia.



An aerial view shows the tsunami-devastated city of Banda Aceh on the Indonesian island of Sumatra January 26, 2005. Indonesian school children wept and prayed for thousands of missing classmates as debris-littered schools reopened in devastated Aceh province, a month after the Asian tsunami. Photo by Kimimasa Mayama/Reuters

Community Learning Network (CLN) website has many links to resources available for classroom use that relate to tsunamis. The theme page is especially rich and includes links to two lesson plans at the Houghton Mifflin Activity Search site to help students understand tsunamis better.

- 1) Let's Make Waves
- 2) Monster Waves

For the "Physics Behind the Wave" go to the NASA website
http://observe.arc.nasa.gov/nasa/exhibits/tsunami/tsun_physics.html

For the "Effects of Tsunami on Society" by George Pararas-Carayannis go to
<http://www.drgeorgepc.com/TsunamiImpactSpiciey.html>

To integrate with classroom studies of the Earth, storms, forces of nature, floods, and the hydrologic cycle go to
http://observe.arc.nasa.gov/nasa/earth/earth_index.shtml.html

A site recommended by Kenneth Harasty showing before and after tsunami satellite pictures:
<http://homepage.mac.com/demark/tsunami/2.html>

Toggle the before/after button to see the differences. Click the next button to see the next picture.

EDUCATION NEWS

Margaret Spelling will serve as the new Education Secretary, America's eighth Education Secretary. Spelling served as assistant to the President for domestic policy on issues ranging from education and health care to job training.

Under the No Child Left Behind Act (NCLB) all fifty states have approved accountability plans. The Department has held the line on Elementary and Secondary Education Act (ESEA) compliance issues, and has, for the first time in the Department's history, exercised its authority to withhold administrative funds from states for clear failure to comply with the substance of ESEA.

The NCLB What Works Clearinghouse contains a series of databases and reports providing ongoing reviews of the effectiveness of educational interventions-programs, products, practices, and policies – designed to improve student outcomes.

The department does not endorse curricula and officials stress that the absence of scientific evidence of effectiveness does not mean that a curriculum is ineffective; rather it indicates the lack of documentation for how well the curriculum works. For more information visit <http://whatworks.ed.gov/>

Incorporate More engineering Education in K-12

A comprehensive report from the American Association for Engineering (ASEE) specifically discusses how K-12 teachers view engineering, how effective current engineering outreach programs are, and what can be done to improve and strengthen K-12 engineering curricula and outreach programs. The report "Engineering in the K-12 Classroom: An Analysis of Current Practices and Guidelines for the Future" can be found at www.engineeringk12.org

PRCST has incorporated this engineering approach in the instructional strategy STS by Green Design – a strategy utilized in PRCST Professional Development Programs. These programs address many of the key guidelines suggested by the ASEE including:

- Hands-on Learning
- Interdisciplinary Approach
- Standards Alignment

In addition, PRCST programs include a focus on relevance, student engagement, and application of knowledge, along with self assessments. PRCST Programs use a C³ Approach:

Content:

Fundamental science concepts
Thinking scientifically
New developments in science

Context:

Placing content/concepts in the real world of the student
Making meaningful connections
Using ideas of concern

Conation:

Developing striving skills
Goal accomplishment
Time management
Personal responsibility

Maintaining Teacher Quality

All of the nation's urban public schools face the problem of teacher turnover: In a given year, almost one-third of the 3.4 million K-12 teachers are moving into, between or out of schools. Many are new to teaching. About one out of every five new teachers abandons the profession within three years, and almost 40 percent do so within five years.

http://seattletimes.nwsourc.com/cgi-bin/PrintStory.pl?document_id=2002138717&zsection_id=2002111777&slug=turnover03m&date=20050103

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Having highly qualified teachers in the classroom is a major focus of the NCLB Act.

A new cycle for Pennsylvania teachers to accumulate 180 ACT 48 hours begins in 2005. Prepare a professional development plan now, and explore the many opportunities available for summer 2005.

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Many opportunities are listed in the following DIRECTIONS Section

DIRECTIONS

National Environmental Education Week – April 10-16, 2005 will be the single largest event for the environment in U.S. History. This is a week in preparation for Earth Day! Many environmental education organizations are participating. Log onto <http://www.eeweek.org>

Join Us for Exciting Professional Education Workshops Conducted by PRCST

ADD FIVE ACT 48 HOURS TO YOUR PORTFOLIO

Integrating Across Disciplines – A Professional Education Day Conducted by PRCST

April 28, 2005

University of Pittsburgh

(Room TBA)

Fee \$75.00

For Educators Grades 6-8

8:30am – 3:30pm

Breakfast and Break Refreshments

LUNCH

FREE MATERIALS RESOURCES

PROGRAM

8:30AM Registration and refreshments

9:00AM **“Reading to Learn the Content” – an Introduction.** This is a NEW program integrating literacy skills and Environment/Ecology Standards and resources Presented by:

Dr. Patricia Vathis, Advisor, PDE Office of Environment/Ecology

Explore a new way to bring Language Arts and Environment/Ecology skills and content together in an exciting and valuable way that enables students to gain fuller understanding and ability to apply their knowledge. This program addresses the current Environment/Ecology standards and the assessment anchors available in reading and mathematics.

Noon – LUNCH

1:00PM **“Food-Land-People”** – This is a rich program that provides a broad range of activities relevant to today’s concerns. It integrates across disciplines and the current today’s standards in Environment/Ecology and other areas. Many hands-on and inquiry based activities are included in the materials.

Presented by Dr. Patricia Vathis

SUMMER PROGRAMS

- 1) **BLAZE A PATH ACROSS DISCIPLINES
AND
EARN EIGHTEEN ACT 48 HOURS
FOR YOUR PORTFOLIO**

June 22-24, 2005

University of Pittsburgh

(and field sites to be announced)

Fee \$300.00

For Educators Grades 5-12

All sessions: 8:30am – 3:30pm

Breakfast and Break Refreshments

LUNCH

FREE MATERIALS RESOURCES

PROGRAM

June 22, 2005

“Linking Across Disciplines”

Geocaching – Presented by Josh Mitchell - the PA Academy for the Profession of Teaching and Learning. Come learn to use a GPS device. Gain a hunger for adventure in this high tech treasure hunting. Find the latest caches or leave a special one in this fun and exciting sport.

Explore current PA Historical events:

The Lewis & Clark Commemoration

250th Anniversary of the French and Indian War

Focus on the vital after years of 1763-1775

Field trip: Senator John H. Heinz History Center exhibits

June 23, 2005

“Sun-Earth Connections and Ancient Observatories” – Presented by Dennis Christopher – NASA SOHO Program, Goddard Space Flight Center.

Field trip: Fort Pitt Museum exhibits

Gather information about the annual Sun-Earth Day and related information and activities. Free resources and materials. Continued Geocaching.

June 24, 2005

“The Globe Program” – Presented by Charylene Philp and trainers certified through the PA NASA Space Grant Consortium. Explore a variety of Globe activities and programs available for classroom use. Earn certification and involve your students in this world-wide data collection program. Use a sling psychrometer, hydrometer, thermometer, a GPS device and cloud charts

U. Pittsburgh – 2nd Floor – Provost’s Suite

2) **“ENERGY – ENVIRONMENTAL IMPLICATIONS”**
EARN EIGHTEEN ACT 48 HOURS
FOR YOUR PORTFOLIO

June 28-30, 2005
University of Pittsburgh
(and field sites to be announced)
Fee \$300.00
For Educators Grades 5-12
All sessions: 8:30am – 3:30pm

Breakfast and Break Refreshments
LUNCH
FREE MATERIALS RESOURCES

PROGRAM

June 28, 2005

“The SWIFT Satellite Mission”

Catching Gamma Rays – Presented by Chris Palma, PA Space Grant Consortium
See the Universe in a whole new light! Learn about the NASA Programs
and resource materials available through the PA NASA Educator Resource Center
(ERC)

K’Nex – Solar Energy Activity – Presented by Bob Jesberg

Explore how to utilize the K’Nex materials to explore solar energy.

June 29, 2005

“Environmental Health Impacts” presented by the Air & Waste Management
Association (AWMA). Air Quality and Non-Point Source Water Pollution concerns.
Hands-on activity and valuable materials (Environmental Resource Guides)

Potential Field trip: DOE Energy Laboratories – Bruceton
Current research in development of alternative fuels.

Rock Box workshop – Learn about Pa “rocks” and minerals
DCNR, PA Geological Survey. Free Rock Sample Kit.

June 30, 2005

“Energy Conservation and Green Design in Pittsburgh – presented by
Conservation Consultants, Inc. (CCI, Inc.). Learn about current efforts related to
energy conservation here in Pittsburgh including “Green Design” of local
buildings: criteria for certification, materials utilized, and the implications for the
environment and health.

Field trip: New Convention Center – a “Green” Building
For additional information and registration for workshops contact:
Jane Konrad, PRCST

412/648-7315

konrad@pitt.edu

Space limited: register now.

CIVIL AIR PATROL (CAP) Join as an Aerospace Education Member for a new program: MARS – Making Aerospace Real for Students. A standards-based program. For elementary teachers – offers a variety of new programs, educational material, discounts on products, and opportunities for continuing education. Fee \$35. Contact Judith Rice, Deputy Director, Aerospace Education, CAP; 105 So. Hansell St., Bldg. 714, Maxwell Air Force Base, AL 36112-6332

CAP Fly a Teacher Program provides opportunity for teacher orientation flights in CAP general aviation aircraft, usually conducted at local area airports. This can also be a program of instruction using hands-on discovery. CAP can provide tools and materials to conduct your own 1-day aviation education workshop. Contact Claudine Sayegh, CAP NHQ Aerospace Education Program Manager; 240/857-0166 or email: Claudine.sayegh@andrews.af.mil

The 2005 Earth System Science Teacher Workshop – Friday April 22, 2005 This workshop will be held at the NASA Goddard Space Flight Center from 9:00am-3:30pm. No fees. For any additional information contact Brian.A.Campbell.1@gspc.nasa.gov or by phone 301/614-5684. Study the Earth as a complex machine – a myriad of spheres (parts): cryosphere, atmosphere, biosphere, and lithosphere.

SUN-EARTH DAY 2005: Ancient Observatories, Timeless Knowledge March 21, 2005 This year's Sun-Earth Day theme takes you on a fascinating journey through time exploring centuries of sun watching by a great variety of cultures. Register and keep checking for updated media information: <http://sunearthday.nasa.gov/>

THREE AAAS PROJECT 2061 WORKSHOPS: Demonstrate how to use the AAAS Atlas Maps and related resources to improve curriculum, instruction, and assessment. Science and mathematics educators are invited.
Mar.7-9 and Oct. 17-19: both in Washington D.C.
June 9-11 at Maryville University of St. Louis
For information visit <http://project2061.org/041229/workshops>

CITIZEN SCIENTISTS SCIENCE WRITING – a competition for ages 13-26 in the United States for the best scientific papers written for a general audience on any topic relation to the economic, social, or environmental dimensions of sustainable development. Citizen Science – the science and technology program of SustainUS will publish the best in the Citizen Science online journal. Authors receive a free magazine subscription and can present their ideas at the United Nations. Competition details and application at: www.sustainus.org/mambo/cs/csapplication.doc
For more information visit www.sustainus.org

COOL SPACE AWARDS - Do you know a cool space – where you work, shop, eat out? Or spaces hidden on top floors of buildings, in renovated places. Recognize a cool space and the workers that use it – encouraging adaptive reuse in urban places. Enter at www.coolspacelocator.com or call 412/583-5890 for details. Eligible spaces must be in one of Southwestern PA's "walkable" urban neighborhoods and potentially house businesses or other enterprises where people work....no residences. Deadline Feb. 17th.

SACP/SSP News – Logon to www.sacp.org for the latest news: meetings, workshops, equipment grants, news of Chemistry week opportunities.

2005 MY NASA DATA Teacher Workshop: Workshop for REASoNing through the Use of Earth Science Data Sets
NASA Langley Research Center, Hampton, Virginia, USA
July 25-29, 2005

NASA Langley Research Center will host a hands-on workshop designed for the 6-12 Educator. Earth science teachers are particularly encouraged to apply. The workshop will focus on the implementation and use of Earth Science data sets developed for student researchers in grades K-12 as part of the MY NASA DATA program. The data sets, which will center on atmospheric science, are derived from the archive of remotely sensed data retrieved from the myriad of NASA's Earth Observing System satellites.

Participating teachers will explore topics in atmospheric science, educational application of data sets, use of weather measurements and hands-on classroom activities. Participants will experience meaningful field trips and benefit from the expertise of nationally recognized atmospheric researchers. Participants will also explore how data sets can be used to enhance their curriculum and how students can utilize these data for inquiry-based learning and research. Participant feedback and curricular contributions will be enlisted as further development of data sets continues.

Application deadline is April 8, 2005:

Download the [MY NASA DATA Workshop Application](#)

For further information, please contact:

MY NASA DATA Workshop 2005
Attn: Joyce Fischer
Mail Stop 927
NASA Langley Research Center
Hampton, VA 23681-2199
Phone (757)827-4848
FAX: (757)825-4968
E-mail: j.d.fischer@larc.nasa.gov



FIFTH GODDARD FORUM – Putting the Market to Work for Conservation

April 5, 2005 Harrisburg Hilton and Towers, Harrisburg, PA An in-depth examination of traditional and nontraditional market-based mechanisms for achieving environmental improvement. \$95 for non-profit and students. To Register contact Pamela A. Driftmier, Conference Planner 814/863-5100 or email Conferenceinfo1@outreach.psu.edu

CAPCO Science Class Challenge A contest for grades 4-9 to encourage students to learn about the Earth's protective upper ozone layer, CFCS, aerosol products and the environment by using provided activities or your own teaching methods. Win \$500-\$5,000 for your school and a pizza party for your class (over 40 teachers will win). Entry deadline is May 13th, 2005 Visit www.nocfcs.org

ESSAY CONTEST for PA students grades 9-12; sponsored by the PA Society for Biomedical Research, "Why Are Animals Used in Biomedical Research" 750 word limit; Deadline for entries is Mar 14, 2005. Winners notified by June 1, 2005; For information 717/731-3558 or email psbr@psbr.org and specify High School Essay Contest.

NSELA Summer Leadership Institute – July 10-13, 2005 Held in NJ by the NJSEA, Fairleigh Dickinson University, Madison, NJ; "Science as a Vehicle for Interdisciplinary Learning and Assessment"; Contact Maria Cannizzaro, President 973/889-1670 or email mariacanz@aol.com

PA NASA ERC SUMMER PROGRAMS

Conducted by PRCST. For registration and information contact Jane Konrad, 412/648-7315 or email konrad@pitt.edu

1)

Title: Educational Tools & Space Science

Format: Workshops

Long Description: The exploration of other solar objects, especially Mars and the study of water – an essential for life - provides a common thread to investigate evidence of life there – past or present, climate (weather, processes and history), and resources (environment and utilization) and comparison with Earth's life, climate and resources. Mars exploration gives us a current, relevant, and exciting geological scientific connection that engages students at all levels. Current technology involved brings participants up to date with developments in space science and robotics. It offers teachers an avenue for integrating basic science concepts into the curriculum that enables students to achieve the new standards, utilizing the essential learnings in the new Pennsylvania Science Framework.

Related Webpage:

Presented By: Dr. Jerry Backmon, CA U.; Dr. Ron McClosky, CMU; Magdalena Gill

Time Frame:

From: Thursday, August 4, 2005

To: Saturday, August 6, 2005 **Time:** 8:30:00 AM - 3:30 PM

Total Clock Hours or Credits:

Category	Number	Credits/Hours
Certificate of Attendance - PDE Approved (Act 48)	18	Hours(s)

This Resource focuses on the following role(s): Administrator, Educational Specialist, Teacher

Grade Level(s): 9, 10, 11, 12

Location: University of Pittsburgh

County: Allegheny

Fee: \$100/person/day

Other Fee Information: \$50 Materials Fee

2)

Title: Educational Tools for Educators - Exploring Space

Format: Workshops

Long Description: The exploration of Mars and the study of water -an essential for life - provide a common thread to investigate evidence of life there - past or present, climate (weather processes and history), and resources (environment and utilization)and comparison with Earth's life, climate and resources. Mars exploration gives us a current, relevant and exciting scientific connection that engages students at all levels. It offers teachers an avenue for integrating basic science concepts into the curriculum that enables students to achieve the new standards, utilizing the essential learnings outlined in the Pennsylvania Science Framework.

Related Webpage:

Presented By: Dr. Jerry Backmon, CA U.; Dr. Ron McClosky, CMU; Magdalena Gill

Time Frame:

From: Thursday, July 7, 2005

To: Saturday, July 9, 2005 Time: 8:30:00 AM - 3:30PM

Total Clock Hours or Credits:

Category	Number	Credits/Hours
Certificate of Attendance - PDE Approved (Act 48)	18	Hours(s)

This Resource focuses on the following role(s): Educational Specialist, Teacher

Grade Level(s): 3, 4, 5

Location: University of Pittsburgh

County: Allegheny

Fee: \$100/person/day

Other Fee Information: \$50 Materials Fee

3)

Title: Educational Tools for Educators - Space Exploration

Format: Workshops

Long Description: The exploration of solar objects, especially Mars and the study of water – an essential for life - provide a common thread to investigate evidence of life there – past or present, climate (weather, processes and history), and resources (environment and utilization) and comparison with Earth's life, climate and resources. Mars exploration and the Cassini Mission to Titan give us a current, relevant, and exciting scientific connection that engages students at all levels. Technology developments (robots etc.) and use expand the scope of study. This workshop offers teachers an avenue for integrating basic science concepts into the curriculum that enables students to achieve the new standards, utilizing the essential learnings in the new Pennsylvania Science Framework.

Related Webpage:

Presented By: Dr. Jerry Backmon, CA U.; Dr. Ron McClosky CMU, Magdalena Gill

Time Frame:

From: Thursday, July 14, 2005

To: Saturday, July 16, 2005 Time: 8:30:00 AM - 3:30 PM

Total Clock Hours or Credits:

Category	Number	Credits/Hours
Certificate of Attendance - PDE Approved (Act 48)	18	Hours(s)

This Resource focuses on the following role(s): Educational Specialist, Teacher

Grade Level(s): 6, 7, 8

Location: University of Pittsburgh

County: Allegheny

Fee: \$100person/day

Other Fee Information: \$50.00 Materials Fee

DATABASE

CORNELL SCIENTIFIC INQUIRY SERIES - NSTA members can buy one teacher edition and one student edition for \$14.36/ non-members \$17.95 Titles are:

Watershed Dynamics, Assessing Toxic Risk, Decay and Renewal, and Evasion Ecology.

Order by phone: 1-800-277-5300

FREE from Discovery Education – a one-year subscription to Unitedstreaming.com (now a part of the Discovery Family). The video-on-demand service proven to improve student achievement in math, science, and social studies. Award winning video content providers from the Discovery Channel, Weston Woods, and Sunburst give access to over 22,000 video clips spanning all areas of the K-12 curriculum. Free to one school in every public school district that does not currently subscribe. Sign up at vod.unitedstreaming.com The subscription is valid until June 30, 2005. Call 1-800-261-9200 for more information.

NASA FREE COMPUTER MODEL AVAILABLE TO CLASSROOMS The Educational Global Climate Model (EdGCM) for both Windows and mac platforms incorporates a 3-D climate model developed at NASA's Goddard Institute for Space Studies (GISS), N.Y. It wraps complex computer modeling programs with a graphical interface familiar to most PC users and runs on a desktop computer. Teachers and students can conduct experiments identical to those scientists run on supercomputers to simulate past and future climate changes. For more information about EdGCM visit

<http://www.edgcm.org>

To download EdGCM software from the Internet visit

<http://www.edgcm.org/EdGCMCooperative/Downloads.php>

For more information about climate study in the classroom visit

http://www.nasa.gov/vision/earth/everydaylife/climate_class.html

TSUNAMI VISUALIZATIONS: DLESE EDUCATION RESOURCES

A collection of visual resources supporting material about the Dec. 26 Indian Ocean tsunami. Simple animations, satellite photographs, Quicktime animations and tsunami models. Also visualizations related to other historical tsunamis and additional resources (beyond visualizations) about tsunamis.

<http://serc.carleton.edu/NAGTWorkshops/visualization/collections/tsunami.htm>

RESEARCH / PENN STATE MAGAZINE is moving to the Web. Quarterly themes combined with weekly features about cutting-edge research. Ex. It's About Time. An in-depth look at how time shapes our lives and the universe around us. Also interactive features and weekly "Probing Questions" answered by Penn State researchers. Visit www.rps.psu.edu

IDEAS FOR TEACHING WITH INTERACTIVE WHITEBOARDS Many ways educators are using whiteboards to enhance students' understanding. Dozens of activities searchable by subject and grade level. Go to the EDCompass web site <http://edcompass.smarttech.com>

WORLD YEAR OF PHYSICS 2005

Physics Enlightens the World: an endeavor to get as many people as possible to be part of a world community spanning the globe. A world-wide relay of light to commemorate the 50th anniversary of Albert Einstein's death on April 18, 2005. For more information:

<http://www.physics2005.org/events/projects.html>

PHYSICS ACROSS THE WORLD INTERNATIONAL POSTER COMPETITION: for students ages 10-16 to mark the World Year of Physics in 2005. Students create their own colorful posters to show how physics applications makes their lives better and has a positive impact on their everyday lives.
<http://www.physics2005.org/events/projects.html>

WORLD YEAR OF PHYSICS T-SHIRTS Look smart in a WYPT-Shirt
http://www.spsnational.org.societynews/2005WYP_shirts.htm

ONLINE EVENT FINDER Now available for the WYP2005. Add your own events.
<http://www.physics2005.org/events/submit.html>

BRAIN BASED LEARNING defined by Funderstanding:
http://www.funderstanding.com/brain_based_learning.cfm
<http://snipurl.com/c8f4>

definition: “ This learning theory is based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur”.

NEW NAEP STUDY shows females are now doing as well as or better than males on many indicators of achievement and attainment. “ Trends in Educational Equity of Girls and Women” was produced by the Department’s National Center for Education Statistics in the Institute of Education Sciences. To download a copy visit <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005016>

IDEAS FOR VOLUNTEER SERVICE This site is organized for elementary and middle level students, parents and teachers. Ideas for volunteer service and additional resources. It provides information on how to start a service program and how to support a child’s involvement in one. U.S. Department of Education along with the USA Freedom Corps and the Corporation for National and Community Service. www.usafreedomcorpskids.gov

PA A LEADER IN POLLUTION Coal burning plants in PA are among the biggest emitters of sulfur dioxide and mercury pollution in North America, according to a report released by the Commission for Environmental Cooperation:
http://www.cec.org/pubs_docs/documents/index.cfm?varlan=english&ID=1688
A comparison of emission from more than 1,000 fossil fuel power plants in the United States, Canada, and Mexico.

FREE Module – Using Technology to Study Cellular and Molecular Biology
The latest installment in the NIH Curriculum Supplement Series that promotes science achievement in the classroom. A teacher-ready resource. Visit <http://science.education.nih.gov/h5>

TO JOIN AN ENVIRONMENTAL EDUCATION EMAIL LIST: send email to maryo@naaee.org

WORLDWIDE BIOME PROJECT An Integrated Biology/Computer Project for Students. Communicate with students from around the world. Visit <http://www.2.kpr.edu.on.ca/cdciw/biomes/>

AMERICAN INDIANS ON RESERVATIONS – A Data Book Census data on 15 key socioeconomic indicators. Visit <http://www.ksg.harvard.edu.hpaied.pubs.cabazon.htm>

**For information usually found in the PRECOSEP insert,
please visit:**

www.sacp.org

www.ssp-pgh.org

CALENDAR OF EVENTS

******* WORLD YEAR OF PHYSICS 2005 *******

Feb 5 Chinese New Year – Year of the Rooster

Mar 15 Southwest PASCD Conference, Greensburg, PA, Four Points by Sheraton Hotel (724/836-6060, 3:00pm Keynote 7:20pm “Using Data Model”, Diana Nunnaley
\$45 includes dinner, Act 48 Hours. For information – Dr. Robert Luzzolino, President,
Westmoreland IU #7, 724/836-2460.

Mar 20 Sun-Earth Day See Directions for information

Mar 21-22 “Mapping the Human Landscape: GIS for Public Health, Safety, and Social Services Applications”; TUGIS 2005; Towson University, Towson, MD. Workshop dates are Mar 23-25; Early Bird registration until Feb 18, 2005. For more information visit <http://cgis.towson.edu/tugis2005> or call 410/704-3887

Mar 29 PA Education Research Association (PERA) One-day workshop, “PA Value-Added Assessment System”, Midwestern IU 4, Cost \$95 including am refreshments, lunch and materials.
<http://citl.hgb.psu.edu/pera/>

Apr 4-17 “Mysteries and Sirens of the Deep – Shipwrecks and Underground Sound, What Can They Teach Us” The second of three virtual workshops for teachers from NOAA. Focus on efforts underway to protect and conserve special places in the ocean and explore still unknown areas of the deep ocean. For more information visit <http://www.coexploration.org/ceo>

Apr 18 Physics Enlightens the World – A Worldwide relay of light to commemorate the 50th anniversary of Albert Einstein’s death. Visit <http://www.physics2005.org/events/projects.html>

Apr 22 “2005 Earth System Science Teachers Workshop” NASA Goddard Space Flight Center, Visitors Center Auditorium, Greenbelt Md., from 8:00-3:45. Limit 40 participants. Teachers must register at <http://neptune.gsfc.nasa.gov/education/2005workshop.php>

For questions contact Brian A. Campbell 301/614-5684 or email Brian.A.Campbell1@gsfc.nasa.gov

Apr 28 PRCST Workshop “PROFESSIONAL DEVELOPMENT – INTEGRATING LANGUAGE ARTS”, for middle level teachers; 8:30-3:30, University of Pittsburgh; Introduction of the PDE Office of Environment/Ecology new program integrating language arts “Reading to Learn the Content”. Presented by Dr. Patricia Vathis, PDE Advisor, Environment/Ecology. Also participate in the Food-Land-People program and receive a binder of activities. \$75 includes Lunch and Morning and Break refreshments/resources/prizes. Contact PRCST 412/648-7315

May 8 International Migratory Bird Day, An invitation to celebrate and support migratory bird conservation. For information visit <http://birds/tws.gov/imbd> or phone 03/358-2318

June 22-24 PRCST Workshop “BLAZE A PATH ACROSS DISCIPLINES -Linking the Natural and Historical Environments” including Geocaching activities. 8:30-3:30; \$300 includes lunch and morning and break refreshments, materials, resources, prizes.

June 28-30 PRCST Workshop “ENERGY – ENVIRONMENTAL IMPLICATIONS”, Hands on activities including K’Nex kits and USGS PA Rock Boxes, Green Architecture and tour of Convention Center. \$300 8:30-3:30; includes lunch and morning and break refreshments, materials, resources, prizes.

June 27-29 Bioethics in the Genomics Age, Allegheny-Singer Research Institute, Allegheny General Hospital; 9-4:00, for High School Teachers; \$300 for materials, refreshments, parking, and equipment. Contact Dr. Eva Toth 412/359-6395 or email etoth@wpahs.org

June 28-30 ASCD Summer Conference, New York, NY Theme: “Differentiating Instruction and Understanding by Design: Powerful Keys to Student Learning.”
1-800-933-2723 (ASCD)

NSTA ANNUAL CONFERENCE

Mar 31-Apr 3, 2005 NSTA 53rd National Convention, Dallas, TX Visit www.nsta.org for information.

PA NASA ERC SUMMER WORKSHOPS

Aug 4-6 Educational Tools and Space Science, Grades 9-12
July 7-9 Tools for Space Science – Exploring Space, Grades 3-5
July 14-16 Tools for Educators – Space Exploration, Grades 6-8
Contact: PRCST 412/649-7315 or email konrad@pitt.edu

LOOKING AHEAD

Oct. 10-23 Third Virtual Teacher Workshop “Extreme Environments, Underwater Observatories and Technology – An Avalanche of New Resources for the Classroom. (See Apr. 14-17 above).

LOOKING WAY AHEAD

Mar. 24-26, 2006 PA Alliance for Environmental Education (PAEE). Antiochian Village Conference Center

SCIENCE SNIPPETS

Sugar In space? A clue to life's origins? A frigid cotton-candy like cloud of simple sugars – composed of molecular glycolaldehyde – drifts in the cold center of the Milky Way. While it is about 26,000 light years away, it offers a remote, yet tantalizing, hint of how the building blocks of life may have reached Earth billions of years ago.

Many scientists agree that life probably came from a “primordial soup” - a rich concoction in warm-water puddles of early Earth. New research yields fresh evidence that life, or some of its basic ingredients, may have flown in from interstellar space, perhaps aboard a comet or an asteroid.

Washington Post 9-27-04

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Capturing cosmic rays: A massive cosmic ray detector on top of Black Rock Mesa – a remote hilltop in western Utah desert – is being readied to capture and study the most powerful energy sources in the universe – cosmic rays. A Japanese-American project, the Telescope array is designed to discover what's flinging these phenomenally energetic particles at our planet.

Cosmic rays are subatomic particles, the nuclei of atoms such as hydrogen, helium, carbon, oxygen or iron that have lost their surrounding shells of electrons. When they hit the Earth's atmosphere, they emit fluorescent light that can be measured and analyzed.

“There's about one cosmic ray going through your head per second, but these are the garden variety low energy particles. They constitute part of the background radiation to which we are all constantly exposed”, said Pierre Sokolsky, Chairman of the Physics Department at the University of Utah. “Low-energy cosmic rays from the sun can get quite intense during solar storms, knock out communications and even disturb power line transmission.”

Billingsgazette.com

(Ed.Note: Explore related Sun-Earth Day activities/programs)

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World Year of Physics officially launched in mid-January at the Physics for Tomorrow conference in Paris. This international celebration of physics is timed to coincide with the 100th anniversary of Albert Einstein's “Miraculous year”. In 1905, Einstein revolutionized much of science with three groundbreaking advances: he proved the existence of atoms and molecules, he validated the emerging field of quantum mechanics, and he developed the theory of special relativity – which led to the most famous equation ever written, $E=mc^2$.

The United Nations has officially declared 2005 as the International Year of Physics and more than thirty nations are participating in the year-long celebrations with public lectures, museum exhibits, and educational projects. For more information visit www.physics2005.org

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Cloning Human Embryos has been approved by British regulators for Ian Wilmut, the scientists who led the team cloning Dolly the sheep. The experiments will not involve creating cloned babies, but using cell nuclear replacement to derive stem cells. It has already been applied to humans by Korean scientists.

The plans are to clone cells from patients with muscle wasting diseases such as Lou Gehrig's disease, derive stem cells from the resulting embryos, make them develop into nerve cells and compare their evolution to that of cells derived from healthy embryos.

At the World Economic forum in Switzerland in January, the United States (not a part of the Kyoto Treaty) was called upon to do more to address the concerns of the world including helping developing nationals combat AIDS , poverty, and natural disasters. The Forum has taken on increased importance in recent years as globalization and common threats – ranging from terrorism to increased vulnerability to natural disasters – have made nations more dependent upon each other.

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Saving the nation’s giant sequoias is the determination of Martin Litton, leading conservationist. People assume that all sequoias are protected, but this is not true according to Martin. Sequoias can reach a height of 325 feet and live up to 3200 years. Logging threatens to diminish the number of trees, old and young. Martin says, “What we have to let people know is that these trees don’t exist anywhere else in the world”.

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Lack of deer??? Hunters moan but farmers and gardeners cry help. The state’s official animal *odocileus virginanus*, the whitetail deer, now have a density of 19-25 per square mile.. They have nibbled away state woodland’s flowers and saplings, disturbing the balance of the forest, decimating habitat needed by other animals and songbirds. Generations of timber such as ash, poplar, oak, sugar maple, and black cherry have been put at risk.

Any deer in your yard? This bigger herd has resulted in forests with no trees between 10 and 60 years old – a true economic loss. It has also increased the number of vehicle-deer collisions. Farmers are footing the “bill” for feeding the deer herd. And private residences are having problems with landscaping and beautification efforts.

News from the PA NASA Educator Resource Center (ERC)



Changing office space again – to 5528 WWPH - changed the physical complexion of the PA NASA ERC. Further reduction in physical space caused relocation of more NASA resource physical placement. Jane Konrad , now Director of the ERC, has been busy assembling data, compiling resources, filing reports and project proposals, and answering requests for NASA resources.

Resources were provided to the Mission to Mars Workshops conducted by Dr. Gerry Blackmon, California University, attended by J. Konrad. The resources there are indexed and available for distribution through the ERC. Intern Tony Sadar helped catalog and index more lithographs and other resources. It is quite a job, but we will now help you with your NASA needs.

Volunteer help is always needed. If you have an interest in browsing and borrowing the NASA resources as we continue to organize, do contact us and come and help this summer. Lots of perks – extra resources and availability of videos to view and copy.

As part of the PA NASA Education Consortium (PNEC), Konrad worked with the NASA display/ team at the fall PSTA annual convention in Hershey. A session was conducted comparing the geology of Mars with the geology of Earth, presented by Magdalena Gill, geologist and using NASA resources and information.

In the fall 2004 a Saturday morning NASA workshop was held at the University of Pittsburgh: This was conducted by Kenneth Harasty, who held teachers' interest with hands-on activities, varied teaching approaches, and humor - and Magdalena Gill, Geologist, who expertly helped teachers explore the comparison of the geology of Mars and Earth. PRCST provided many resources to take back into the classroom



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*And special thanks to Dr. Charles Greenberg, moderator and primary author for the PRCST
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