



2010

GEOS  
INSTITUTE

ANNUAL REPORT

# STAFF, BOARD & FOUNDATION SUPPORTERS

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Brian Barr – *Aquatic Program Manager*  
Cindy Deacon Williams – *Senior Fellow*  
Dominick DellaSala, Ph.D. – *President & Chief Scientist*  
Tonya Graham – *Executive Director*  
Sunya Ince-Johannsen – *Program Intern*  
Alan Journet, Ph.D. – *ClimateWise® Project Manager*  
Marni Koopman, Ph.D. – *Climate Change Scientist*  
Jessica Leonard – *Geospatial Analyst*  
Rich Nauman – *Spatial Analysis Program Director*  
Julie Norman – *Program Coordinator*  
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Oregon Department of Fish & Wildlife  
Oregon Watershed Enhancement Board  
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## FROM THE EXECUTIVE DIRECTOR

By all accounts, 2010 was a year of incredible change for the Geos Institute. We changed our name, launched a new website, published our first book, and ushered in a new organizational era.

We emerged with a five syllable name and a clear vision of how we will do our part to create the future we wish to leave for our children.

At the Geos Institute, we use science to help people predict, reduce, and prepare for climate change.

While certainly an “environmental” issue, climate change threatens economic, social, and cultural systems worldwide. Every person has something they love that is threatened by climate change, as we are all dependent on the planet’s life support systems. Every person has motivation for becoming part of the solution. Climate change is both the greatest challenge humanity has ever faced and humanity’s greatest opportunity to choose its future.

We are coming to the proverbial fork in the road. There isn’t much time. Here at the Geos Institute, we are leaning into the curve with the full weight of our staff, board, and partners, pushing toward a future where people address climate change by living in harmony with the natural world.

Thank you for partnering with us. I hope you enjoy reading about what we have accomplished together in 2010.



**Tonya Graham**  
*Executive Director*

## FROM THE CHIEF SCIENTIST

2010 was a good year for restoring scientific integrity to decision making.

In recovering from the Bush administration’s efforts to suppress scientific research, the Obama administration has, in principle, embraced science through several initiatives. For example, the Department of Interior created several Landscape Conservation Cooperatives, large regions where multi-sector partnerships are underway to prepare for climate change. Climate change programs are getting more attention, but they face an uphill battle for funding from Congress.

The Geos Institute continues to be a national leader in bringing science to decision makers regardless of which party is in office. In 2010 we published in peer-reviewed scientific journals on topics ranging from fire ecology to roadless areas and water quality. Our scientists were part of a diverse group that published a paper in *Bioscience* on America’s top 40 science and policy research questions.

2010 marked the completion of the first global assessment of the world’s temperate and boreal rainforests, published by Island Press. *Temperate and Boreal Rainforests of the World* was assembled by 30 scientists from around the globe and is being used to help bring international attention to the plight of these forgotten rainforests in 2011 during the United Nations’ International Year of Forests.

With your support, we will build on this effort in 2011 as we launch new initiatives in forest conservation, clean water, and community planning for climate change.



**Dominick DellaSala**  
*Chief Scientist*

# GEOS INSTITUTE PROGRAMS AND VISION

## OUR WORK: USING SCIENCE TO HELP PEOPLE PREDICT, REDUCE, AND PREPARE FOR CLIMATE CHANGE

The Geos Institute's programs reflect the need to build resilience in natural systems to help us survive climate change, reduce the amount of greenhouse gases in the atmosphere, and prepare human communities so that they can address climate impacts as they unfold in thoughtful, ecologically responsible ways.

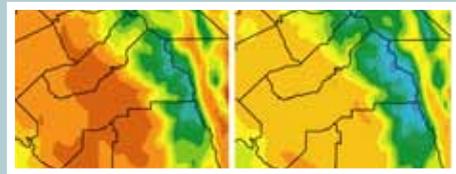
Our **Preparing Nature** program focuses on ensuring that our nation's old forests not only continue to sequester and store as much carbon as they currently do, but that we increase that capacity over time. We need to be smart about how we manage our lands now, while designing a future that reverses the trend of forest degradation and protects our old forests for carbon storage, fish and wildlife habitat, and clean water.

The temperate rainforests found in the Pacific Northwest and Alaska are a particular focus of our work, as they are the global champions in taking up and storing carbon in their long-lived trees. We advocate for policy developments at the regional and national level that will direct forest management toward restoration, carbon storage, and long-term protection of biodiversity.

Our **Preparing People** program focuses on helping communities around the country grapple with the likely impacts of climate change and implement positive actions to strengthen the ecological fabric upon which we all depend.

Intact forests and river systems provide clean water and clean air, while helping reduce floods and drought, all of which will become increasingly important in the coming decades.

Our Climatewise® project teams provide communities with local projections of climate change impacts and facilitate community planning workshops, as well as advocate for government support of community-based climate change planning. We also develop model river restoration projects to serve as examples of how communities can reduce their climate change risk through restoration.



Using data from the international climate change models, ClimateWise® helps communities understand the likely local impacts of climate change.

# 2010 IN REVIEW: PREPARING NATURE

**Our National Forests and Grasslands cover over 190 million acres in 42 states and Puerto Rico. These magnificent publicly owned areas include some of the most ecologically valuable lands and waters in the nation. They support diverse ecosystems and an incredible array of fish, wildlife and plants, and offer world-class recreation opportunities for millions of Americans.**

Importantly, these lands provide essential ecosystems services, such as filtering water supplies for communities and wildlife, cleansing the air we breathe, and absorbing and storing vast amounts of carbon dioxide, thereby playing an important role in helping to stabilize the climate.

This past year our work focused on protecting and restoring federal forests so that they can continue to provide these life-supporting services. Specifically, we have been working to help forests and wildlife adapt to climate change as well as working to ensure that federal forests continue to mitigate the impacts of climate change.

## PROTECTING GLOBALLY SIGNIFICANT CARBON STORES IN THE PACIFIC NORTHWEST



*Kevin Schafer*

Federal forests in the Pacific Northwest and Southeast Alaska are among the Earth's greatest carbon storing ecosystems. These old growth and mature forests store as much or more carbon per acre than the average tropical rainforest. Yet, well over 1 million acres of these valuable older forests are not formally protected. The Geos Institute has been working to safeguard current and enhance future biological carbon stores - essentially our nation's "carbon trust."

Protecting these older forests will facilitate a shift away from federal subsidies for logging carbon-rich, older forests to federal investments in needed watershed and forest restoration. Focusing on watershed and forest restoration

will not only help natural systems adapt to climate change, it will also form the foundation for a robust restoration economy, providing a variety of high quality jobs for local communities. Importantly, federal investment in watershed restoration is one of the most direct means of safeguarding clean water for people and wildlife on our national forests.

The first step in transitioning to a restoration economy involves conserving existing intact forests. In the Pacific Northwest, we do that by working to ensure that the agencies responsible for managing our public lands are using the best available conservation science in their planning and implementation of land management programs.

The Northwest Forest Plan is the primary vehicle by which we balance the needs of wildlife with the needs of people. That plan requires the agencies to manage our forests in ways that protect the northern spotted owl and other species dependent upon intact, old-growth forests. The much maligned owl is often seen as the “problem” in this public debate, but we see it as an indicator species that tells us how well we are doing in managing our forests for the needs of wildlife.

In 2010, we continued to focus our efforts on ensuring that the spotted owl recovery planning process is honest, fair and based on the best science because we understand that as goes the owl, so goes the forest. We expect a final Spotted Owl Recovery Plan and habitat designation to be released in 2011 and will continue to work for a strong plan that adequately provides for wildlife in our remaining old-growth forests.

The Geos Institute was one of seven organizations working with seven representatives of the Oregon timber industry to craft historic legislation to protect and restore federal forests in eastern Oregon. The *Oregon Eastside Restoration, Old Growth Protection and Jobs Act*, introduced by Senator Ron Wyden, will protect old growth forests on 8.3 million acres and refocus national forest management in eastern Oregon on science-based restoration.

On the Westside of the Cascade Range, the Geos Institute is working to block efforts by the timber industry and the Bureau of Land Management to undercut protections for 2.6 million acres of old forests, clean water and fish in southern Oregon. The Geos Institute is bringing science to bear on the issue by promoting a restoration plan that will shift management away from logging older forests to focus on ecologically appropriate restoration that can also provide local jobs.



## PROTECTING CLEAN WATER, WILDLIFE AND ECOSYSTEM SERVICES

According to U.S. Forest Service data, our national forests provide clean drinking water for roughly 124 million Americans and valuable habitat for more than 15,000 species of plants and animals, including those that are threatened or endangered. The Obama administration has issued a draft rule for managing the National Forest System that will determine the future of our national forests for generations to come.

The national forest planning rule is one of the most important conservation policy measures this administration will undertake - so it is very important that they get it right. Because of the importance of this issue, we have focused our Washington D.C. government affairs staff on this issue for the past year.

While the proposed planning rule sets a solid vision for protecting and restoring national forests, especially water and watersheds, the rule lacks measurable standards and adequate monitoring capabilities to ensure that the goals are achieved.

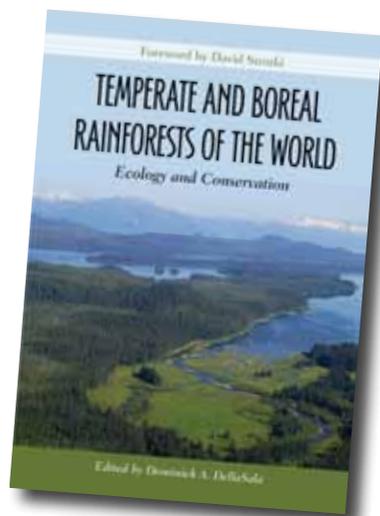
In 2010, Geos Institute staff attended round tables in Washington D.C., met with Forest Service officials, wrote extensive comments and published guest opinion columns in *The Oregonian*, *Medford Mail Tribune* and the *Denver Post*. Dominick DellaSala and Geos Institute Science Advisory Board Members Dr. Jim Karr and Dr. Barry Noon prepared official comments on the rule with suggestions for improvement that are being signed on to by hundreds of scientists from around the country. We are hopeful that these efforts will result in a stronger final rule, which will be released in 2011.

## PROTECTING TEMPERATE RAINFORESTS AND GLOBAL CARBON STORES

Designed to call attention to the importance of temperate and boreal forests worldwide and the threats they face, Dominick DellaSala, Chief Scientist of the Geos Institute, authored a new book *Temperate and Boreal Rainforests of the World: Ecology and Conservation*. This book includes an urgent call to governments and citizens to protect all of the world's temperate and boreal rainforests, some of which have only recently been recognized.

*“Temperate and Boreal Rainforests of the World is a groundbreaking book, the first comprehensive treatise with contributions from over thirty of the world’s top scientists. It is a well organized, clearly written account of these unique, rapidly disappearing forests and an inspiring global call to action to protect these forests before they disappear.”*

— Michael P. Dombeck, University of Wisconsin System Fellow and Professor of Global Conservation, and Chief Emeritus, U.S. Forest Service



Climate change, logging, road building, construction of dams, mining, livestock grazing, biomass utilization, and the spread of exotic invasive species threaten all rainforests. These threats also endanger many of the world's temperate and boreal rainforests. While overshadowed by tropical rainforests, whose deforestation is a focus of international climate talks, these “forgotten forests” store the carbon equivalent of all fossil fuels burned in the United States in a single year, but the vast majority of them are not protected. To bring attention to the plight of these forests, the Geos Institute published this book with Island Press and began promoting it with book tours in the U.S. and Canada in 2010.

# 2010 IN REVIEW: PREPARING PEOPLE

## PREPARING PEOPLE WITH CLIMATEWISE®

Our ClimateWise® program helps communities analyze and plan for anticipated threats from climate change, working across sectors to develop collaborative solutions. In 2010, the Geos Institute continued to test, revise, and expand our ClimateWise® services with active projects in California, Oregon, and Montana.

These planning processes are convened at the community level (county or watershed) and driven by a taskforce of local leaders, stake-holders, and experts from various sectors. Teams of ClimateWise® facilitators from the Geos Institute provide the latest science and projections on climate change and coordinate the community workshops, report writing, and public outreach.

Working together with the larger community, the taskforce members use their common understanding of the science and projected risks to develop strategies for reducing the vulnerability of their community to likely impacts.



## CLIMATEWISE® PROJECTS COMPLETED IN 2010

### *San Luis Obispo County, CA*

Local leaders and experts from San Luis Obispo County in California studied projections of sea level rise and climatic trends to identify likely impacts to coastal infrastructure, agriculture, and intertidal ecosystems. Other concerns included declining groundwater, heat-related impacts to agricultural workers, loss of tourism, loss of fisheries, increased flooding and impacts to wine grape crops.

The ClimateWise® participants developed strategies to address these risks, including agricultural incentives to conserve water and crop diversification. Other strategies included restoration of floodplains, wetlands, and riparian areas to reduce flooding; monitoring of ground water uses to identify conservation opportunities; and the siting of solar energy arrays to retain wildlife habitat and corridors. The most important strategy for reducing the community's vulnerability to climate change was, not surprisingly, to reduce greenhouse gas emissions and the overall magnitude of climate change.

The San Luis Obispo County Supervisors voted to incorporate these strategies into the county's Climate Action Plan. They won an award from the State of California to help fund implementation of that plan and serve as an example for other counties to follow.



*Jim Zimmerlin*

## *Fresno County, CA*

Fresno County already experiences many severe problems that are likely to worsen with climate change. These include water supply shortages, severe heat days, air pollution, and related impacts to human health (asthma, allergies, etc.). One of the greatest concerns is higher nighttime temperatures that reduce the “chill hours” needed for crops like almonds, peaches, and nectarines.

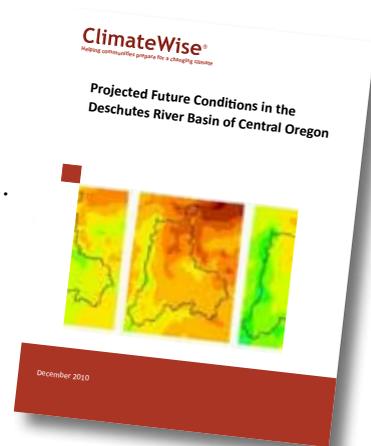
Projected declines in agricultural production would have economic repercussions affecting processing, packaging, and transportation. And the potential loss of the giant Sequoia could lead to a loss in tourism revenues.

Participants developed a suite of recommendations for reducing their vulnerability to climate change. One especially notable recommendation was to restore lakebeds that have been dry for 100+ years, due to water diversion. These lakebeds could hold spring runoff and release it throughout the late summer dry period. Wildlife communities and agriculture would both benefit from such an approach.

## **CLIMATEWISE<sup>®</sup> PROJECTS UNDERWAY**

### *Deschutes Basin, OR*

The Deschutes Basin ClimateWise<sup>®</sup> project, in Deschutes, Jefferson, and Lincoln Counties, was initiated in 2010 and is expected to reach completion in June 2011. A day-long workshop was held at the Powell Butte Community Center set amidst farmlands and looking out over the Cascade mountain range. This project, in particular, is a great example of local people with different perspectives sitting down together to assess their risk and determine how best to protect their quality of life, which includes abundant fish and wildlife. Local leaders on the steering committee also serve on the Deschutes County Comprehensive Plan Committee, so we expect that relevant ClimateWise<sup>®</sup> recommendations will be incorporated into that planning effort.



### *Missoula County, MT*

Our first project in Montana began in 2010 in partnership with Headwaters Economics and the Clark Fork Coalition, organizations with strong ties in Missoula County. A very diverse and enthusiastic steering committee, including elected officials, agency experts, and business owners, is driving the process. Community workshops are planned for the summer of 2011.

### *Rogue Valley Phase II, OR*

Our first climate change planning project was completed in the Rogue Valley in 2008. It produced multiple strategies for helping Jackson and Josephine Counties prepare for climate change. In 2010 a follow-up “Phase II” project was initiated in collaboration with the Rogue Valley Council of Governments. Its purpose is to develop a Phase II ClimateWise<sup>®</sup> process focused on reducing greenhouse gas emissions in the valley. As part of this effort, the project will integrate the preparation recommendations from Phase I to ensure that preparation and emissions reduction efforts are complementary.

# 2010 IN REVIEW: FREEWAYS FOR FISH

**GOLD RAY DAM IS GONE!** Following a flurry of restoration projects over the past three years, Jackson County removed the Gold Ray Dam, the most harmful remaining hindrance to fish passage on the internationally famous Rogue River. Now Chinook salmon, coho salmon, and steelhead can swim upstream from the Pacific Ocean for nearly 200 miles without having to jump over a dam or swim through a fish ladder.

Geos Institute scientists worked with Jackson County throughout the process of removing this unused, 35-foot high dam. We helped design the studies, responded to questions about the importance of restoring a free-flowing river through this area, and assisted Jackson County in completing this long-awaited de-construction job.

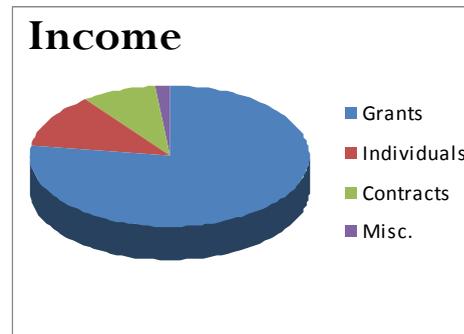
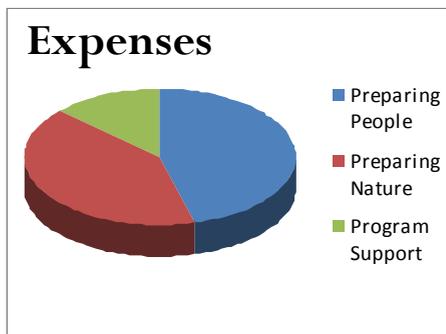
While removing Gold Ray Dam was a boon to migrating adult and juvenile fish, it also transformed two miles of “reservoir” into a flowing river. This restored high-quality reaches for spawning Chinook salmon, which we observed first-hand during a “victory” float trip in November. Lowered summer water temperatures and movement of gravels, cobbles, and boulders are additional benefits of the restored river current.

The goal of our Freeways for Fish program is to restore unhindered fish passage to 1,200 miles of stream in the Rogue River Basin. With the removal of Gold Ray Dam, our program has restored fish passage to 1,087 miles.



# ANNUAL FINANCIAL REPORT

<b>Statement of Activity for year ended December 31, 2010</b>	
<i>These financial figures are derived from audited financial statements. All figures are prepared using the accrual basis of accounting.</i>	
<b>Support &amp; Revenue</b>	
Grants & Donations	
Grants	\$764,135
Donations	\$122,412
<b>Revenue</b>	
Contracts	\$84,130
Center Rental & Subleases	\$10,453
Miscellaneous Income	\$5,979
<b>Total Support &amp; Revenue</b>	<b>\$987,109</b>
<b>Expenditures</b>	
Direct Program Services	\$906,730
Programmatic Support Services	\$71,945
Organization Resource Development	\$68,572
<b>Total Expenditures</b>	<b>\$1,047,248</b>
Net Assets, Beginning of Year	\$740,515
Net Assets, End of Year	\$680,377





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