



# GEOGRAPHY EDUCATORS' NETWORK OF INDIANA

## NEWSLETTER

Volume 106, Issue 1

Winter, 2006

### Inside this issue:

|                        |       |
|------------------------|-------|
| Competitions/Awards    | 2,4   |
| Educator opportunities | 13-15 |
| Events                 | 2     |
| Featured Geographer    | 5     |
| Lesson Plans           | 6-12  |
| Resources              | 2     |

## GeoFest 2005 at Brown County

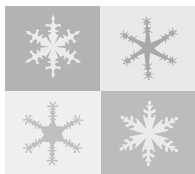
Teachers from around the state converged on Brown County State Park the second weekend in October but not just to enjoy the beautiful fall colors of central Indiana. Once again, GENI provided a venue for participants to view the fall foliage while expanding their geography knowledge. We were fortunate again this year to have fabulous weather and a great schedule of presenters.

With a strand on "migration" to support the 2005 Geography Action!/Geography Awareness Week theme, presenters provided a wide range of information, resources and materials to take

back to the classroom. The "Economics of Migration" was explored and put into context through personal narratives. The National Geographic's migration resources were distributed (maps, project guide, etc.), along with an explanation of this year's project and tips for adaptations for different types of classrooms. Even a little entertainment was thrown in with a great inter-active session on the migration of music in the United States.

The field experiences were a hit again at Brown County. The Saturday morning orienteering exercises got participants out in the fresh morning air, and ei-

*Continued on page 3*



## International Festival 2005

The Nationalities Council of Indianapolis hosts a dynamic and educational outreach event each fall, the Indianapolis International Festival. And each fall, thousands of visitors from around the state travel to the State Fair Grounds to participate in the Festival. The International Festival provides an opportunity for visitors to immerse themselves in the many diverse cultures represented throughout the state. Food, cultural artifacts, dancing, singing, and educational information are all available to the visitors seeking Indiana's ethnic contributions.

Several organizations collaborate with the Nationalities Council, and with the event planners (Family Events), to provide elementary through secondary appro-



*Kathy Kozenski talks with students about their "passport" and how to label their family heritage on the world map.*

priate activities for student visitors. Preliminary curriculum ideas are sent to visiting school groups to encourage awareness

*Continued on page 3*

### Special Points of Interest:

- GENI Weekend Workshop
- ICSS Annual Conference
- Indiana Geographic Information Council Annual Conference
- Geographic Bee will be held March 31st at IUPUI

### GENI Board of Directors 2005-2006:

**Lou Camilotto**

*Board President*

McCutcheon High School, Lafayette

**Tom Jones**

*Board Vice President*

Taylor University, Upland

**Melinda Butler**

*Board Secretary*

Bethel College, Mishawaka

**Jill Bowman**

*Board Treasurer*

Indianapolis

**Matt Ard**

Pierce Middle School, Merrillville

**Meredith Beilfuss**

Indiana State Univ., Terre Haute

**Rick Bein**

IUPUI, Indianapolis

**Melinda Butler**

Bethel College, Mishawaka

**Karen Grimes Cooper**

St. Andrew & St. Rita, Indianapolis

**Catherine Dean**

Chesterton High School, Chesterton

**Patricia Gillogly**

Thorntown Heritage Museum, Thorntown

**Alan Hagedorn**

Center Grove High, Greenwood

**Bill Hale**

Chandler

**Roger Jenkinson**

Taylor University, Upland

**Kathleen Lamb Kozenski**

GENI Executive Director

**Doug Marvel**

Spatial Marvels, Inc.

**Scott Royer**

McCutcheon High School, Lafayette

**David Schmidt**

Lakeland High School, LaGrange

**James Schmidt**

Penn High School, Mishawaka

**James Speer**

Indiana State Univ., Terre Haute

**Ted Springer**

Lafayette

**Hilary Johanson Steinhart**

GENI Director

**Joyce Thompson**

White River Valley High, Linton

**Kathy Voegel**

Castle JR/SR High School, Newburgh

**Gloria Wilson**

Farrington Grove Elementary, Terre Haute

## Calendar of Events:

- Feb. 8-10 - The **Hoosier Association of Science Teachers, Inc.** annual conference will be held at the Indiana Convention Center. For more details, contact Edward Frazier, Executive Director of HASTI at 5007 West 14th Street, Indianapolis IN 46224, (317)243-0107; [elfrazier@comcast.net](mailto:elfrazier@comcast.net), or visit [www.hasti.org/convention.html](http://www.hasti.org/convention.html)
- Mar. 4 - **GENI Annual Board Meeting** to be held at IUPUI's Cavanaugh Hall #438 from 8:30 a.m. - 1:00 p.m. All are welcome to attend!
- Mar. 7-11 - **Association of American Geographers** Annual Meeting to be held in Chicago, Illinois. Visit their website at [www.aag.org](http://www.aag.org).
- Mar. 7-8—**Indiana Geographic Information Council (IGIC) Annual Conference** at the Crown Plaza Hotel and Center in Indianapolis. For more information visit [www.in.gov/ingisi/conference](http://www.in.gov/ingisi/conference).
- Mar.17-19— **GENI's Weekend Workshop** at Indiana State University in Terre Haute. This basic workshop will begin at 6pm on Friday and conclude at 12 noon on Sunday. Professional Growth Points will be given and graduate credits can be earned. See page 13.
- Mar. 17 – **Indiana Council for the Social Studies**
- annual conference at the Marten Hotel and Lilly Conference Center on the north side of Indianapolis. Visit [www.bsu.edu/web/dcantu/icss/](http://www.bsu.edu/web/dcantu/icss/) for details.
- Mar. 2006 - **Bridges to the World** Educational Fair for Indiana Youth (grades 3-12), to be held at a variety of Indianapolis locations including a Naturalization Ceremony March 9th (see page 14). For more information contact Kristin Garvey at (317)955-5150 ext.225/info@icenterindy.org. [http://www.icenterindy.org/youth\\_programs.asp?PageID=5](http://www.icenterindy.org/youth_programs.asp?PageID=5)
- Mar. 24-25 – 21<sup>st</sup> Annual **Home Educators Conference** to be held at the Indianapolis Convention Center. For more information, visit [www.inhomeeducators.org/events](http://www.inhomeeducators.org/events).
- Mar. 31 - **Indiana State Geographic Bee** to be held at IUPUI 12:00 - 5:00 p.m (registration 10:00a.m.). Contact Kathy Kozenski, (317)274-8879/[geni@iupui.edu](mailto:geni@iupui.edu), for details. Be sure and let us know if you would like to be a volunteer!
- June 2-3 - **GENI Long Range Planning Meeting** to be held at Taylor University; contact Roger Jenkinson, (765)998-53223, if you are interested in attending.

## Reources

- **MYSTERY CLASS STUDY TRIP** - The Mystery Class investigation is an 11-week hunt in which students try to find 10 secret "Mystery Classes" hiding around the globe. The changing amount of sunlight at each site is the central clue. Students take an inspiring journey from knowing only sunrise and sunset times, to discovering exact locations of the 10 Mystery Classes. Mystery Class begins January 30 and ends May 5, 2006. <http://www.learner.org/jnorth/tm/mclass/About.html>
- **JETSTREAM: AN ONLINE WEATHER SCHOOL**, NOAA - Jetstream is a great online weather school coming direct from NOAA's National Weather Service. The modules step through content, then offer an online quiz at the end to test your knowledge. A certificate of completion (for each topic) can be printed by students who successfully complete their work. The information contained in JetStream is arranged by subject; beginning with global and large scale weather patterns followed by lessons on air masses, wind patterns, cloud formations, thunderstorms, lightning, hail, damaging winds, tornados, tropical storms, cyclones and flooding. <http://www.srh.noaa.gov/srh/jetstream/>
- "AWESOME EARTH AND MOON VIEWER" - You can view either a map of the Earth showing the day and night regions at this moment, or view the Earth from the Sun, the Moon, the night side of the Earth, above any location on the planet specified by latitude, longitude and altitude, from a satellite in Earth orbit, or above various cities around the globe. <http://www.fourmilab.ch/earthview/vplanet.html>
- **FULL-COLOR TRANSPARENCIES**, - Electronic PDF files of the transparencies for physical, life, and earth science can be downloaded for printing or viewing on-screen. These PDF files contain the full-color art of each transparency. From the interior structure of the earth, to topographic maps depicting the surface, find great diagrams/images to help students visualize our planet. [http://www.phschool.com/science/ca\\_sci\\_exp\\_transparencies/](http://www.phschool.com/science/ca_sci_exp_transparencies/)
- **ENVIRONMENTAL KIDS CLUB** - From the EPA. We'll help you explore your environment and learn how to protect it. We've got games, pictures, and stories. <http://www.epa.gov/kids/>. Also visit <http://epa.gov/teachers/> for Curriculum Resources, Background Information, Awards, Grants, Workshops and Conferences, Community Service Projects, Other Educational Sites, and more.

*GeoFest continued from page 1*

ther sharpened their compass skills or introduced them to a new way to enjoy the outdoors. One of the final sessions of the day added to the compass skills, introducing the hand-held GPS unit. After a general introduction, teams were sent on a high-tech scavenger hunt (geocaching) with pre-programmed locations to find stashes hidden around the park by the presenter.

Several pre-service teachers from Bethel College (Mishawaka, Indiana) were involved with GeoFest this year. The students from Melinda Butler's Social Studies Methods class made two great contributions to the event. First, each student in the class designed a bulletin board around different geography themes. They then put together a mini-version of their project on poster boards that were displayed in one of the break-out rooms. They provided great ideas and hand-outs for all of the participants. Secondly, six of the students led a session on the environment. They used a hands-on activity in the classroom and then had participants go into the field for some exploration that included use of your senses, data collection and differentiating between the "physical" or natural

environment and the "human" or cultural environment. See the first part of their lesson on page 6.

We hope you will join us October 13-14 this year at Clifty Falls State Park in Madison, Indiana for another great geography event!



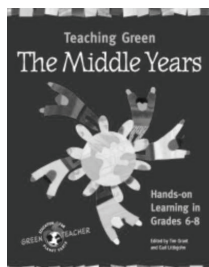
*Bethel students familiarize themselves with the GPS handheld units before heading out to find their stash.*

*International Festival continued from page 1*

about Indiana's diverse international heritage. GENI and the IU/IUPUI International Centers work toward engaging the student visitors, while on-site, with a Passport (funding provided by the Lilly Endowment) activity, a Back-Pack Scavenger Hunt, and a "Where Are You From" world map documenting global heritage. And lots of resource information and ideas connect educators to opportunities which enhance their visit to the Festival. Consider adding the 2006 International Festival to your fall calendar!

For additional information about the Indianapolis

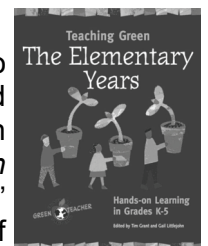
International Festival, visit the following website: <http://www.nationalitiescouncil.org>. For a view into the "Where Are You From" data collected from the 2005 Festival attendees, visit the GENI website at [www.iupui.edu/~geni](http://www.iupui.edu/~geni). A table listing the country of origin for family heritage, or a world map depicting the same information, is available. The data was only obtained from those visiting the education booth, but the data may provide a good reflection of central Indiana's cultural connections.



### Books from Green Teacher...

Green Teacher is a non-profit organization which publishes resources to help educators, both inside and outside of schools, to promote global and environmental awareness among young people from elementary through high school. The organization's primary activity is the publication of *Green Teacher*, a quarterly magazine full of teaching ideas from successful "green" educators. Each issue of *Green Teacher* offers perspectives on the role of education in creating a sustainable future, practical cross-curricular activities

for various grade levels, and reviews of the latest teaching resources. Other Green Teacher publications to date include four resource books for educators: *Greening School Grounds: Creating Habitats for Learning*, *Teaching About Climate Change: Cool Schools Tackle Global Warming* (also published in French as *Des idées fraîches à l'école: Activités et projets pour contrer les changements climatiques*), *Teaching Green: The Middle Years*, and *Teaching Green: The Elementary Years*. A third book in the Teaching Green series (*Teaching Green: The High School Years*) will be published in 2006. For more information, visit [www.greenteacher.com](http://www.greenteacher.com).



## Forget the Snow, It's Time to Plan for Summer

By Jennifer Abbott, Media Specialist, Hoosier Road Elementary, Fishers

Teachers have many ways of spending their summer vacation. Some use the time to make some extra money with a summer job, others relax at exotic locales, and more than a few chase their own children around. Inspired by the Lewis and Clark Summer Institute sponsored by GENI that I attended in June of 2003, I decided to apply for a National Endowment for the Humanities grant to attend a summer institute. I suppose my inspiration was literal, because from the many choices offered by the NEH, I chose to attend *Contexts and Legacies of the Lewis and Clark Expedition* in Minot, ND. It was a wonderful experience that I would recommend to anyone.

Every summer the NEH offers a variety of institutes and seminars ranging in length from two to six weeks. As a participant, you receive a stipend based on the length of the institute or seminar. A listing of this year's institutes and seminars can be found at [www.neh.gov/projects/si-school.html](http://www.neh.gov/projects/si-school.html). The application deadline is March 1, 2006. *The Contexts and Legacies of the Lewis and Clark Institute* was a four week long affair that included field trips, internationally recognized scholars, cookouts, and of course, lesson plans.

Each week of the institute provided a different focus and view of the Corps of Discovery and its legacy. We would spend Monday through Thursday in the classroom being led in discussions and lectures by internationally recognized historians. The last portion of each week was dedicated to field trips! The first week looked at the European influences on American Exploration. Then we



studied Jefferson, America, and Nation-Building. The third week was dedicated to Native Perspectives and we finished up with the topic of Legacies of the Expedition. Sandwiched in between all these fascinating speakers were trips to places like the Ft. Union Trading Post National Historic Site, Theodore Roosevelt National Park, Lewis and Clark Interpretive Center, Ft. Mandan, and the Ft. Berthold Indian Reservation, to name just a few.

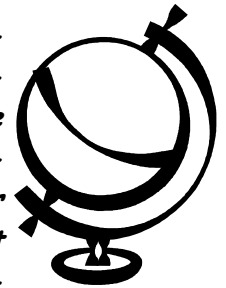
Now, I don't want anyone to get the idea it was all work and no play. The staff of Minot State University's History Department served as our gracious hosts. They took turns hosting barbecues every week and they arranged for special trips like canoeing on the mighty Missouri River, participating in a Native American Sweat Lodge, trivia contests, and a casino trip to New Town, ND.



During the institute, participants were required to complete a unit based on what we learned to take back to our classrooms. We had the option of working alone or in groups. As professionals who came from all over the nation with different backgrounds, subjects, and academic standards; I appreciated that we were given the freedom to create units that would be useful to us instead of saddling us with extra requirements. All the work paid off and I plan on using my own work this spring with my fifth and sixth graders to commemorate the 200<sup>th</sup> anniversary of the conclusion of the Expedition. Everyone else in the nation can also benefit from the fruits of all our labor. You can order a free CD-ROM of all the units created that month from Minot State University's History Department by logging on to their website <http://history.misu.nodak.edu>. A CD-ROM is also available from an institute held in 2003.



*Do you have a super Geography teacher in your building/corporation? Know someone who works hard at integrating geography into their curriculum? Who excites kids about understanding the global environment in which we live? Help us give them the recognition they deserve. Nominate outstanding teachers of geography, all grades, and join us in celebrating their achievements March 17th at the annual ICSS conference! Visit the GENI website for nominating information. Deadline for nominations is February 10th.*



By Pat Gillogly,

## A Different General Mills

Not many people recognize the name “Anson Mills”. It’s not a cereal company and it’s not a place. Brig. Gen. Anson Mills was born in Thorntown, Indiana, on August 31, 1834. He lived with his family on a farm east of town and often played around his mother’s loom. The family embraced education and sent young Anson off to Charlottesville Academy in Schoharie County, New York in September of 1852. His classmates teased him and nicknamed him the “Russian Ambassador from the Woolly West” because of his country dialect and his large, dark moustache. He accepted nomination to West Point in June 1855, but later resigned in February 1857, due to his difficulties with mathematics.

Too embarrassed to return home, Mills headed to frontier Texas, where he became acquainted with a local lawyer. He secured a position as a part-time law clerk and school teacher. One year later he arrived in El Paso, a small settlement then known as Franklin. The town was situated across the Rio Grande River from a large, thriving town known as Paso del Norte. Even then, Mills recognized the valley would become an important place. Soon after his arrival, the Butterfield Overland Mail Company hired Mills to build its stage offices in El Paso, the halfway point on the Trail.

On recommendation of several acquaintances from West Point and Fort Bliss, Mills became district surveyor. He surveyed Forts Quitman, Davis, Stockton, and Bliss for the military. The El Paso Company, a group of prominent citizens developing land originally known as Ponce’s Rancho, hired Mills to survey the settlement known as Franklin. Leon Metz notes that Mills completed a plat or map of the town that looked much like today’s downtown. Bringing more organization to the original settlement that grew along cattle trails with few or no established property boundaries, Mills created ordered principal streets for the stage lines of the Butterfield Overland Mail. He is also responsible for changing the name of Franklin to El Paso. In his autobiography, *My Story*, Mills says, “As this was not only the North and South Pass of the Rio Grande throughout the Rocky Mounts, but also the feasible route from east to west crossing that river for hundreds of miles, I suggested the El Paso would indicate the importance of the location.” Mills received \$150 plus title to several lots for surveying the town.

When the Civil War broke out, Mills and his brother William cast the only two votes against the secession of Texas from the Union. Soon Mills left town and headed for Washington, D. C., where he joined the military organization known as the “Cassius M. Clay” Guards. The “Guards” quartered, armed, and equipped by the United States government, served by protecting federal officers and property, until relieved by volunteer forces called out by the President. He was appointed first lieutenant Eighteenth Infantry on May 14, 1861, by unanimous recom-

mendation from the then first class of the United States Military Academy. Mills would later recount that he considered war “the most destructive of man’s evils”.

Frequently in the field, he was under special orders, assisting officers of the interior department (U.S. Geological Survey) in surveys near El Paso, Texas, with the project focused on reclaiming arid lands in the Rio Grande valley. He later commanded a regiment and posts at Fort Walla Walla, Washington; Fort McIntosh, Texas; and Fort Reno, Oklahoma. As his wife and family would attest, Mills never stayed in one place too long and he always took his family with him. The family traveled to Europe, where Mills served as United States military attaché for the Paris Exposition of 1878. They also traveled the western United States with postings at Fort Sedgwick (with his bride, Hannah Cassel), Fort Halleck, Nevada, followed my numerous travels to various postings throughout the west, finally returning to Fort Davis, Texas in July 1882.

In addition to his vast travels, Mills served as United States commissioner on the international boundary commission for the United States and Mexico, during which originated the principle of eliminating bancos (small islands) from the Rio Grande River. These disputes remained in limbo until 1962 when the land in question was divided. By 1970 the treaty resulted in establishing international ownership of 30,000 acres of land, and 241 bancos had been eliminated.

Mills and his family purchased a home at #2 Dupont Circle, Washington, D.C., in 1894. Mills continued to travel, making several trips to Mexico. He retired as a Brig. General in 1897. Returning to Thorntown, Indiana in 1908, he gifted the town with a modern water and sewer system. A huge ornate fountain was erected and dedicated in 1909 in the center of town as a tribute to Mills and his family. He attended the event and made several other visits to his hometown. Mills died May 4, 1924 in his home and was buried at Arlington Cemetery.

While the Thorntown Mills Fountain is no longer standing, Mills left many “footprints” throughout the United States. He built the Mills Building in Washington, D.C. in 1908 and Bayberry Ledge in Gloucester, Massachusetts in 1910. His work on the United States-Mexico Border is still evident, as is the result of his multiple surveying projects. His is not the name on the cereal box, but his work is still relevant today.

Some Mills cartridge belts are housed in the Thorn-town Heritage Museum, as well as images of the fountain (Helen at the Well) and the one remaining piece, Helen’s head. The water and sewer system given to the community has allowed the town to maintain one of the lowest rates in the state. It seems quite a legacy for a young West Point cadet who struggled with mathematics.

Source: Arlington Cemetery site [www.arlingtoncemetery.net](http://www.arlingtoncemetery.net)

# ENVIRONMENTAL EXPLORERS

*Lesson adapted by Bethel College Pre-Service Teachers, October 2005*

**Purpose:** Humans have responded to similar physical environments differently to meet their needs and to create cultural identity. Uniqueness of place characteristics is a result of the meshing of physical/natural features with the human/cultural use of that environment. Understanding of the unique characteristics of a location helps us to gain a better understanding of cultural differences and regional diversities.

**Grade Level:**

4<sup>th</sup> grade

**Student Skills:** Observation, Analysis, Comprehension, Flexibility

**National Geography Standards:**

Standard 4, 8, 14, 16, 17, 18

**Indiana Social Studies Standards:**

4.3.6 Explain how glacial periods shaped Indiana's landscape and environment.

4.5.2 Identify the different types of social groups to which people belong and the functions these groups perform.

**Previous Learning:**

Students should have learned observation skills and basic components of the natural environment.

**Materials Needed:**

- Environment Explorer Data Sheet
- Pencils
- White Paper for student murals
- Water Colors
- Paintbrushes
- Water dishes
- Butcher Paper
- Marker
- 6 objects (human and natural)

**Objectives:** Students will:

1. illustrate the geographic theme of place.
2. define the difference between natural and human characteristics.
3. analyze the environment of a place in order to identify natural features and human features.
4. discuss ways in which humans have modified and adapted the natural environment for use.

**Introduction:**

In a large group, recall the basic components of the natural landscape (rock, water, nutrient, and air cycles, and the sun) and observation techniques (using the 5 senses). Briefly discuss what is meant by "natural environment" and by "human environment."

**Procedures:**

1. Distribute the Environment Explorer Data Sheet. Read the questions and discuss the activity. Set the amount of time for exploration of the environment around the school grounds. Explorations will be done individually.
2. As students return to the classroom, have them share one discovery of the natural and human features (lightning share).

## 3. Discuss:

- Were there any surprises?
- Were there any features you did not understand/know?
- Were there any features with which you do not agree about its categorization?
- Where do humans fit?

Students may come to the conclusion that they need a third category: adapted/cultivated/modified environment; i.e.- natural features in an unnatural place.

## 4. Add a third chart and list “adapted” features. Cross out any items as they are moved from one list to another.

Discuss:

- Why is there a need for this third category?
- Imagine if we were in an urban area, what would you see more of: natural features, human features, or adapted features?

## 5. Discuss Environment Explorer Data Sheet.

## 6. Create murals which depict the natural and human features observed while outside.

**Closure:**

Have students stand and observe others’ murals.

**Evaluation:**

Did the student complete an environmental explorer data sheet? (Objective #3)

Did the student participate in the discussion? (Objective #4)

Can the student categorize environmental features correctly? (Objective #2)

Did students depict comprehension of place through their murals? (Objective #1)

**Extensions:**

1. Investigate different types of local environments that you could take students to in order to be an environmental explorer.
2. Read “H is for Hoosier” by Cynthia Furlong Reynolds
3. Give each group a digital / disposable camera to take a photo of something they notice.
4. Have students follow the same procedures with a study area far away. Locate the study area on world, continent, and/or country maps. Individually or in small groups, students are to observe and analyze visuals in order to identify physical and human characteristics of the study area, using one of the following:
  - Use a movie, video, or slide presentation. Students complete the Data Collection Sheet as they watch.
  - Use laminated pictures. Students write on the sheets, circling and labeling features.
  - Have students find examples of characteristics of the study area in old magazines. Create a display with the pictures.

*Tips for Using Outdoor Activities:*

1. Get necessary permission from administration and/or parents.
2. Make sure students dress appropriately for the weather and topography.
3. Have extra help outside, if possible, such as parents or school aides.
4. Make clear the purpose of being outside, time, and boundary constraints. Caution students about hazards, such as traffic, poison ivy, etc.





## *On the Same Day in March: A Tour of the World's Weather*

By Melissa Martin, GENI Teacher Consultant

**Grade Level:** 1 - 7

**Purpose:** To introduce students to the world's weather by taking a trip through the latitudes on the same day in March by creating climographs.

### **Geography Standards Addressed:**

- #1: How to use maps and other geographical representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
- #2: How to use mental maps to organize information about people, places, and environment in a spatial context.
- #3: How to analyze spatial organization of people, places and environments on Earth's surface.
- #4: The physical and human characteristics of places.
- #6: How culture and experience influence people's perceptions of a place.
- #7: The physical processes that shape the patterns of Earth's surface.
- #15: How physical systems affect human systems.

### **Indiana Social Studies Academic Standards Addressed:**

Social Studies: 5.3.1; 5.3.5; 6.3.2; 6.3.6; 6.3.7; 7.3.1; 7.3.4; 7.3.6; 7.3.8; 7.3.10; 7.3.14

### **Materials:**

- Book – *On the Same Day in March: A Tour of the World's Weather* by Marilyn Singer
- List of the seventeen locations from the book written on the board and cut into strips for distribution to students
- Climograph charts: one per student, page 13 (for electronic copy, download from the GENI website under Lesson Plans– [www.iupui.edu/~geni](http://www.iupui.edu/~geni))
- World maps with latitude lines: one per student (suggested site [www.eduplace.com/ss/maps/pdf/world\\_country.pdf](http://www.eduplace.com/ss/maps/pdf/world_country.pdf))
- Colored pencils and pens (Hint: choose two colors for the climograph; ie—blue for precipitation and red for temperature)

**Objectives:** Upon completion of this lesson/activity, students will be able to...

- understand how to create and read a climograph.
- understand the earth-sun relationship and its affects on the earth's weather.
- the seasons are opposite in the northern and southern hemispheres.

### **Procedures:**

1. Introduce the concept of climographs, if needed. Use the sample climograph for Paris, France on page 14 to review how to read a climograph.
2. Read the book to the class.
3. List the seventeen locations from the book on the board.
4. Have the students draw a location from the "hat" or have students select a location.
5. Pass out climographs and world maps.
6. Discuss the elements of a climograph: line graph (for temperature) and bar graph (for precipitation), etc.
7. Have the students research the data needed to complete their climograph at [www.climate-zone.com](http://www.climate-zone.com). Simply click on the Continent, then Country, then city listed. (See **NOTE** on next page.) An alternative site is [www.worldclimate.com](http://www.worldclimate.com). Some locations will have numerous data sets. Instruct students to use a location that has both "24-hr Average Temperature" and "Average Rainfall" data sets.
8. Once the students have obtained the needed information, they may begin completing their climograph. This can also be a computer assignment by having the students create an electronic climograph with their data. Go to the GENI website under Lesson Plans for "Directions for using Excel to make a nice colorful climograph."
9. When complete, have students share their climograph with the class. You can have them omit the name of their location and have the class try to guess each location.
10. Discuss the climographs using the guided questions that follow.

**Assessment:**

The students shall be evaluated by their completed climographs and their ability to explain it to the class.

**Follow-up Activities/Extensions**

- On the bottom of the climograph, have students highlight the months April through September. Determine whether the warmest months fall between Apr.-Sept. or Oct.-Mar. Have students use this information to determine if each location is in the northern or southern hemisphere.
- Have students label each of the 17 locations on the world map. Using the list of climate controls on the next page, have them label which controls affect each location. Note, multiple controls can affect one location. This may require additional research for some locations.
- Have the students create accordion books ([www.makingbooks.com/accordion.html](http://www.makingbooks.com/accordion.html)) about their location. Include pertinent information about their place: i.e. population, type of climate, type of vegetation, and inhabitants.
- Collect climographs and put students in teams. Have them try to guess the locations based on the given information in the climograph.
- Create climographs for their own location.
- Have the students write their own *On the Same Day in March* book choosing 10 locations in the world.
- View movie Weather for Children: All About Climate & Seasons ([www.libraryvideo.com/ssl/weather\\_for\\_children.asp](http://www.libraryvideo.com/ssl/weather_for_children.asp))

**NOTE:**

Some of the locations in the book are regions. In order to find information on [www.worldclimate.com](http://www.worldclimate.com), you will need a name of a city. This is a list of possibilities...

Alberta, Canada – Edmonton

Nile Valley – Luxor

Central Thailand – Bangkok

Northern Kenya – Marsabit

Patagonia – Puerto Montt

Texas Panhandle – Amarillo

Louisiana Bayou – New Orleans

Barbados – Grantley Adams

Amazon Basin – Manaus

Antarctica – Vostok

**Internet Resources:**

[www.iupui.edu/~geni/lsort/climograph.html](http://www.iupui.edu/~geni/lsort/climograph.html) -- directions for creating a climograph in Microsoft Excel

<http://kids.msfc.nasa.gov/NEWS/2000/News-vernalequinox.asp>

<http://www.fi.edu/weather/>

<http://www.wunderground.com/>

<http://www.drought.unl.edu/whatis/climographs.htm>

**Vocabulary list:**

Weather

Equator

Climate

Axis

Temperature

Seasons

Precipitation

Equinox

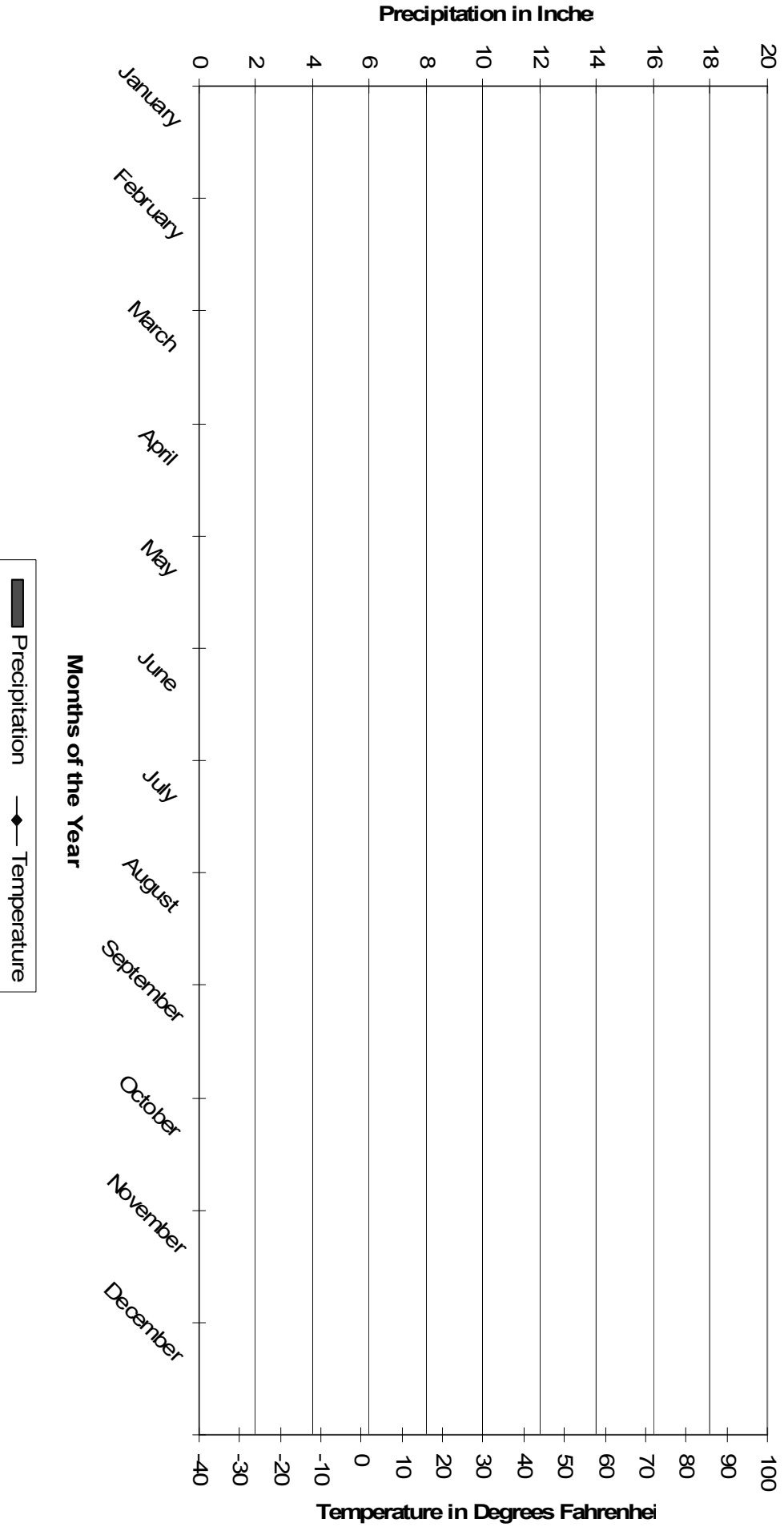
Solstice

**Guided Discussion Questions**

1. What is the weather like today?
2. What is the difference between climate and weather?
3. Why do the seasons change?
4. How does the earth's revolution play a key role in the seasons?
5. How does the axis affect the earth's climate and seasons?
6. What is an equinox?
7. What is the shortest day of the year (date and term used to describe this day)? Longest day? WHY?
8. How do mountains affect the climate?
9. How does land and water differences affect climate?
10. Explain the climate of the poles. Why do we find these conditions there?
11. Describe the climate of an urban area and a rural area.
12. Explain the weather changes in the book according to latitude.

*Go over or review the Climate Controls on the next page.*

CLIMOGRAPH for \_\_\_\_\_



## Climate Controls

Whether we have hot or cold seasons, lots of rain or very little is determined by how temperature, moisture, wind, and air pressure mix in Earth's atmosphere. Listed below are "climate controls" and how they affect weather and climate:

**Latitude**—Earth's surface and atmosphere receive varying, changing amounts of energy from the sun. Generally, the areas around the Equator receive more while the polar areas receive less. Therefore, areas of lower latitude tend to be warmer and polar areas tend to be colder.

**Land and Water**—Because land and water heat at different rates (land heats and cools more quickly than water), areas near large bodies of water tend to have their climates moderated. That means that in general, areas along a shoreline will have milder summer and winter temperatures. Also, bodies of water such as oceans or seas provide lots of moisture for the atmosphere. This is especially true about warm bodies or currents of water.

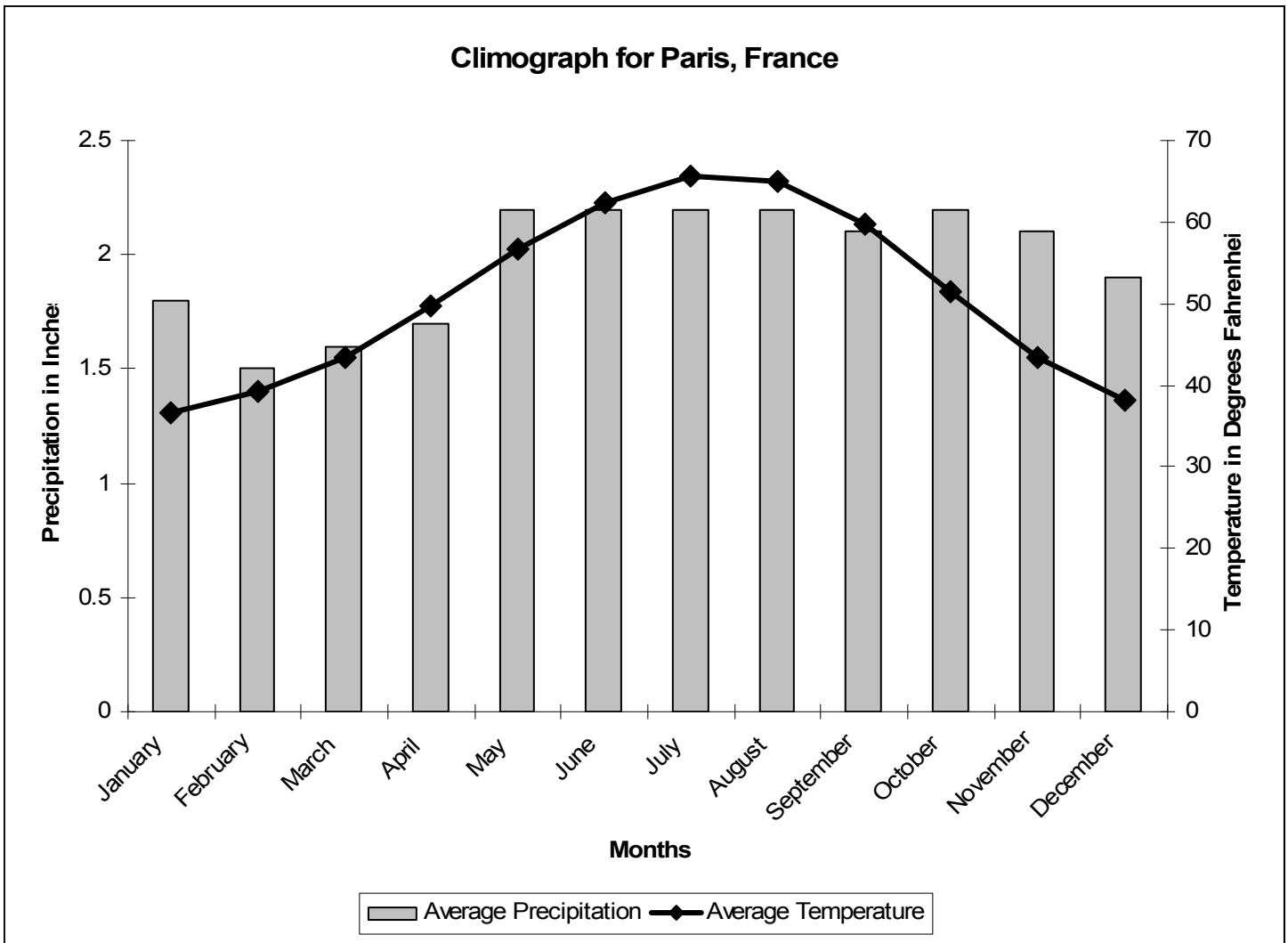
**Landforms**—Landforms such as hills or mountains can alter wind flow. Because winds can be forced upwards by an elevated landform, the exposed (windward) side can often have a different weather and climate than the sheltered (leeward) side. As air travels up a mountain, moisture is "squeezed" out of the air as it cools, condenses, and falls as precipitation. Air temperature and the amount of moisture in the air are usually decreased as it flows down the sheltered side of the mountain.

**Elevation**—Generally, the higher you go in the lower portion of the atmosphere, temperature, moisture, and air pressure decrease.

**Ocean and Wind Currents**—The water in Earth's oceans and the air in Earth's atmosphere are constantly moving. The movement can be across, up, or down. This process circulates cool or warm air and water around Earth.

*Climate Controls text by Gary Miller (From the "Creative Climates" Activity on the NGS website)*

### Sample climograph created using Microsoft excel:





## **GENI'S WEEKEND WORKSHOP 2006 INDIANA STATE UNIVERSITY — MARCH 17-19**



**Join us for a "Basic Geography" workshop for Indiana educators, grades K-12. For a registration fee of \$35 (GENI members) / \$50 (non-members) you will be provided great sessions on topics such as the *Five Themes of Geography, GeoSpatial Technologies (including Remote Sensing, GPS and GIS), Economics and Global Geography*, along with some field experiences. All meals from Friday evening through Sunday morning are also included and will provide fun and entertaining cultural experiences. Don't miss this opportunity to increase your geography knowledge, see how easy it is to fit into your existing curriculum, and take back super classroom materials. Five participants will take home a Garmin GPS unit!!! Graduate Credit as well as Professional Growth Points are available. See the registration form enclosed or visit the GENI web-site. The number of participants is limited and based on a first come policy. Please note, this is a commuter workshop so lodging is the responsibility of participants. Contact the GENI office for lodging suggestions.**

### *Indiana University's Center for the Study of Global Change 11<sup>th</sup> Annual*

International Studies Summer Institute (ISSI)  
for Grades 7 - 12 TEACHERS



*Grade 7-12 teachers are invited to explore diverse topics such as global environmental change, international trade, populations at risk, and conflict resolution. The first twenty teachers accepted will be offered scholarships worth \$750.00 each. Professional Growth Points & IU credit offered.*

*For more information, visit <http://www.indiana.edu/~global/institute.htm> email [issi@indiana.edu](mailto:issi@indiana.edu).*

### **Lincoln Institute for Teachers**

The third annual Lincoln Institute for Teachers will be held June 15-16, 2006, on the campus of the University of Southern Indiana as well as at Lincoln Boyhood National Memorial. The event is open to elementary and secondary teachers, as well as those who work at historic sites and museums with K-12 educators. For further information, contact [areynold@usi.edu](mailto:areynold@usi.edu) Information on the institute and details about registration will be posted on our web site by January 2006.



Darrel E. Bigham, Director, Historic Southern Indiana; Professor of History, University of Southern Indiana, 8600 University Blvd., Evansville, IN 47712; (812) 465-7014; FAX (812) 465-7061; <http://www.usi.edu/hsi/dbigham>

## Registration is now open for the 2006 Naturalization Ceremony

You and your students are invited to witness people from around the world take the Oath of Citizenship at a special educational Naturalization Ceremony.



The International Center will host a Naturalization Ceremony Thursday, March 9th, at the Pike Performing Arts Center in Indianapolis as part of the Bridges to the World Youth Program. The Ceremony provides a unique opportunity for students to learn about becoming an American citizen and to experience the celebration of the cultural bonding that makes up this great nation.

As part of participation, each student will receive a study guide, highlighting local school exchanges and the Naturalization Ceremony. For more information regarding about the International Center, visit [www.icenterindy.org](http://www.icenterindy.org). Or contact Kristin Svyantek Garvey, Associate Director, at (317) 955-5150 ext. 225; [kgarvey@icenterindy.org](mailto:kgarvey@icenterindy.org).

## RAINFOREST WORKSHOPS, SERVICE LEARNING IN THE AMAZON

Here are two exciting ways for teachers and environmental educators to travel to the Amazon Rainforest.

1. You can TRAVEL FREE while giving your students and their families the benefits of educational travel to one of the most diverse environments in the world. Bring a group of 6 and travel with all of your expenses paid during an 8-day Amazon Rainforest workshop June 15, June 25, or July 5, 2006. Experience a 1/4 mile Rainforest canopy walkway, get involved in a village service project, and see how indigenous cultures use the forest for medicine, food, and shelter. Land cost for students & families is \$1798, plus roundtrip airfare. For information on how teachers can TRAVEL FREE to the Amazon Rainforest, visit <http://www.travel2learn.com>.
2. Sign up for the 14th annual Amazon Rainforest Workshop specially designed for K-12 educators, scheduled July 7-16, 2006. This 10-day event, co-sponsored by Selby Botanical Gardens, is a professional development opportunity for teachers to work side-by-side with a spirited faculty of scientists. Academic credit and an extension to Machu Picchu are available. Land cost for this educator workshop is \$1998, plus air. For expedition information or funding ideas call Dr. Frances Gatz at 1-800-669-6806, email [fgatz@earthlink.net](mailto:fgatz@earthlink.net) or visit the web site listed above.

Environmental Expeditions, 9335 Fraser Avenue, Silver Spring, MD 20910  
Frances Gatz, Ph.D., Director, Rainforest Workshops  
Fax: 301-585-4899; Phone: 800-669-6806 or 301-585-7027



## Geography Action! – Geography Awareness 2006 Theme Released!

The National Geographic Society has set the stage for another exciting cultural focus for the next Geography Awareness Week:



*“We are pleased to announce the 2006-07 Geography Action! theme: Africa!*

*The program will focus on the regional and cultural geography in Africa. Many activities are being planned, including connecting Geography Action! Coordinators with teachers and classrooms in Africa. This theme will help inaugurate Geography Action! into a truly global community.*

*The theme is also closely tied with The Genographic Project, a real-time research study--open to the public--that will map how humankind populated the Earth. Using DNA from indigenous populations, the project will reveal humankind's deep ancestral migratory history, tracing every human being back to Africa.”* (<https://www3.nationalgeographic.com/genographic/index.html>)

*Here is a great opportunity to teach GPS by getting your students involved with the National Map Program. They can gather valuable local data for both national and state use. If you have access to GPS units, get your students in the field acquiring authentic data. Even if GPS units are not available, the web-based volunteer program allows your students to contribute data. Give it a try and you and your students will be hooked! More information below.*



Dear Potential Volunteer,

The National Map Corps is the US Geological Survey's volunteer program that supports the on-line delivery of cartographic information via *The National Map*. For those of you who are presently volunteering and those who may want to consider the program as a part of your geography curriculum, here is a summary of the recent changes and information on learning more about *The National Map Corps*.

The volunteer program started several years ago as the Earth Science Corps. The name change to *The National Map Corps* was made to reflect the program's new emphasis on supporting the USGS's move towards a digital, web-based presentation of data known as *The National Map*.

We are winding down the map annotation activity and concentrating our efforts to collect information about landmark structures by continuing to support the GPS-based program and introducing a web-based collection program.

I encourage anyone interested in spatial data or geographic education to consider volunteering. The program can be easily incorporated into a field exercise or the activities of an after school program. Of course most of our volunteers just do it because it is fun – you don't have to be a geography teacher or a GIS analyst to have a little fun volunteering.

If you have any questions, please visit our web site (there is no information on the web site regarding the web-based collection system – it is that new!). Also, please don't hesitate to contact me with any other questions that you may have.

Also, if you would like to learn more about the program from current volunteers, please go to the Geocaching website (<http://www.geocaching.com/>) and follow the links to the discussion forms where you will see a forum dedicated to *The National Map*.

*Morgan J Bearden*, Cartographer  
The National Map Corps  
National Geospatial Technical Operations Center III  
US Geological Survey, Rolla, Missouri  
573-308-3591

#### **WEB-BASED VOLUNTEER PROGRAM**

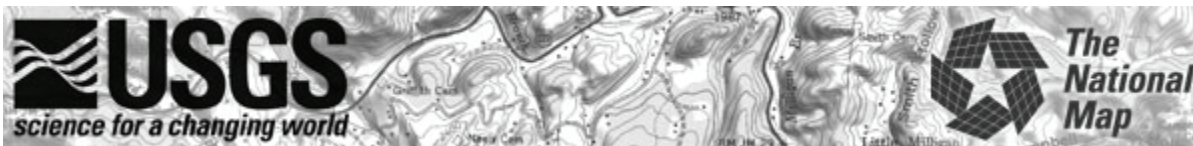
**If you would like to participate in the web-based collection program test go to the web site:**

<http://ims.er.usgs.gov/vfs/faces/index.jspx>

Register via the "Register" link at the top of the page. Select "Collect Points." Zoom in to the area you wish to work on. Collect a single point that represents a map-worthy structure. The point should be located in the center of the building.

After selecting a new point via the "Collection" option, a window will appear where you will need to type the name of the structure that the point represents. The name that you enter into the window should be the full official name of the building. For example, submit "John Lee Hooker High School" rather than just "High School," and "G. T. Thomas Hospital", rather than "Thomas Hospital" or "Hospital".

After entering the name of the structure, select the feature type from the drop-down menu that appears below the name window. After the name of the structure and the type of structure have been entered, select the "Submit" button. Your submission should appear on the screen and you may then move on to the next point. Before you begin, please look over the list of structure types that may be collected.





Geography Educators' Network of Indiana  
IUPUI, School of Liberal Arts, CA345  
425 University Blvd.  
Indianapolis, IN 46202-5140  
(317) 274-8879; geni@iupui.edu

<http://www.iupui.edu/~geni>



**National Map  
Corps**

**GENI'S WEEKEND  
WORKSHOP  
March 17-19  
5 GPS units to be given away!**

**Educator  
Opportunities**

Page 14

**Early release of GAW 2006 theme!**

Page 15

Watch the GENI website and next GENI Newsletter for information about a "Maps Institute" this summer, July 17-21 at the Children's Museum of Indianapolis. Enhance your curriculum and mapping skills through this exciting opportunity. Start planning today for your fall field trip to the Museum to see the new Map Exhibit (coming fall 2006).