

RANGER

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Stewards for parks, visitors & each other

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Remaining Relevant | **NPS & ANPR**



Ranger (ISSN 1074-0678) is a quarterly publication of the Association of National Park Rangers, an organization created to communicate for, about and with National Park Service employees of all disciplines; to promote and enhance the professions, spirit and mission of National Park Service employees; to support management and the perpetuation of the National Park Service and the National Park System; and to provide a forum for professional enrichment.

In meeting these purposes, the Association provides education and other training to develop and/or improve the knowledge and skills of park professionals and those interested in the stewardship of national parks; provides a forum for discussion of common concerns of all employees, and provides information to the public.

The membership of ANPR is comprised of individuals who are entrusted with and committed to the care, study, explanation and/or protection of those natural, cultural and recreational resources included in the National Park System, and persons who support these efforts.

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President's Message

Our national parks, other protected areas and cultural sites trace their lineage to the late 1800s in a rapidly developing and changing United States. This unique preservation idea eventually was replicated around the world.



Many of the places past generations of Americans decided to protect have achieved iconic renown on a global scale. Cultural places preserved as icons of a human story, which is both awe inspiring and often representative of painful cultural conflict, the significance of which was assumed to be universal. Then there are the great natural areas of exemplary beauty and wonder—now inlands of increasingly smaller populations of the truly wild things (plants and animals) comprising the final vestiges of an earthly wilderness representing a once expansive and primeval North American landscape. It is perhaps irreparably altered by the consumptive course taken by our national journey over the past two centuries.

Throughout the 20th century the popularity of national parks seemed relatively assured, as visitation reached the 300 million mark. Recent trends, however, witnessed during the last quarter century appear to cast a shadow over this popularity and raise important questions concerning the relevancy of parks in a changing nation and world.

Park managers and scholars point to indications that the adoration of our national parks

“may be too closely tied to a narrow cultural, ethnic and racial demographic” within our society—whose methods and means of relating to our national heritage have never been completely shared by the greater proportion of Americans. The cultural groups comprising our citizenry most commonly referred to as “minority” stand poised on the threshold of becoming the citizen majority within our country.

In addition to the great demographic change that will culturally alter the United States in the 21st century, there are serious indications that all young Americans have become disconnected from possessing rudimentary knowledge of the past. Further, they may lack significant understanding of and meaningful interaction with nature.

The focus of this year's *Ranger* Rendezvous and Professional Conference, scheduled for Oct. 10-15 at the Crowne Plaza Williamsburg, will be a forum to examine the question whether parks are becoming irrelevant to American society. If indeed this is so, what are creative and viable strategies to effectively reverse the trend?

Plenary and concurrent sessions of the Rendezvous program will address the issue of relevancy in a changing world:

- how to create vital connections with communities
- methods for engaging youth
- ways of implementing effective civic engagement
- how best to keep experiences on national parks resilient and relevant to people engaged with change

As a steward of one of our country's iconic cultural places, challenged with making sure the relevancy of a 150-year-old Civil War still matters to the changing face of our nation, I invite you to join me in historic Williamsburg. (Please see page 21 for more information.)

ANPR will host its 34th annual gathering and explore meaningful ways of “Making Sure Parks Matter” for all citizens who strive daily to conduct their journey through an ever-changing collective American experience.

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Cover image: Teachers enrolled in the National Park Service's “Earth Science in Context” use national parks as outdoor laboratories. *Photo courtesy of NPS*

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Education and Relevancy

Views of the national parks



By Bruce Nash, Erika Matteo and David Krueger

“Could you take that natural resource information and put it in a form that would be more accessible to interpreters and the public?”

—Interpretation staff
Petersburg National Battlefield

When we heard this request, we were building an information management system for National Park Service resource managers that organized

reports, analyses, databases, maps and other data gathered in parks. The question generated a wave of ideas on how raw data could be transformed into interpretive information appropriate for the public. Gradually a plan emerged that combined accurate data, drawn from the entire National Park System, with interactive computer graphics and multimedia that would present the information in a manner simultaneously engaging and relevant to the user.

Views of the national parks

This approach to resource data led to the development of the Internet-based educational program Views of the National Parks. Views presents information and issues from individual

parks and from themes that reach across many national parks. Views engages users by presenting the information through multimedia and enhances learning by integrating natural and cultural resources, incorporating fine arts such as poems and songs, adding multicultural perspectives, and providing ways for users to connect with their national parks.

Discover all that Views has to offer at www.nature.nps.gov/Views. Here you can explore panoramas of ecological communities at

▲ Image above: Classroom teachers examine benthic invertebrates to determine stream health. They are part of the NPS “Earth Science in Context” program, which uses national parks as outdoor laboratories. All photos courtesy of National Park Service

Views of the National Parks Program overview

National Park Service
U.S. Department of the Interior
Natural Resource Program Center
Office of Education and Outreach



The collage features several educational materials:

- Wilderness Website:** A screenshot of the 'Wilderness' website with sections for 'Where is wilderness?' and '¿Dónde está el área silvestre?' in both English and Spanish. It includes a flowchart showing the process from citizen recommendations to congressional action.
- Lesson Plans:** Two lesson plan covers for 'GLACIERS' and 'CAVES AND KARST' are shown, both described as 'An educational curriculum module on glaciers resources' and '1 week unit'.
- Pu'uhonua o Hōnaunau:** A map of the Pu'uhonua o Hōnaunau National Historic Landmark with various points of interest labeled, such as '7. Ancient Heiau site', '8. Kanaka Pōhaka', and '9. The Keolu Stone'.
- Video Thumbnails:** Two video thumbnails are included: one for Lorraine Eiler, former president of the International Sonoran Desert Alliance, and another for Brian Gilbert, a park ranger at Rocky Mountain NP.

Whiskeytown, interact with the rock layers of the Grand Canyon, listen to park rangers discuss wilderness issues and impressions, hear a song written about bats, see the work of artists-in-residence at Badlands and listen to soundscapes from Point Reyes.

Multicultural perspectives and personal narratives broaden the relevancy of the program. In the Sonoran Desert module, Lorraine Eiler, former president of the International Sonoran Desert Alliance, talks about life in the desert, how her people (the Hia C-ed O'odham) used desert plants, and how she works to preserve desert resources and sacred places. Users can virtually hike an ethnobotanical trail (available in both English and Spanish) in the Organ Pipe Cactus module and get an international perspective on desert resources from resource manager Jose Avila (El Pinacate y Gran Desierto de Altar Biosphere Reserve in Mexico).

In the Wilderness module, discover more than 60 personal narratives on various aspects of wilderness and wilderness management. For example, Ed Zahniser, son of the primary author of the Wilderness Act of 1964, talks about spending time with prominent individuals in the 1960s wilderness movement. These human connections increase the relevance of Views as an educational tool.

Becoming more formal

Through presenting Views to teachers at professional meetings, such as the National Science Teachers Association, or NSTA, in 2005 and 2006, we learned to make the information relevant to students and educators. The teachers were excited about Views and national parks, but they wanted formal educational resources to incorporate national parks into existing curricula. We met this challenge by initiating a partnership with the University of Colorado Denver School of Education and Human Development.

This partnership has generated many educational materials that use the resources and issues of national parks to create genuine, inquiry-based experiences for students. This includes lesson plans, educational curriculum guides, references to appropriate teaching standards, lesson handouts and bookmarks with activities. All of these are accessible in Views via the Teachers' Lounge.

With Views and accompanying educational materials in hand, we next went to the 2007 Denver Regional NSTA meeting to offer four one-hour workshops. Teachers were presented with an overview of Views, and then they worked through different hands-on exercises (determining biodiversity along a transect,

using NASA imagery to track glacial retreat, identifying fossils and more). The activities were presented in a format that teachers could use in their classrooms, combining the information in Views with an activity the students could perform.

The success of these workshops led to the development of a full-day workshop for teachers on using Views in the classroom. These workshops, sponsored by the National Science Foundation-funded Rocky Mountain Middle School Math and Science Partnership, were offered in 2009 and 2010. Participating teachers alternated between explorations of Views and hands-on exercises from complementary lessons.

The Views team also participated in the Denver Museum of Nature and Science's Educators Night, interacting with educators and representatives from other educational entities. These venues provided opportunities to demonstrate our products and receive feedback on the quality and relevancy of our materials, and suggestions for incorporating NPS materials in classrooms.

Education evolution

In 2009, the Middle School Math and Science Partnership asked the Views team to

develop and teach a two-week graduate-level earth science content course for teachers. The course called for the inclusion of advanced topics, integration of earth science with other disciplines and a focus on relevance.

The course was presented within the context of national park management, with an emphasis on how park staff use earth science information to protect resources. High-quality information and practical application of earth science data was ensured by enlisting instructors with more than 250 combined years of experience in national parks in air quality, geology, water, soils, caves and paleontology.

People will value, cherish and protect things that are meaningful or relevant.

Every day in the classroom, instructors presented a hands-on activity that made the lecture relevant. For example, after learning how earth materials were used in Civil War uniforms and equipment, a Civil War re-enactor entered the classroom and provided an opportunity to examine the objects mentioned in the lecture. Other activities involved soil texturing, plotting climate data and exploring different sources of air pollution. All activities were provided to the teachers so they could use them in their classrooms.

Three days were spent in the field with the instructors getting first-hand experience with the resources. Two NPS sites — Florissant Fossil Beds and Rocky Mountain — were visited, as were other local earth science sites like Cave of the Winds, Florissant Fossil Quarry, Dinosaur Ridge, Fossil Trace and Red Rocks City Park. These field trips allowed teachers to interact with both the instructors and the subject matter, turning abstract concepts into reality.

Teachers explored an undeveloped cave while learning about cave features, formation and management issues. They hiked among petrified tree stumps while learning about paleontology, soil surveying and the local cultural history. They then split shale and collected fossil specimens for their classrooms. In Rocky Mountain, teachers visited air quality monitoring stations; searched riparian corridors for ozone injury on plants and aquatic invertebrates; conducted water sampling tests; and looked over mountainous vistas sculpted by glaciers.



Denver-area teachers receive instruction on how to collect aquatic invertebrates at Rocky Mountain National Park.

On yet another field trip the teachers walked a trail that took them through the Jurassic and Cretaceous periods; discovered evidence of life during those past periods; discussed preservation issues and the challenges of interpretation; and learned about the changing Rocky Mountains landscape and how geologists deal with gaps of time missing from the geologic record.

A capstone project provided continuity and reinforced topics explored in the course. Groups of five students were tasked with

creating a national park and integrating key resources from the course into a general management plan for their park. Each group member rotated through the roles of superintendent, scientist, ranger, interpreter and maintenance worker to learn how to apply earth science information to park management from multiple perspectives. Groups gave 20-minute presentations and took questions from their classmates. The capstone project was later adapted by at least one teacher for use in her classroom.



Clay and craft materials become exotic new creatures that are adapted to national park ecosystems.



Students at the STEMpalooza Conference add their personal messages (pictographs) to the “rock wall” at the Views booth.

Child’s play

The Views team has made a strong effort to provide teachers with NPS-based educational materials and training on how to effectively use the materials in the classroom. We have also taken national parks directly to school children. The team has used Views as a multimedia springboard to engage school children in kindergarten through fifth grade.

In 2008, STEMpalooza was established in Colorado. The intent of this conference was to bring together the entire STEM (Science, Technology, Engineering and Mathematics) education community, including government agencies, private companies, nonprofit groups, museums, school administrators, teachers and school children.

Views has participated in STEMpalooza for three years running. The first year drew about 3,500 visitors, most of them school children from Denver Public Schools. We handed out materials and displayed a few activities. The conference was judged a success, but our yardstick for measuring success was about to change.

The following years we set up a second booth dedicated to hands-on activities, including investigating the relationship of topography to water movement within watersheds, using craft materials to create an organism adapted to one of several selected park environments, and reconstructing a dinosaur from excavated “fossils.”

One prominent activity was our “Rock Wall — Rock Art” activity. In a typical presentation, the leader would talk about petroglyphs and pictographs, the interpretation of the designs,

the personal messages that the symbols represented and the importance of preservation. Students were invited to paint a personal message on our pretend rock wall (butcher paper hung from a frame). Messages ranged from names and symbols, to the deeply personal “R.I.P. Big Bro.” Approximately 15 panels per year were filled with messages from Denver-area school children. By 2010 STEMpalooza gave Views an opportunity to interact with more than 12,000 kids and adults, many from underserved audiences, who we wouldn’t have met otherwise.

Full circle

Our work can be seen as a model for other parks or regions to adapt. All of our efforts are easily repeatable and are relatively low-cost. Partnerships pairing educators with local experts, whether from federal agencies, private companies, not-for-profit groups or retirees, can bring engaging educational opportunities to teachers, students and even new employees. Presenting the information within a national park framework increases relevance and fosters connections with parks.

Relevance is a word with many definitions, but at its core is the concept that to be relevant is to be meaningful. People will value, cherish and protect things that are meaningful or relevant.

To successfully meet its mission objectives, the NPS must have the support of all Americans, and for that, relevance is the key. 🏔️

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In the end, we will conserve only what we love.
We will love only what we understand.
We will understand only what we are taught.

—Baba Dioum
Senegalese conservationist