



Fire and Ice

Human-Powered Outdoor Recreation in a Changing Climate

As climbers, paddlers, skiers, hikers, mountain bikers and owners of outdoor companies, we know through personal experience the direct impact of weather, climate and healthy landscapes on our outdoor pursuits. We're in touch with the natural world like few others, and our adventures have shaped our lives and dreams. Many of us have seen firsthand the disturbing changes being wrought upon our favorite ice pitches, ski routes, rivers and trails by accelerating climate change. That's why we're coming together now to call for climate protection.

While recreation is vital to America's quality of life, this issue is about more than just protecting the ability to have fun outdoors. The active outdoor recreation industry is a vital contributor to the U.S. economy, employing 6.5 million people and contributing \$730 billion annually to the U.S. economy.¹ We consider ourselves the forward explorers in society's relationship with the natural world, and understand that the web of life that supports our outdoor activities also supports our very survival.

According to the United Nations' Intergovernmental Panel on Climate Change (IPCC), the climate is warming, and most of the warming is very likely the result of human activity.² Recent assessments have also found that the American West has heated up even more than the world as a whole. These warming temperatures have led to unprecedented changes across ecosystems.

As member-driven organizations, we respond to the global warming threat because our members demand it. As companies, we respond to the threat because it is in the vital interest of our customers. Likewise, we expect that elected officials put the needs of their country and constituents first and show leadership in resolving one of the defining challenges of our time.

One of the most dramatic examples of the emerging natural stress is the transformation occurring at Glacier National Park. U.S. Geological Survey scientists who study the park's glaciers recently noted that of the 150 glaciers identified in the park a century ago, only 25 remain. Each of those glaciers, scientists predict, will be completely extinct by 2020, prompting some to dub Glacier "the park formerly known as...."

It's not only the ice that is disappearing. Glaciers, like mountain snowpack, serve as natural reservoirs, and as they disappear, so does the water they store, already reducing many of Glacier's streams and waterfalls.³ Classic alpine climbing routes and ice pitches are being affected, as are paddling hotspots. The Middle Fork of the Flathead River, a renowned whitewater playground flowing out of the park, was reduced to a trickle for parts of the summers between 2002-2006, unable to support traditional levels of kayaking and rafting.

Interconnected Impacts on Outdoor Recreation

The changes created by warming temperatures have a domino effect on outdoor recreation opportunities. Declining snowpack shortens the season for backcountry skiing and snowshoeing, and in turn leads to reduced stream flow and lost opportunity for kayakers, canoeists and rafters. Widespread wildfires result in closures of climbing areas, river put-ins, and hiking and biking trails. More severe weather events that are a byproduct of a changing climate result in large-scale destruction of recreation trails, access points and facilities. Together, these changes wreak havoc on wildlife habitat and ecosystems important to the recreation community.

In turn, these restrictions reduce income to local economies, as outdoors enthusiasts and outfitters turn to other regions for their recreation and livelihood. For instance, lower flows to the Colorado River in 2002 resulted in the Colorado River Outfitters Association reporting a 40 percent decline in business in 2002 at a cost of \$50 million in lost revenues.⁴

The increased costs of fire suppression, storm mitigation and other climate related expenses are straining tight federal agency budgets and threatening funds earmarked for maintaining or improving recreation facilities. Federal firefighting costs tripled between 1999 and 2006, growing from \$1 billion to \$3 billion as agencies coped with record wildfires. Forest Service Chief Gail Kimbell testified at House hearing in December 2007 that she has already taken \$300 million in the agency's 2009 budget from other priorities for firefighting in 2008.⁵

Fire suppression is just one example of how inaction on climate change will continue to impact the U.S. economy. A recent Tufts University study calculated that the combination of storm damage, real estate losses, energy costs and water costs in the Western U.S. alone will total \$200 billion annually (in 2008 dollars) by 2025, just thirteen years from now.⁶ The good news is that we have the technology to reduce global warming pollution and turn the tide – if we act now.

Colorado River Basin: How Climate Change Is Impacting Outdoor Recreation

The Colorado River basin, a mecca for hikers, climbers, mountain bikers, paddlers and skiers, serves as both touchstone and crystal ball in illustrating the connections between global warming and outdoor recreation. A National Academy of Science report concludes that average temperatures in the Colorado River basin are now 2.2 degrees Fahrenheit warmer than the 20th century average and 2.9 degrees warmer than 100 years ago.

Less Snow

The Colorado River is fed primarily by snowmelt from the high mountains of Colorado, Utah and Wyoming, which are legendary for deep powder snow and unparalleled skiing and snowshoeing opportunities. Despite this year's banner snowpack levels, snowpack measurements in the upper Colorado River basin have been below historical averages for eight of the past 10 years.⁷

Less Water

Snow in this region is also melting earlier in the spring. Over the past 50 years, the average length of the snow season has decreased by 16 days and the peak runoff into streams has moved forward by 10 to 30 days, depending on elevation.⁸ As unwelcome as this news is to skiers, it may be even worse news for paddlers and other downstream water users. Warmer

temperatures, lower snowpack, earlier snowmelt and more winter precipitation falling as rain rather than snow mean more water lost to evaporation and ground saturation and less water in rivers and streams.

In the Colorado River, flows have been well below average for seven of the past eight years, dropping to just 25 percent of normal for the year 2002. Less snowmelt in the basin not only impacts the main Colorado and classic river runs like Cataract Canyon and the Grand Canyon, but also tributary rivers such as the Yampa, Gunnison and Dolores.

Forests at Risk

Mountain forests are particularly vulnerable to the impacts of climate change and “significant forest dieback” is likely during this century, according to the IPCC. Already, climate change has very likely increased the size and number of fires, insect outbreaks and overall tree die-offs in the forests of the West, Southwest and Alaska, according to a May 2008 U.S. Department of Agriculture report.⁹

Bark beetle infestations, spurred by warmer temperatures that enable the pests to thrive, are killing the Colorado River basin’s trees at an unprecedented rate, with more than 40 percent of all Colorado lodgepole pine forests infested in 2006 alone. Foresters predict that the mountain pine beetle epidemic will kill the majority of Colorado’s large-diameter lodgepole pines in the next three to five years.¹⁰

Nationwide Impacts

More Wildfires

Wildfires are proving to be one of the most dramatic of climate change’s impacts on human-powered outdoor recreation, extending far beyond the Colorado River Basin. In 2006, wildfires burned a record 9.8 million acres across the U.S. Both the frequency of large wildfires and fire season length have increased substantially after 1985, a trend that climate scientists say will continue as the earth warms due to earlier spring snowmelt and warmer spring and summer air temperatures.¹¹

With wildfires come closures – both temporary and permanent – of many human-powered recreation sites. In Idaho, wildfires closed access to the Middle Fork and Main Salmon Rivers for much of the summer in 2007. In addition to the cancellation of dozens of private river trips, the Idaho Outfitters and Guides Association reported that wildfires put 65 river outfitters and 50 hiking, fishing and horseback guides out of business for parts of that summer.

More Severe Weather Events

The complexity of climate change means that the same warming trend causing drought in one region may cause flooding and catastrophic weather events in another region. The IPCC confirms that extreme weather conditions, including more frequent and intense storms, hurricanes, and heat waves, are directly related to global warming, and will increase as temperatures continue to warm.¹²

Here, too, active outdoor recreation is hit hard by extreme storms that are consistent with climate change. In 2006, for example, severe winter storms in Western Washington dropped more than 18 inches of water in 36 hours and caused \$70 million in damage to trails, roads and recreation facilities in Mount Rainier National Park as well as the Mt. Baker-Snoqualmie and Gifford Pinchot National Forests. While some of the washed out trails have been

repaired, due in large part to volunteer efforts from the outdoor recreation community, many trails and recreation sites remain inaccessible due to storm damage.

Similarly, in the Southeast, Hurricanes Katrina and Wilma are typical of the severe weather events that scientists link to climate change. Much of the extensive damage to parks, trails and recreation facilities caused by those hurricanes has yet to be repaired. For example, in the area known as Flamingo – a gateway to Everglades National Park and a popular destination for paddlers, campers, anglers and birders – structures, trails and facilities were wiped out by wind and storm surges from the two hurricanes. The area has yet to be reopened.

Wildlife and Ecosystems Threatened

The destruction or shrinking of habitat caused by global warming requires wildlife to migrate or adapt, endangering the survival of many species. The IPCC has reported that plants and animals are being forced to change where they live to adjust to new climate conditions.¹³ For instance, in Yosemite National Park, 14 of 50 studied animal species have moved to higher elevations and are no longer found in the lower-elevation ranges they once occupied, according to a University of California Berkeley study.¹⁴ As wildlife disappears and landscapes are degraded, the experience of all who enjoy public lands is diminished.

Health Risks to Active Outdoor Recreation Participants

Another concern is that warmer summers produce more ozone pollution, increasing respiratory irritation and wheezing, coughing and asthma for those involved in active outdoor pursuits, according to the American Lung Association. Smoke from wildfires further threatens human health.

Doing Something About It

The impacts of global warming and predictions of even more pronounced changes to come are of grave concern to Americans who enjoy the outdoors. We recognize global warming as the most serious threat ever presented to our lifestyles and our values. Our response to this threat, however, is not one of hand-wringing or resignation, but of direct and meaningful action.

Ours is a community built on the collective ideals of action, innovation and overcoming physical and mental challenge. These are the very traits that drive us to climb the tallest mountains, run the most turbulent rivers, bike the most undulating single tracks, hike remote trails and ski the steepest chutes. Were it not for the constant innovation by our outdoor companies and equipment designers we'd still be climbing in wool knickers, skiing on wooden skis and running rivers in waterlogged boats.

By reducing waste, increasing energy efficiency, and pioneering new methods to use recycled materials in equipment, clothing and shoes, outdoor gear and clothing companies are at the leading edge of sustainable manufacturing and business practices. An industry Eco Working Group has formed under the auspices of the Outdoor Industry Association to develop evaluation tools, programs and education to improve the industry's environmental footprint and protect our natural resources. More than 90 company representatives recently met to develop a comprehensive sustainability index to measure a company's or a product's environmental impact based on factors such as design, materials, toxins, waste and packaging.

The outdoor industry is filled with inspiring examples of innovation and commitment in tackling the causes of global warming. These examples can be a lesson for other manufacturers as well. In 2004 Timberland initiated drastic energy-efficiency improvements that have already led to energy and emissions savings of more than 40 percent at primary facilities. The company's Ontario (California) Distribution Center features one of the world's 50 largest solar arrays, generating approximately 60 percent of the facility's energy needs. And that's only the beginning: Timberland has committed publicly to making all company-owned and operated facilities carbon neutral by 2010.

Patagonia, long a corporate leader in environmental sustainability, recently initiated an interactive program called the "Footprint Chronicles" that allows consumers to trace the impact of ten specific Patagonia products from design through delivery. The program offers quantifiable details on featured products including distance traveled from raw material through final product delivery, carbon dioxide emissions generated from design through manufacturing to distribution, waste generated through the entire process, and total energy consumption per product along with an assessment of how the process can be improved. Patagonia's Common Threads Garment Recycling Program collects worn out garments from customers and recycles the materials into new products.

Nike has reduced annual carbon dioxide emissions by 18 percent in the last decade, thanks to practices such as installing on-site wind turbines to power its two-million-square-foot European distribution center, creating alternative transportation programs for workers, and purchasing renewable energy. The company aims to make all Nike brand facilities and business travel carbon neutral by 2011. By eliminating use of the greenhouse gases sulfur hexafluoride and perfluoropropane in footwear production, Nike has reduced its total greenhouse gas footprint by 80 percent from a 1997 baseline.

In 2007, REI introduced its ecoSensitive label to help identify branded products made from a high percentage of recycled, rapidly renewable and/or organic fibers. The labels clearly communicate the pros and cons of fabric choices to customers. REI has committed to an absolute reduction in greenhouse gas emissions by one third from a 2006 baseline by 2009 and to being climate neutral by 2020.

Each of these companies, along with many other outdoor brands and supply chain partners, are collaborating in the industry-wide initiative mentioned above to establish clear and consistent information about eco-friendly and green products and to reduce the industry's carbon footprint. As an industry and as outdoor enthusiasts, we can and will do more to meet the challenges brought on by global warming. However, no matter how committed we are, our efforts make up just a fraction of the carbon reductions that are needed to prevent what scientists say are irreversible levels of global warming. More action – and leadership – from other industries and our elected officials is needed to preserve our future on this planet.

In this spirit, the members of the Outdoor Alliance and Outdoor Industry Association challenge policy makers and government leaders to be bold and innovative in confronting the causes and impacts of global warming. We support the following solutions:

- ***Pass comprehensive federal climate protection legislation to cap and reduce industrial greenhouse gas emissions.***

Congress must enact legislation to cap and reduce industrial greenhouse gas emissions. Furthermore, revenue generated through a cap and trade program must

be re-invested in ecosystem protection and restoration and in green spaces that promote healthy outdoor activities.

- ***Create federal, state and local programs to promote cleaner transportation options.***

Transportation is second only to electricity generation in emitting carbon dioxide, the primary pollutant driving global warming. The technology is already available to significantly increase fuel efficiency and reduce emissions. Higher fuel efficiency standards will significantly cut carbon dioxide pollution.

- ***Reengage in international cooperation on global warming.***

Climate change is a global problem and the U.S. government must reengage in an international process to reach global solutions.

- ***Pursue a renewable energy future and promote the economic vitality resulting from the development of sustainable technologies and practices.***

Significant decreases in greenhouse gas emission can be achieved through increasing energy efficiency and investing in cleaner, renewable energy sources such as wind, solar and geothermal. Programs to create green-collar jobs will stimulate the economy *and* help solve the global warming crisis as will tax incentives for energy-efficient building practices and appliances. We recognize that virtually all energy development – from coal to solar – has an ecological and recreational impact on the environment. Therefore, we support the responsible and regulated development of renewable energy resources in a manner that protects ecological and recreational values.

- ***Responsible public lands management that addresses the impacts of global warming and adequately funds conservation, stewardship and recreation programs.***

Our public lands, waters and ecosystems are already feeling the effects of global warming. Congress must ensure adequate funding to federal land and water agencies in order to maintain public lands infrastructure, mitigate damage caused by catastrophic weather events and rectify the backlog of maintenance caused by years of under-funding. Similarly, the U.S. government must maintain and enhance protections provided under laws such as the Clean Water Act and National Environmental Policy Act (NEPA) and incorporate global warming into long-term resource management and planning. This includes protecting large corridors between America's remaining wild lands so that wildlife and ecosystems can survive on a warming planet.

- ***Take personal action to (1) reduce individual carbon footprints, and (2) keep climate protection and the call for comprehensive solutions at the forefront of our nation's political agenda.***

There are many ways for each of us to reduce our own carbon footprint: from using compact fluorescent bulbs to buying local foods to reduce transportation and

packaging costs. We can also make a difference by using our own power to hike, bike, paddle, climb, ski and snowshoe whenever and wherever possible. However, it is equally important that the people and businesses of the human powered community do their part to help policy makers and elected officials maintain focus on the need to craft prompt and thoughtful solutions to our climate protection challenges.

With so much in the balance, we see no other route to success. We are all on this journey together.

About Outdoor Alliance

Outdoor Alliance is a coalition of six national, member-based organizations including Access Fund, American Canoe Association, American Hiking Society, American Whitewater, International Mountain Bicycling Association, and Winter Wildlands Alliance. OA represents the interests of the millions of Americans who hike, paddle, climb, mountain bike, ski and snowshoe on our nation's public lands, waters and snowscapes. Collectively, we have members in all fifty states and a network of almost 1,400 local clubs and advocacy groups across the nation.

About Outdoor Industry Association

Outdoor Industry Association (OIA) is the premier trade association for companies in the active outdoor recreation business. OIA provides trade services for over 4000 manufacturers, distributors, suppliers, sales representatives and retailers in the outdoor industry.

www.outdooralliance.net

www.outdoorindustry.org

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