



Climate Change Response Program News

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SCIENCE • ADAPTATION • MITIGATION • COMMUNICATION

World Parks Tackle Climate Change

Once a decade, the International Union for the Conservation of Nature (IUCN) holds the World Parks Congress, a landmark forum that draws leaders, politicians, managers, and advocates together to discuss the most critical issues and opportunities affecting protected areas (PAs) around the world. The 2014 World Parks Congress (WPC) was held in Sydney, Australia November 12-19 with the theme of Parks, People, Planet: Inspiring Solutions. One of the most pressing issues discussed by the delegates was—you guessed it—climate change.

The Responding to Climate Change Stream was one of twelve “streams” and “cross-cutting themes” of the WPC. The National Park Service (NPS) played a lead role in the development and delivery of the stream, along with its partners, the Mexican National Commission for Natural Protected Areas (CONANP) and Australia’s Commonwealth Scientific and Industrial Research Organization (CSIRO). Some of the key speakers addressing climate change at the Congress were Secretary of the Interior Sally Jewell, NPS Director Jon Jarvis, Dr. Sylvia Earle, Dr. Tom Lovejoy, and human rights activist Luvuyo Mandela.

Delegates at the Congress comprehensively and aggressively tackled the many challenges, fears,

and opportunities brought by climate change. Discussions about the evidence of change included the latest information on global and regional climate variability and trends as well as ecosystem and species vulnerability. Special focus was given to the rapid rates of change in the Arctic, Antarctic and the Southern Ocean, mountain regions, and arid lands. Stream events also highlighted the unique value of PAs, including biodiversity and carbon storage. Delegates shared case studies from around the world on adaptation approaches to counter the effects of warming water and ocean acidification on marine systems and human livelihoods, as well as the devastation caused by rising seas and storms in coastal ecosystems and communities.

The presence and maturity of the dialogue was extraordinary. It is clear from the collective ideas and experience of the global PA community that the next ten years hold many promising pathways to address this issue. The articles in this newsletter highlight some of the key insights from the NPS participants and their partners, who are honored to share and showcase this unique experience and to bring contagious inspiration back to the National Park Service.

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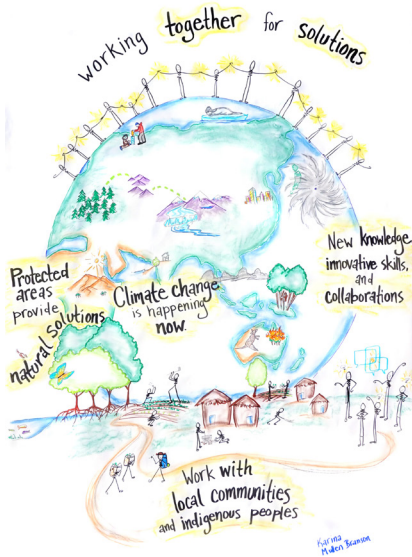
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WPC Climate Change Stream



RESPONDING TO CLIMATE CHANGE STREAM



Key Messages

All of the sessions and events under the Responding to Climate Change Stream were organized with the goal of advancing five key messages:

Climate change is happening now.

Parks provide natural solutions to climate change.

New knowledge, skills, and collaborations are needed to manage climate change effects and transformation in protected areas into the future.

Local and indigenous communities play a pivotal role in climate change solutions.

Effective response requires communication of meaningful hope and action.

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Nature's Coast Guards

Parks provide disaster risk reduction from episodic events such as hurricanes and from chronic impacts such as sea level rise through wetlands and offshore barrier islands, often referred to as natural infrastructure. Based on storm attenuation research in recent years for both coastal marshes and swamps and for barrier islands, coupled with studies post Hurricane Katrina and Superstorm Sandy, there is strong evidence that these ecosystems play a role in the protection of populated coastal communities.

After Sandy, healthy urban marshes in New York, New Jersey, and Delaware demonstrated how natural defenses can provide protection from storm damage. Restored marshes in Jamaica Bay held strong during Sandy and helped attenuate the storm's destructive wave action.

Coastal marshes and swamps can reduce the impact from storm surge. A healthy swamp ecosystem can also contribute to protecting hurricane protection levees. During Katrina, levees with swamps bordering them did not fail, while those open to the surge sustained damages including breaching.

Gulf Islands National Seashore (GUIS) provides protection to mainland Mississippi by reducing wave and storm surge heights. Barrier islands have suffered a severe loss of sediments through the dredging of navigation channels for the shipping industry, limiting the ability of the islands to migrate and rebuild. As a result, island erosion has increased, new deposition of sands has decreased, and hurricanes have dramatically changed island morphology. According to models from the US Army Corps of Engineers, loss of these barrier islands could result in as much as 1.25 meters greater wave heights at the mainland beaches.

Coastal wetlands provide as much as \$23.2 billion worth of storm protection annually in the US (Royal Swedish Academy of Sciences). At GUIS alone, benefits would include annual hurricane and storm damage risk reduction of \$20 million to mainland Mississippi, \$470,000 in average annual recreation benefits, and \$43 million in average annual fishery losses avoided.

Benefits from healthy coastal ecosystems greatly eclipse the cost in damages from periodic major storms. Restoration of the GUIS barrier islands has a price tag of roughly \$400 million, which is a minor cost compared to damages from Sandy and Katrina. Superstorm Sandy caused \$65 billion in damage in the US, making it the second-costliest weather disaster in American history behind only Hurricane Katrina, which inflicted an estimated \$81 billion worth of damages.

We can boost the resiliency of these ecosystems through restoration by returning sediments back into the transport systems, strategic placement of dredged materials, vegetative plantings on restored lands, and constructing living shorelines such as carefully placed oyster reefs and planted earthen berms. Coastal states are restoring wetlands, building living shorelines that rely on plants and their roots instead of concrete to stabilize the shore, and restoring barrier islands that can hold floodwaters and attenuate storm surge to improve resilience and reduce disaster risk. Continued conservation of National Park coastal areas will contribute to reducing disaster risk, as well as attenuating effects from chronic impacts such as sea level rise.

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Washover at Cape Lookout, N.C. following Hurricane Irene in 2011.

REDD+ in the Global Community

The Reducing Emissions for Deforestation and Degradation (REDD+) mechanism has gained importance in different parts of the world, both because of its successes and its failures. Bringing the topic of REDD+ to the WPC may have been controversial, however ignoring it would remove from discussion one of the most innovative, studied, and analyzed strategies for climate change mitigation through PAs as a natural solution. Moreover, it would also ignore the great efforts and commitments of stakeholders in various countries.

Discussing REDD+ within PAs is important because these contain at least 15 percent of terrestrial carbon and that's without even mentioning the marine PAs that play an equally important role in carbon sequestration, known as **Blue Carbon**. Furthermore, the fact that PAs already have a management strategy (in most cases) makes REDD+ targets more achievable.

At WPC, we were able to dive into some of the PAs that are currently working on either the development or implementation of this strategy. These voices reminded us of some of the worldwide challenges that PAs face and the different ways of management that exist such as people living within the PA, co-management, land rights, and threats to biodiversity.

By looking at the initiatives presented at the WPC, we understand that there is not a recipe for REDD+. The ways in which the REDD+ mechanism can be applied vary from adaptation of legal framework, like the **Peruvian model**, where projects are executed through contracts and voluntary markets, to benefits that are not only economics-based, like **Guatemalan projects**.

All these initiatives went through big challenges that are unique for every PA. We heard from the **Gola Rainforest National Park** (which has Sierra Leone's first REDD+ project) that human-wildlife conflicts, civil war, massive deforestation, leakage, and complex Monitoring, Reporting, and Verification (MRV) systems are some of the challenges they are dealing with. Benefit sharing is another challenge of REDD+, whereas in some countries this issue depends on the land tenure; the Kimberly Council in Australia worked during 18 years to provide land rights and titles to the natives.

Concluding from the stories presented in Sydney, the future challenges are very clear: the lack of funds, that existing funding takes longer to receive, that markets are not clear, the complexity of a MRV mechanism, and community engagement process as a main goal.

By looking at the momentum and the lessons learned globally, these challenges can be overcome if we manage this strategy under a holistic vision, where the main principles focus on respect for land rights and by guaranteeing social and environmental benefits. The funding problem needs to be addressed by the development of networks and alliances at all levels and sectors, including the private sector. The permanence of REDD+ in PA depends on the capacity building of all the stakeholders and the inclusion of women in all stages, which has demonstrated success throughout several **examples around the world**.

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Canopy walkway at Ulu Temburong National Park, Brunei, Southeast Asia.



Watch the award-winning series at yearsofivingdangerously.com

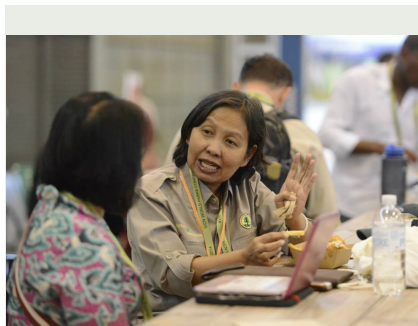
The Future Is Not What It Used To Be

Film makers and professional communicators are now in the climate change communication arena and reaching broad audiences. *Years of Living Dangerously* co-producer, Jeff Horowitz, facilitated a panel discussion at the WPC on climate change resilience that included Secretary of the Interior, Sally Jewell. Following the panel, Horowitz provided a special viewing of the Emmy award-winning Showtime series, which focuses on how climate change affects people's lives, along with actions that can be taken to reduce this threat.

Horowitz is also the founder and director of Avoided Deforestation Partners, an organization that pushes for new solutions to address tropical deforestation, including market transformation initiatives as well as payments for environmental services programs like REDD+.

The *Years of Living Dangerously* series has been a successful raising public awareness around the forest-climate connection and the scalable solutions to the world's massive deforestation problem. The big-budget TV series featuring a number of Hollywood's biggest stars as reporters will likely reach tens of millions of viewers and highlight some of the very issues addressed in the WPC Responding to Climate Change Stream.

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Rehearsing the Future with Scenario Planning

The World Parks Congress in Sydney was a terrific opportunity for the NPS to share its work with scenario planning and how it has been applied to climate change and the management of parks. Through facilitated, participatory exercises, diverse professionals from marine, wildlife, and cultural resource conservation experienced the usual challenges and frustrations in building scenarios, but also recognized their own hidden assumptions about the future.

The benefit of scenario planning is much less about product than about the process of thinking about a range of futures. Considering management actions across a range of plausible scenarios offers a method for making uncertainty more manageable. We are able to eliminate some of the obscurity and identify rational choices more clearly.

One participant expressed it this way, "As I look at the next generation and the challenges and opportunities they'll face, I recall something I heard from a speaker a few years ago. I won't be able to give my children everything, but I want to make sure that they'll be prepared for anything." Scenic thinking accomplishes this goal by providing an approach well worth adopting, both personally and professionally.

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Local Communities in Protected Areas

National Parks in the US preserve species, ecosystems, and landscapes. These lands are mostly pristine areas where humans do not play a major role in how the landscapes are structured and function. Conversely, many PAs around the world are owned and inhabited by local communities that have occupied the land for centuries. As a result, these PAs and the natural resources they maintain are key to and directly support human communities, both in the short and long terms.

Species and entire ecosystems are at risk due to climate change, and consequently, communities that directly depend on them are at risk too. Whether it is reduced freshwater availability, increased disaster risk due to floods and hurricanes, or reduced crop productivity due to plagues and changing environmental conditions, it is a fact that these local communities will suffer and are already suffering the consequences of climate change.

This is clearly a problem for human populations that are already in poverty and marginalization, as climate change can potentially exacerbate this situation. Moreover, this can also lead to further degradation of natural resources and put the conservation of PAs at risk.

With this in mind, it is critical to consider human communities and their systems when developing adaptation programs. These should be developed locally because each site is vulnerable and resilient in its own way, and depending on this, strategies might include relocating human settlements, using drought-resistant crops or agroforestry systems, diversifying their livelihoods, or investing in green infrastructure, among others.

While adaptation programs must consider sound science, it is imperative to understand that local communities cannot be withdrawn from the process, nor can they be seen as secondary participants. They must not only be allowed to collaborate, but they must drive the process. We must acknowledge that they have owned and managed the land for centuries and that they will be most affected by the consequences of the decisions made. A true participatory approach will likely result in a robust outcome, and most importantly, it can help build social resilience and community empowerment.

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Mount Kenya World Heritage Site.



Marine Protected Area, Philippines.

Global Perceptions of Transformative Adaptation

Managers of PAs face a future in which PA ecosystems, species, and landscapes change in very substantial ways, raising questions about what goals should be set to manage natural ecosystems in a time of great flux. Natural ecosystems represented in PAs are composed of species and various ecosystem functions that are finely tuned to track environmental variability and change trends.

Transformative adaptation employs a continuous and transformative process, rather than intermittent and incremental, to adjust to unexpected change. The word “transformation” is used to signify both ecosystem change and management responses that go beyond anything that is currently even considered possible or acceptable. In other words, an approach of continual incremental adaptation to the business-as-usual planning cycles will not necessarily be enough to respond to the challenges of rapid directional climate-driven change in PAs.

In one session on perceptions and expectations for PAs in the future, speakers identified that many PA managers feel that knowledge is a barrier to identifying and implementing adaptation measures and yet most of these managers also had access to many scientific publications on climate impacts and adaptation measures for the areas they manage.

Another session focused on the conservation objectives that would underpin policies and management goals. In this session, speakers talked of the need to embrace entirely new ways of thinking about conservation: leaving the repair and revert paradigm behind and beginning to move toward managing for change and loss. There are however, currently very real legal barriers that hinder the evolution to new management paradigms.

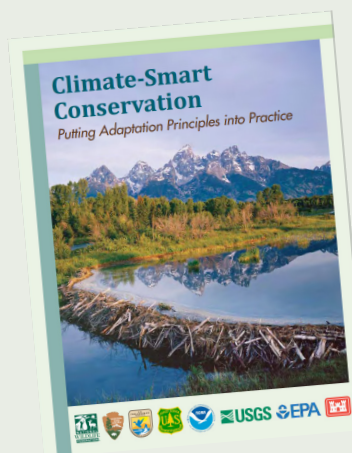
In conjunction with the Reaching Conservation Goals Stream, two sessions explored the ways in which connectivity can assist with and possibly hinder conservation outcomes under climate change. New ecosystem modeling results are beginning to indicate the magnitude of change (in terms of species compositional change) and the rate of that change (speed and direction of environmental drivers such as ocean warming). Several examples of sub-continental corridors of connected, restored, and augmented natural habitat were presented and these are underway on every continent. They represent outstanding opportunities to allow species to move across landscapes to track acceptable climate environments. However, there were a number of examples given showing that large physical connections will not be a panacea for conservation. For example, species that cannot move or keep pace with the rate of movement of their environmental niche will be left behind. Lowered diversity of relic genetic resources in the wake of climate niche movement is another issue. For these types of conservation problems, innovative and transformative management responses such as facilitated translocation, genetic enhancement, and planned hybridization are likely to become widely acceptable.

Events involving youth and female conservation leaders addressing the question of “what gives you hope” drew out the commitment and optimism that exists around the future of PAs under climate change. While we expect ecosystems to change a lot and many species to be lost, the dedication to manage PAs for the benefit of people and nature to the best of our ability was strong.

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Wilderbeest at Lake Magadi, Ngorongoro Conservation Area, United Republic of Tanzania.



Climate Smart Principles

A central question for protected area managers is how to plan and implement decisions differently with climate change in mind. The recently released guide, **Climate-Smart Conservation: Putting Adaptation Principles into Action** highlights nine characteristics of climate smart conservation:

Link Actions To Climate Impacts

Embrace Forward-Looking Goals

Consider Broader Landscape Context

Adopt Strategies Robust to Uncertainty

Employ Agile, Informed Management

Minimize Carbon Footprint

Account for Climate Influence

Safeguard People and Nature

Avoid Maladaptation

The NPS is working with partners to adapt this guidance to park planning.

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Brave New World:

Adapting and Transforming Marine Protected Areas in a Changing Climate

Marine protected areas (MPAs) have traditionally been designed and managed to enhance the livelihood of people who depend on them, as well as protect biodiversity and cultural values against existing threats of resource exploitation, habitat loss, and pollution. Marine and coastal ecosystems now face a new and growing threat from climate change.

What will it take for MPAs to survive the brave new world of climate change effects as they interact with and, in many cases, exacerbate existing stressors? Several sessions at the WPC explored innovative programs, approaches and tools underway to manage marine systems under transformative change.

One example is The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), which is a regional framework under which governments, private sector, civil society, donors, and development partners collectively aim for the sustainable management of marine resources. The Coral Triangle is an epicenter of biodiversity that encompasses nearly 6 million square kilometers, including parts of Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands and Timor-Leste and sustains the lives of more than 120 million people. In the past five years the CTI-CFF and its 6 member countries issued a **Region-wide Early Action Plan for Climate Change Adaptation** that outlines early actions to promote resilience and long term strategies for financing, building institutional capacity and commitment, data sharing, and effectiveness monitoring.

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Protecting the World's Cultural Heritage



East Rennell World Heritage Site, Solomon Islands

Thanks in large part to the work of the NPS Climate Response Program, the growing threat from climate change to cultural heritage in and around protected areas was a central issue at the World Parks Congress.

While many panels and workshops focused on either natural ecosystems or indigenous cultures, one NPS workshop explored the implications of a rapidly changing climate across the range of cultural heritage resources from archaeological sites, through historic buildings, all the way to today's aboriginal cultures. Presentations covered a wide variety of cultural resource issues including the following:

The alarming impacts of large scale fires and extreme rainfall events on archaeological resources in New Mexico, which are forcing archaeologists throughout the West to rethink strategies in the light of a longer fire season and greater prevalence of large-scale fires. *Anastasia Steffen, Cultural Resources Coordinator, Valles Caldera Preserve*

Some of the lessons to be learned from the archaeological record about adaptive responses to climate change by ancient cultures and communities. *Marcy Rockman, NPS.*

The pioneering work being done in Scotland to assess the vulnerability to coastal erosion of thousands of coastal archaeological sites, ranging from Neolithic settlements (such as the Skara Brae World Heritage site) and Viking cave art, to castles, and early industrial sites. Dawson's initiative, Scotland's Coastal Heritage at Risk Project, has been doing amazing work involving communities in the preservation of local sites and in digitally documenting sites that can no longer be protected from coastal erosion or rising seas. *Tom Dawson, St. Andrews University.*

Some of the physical threats to the fabric of historic buildings such as the medieval churches

and cathedrals of Europe from climate, including changed freeze-thaw cycles, more extreme rain events, and changing humidity levels. *Professor Peter Brimblecombe, Atmospheric Chemist, City University of Hong Kong.*

How climate change is dramatically affecting thousands of years old traditional practices and harvesting patterns of aboriginal communities in Kakadu National Park, a World Heritage Site in Australia's Northern Territory. *Emma Ligtermoet, Australian National University.*

The WPC provided many opportunities to hear about the importance of protecting all forms of cultural heritage through protected areas management. Another session addressed the question of how potential World Heritage Sites are evaluated for listing. The lead organization for natural resource criteria is the International Union for the Conservation of Nature whilst the lead for cultural resource criteria is the International Council on Monuments and Sites. In the past, the two assessment bodies have worked independently and separately, sometimes leading to diverging recommendations for site listing. The WPC highlighted a number of pilot efforts underway to send joint assessment teams into the field together.

The WPC was ripe with discussion of the interplay between the cultural and natural resource aspects of protected areas management and the presence and full involvement of many indigenous stake-holders was hugely important in this regard. Particularly inspiring, was the opportunity to meet Pacific Islanders who had traveled 6,000 miles in traditional voyaging canoes to join the conversation.

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Using Stories to Learn From the Past

Every place has a climate story. This idea was first set out in Director's Policy Memorandum 14-02 earlier this year. At the WPC, we had the chance to try it out at a really big scale, with a session *Climate Stories of Cultural World Heritage*.

The concept of this session was this: just as every place on the planet stands to be affected in some way by climate change, every place that has been a home to people—and so has cultural heritage—has a role to play in how we understand it and respond to it. There are four themes of a climate story: how we see change happening in tangible cultural heritage, how changes in intangible cultural heritage are being felt, how past societies responded to past climate variability and environmental change, and how the modern climate situation has come to be.

Climate stories are not sets of facts, but rather information organized into a narrative framework. NPS has worked with Randy Olson, science communicator, on methods of storytelling, and has been trained in his And-But-Therefore (ABT) technique. *And* introduces facts; *But* includes facts with present tension; and *Therefore* introduces a solution. This method doesn't ask for central characters, but rather is a way of helping the speaker think and organize information in an engaging way.

Session participants prepared and presented a climate story for a World Heritage site she or he has worked in. The stories addressed a wide range of resources including the following:

Cultural heritage and climate change issues from the perspective of International Council on Monuments and Sites and the international community and impacts that we can see on cultural heritage. *Susan McIntyre-Tamwoy*.

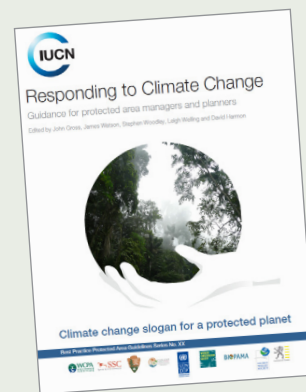
The deep antiquity of Australian aboriginal populations first confirmed scientifically at an archaeological area in the Willandra Lakes District, Australia. Environmental cycles in East Africa have been linked to the evolution of human capacity for culture. Recent finds at Willandra Lakes may tell a similar story—we literally carry traces of past climate change in our bones. *Caroline Spry, Nicola Stern*.

The challenges of reconnecting with traditional Hawaiian thought and applying it to the management of a vast area. Traditional knowledge details a reciprocal sibling relationship between man and the 'Āina (land) and the kalo (taro) plant. As man fulfills our role as the younger sibling to serve and care for our older siblings, they do the same for us and provide for all of our physical needs. Climate variability is like an older sibling, telling us to mend our ways. *Keola Lindsay, Papahānaumokuākea National Marine Monument*.

Experiences of trying to continue to hunt on muskeg—climate change can literally be felt in the speed one now needs to drive in order to cross melting soils or additional miles one has to walk because of impassable roads. *Sophia Rabliauskas from Poplar River First Nation, northern Manitoba*.

Although climate change is so often framed as a complex science problem, we are the ones with the capacity to decide what to do about it—making it a human problem also. These stories gave us new ways of understanding change and seeing ourselves. They challenged us with questions of: what was it like then, how did they figure that out, or what if we could...

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Managing PAs in the Face of Climate Change Guidance for Protected Area Managers and Planners

Climate change is happening now and it is posing new challenges to managing and designing protected areas (PAs). Many PAs are experiencing earlier springs and longer growing seasons, increased floods, rising sea levels, and other effects of global climate changes. These climate changes will become more intense over time and require changes in how we manage PAs.

In response to needs for management-relevant information, the IUCN World Commission on Protected Areas is developing a Best Practice Guide to climate adaptation for protected area managers. The guide addresses key adaptation concepts and activities to consider in planning and implementing climate adaptation. The guide includes discussions on how to integrate PA adaptation into regional to national-level environmental planning and decision-making. Climate adaptation best practices described in the guide apply to all environments—terrestrial, coastal, marine, freshwater, and to biomes that are arid, wet, hot, or cold.

A consultation DRAFT version of the guide was introduced and available at the World Parks Congress in Sydney and it is currently under review and revision. The final document is scheduled for release in June 2015.

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Footprints from the past, Mungo National Park, Australia.

National Parks of Australia

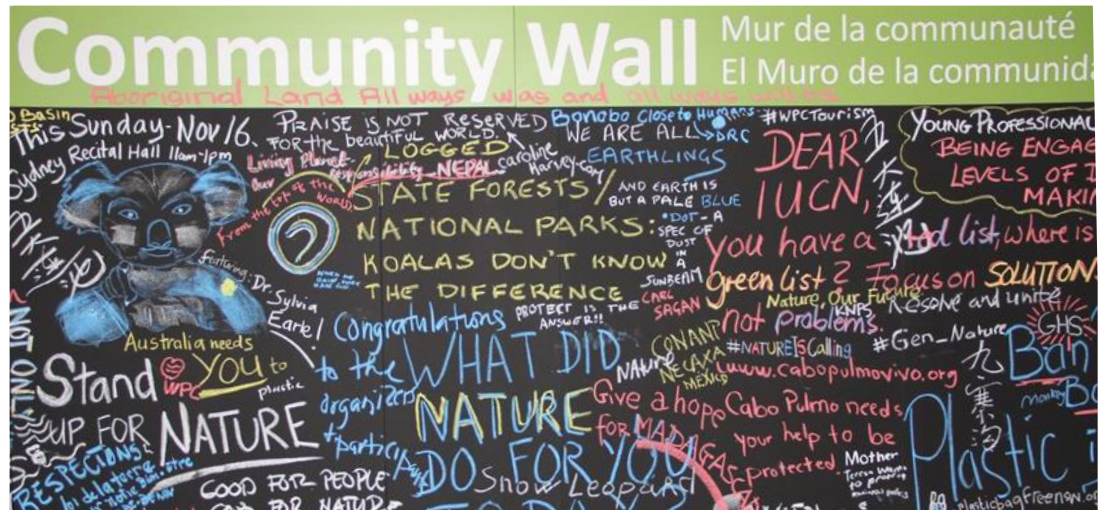
Promise of Sydney

Moving forward on the outcomes from Sydney over the next decade will require dedicated commitment. Recommendations for climate change policy and action from the Congress are listed below. The international community must decide which of these are of the highest priority and the steps necessary to implement them.

1. Bring the full recognition of biodiversity, ecosystems, and protected areas into international negotiations around climate change.
2. Mainstream the concept of “Protected areas as natural solutions to climate change” into national development plans, communication and financial strategies.
3. Enhance adaptation and mitigation strategies within and outside protected area boundaries through carbon management, long term monitoring, and integrated landscape connectivity.
4. Engage new thinking in planning and management to ensure equitable participation from society, including youth, women and indigenous and local communities.
5. Adopt and apply innovative, appropriate, and context-specific adaptation measures to ensure that in the face of transformative climatic change protected areas continue providing the full array of values, functions, and services for people and nature.
6. Form and strengthen partnerships within and beyond national boundaries to protect and connect landscapes and seascapes as they transform and adapt to climate.

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Hope is Not In Short Supply



On a sweltering afternoon in Sydney, about 80 WPC delegates gathered in a stadium lounge to hear seven “lightning talks” on climate change communication. The session was set up so that each speaker had precisely five minutes to present exactly 20 slides which advanced automatically—a challenging task.

The speakers had a variety of messages honed for different audiences, targeting park visitors, local communities, museum attendees, mass media, and even “climate skeptics.” A common element in every presentation was the crucial importance of hope. Presenters agreed that it’s important to explain how climate change works and to outline likely impacts on places and systems we care about. However, we also know that “beating people up” with the magnitude of the problem and the seriousness of its effects can lead our listeners to despair and a sense of helplessness. It’s very important to communicate successes and potential solutions and to point out the many ways people and societies are rising to the challenge of climate change.

During the week of WPC, visitors to the Climate Change Homeroom left over 130 handwritten messages in many languages on a 20 x 8 foot Wall of Hope. These messages reminded us that connected and protected natural places can serve as critical ecological refugia and that links between our natural and urban areas refresh the human spirit. These inspiring messages also spoke of youth engagement, renewable energy, international cooperation, intergenerational equity, humility, and courage.

Our ancestors built a global economy based on extracted energy that lifted a billion people out of poverty, but the key ingredients were ingenuity, creativity, and hard work. Unlike coal, these elements of the human spirit are not in short supply. If our descendants continue to be as creative and diligent as our ancestors, there will be hope for us yet.

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Inspiring Leadership in a Changing Climate

Climate change amplifies existing patterns of social inequality in developing countries. So what gives us hope? Innovative and equitable approaches to climate change response are already underway in many communities. In an evening round table session, climate change leaders from around the world shared experiences and inspiration about how they are building the capacity of women, youth, and indigenous people to play leadership roles at local, regional, national, and global levels.

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World climate change leaders shared inspiration (listed left to right): Luvuyo Mandela, Tyathamzi Advisory Alcinda António de Abreu; Mozambique Minister of Environment; Vivienne Solís, Regional Vice Chair, IUCN CEESP; Julia Marton-Lefèvre, IUCN Director General; Cécile Ndjebet, Présidente REFACOF, Cameroun; and Natalie Isaacs, Founder 1 Million Women.

Bringing it All Back to the National Park Service

The NPS Centennial was on our minds as we planned for the WPC. How can we align the goals of a global protected areas event with a major protected areas milestone in our own country? How can we bring the voices of the global community back to the NPS, while encouraging the rest of the world to “find your park?” How can we encourage both WPC delegates and NPS staff and visitors to not only *Find Your Park*, but also to *Envision Your Future* under a changing climate?

Our first step was to engage the next generation of park supporters in all aspects of the Responding to Climate Change Stream (CC Stream) planning. Young professionals drafted publications, provided graphic recording services, managed major projects, and played central roles in CC Stream organization. Some of these young people are contributors to this newsletter. One young filmmaker set a goal to capture climate change comments from international delegates in real-time at the WPC; she produced a [video](#) for screening on the last day of the event.

The CC Stream sought out young people with an interest in climate change and designed a Climate Change Journey; a package of sessions to help guide their experience and highlight a major theme within the CC Stream. These Journeyers attended CC Stream events, recorded session outcomes, and met each morning to share and discuss group insights and ideas. Through the efforts of the Journeyers, we were able to identify overarching themes across the multitude of climate change-related events in real-time. The Journeyers also provided the opportunity to gather every morning and “dish” about the WPC, an experience that pulled an ever-larger number of participants each day. The outcome is a set

of key outputs aligned with each of the five key messages of the CC Stream, as well as a mural which graphically records these discussions.

To build the capacity of the global community to *Envision Your Future* under a changing climate, the NPS co-lead the development of a Best Practice Guide which addresses key adaptation concepts and activities to consider in planning and implementing climate adaptation. The guide was presented at the WPC in draft form to solicit comments and additional case studies, and is scheduled for finalization in June 2015.

The CC Stream developed and submitted six recommendations as part of the *Promise of Sydney* which aims to scale up the world’s knowledge and ability to apply innovative approaches to securing protected areas to help people around the world meet the challenges of this new era. A full description of the six recommendations can be found on the [WPC website](#).

In 2016, we celebrate 100 years of America’s Best Idea, an idea that continues to spread to every corner of the earth to inspire a conservation ethic, protect our natural and cultural heritage, and enhance the resilience of our communities. Just as the global community benefits from this great idea, the ideas shared, relationships established, and momentum built at the WPC delegates come back to the NPS to help us better connect with the next generation of park supporters and inspire hope and action to envision their future under climate change.

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Climate Change Journeys

While the Climate Change Key Messages (pg 2) helped to develop well-coordinated and consistent messaging, the Stream planners still asked: How could we help our attendees recognize and navigate these major themes and take advantage of opportunities for learning and engagement? How can we capture the ideas of our attendees to bring them back to the NPS?

The Climate Change Journeys provided a structured pathway to help attendees become exposed to innovative ideas and learning opportunities, while providing a venue to share their passions and experiences.

These “Journeyers” attended all climate change sessions, synthesized outcomes and helped to identify overarching themes across the following 10 topics:

- Natural Solutions & Resilience
- Adaptation Tools & Strategies
- Transformative Adaptation
- Marine Ecosystems
- Fresh Water Systems
- Carbon Management
- Capacity Building
- Communication
- Living Communities & Cultural Heritage
- Climate through Deep Human Time

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US delegation to the 6th IUCN World Parks Congress was led by Secretary Sally Jewell and NPS Director Jon Jarvis.



Climate Change Response Program

National Resource Stewardship and Science

This quarterly newsletter celebrates the latest initiatives and accomplishments by National Park Service sites and programs in response to climate change.

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John Morris Selected as White House Champion of Change

The White House honors eight heroes who are *Champions of Change for Climate Education and Literacy*. The program celebrates Americans who are doing extraordinary work to enhance climate education and literacy in classrooms and communities across the country. John Morris, an Interpretive Program Manager for the National Park Service (NPS) in the Alaska Regional office, recently retired after 34 years of public service. Read more at whitehouse.gov.



Monthly Climate Change Webinar

Join CCRP for presentations by leading climate change scientists and communicators on the second Tuesday of every month from 2:00 to 3:30 pm EST.

April 9 | A Change in Management Approaches to Assist Iconic Species Adaptation to Climate Change: Albatross in Southern Australia featuring Alistair Hobday, CSIRO.

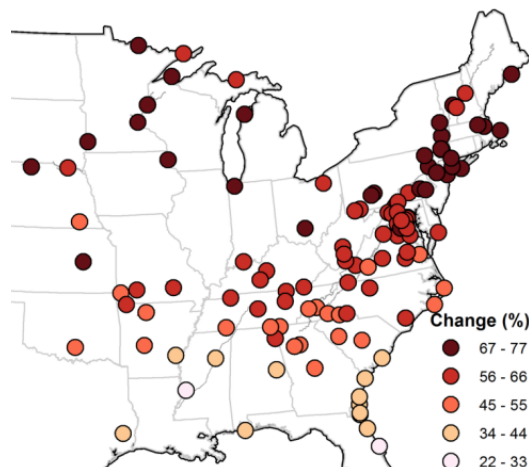
May 14 | Safe Words: Social Support, Hope, and Mental Processes for Communication Climate Change featuring John Fraser, New Knowledge Organization Ltd.

June 11 | The Latest Word from the Landscape Conservation Cooperatives: Taking Strategic Steps for National Science and Adaptation Planning featuring Elsa Haubold, National Landscape Conservation Cooperative Coordinator, USFWS.

Climate Change and Natural Hazards for Facilities Policy

Policy Memorandum 15-01 provides guidance on the design of facilities to incorporate impacts of climate change adaptation and natural hazards when making decisions in national parks. It is the third “policy pillar” of our servicewide climate change response. It joins Policy Memorandum 12-02, Applying NPS Management Policies in the Context of Climate Change and 14-02, Climate Change and Stewardship of Cultural Resources.

Briefs on Eastern Forest Change



Forest change across parks by 2100.

A recent collaboration between the NPS and USFS examines the climate change vulnerability of 134 tree species and presence of tree pests and nonnative plants across 121 parks. Parks can access the article, *Climate, trees, pests, and weeds: change and uncertainty in eastern US national park forests*, published last year in *Forest Ecology and Management*, as well as the overall project brief and the individual park-specific briefs for each park included in the study [here](#).

CCRP Welcomes Amanda Sweeney and Ryan Stubblebine



Amanda joins CCRP as the acting communication specialist through April 2015. She joins the program from Lassen Volcanic National Park where she leads the park’s climate change interpretation efforts. Contact Amanda at (970) 267-2136 or amanda_sweeney@nps.gov.

Ryan joined the CCRP team as an interpretive specialist in October 2014. Ryan worked most recently at Big Cypress National Preserve in south Florida, where he worked as an interpretive ranger. Ryan is working with parks, partners, and stakeholders to develop climate change communication products; he also serves as CCRP’s public affairs officer. Contact Ryan at (970) 225-3542 or ryan_stubblebine@nps.gov.