

NCGE Receives NSF Grant to Provide Remote Sensing Training

NCGE has received a three-year grant from the National Science Foundation that will enable GIS educators to provide modern workforce training by integrating remote sensing skills and competencies into their instruction. The project builds on an NSF grant awarded to NCGE in 2007, Integrated Geospatial Education and Technology Training (iGETT). Both iGETT and the new project, iGETT-Remote Sensing, focus on technician-level training at two-year colleges.



Most participants will be two-year college faculty, but a number of spaces will be reserved for GIS faculty from high schools and universities that are interested in collaborating with two-year geospatial programs.

The project will enroll two cohorts of 18 participants. Over an 18-month period they will participate in monthly webinars, project-based learning, and two summer institutes, one at the U.S. Geological Survey Earth Resources and Observation (EROS) Center in South Dakota and one at the NASA Goddard Space Flight Center in Maryland.

The first cohort will join the project in February 2013, and the second will join in February 2014. Total funding for the three-year grant is approximately \$788,700.

Learn more at igettdelmar.edu.



TIM HILL

Dr. Robert Saveland (center) receives congratulations from Joseph Stoltman (left) and NCGE President Eric Fournier (right) after receiving the George J Miller Award.

Dr. Robert Saveland Honored with George J Miller Award

By Tim Hill, Perspective Editor

Dr. Robert N. Saveland received the George J Miller Award at the 2012 National Conference on Geographic Education on October 6 in San Marcos, Texas.

The George J Miller Award, the highest honor bestowed by the National Council for Geographic Education, recognizes individuals who have a distinguished record of service to geography education.

Dr. Saveland began his teaching career as a seventh- and tenth-grade geography teacher in the junior/senior high school in Kirkwood, Missouri, following World War II.

Research on textbook design for his dissertation led him to the field of professional editing in the

early 1950s. In 1968, he became a professor in the Department of Social Science Education at the University of Georgia's College of Education.

Dr. Saveland served NCGE as a member of the Publications Policy Committee and as a regular participant in the annual conferences. His articles and book reviews have been published in *Journal of Geography*, and his book chapters appeared in other NCGE publications.

In addition to his other achievements, Dr. Saveland is one of a small group of geographers who has been an NCGE member for more than 60 years.



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The National Council for Geographic Education (NCGE) is a nonprofit organization chartered in 1915 to enhance the status and quality of geography teaching and learning. Its activities include conducting and gathering research on geographic teaching and learning (including publication of *Journal of Geography*, a peer-reviewed journal published six times a year, and *The Geography Teacher*, published twice a year), curriculum and instruction activities at the university and K-12 levels, annual conferences, and a wide variety of electronic and print resources. *Perspective*, the member newsletter, is published six times per year.

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The Geography Teacher: **Jody Smothers-Marcello**, Sitka High School
Perspective: **Tim Hill**, Martinsville, Missouri

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PERSPECTIVE

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Mark Your Calendar!



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Conferences, Collaborations, and the Power of “the Adjacent Possible”

In October 2012, NCGE welcomed nearly 600 geography educators to San Marcos, Texas, for our annual conference. The sessions, speakers, presentations, exhibits, and events were all outstanding, and, taken together, represent the best that geography has to offer to the broader world. A successful annual conference is essential for several reasons.

- ▶ NCGE depends on revenue from the conference for operations and programs. Approximately 25 percent of our annual revenue comes from the conference.

- ▶ The conference provides an excellent opportunity for exhibitors to showcase their products and services to a targeted audience of geography educators.

- ▶ The conference provides members with an opportunity to share their best work and to receive immediate feedback from colleagues.

- ▶ The conference plays a crucial role in nurturing and sustaining innovation within the community of geography educators.

Some commentators have called conferences an anachronism in the digital age and argue that the time and expense involved can be better spent elsewhere. Others point to various online tools as alternatives to conferences. For example, NCGE's Webinar Program brings high-quality professional development directly to members' computers and devices twice a month. (What a great member benefit!) Despite some interactive features, technology remains a poor substitute for the face-to-face interactions possible at a conference.

Ultimately, conferences are a tangible example of what author Steven Johnson calls the power of “the adjacent possible.” Johnson is the author of eight books, including *The Ghost Map*¹, *The Invention of Air*, and *Future Perfect*. The notion of the adjacent possible comes from his 2010 book, *Where Good Ideas Come From*.

In that book, Johnson explores the natural history of innovation and tries to determine the conditions that lead to new and innovative ways of doing things. He identifies seven patterns, including the adjacent possible, that encourage innovation. (Buy his book if you want to learn the other six.)

Johnson metaphorically describes the adjacent possible as opening a door that leads to a room with four new doors, and each opened door leads to an



Dr. Eric J. Fournier
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2012 NCGE President
Professor and Chair of Geography,
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additional set of doors (and, thus, possibilities). He follows this argument from the molecular level (primordial soup) through a coral reef, to the world wide web. In each case he cites an example of maximized opportunities for chemical, biological, or electronic interaction.

This principle explains why cities are engines of innovation. As Lewis Mumford wrote, “... the city is a place for multiplying happy chances and making the most of unplannable opportunities.” The same can be said for a conference. A chance encounter in the hallway, a new idea in a session, or a new product from an exhibitor can open new doors and lead to innovation.

Let me give you an example. At the San Marcos conference, I led an 8:00 a.m. panel discussion on NCGE's response to the revised *Geography for Life: National Geography Standards*. Earlier in the year I formed a task force of educators to help decide what products and services could best complement *Geography for Life*. We scheduled the conference session to broaden the discussion beyond the task force. As we talked about writing a series of grade-specific lesson plans based on each of the 18 Standards, audience member Audrey Mohan, one of the directors of the Roadmap Project, reminded us that the Roadmap report includes specific recommendations about how to develop effective curriculum materials.

Had Audrey skipped the conference or slept late that morning or been drawn to another session, our task force would have proceeded without guidance provided by the Roadmap report. Her attending that session and making that comment provided us with a crucial piece of information, and the entire initiative will be strengthened as a result. Her being there was like that door opening into a room of other doors, showing us the way to new possibilities. The

(continued on page 4)



New Executive Planning Board Members Announced

Individuals elected to serve on NCGE's Executive Planning Board were announced at the National Conference on Geographic Education in San Marcos Texas. The new members of the leadership committees are (top row) **Ellen Foster**, Vice President for Curriculum and Instruction; **Jamie Strickland**, higher education member of the Curriculum and Instruction Committee; **Shirley Lomax**, K-12 member of the Curriculum and Instruction Committee; **Mary Curtis**, member of the External Relations Committee; (bottom row) **Brian Earle**, member of the Finance Committee; **Michael Ritter**, member of the Publications and Products Committee; and **Eui-Kyung (E-yung) Shin**, member of the Research Committee. Their three-year terms begin in January 2013. **Paul T. Gray, Jr.**, a teacher at Russellville High School in Arkansas, becomes NCGE President following the completion of his term as Vice President for Curriculum and Instruction.

Thank You

Thank you to the following individuals who complete their terms on the Administrative Committee or Executive Planning Board at the end of 2012. We appreciate your service to NCGE.

Eric Fournier, *President*

Bob Coulter, *Member, External Relations Committee*

Paul T. Gray, Jr., *Vice President for Curriculum and Instruction*

Susan Hollier, *Member, Curriculum and Instruction Committee*

Phil Klein, *Member, Publications and Products Committee*

Andy Milson, *Member, Curriculum and Instruction Committee*

Kelly Swanson, *Member, Finance Committee*

Shannon White, *Member, Research Committee*



Many conference attendees enjoyed country line dancing after the closing-night dinner, a Texas barbecue.

President's Page

(continued from page 3)

hundreds of members who gathered in Texas opened thousands of doors through the exchange of ideas, sharing of insights, discussions with exhibitors, and chance encounters in the hallways—or perhaps even the dance floor.

Let me be the first to invite you to the 2013 National Conference on Geographic Education in Denver, as we look forward to harnessing the power of the adjacent possible.²

¹The story of Dr. John Snow and London's cholera epidemic combines spatial thinking, epidemiology, medical mysteries, urban planning, and the history of science. I have used *The Ghost Map* as a text for a London-based class I teach as part of my university's study abroad program. The book is outstanding.

²The inspiration for this column came when I attended a talk by Steven Johnson at University of Alabama at Birmingham's new Edge of Chaos innovation space (www.pointofchaos.com) on October 22, 2012. Had I not gone, I would not have read *Where Good Ideas Come From*; I would not have encountered the idea of the adjacent possible; and this column would have just been a conference wrap-up.

REFERENCES

Johnson, S.B. 2010. *Where Good Ideas Come From: The natural history of innovation*. New York: Riverhead Books.

Johnson, S.B. 2007. *The Ghost Map: The story of London's most terrifying epidemic—and how it changed science, cities, and the modern world*. New York: Riverhead Books.

NCGE Publications Show Growth in Circulation and Reputation

NCGE's two journals, *Journal of Geography* and *The Geography Teacher*, have both experienced growth in circulation and prestige, resulting in a new royalties contract from their publisher, Taylor & Francis.

Peak circulation for both journals exceeded 800 in 2012, an increase from previous years, according to Rich Schultz, Vice President for Publications and Products.



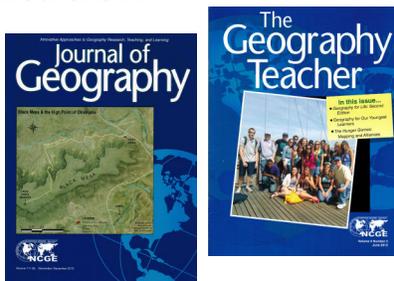
Jerry Mitchell, Jody Smothers-Marcello, and Rich Schultz

Online readership and downloads for the journals increased in 2012, and both journals are experiencing a significant increase in the number of downloads from countries outside the United States. *Journal of Geography* has subscribers in 21 countries.

In 2011 *Journal of Geography* increased its "impact factor" to 0.868 from 0.566 in 2010, giving it a ranking of 39th out of 73 similar journals. This puts the journal near the top half of its peer journals for the first time since 2005.

An academic journal's impact factor is a measure of the average number of citations to its articles. This is frequently used as a proxy for the relative importance of a journal within its field, according to Schultz. Journals with higher impact factors are often deemed more important than those with lower ones.

Schultz met with a representative from Taylor & Francis at



NCGE's conference in San Marcos, Texas. As a result of the journals' growth, Taylor & Francis proposed a new publishing agreement which includes an increase in royalties paid to NCGE. The new contract begins in 2014.

Journal of Geography, edited by Jerry T. Mitchell, a professor at

the University of South Carolina, publishes six issues per year. *The Geography Teacher*, edited by Jody Smothers-Marcello, a teacher at Sitka High School in Alaska, now publishes two issues, but its publication frequency will increase to four issues per year in 2014.

Jane Purcell Named Recording Secretary



The NCGE Administrative Committee has appointed Jane Purcell Recording Secretary. She will complete the

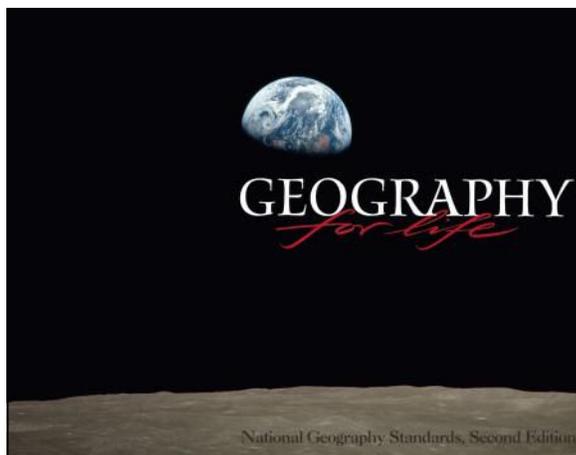
unexpired term of Ellen Foster, who was elected Vice President for Curriculum and Instruction.

Purcell teaches AP Human Geography and is the social studies coordinator for Norman Public Schools in Norman, Oklahoma.

A native Floridian, Purcell has been in education since graduating from the University of Central Florida in 1987. She earned a master's degree in 2004, with a research interest in the treatment of culture in textbooks.

The Recording Secretary, a non-voting member of the Executive Planning Board and the Administrative Committee, is responsible for recording and distributing minutes of meetings and updating NCGE's bylaws.

GEOGRAPHY FOR LIFE National Geography Standards, Second Edition



Available in the NCGE Store at www.ncge.org/geography-for-life.

Scenes from the San Marcos Conference



During the opening session on October 4, Mayor Daniel Guerrero (left) presented a proclamation to NCGE President Eric Fournier welcoming the National Conference on Geographic Education participants to San Marcos.



Many attendees participated in the National Geographic Teacher Fest.



Harm de Blij (right) gave a passionate and inspiring keynote address on the importance of geography and (above) autographed copies of his newest book, *Why Geography Matters: More Than Ever*.



Poster sessions (above and right) allowed presenters to showcase the results of their research or innovative teaching ideas.



PHOTOGRAPHS BY TIM HILL

“Deep in the Heart of Geography!”



Some sessions (left) allowed participants to go outside to learn how they can include exploration and landscape observation in their teaching. Other sessions (above) involved the use of geospatial technologies.



Several K-12 educators were honored with Distinguished Teaching Awards.



Many sessions involved hands-on activities.



The 2012 conference concluded with a delicious Texas barbecue dinner and dancing.



Many attendees cite the collaborative nature of the conference and meeting other dedicated geography educators as benefits of attending.

Call for Prospectuses for Applied Research Materials

The National Council for Geographic Education seeks prospectuses for Applied Research Materials (ARMs). ARMs are a planned product series that will provide the geography education community with a rich, detailed explanation of a method, technique, or tool and its application(s) to research in geography education. Their purpose is to provide a series of how-to guidebooks specifically designed to inform research methods in geography education. An ARM prospectus should focus on an applicable method, technique, or tool—rather than the theoretical foundation of it—and should be clearly illustrated by a variety of examples in the literature and/or practice in geography education. The intended audience of an ARM would primarily be researchers in geography education, such as higher education faculty and graduate students, but it may also include practitioners in geography education, such as teachers and educational policy makers utilizing research in their own practice.

Steps for Submission and Review of an ARM Prospectus and Proposal

1. Submission of prospectus (brief overview of proposed ARM; see content below) to the ARM ad hoc committee.
2. The prospectus will be reviewed by the ARM ad hoc committee and accepted, accepted with revisions, or not accepted. Written notice of acceptance will be provided to the ARM author(s), NCGE Central Office, and the Vice President for Publications and Products.
3. Following the acceptance of a prospectus, a detailed “Guidelines for Submission of Proposal” will be sent to the corresponding author for guidance through the proposal process. The proposal, a detailed description of the product outlined in the prospectus, will include agreements between the ARM author(s) and NCGE, including deadlines, copyright, and royalties.
4. Upon submission of the proposal, the Publications and Products Committee will review the proposal and, if it falls within the guidelines, will recommend it for publication.
5. The Vice President of Publications and Products will review the committee’s recommendation and final proposal and, if accepted, will forward it to the Central Office.
6. The author(s) will work with Central Office and Vice President to follow the ARM to publication.

Prospectus Content

For consideration, please submit the following in one document:

1. **Project Description (1,000 words maximum)**— Provide a concise, yet clear, explanation of the proposed method, technique, or tool with some representative references. Describe the purpose, rationale, and expected outcomes of the proposed research method, technique, or tool in advancing research in geography education. Summarize pedagogical strategies and/or methodologies for effective presentation of the topic. Examples could include a brief list of references to be used that would enhance a reader’s understanding of the proposed method, technique, or tool and to illustrate its application and/or practice in geography education.
2. **Project Contributors**—List the responsibilities for each author/contributor with the appropriate tasks/phases of the project. Include a brief two-page curriculum vitae for each author, highlighting his or her experience and/or expertise in the proposed method, technique, or tool.
3. **Project Timeline**—Provide dates for completion of all phases of the project.

Criteria for Review of ARM Proposal

- Will the proposed ARM contribute to knowledge and understanding within geography education?
- Is/Are the author(s) qualified to conduct the project?
- Does the ARM propose creative, innovative, or original materials for geography education?
- Is the proposed project organized and well planned?
- Does/Do the author(s) have adequate access to funds and materials to carry out the project?

Proposal Submission

Prospectuses will be reviewed as they are received. Submit your prospectus electronically to committee members Injeong Jo at ijo@txstate.edu and Bridgette Nadzam-Kasubick at BNadzam-Kasubick@hb.edu.

Call for Prospectuses for Applied Teacher Materials

The National Council for Geographic Education seeks prospectuses for Applied Teacher Materials (ATMs). An ATM is a planned product series that will provide the geography education community with a rich detailed series of lessons focused on a specific geographic concept/topic. The purpose of the ATM product series is to provide in-depth curriculum guides for K-12 geography teachers. Each ATM will include a series of lessons that are clear and easy to implement and that provide essential background information and resources. Prospectus for an ATM should focus on instruction of a specific geographic concept which is clearly illustrated by a sequence of lessons that build students' understanding and geographic skills and provide applied practice in geography. The intended audience of an ATM is K-16 geography teachers.

Steps for Submission and Review of an ATM Prospectus and Proposal

1. Submission of prospectus (brief overview of proposed ATM; see content below) to the ATM ad hoc committee
2. The prospectus will be reviewed by the ATM ad hoc committee and accepted, accepted with revisions, or not accepted. Written notice of acceptance will be provided to the ATM author(s), NCGE Central Office, and to the Vice President of Publications and Products.
3. Following the acceptance of a prospectus, a detailed "Guidelines for Submission of Proposal" will be sent to the corresponding author for guidance through the proposal process. The proposal, a detailed description of the product outlined in the prospectus, will include agreements between the ATM author(s) and NCGE, including deadlines, copyright, and royalties.
4. Upon submission of the proposal, the Publications and Products Committee will review the proposal and, if it falls within the guidelines, will recommend it for publication.
5. The Vice President of Publications and Products will review the committee's recommendation and final proposal and, if accepted, will forward it to the Central Office.
6. The author(s) will work with Central Office and Vice President to follow the ATM to publication.

Prospectus Content

For consideration, please submit the following in one document:

1. **Project Description (1,000 words maximum)**—
 - I. Topic**—Identify the geographic concept or topic of focus for the ATM; identify the National Standards addressed by the proposed ATM; and, if for AP Human Geography, identify the College Board content area addressed by the ATM.
 - II. Audience**—Identify the grade-level (e.g., K-2, elementary, middle school, high school, or undergraduate). If the grade-level focus is high school, identify whether the ATM is for a general geography class or for AP Human Geography.
 - III. Technology**—Identify the level of technology that will be utilized in the ATM. For example, the proposed ATM may be low-tech using physical models, paper maps, and calculators; it may be high-tech using digital maps through a desktop GIS or with students collecting environmental data using GPS devices and sensors; or it may be a hybrid, varying the tools with the specific lesson.
 - IV. Sequence**—Provide a concise, yet clear, explanation of the proposed series of lessons. Explain how the sequence of lessons would support students' understanding of the geographic concept and the development of geographic skills.
 - V. Pedagogy**—Identify pedagogical strategies and/or geographic skills for each lesson in the proposed series, such as inquiry-based learning or the use of web-based GIS.
 - VI. Prior Knowledge**—Briefly describe the background information (source and depth) that will be provided to the teacher audience for the proposed ATM.
2. **Project Contributors**—List the responsibilities for each author/contributor with the appropriate tasks/phases of the project. Include brief two-page curriculum vitae for each author, highlighting his/her experience and/or expertise with teaching and/or expertise with the geographic concept covered by the ATM.
3. **Project Timeline**—Provide a timeframe, from notice of proposal acceptance, for completion of all phases of the project.

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Exploring Siberia's Northern Railway

Many people have heard of the famous Trans-Siberian Railroad, a line that runs the length of southern Russia, but few know the more northern alternative, the Baikal-Amur Mainline. The BAM, as it is known, runs through few towns and near fewer paved roads. It provides an undeniably scenic experience in Russia's Siberia.

The Trans-Siberian Railroad, completed in 1916, is a 5,000-mile-long rail line that stretches from Moscow to the Russian port city of Vladivostok on the Sea of Japan.

The BAM departs from the Trans-Siberian line west of Lake Baikal, crosses the Amur River and ends at the deepwater port of Sovetskaya Gavan on the Pacific Ocean.

At 2,678 miles long, it runs parallel to and 380–480 miles north of the Trans-Siberian Railroad. The line has 21 tunnels with a total length of 29 miles and more than 4,200 bridges, with a total length of more than 260 miles.

The BAM's current route was first proposed in the 1880s as an eastern option for the Trans-Siberian Railroad. Joseph Stalin envisioned building the BAM to protect the Soviet Union from a Chinese attack on the Trans-Siberian Railroad.

Stalin began construction on the BAM in the 1930s, completing the section from Tayshet to Bratsk during those years. To build the railway, Stalin used labor from the Soviet Gulag system, a network of forced labor camps during the Soviet era that used mostly political dissidents and prisoners of war (POWs).

Neal Lineback is professor emeritus of geography at Appalachian State University. Co-author **Mandy Lineback Gritzner** is also a geographer. Technical editor **Jane Nicholson** is Appalachian State's news director.



By Dr. Neal Lineback and Mandy Lineback Gritzner, with Jane Nicholson

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When the easternmost section of the BAM was constructed from 1944 to 1946, many of the Gulag laborers were German and Japanese POWs from World War II. Estimates show that only 10 percent of those POWs working on the BAM returned home

and as many as 150,000 might have died of starvation and overwork while constructing the rail line.

When Joseph Stalin died in 1953, almost all construction on the BAM ceased. It was not resumed until 1974 under the direction of Soviet General Secretary Leonid Brezhnev. Brezhnev felt it

was imperative to finish the BAM as relations between China and the Soviet Union were strained at the time.

The Soviet government feared that a Chinese attack on the Trans-Siberian Railroad would have dire consequences, halting all transportation to the Russian Far East. Brezhnev vowed to complete the BAM "with clean hands," without the use of forced labor.

Brezhnev enlisted the help of students, engineers, artists, and workers to finish what he described as "the construction project of the century." Many were volunteers from the Young Communist League. The Soviet government built settlements to house the workers near the central section of the rail line.

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Baikal-Amur Mainline

(continued from page 10)

By 1984, the western and eastern sections of the BAM were connected, though the line was only open to the Soviet military at that time. Finally, in 1991, the BAM's track was declared available for civilian use. The BAM had cost Moscow \$14 billion to build.

According to Finn-Olaf Jones in a *New York Times* article, the BAM is much less touristy and far less plush than the Trans-Siberian Railroad. The line serves a mainly utilitarian purpose; it was primarily

built for freight and people who have business in the Siberian wilderness. When Jones rode the BAM for a week through the Siberian countryside, he found that many of the people on the train were workers and managers going to Siberia's lumber camps and oil and gas fields. Others were people working on the train line itself.

The scenery along the BAM can be spectacular, however. The railway ascends into the Kodar Mountains, which at about 9,000 feet are called the Siberian Alps, and passes by Lake Baikal's northern unpopulated and undeveloped shore. Much of the countryside through which the BAM passes is pristine and uninhabited, according to Jones.

The BAM is a quieter substitute for the Trans-Siberian Railroad. While the BAM's very existence is almost a miracle given its history, it is a valuable asset to Russia. As the Asian demand for Siberian lumber, gas, and oil increases, the Russian government continues to refine the BAM to meet that demand, thus making the rail line indispensable.

Although perceived military threats from China have largely diminished, the BAM continues to be a strategic second transportation link for Russia to the Pacific.

SOURCES

Jones, Finn-Olaf, "The Other Siberian Railroad," *New York Times*, August 10, 2012, travel.nytimes.com/2012/08/12/travel/the-other-siberian-railroad.html.

Geographia, <http://www.geographia.com/russia/trasib01.htm>.



AGS Names Director

The American Geographical Society has named Dr. Timothy Heleniak, an Arctic researcher and editor of the journal *Polar Geography*, the organization's new director.

Heleniak began his career at the Census Bureau as a research analyst specializing in the Soviet Union. He subsequently worked at the World Bank during the years when many former Soviet Republics and countries of Eastern Europe joined the bank.

The Seattle native has taught at Georgetown University's School of Foreign Service and worked with organizations such as the United Nations Children's Fund (UNICEF), Oxford Analytica, the Pew Research Center, the UN Development Programme, the Economist Intelligence Unit, and the Migration Policy Institute.

"I believe geographic education is something that should extend beyond the school years and become a part of life-long learning," Heleniak said. "Adults often don't even know what geography is, what it encompasses, or how fascinating it can be."

Heleniak has an M.B.A. and a Ph.D. in geography from the University of Maryland. He succeeds Dr. Mary Lynne Byrd, who directed the American Geographical Society from 1983 to 2010.

Geography in the News Discussion Questions

- If you had one chance to travel through Siberia on a train, would you choose the Trans-Siberian Railroad or the BAM? Why? What are the major differences between the two? Is the physical geography between the two vastly different, or is it only the cultural geography that is different?
- Why was it important to the Soviet Union to build the BAM north of the Trans-Siberian Railroad? Why not just lay a second set of tracks beside the Trans-Siberian?
- Do you think Russia still fears Chinese intervention in Siberia? Why or why not? Can you describe the relationship between China and Russia today? In which other continents, regions, or countries is China trying to assert control or buy natural resources?

Disappearing Rural Lands

▶ By Joseph Kerski and Amanda Weaver

Each year, 161,000 hectares of rural land in the United States are lost to development, according to *Urban Growth in American Cities*, a report from the U.S. Geological Survey.

This loss of land occurs at a higher rate than population growth. For every 1 percent of metropolitan population growth, urban land area increases by 6 to 12 percent.

For example, the population of the Chicago area grew by 4 percent during the 1970s and 1980s, but the size of the urban area grew by 50 percent during that time.

The largest threat to agricultural land is large-lot residential development. Larger lots are often exempt from the subdivision review process.

The scene above, in northern Colorado, may soon be a thing of the past. According to Environment Colorado, from 1992 to 2006, Colorado lost 2.89 million acres of agricultural land. The average loss of 690 acres per day ranked third in the nation, behind only Texas and New Mexico.

Colorado farmers and ranchers face increased economic pressure to sell to developers as their lands appreciate in value and agriculture has become less profitable. In 2002, 60 percent of Colorado's farms and ranches had total annual sales of less than \$10,000. Between 1997 and 2002, the amount of debt versus equity for Colorado farms rose to 18 percent as average production costs increased.

Many children of farmers and ranchers are choosing careers outside of agriculture, leaving no one to operate family farms. The average age of farmers is now 55. This is



JOSEPH KERSKI

of concern because farmers and ranchers are some of the best stewards of the land, working to make sure land use is sustainable.

The impacts of these changes span geographic themes. The loss of this open space impacts quality of life and threatens farmers and ranchers who profit economically from the land.

Losing family farms to residential development prevents towns from creating wealth locally, and municipal budgets face increased pressure as a consequence. Large-lot rural developments in Colorado, for example, represent \$1.65 in infrastructure costs for every tax dollar they bring in. The tax revenue generated by agricultural land is almost twice the cost of the services it receives.

Tourism decreases with development. New septic systems increase waste nutrient counts in surface water and groundwater, and pollutants run off impervious surfaces. The water table decreases

because states like Colorado do not receive enough precipitation to replenish the increased groundwater withdrawals.

Residents of sprawling communities drive much farther than individuals living in compact, well planned areas. Air quality decreases as a result of vehicle emissions caused by long commutes to employment centers.

Animal and plant habitats are also fragmented.

The impacts of the loss of rural lands span many geographic themes. How could you explore this issue in the classroom? Are there benefits to developing these lands? If so, who benefits?

Joseph Kerski is an education manager with Esri in Colorado. **Amanda Weaver** is an educator, GIS consultant, and doctoral student.

Candidates Announced for 2013 NCGE Ballot

The individuals listed below comprise the slate of candidates approved by the NCGE Executive Planning Board at its meeting in San Marcos in October. Voting will occur during the summer of 2013, and members elected to leadership positions will begin their terms in January 2014.



Additional names may be added to the ballot for any elected position, provided that they are accompanied by a resume and a position statement (each not to exceed 200 words) along with a supporting petition signed by 20 voting members in good standing (not more than three to be members of the Executive Planning Board) by March 1, 2013. (See Article V of the NCGE Bylaws.) Send these materials to Zach Dulli, National Council for Geographic Education, 1145 17th Street N.W., Room 7620, Washington, DC 20036.

Biographical sketches and position statements from each candidate and voting instructions will be distributed in the spring.

Vice President for External Relations

- Gary Gress
- Diana Sinton

Member, External Relations Committee

- Tom Baker
- Lara Bryant

Member, Finance Committee

- Kenneth Keller
- Paul Nagel

Member, Publications and Products Committee

- Carmen Brysch
- Lisa Tabor

Member, Research Committee

- Joy Adams
- Andrew Shouse

ATM Proposals (Continued from page 11)

Criteria for Review of ATM Proposal

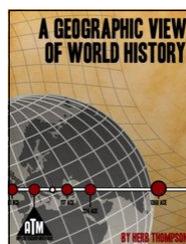
- Does the proposed ATM address an area of need within the geographic education community? In other words, is the concept/topic addressed by the proposed series of lessons one that educators need additional ideas or resources for teaching?
- Is/Are the author(s) qualified to conduct the project?
- Does the proposed ATM provide creative, innovative, or original materials for geographic education?
- Is the proposed project organized and well planned?
- Does/Do the author(s) have adequate access to time and materials to carry out the project?

Proposal Submission

Prospectuses will be reviewed as they are received. Submit your prospectus electronically to committee members Sandra Metoyer at smetoyer@tamu.edu and Drew Halevy at dhalevy@gmail.com.

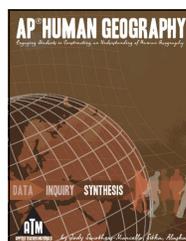
Applied Teacher Materials Now Available

A Geographic View of World History by Herb Thompson features



32 lessons designed to supplement a world history class by adding the geographic perspective. Lessons are suitable for students from advanced middle school to AP classes. Adding the geographic perspective to history will enhance students' understanding of history and develop a deeper understanding of geography. Price: \$20

AP Human Geography: Engaging Students in Constructing an Understanding of Human Geography by Jody Smothers-Marcello



examines synthesis, inquiry, and spatial data in the AP Human Geography course. These lessons fill an important niche in preparing students for the free-response section of the AP exam by demonstrating ways to guide students in synthesizing ideas from within and across units throughout the AP course. Price: \$19.95

Available in the NCGE Store at www.ncge.org.



NCGE WEBINARS

Spring 2013

JANUARY 16 ■ 8 P.M. EASTERN

TED Videos in the Classroom

Logan Smalley, Jordan Reeves, Bedirhan Cinar, and Stephanie Lo
* FREE partnership webinar with TEDEd

JANUARY 23 ■ 8 P.M. EASTERN

Teaching Race and Gender in Human Geography

Erin Fouberg

JANUARY 30 ■ 8 P.M. EASTERN

Mapping Alternatives with Maps 101

Terry Keramaris

* FREE partnership webinar with Maps 101

FEBRUARY 6 ■ 8 P.M. EASTERN

Teaching Drinking Water Protection

Amy Lilienfeld

FEBRUARY 13 ■ 8 P.M. EASTERN

Organizing a Geography Conference for Pre-Service Teachers

Karen Maloley and Cynthia Resor

FEBRUARY 20 ■ 8 P.M. EASTERN

Road Map for 21st Century Geography Education: Assessment, Geography Education Research, Instructional Materials and Professional Development

Niem Huynh, Audrey Mohan, and Jill Wertheim

* FREE partnership webinar

MARCH 13 ■ 8 P.M. EASTERN

How to Write Good Assessment Questions

Kelly Swanson

MARCH 20 ■ 8 P.M. EASTERN

Professional Development Opportunity: APHG Graduate Certificate Program

Rich Schultz and Joseph Kerski

* FREE informational webinar

MARCH 27 ■ 8 P.M. EASTERN

Critical Thinking, Life Lists and Thinking Geographically

Paul Nagel

MAY 15 ■ 8 P.M. EASTERN

Canada, The Northern Neighbour

David McDowell

Unless otherwise noted, webinars are free for NCGE members and \$20 for non-members. * Partnership webinars are free for everyone. For detailed descriptions or to register for a webinar, visit www.ncge.org/webinar.

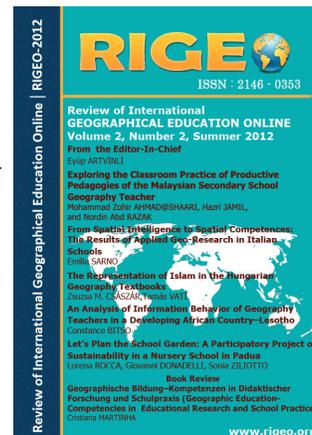
International Geo Journal Publishes New Issue, Seeks Reviewers

The latest issue of *RIGEO: Review of International Geographical Education Online* (Volume 2, Number 2) is now available free of charge at www.rigeo.org.

Topics covered in the issue include geography classroom practices in a Malaysian secondary school, applied geo-research in Italian schools, the representation of Islam in Hungarian geography textbooks, geography teaching in Lesotho, and a school garden used to teach sustainability.

RIGEO is seeking qualified reviewers to serve on its advisory board. If you are interested, send your resume and at least five keywords which best describe your areas of expertise. The journal's thematic interests are available at www.rigeo.org/scope-and-focus.html. Send these materials to *RIGEO*'s editor, Dr. Eyüp Artvinli, at eartvinli@gmail.com.

RIGEO, which debuted in 2011 is supported by several geography organizations, including NCGE.



Population Group Sponsors Video PSA Contest

Population Connection invites high school students to produce short video public service announcements (PSAs)

that illustrate the connection between world population at seven billion and one of the following topics: food security, global status of women/girls, or wildlife habitat.

The project website, www.worldof7billion.org, provides teaching resources, research resources, sample videos, and the judging rubric.

Entry deadline is February 21, 2013. For complete rules and entry instructions, visit www.worldof7billion.org.

Winning entries will receive cash prizes.

