

Welcome to the **FEBRUARY** edition of the WDFW Climate News Digest. Here you will find highlights of climate change news, events and resources for WDFW staff. Feedback or suggestions for items to include in future editions are much appreciated – thanks to those who have sent links and references and please keep them coming. We are particularly interested in projects or issues you may be involved in which have a climate change component. Many thanks!

WHAT'S HAPPENING AT WDFW?

Selected projects, agency resources and initiatives

Bill Geer, Climate Change Initiative Manager with the Theodore Roosevelt Conservation Partnership, recently presented a new DVD about climate change to the WDFW Game Management Advisory Committee. The DVD, produced with support from the Doris Duke Foundation, describes the impacts of climate change on Washington's fish and wildlife from a sportsman's perspective. Several staff from WDFW advised and contributed to the content of the DVD. Bill is now working to schedule presentations at sportsmen's clubs across the state over the next months. The DVD provides an overview of projected climate impacts and how they might affect fishing and hunting opportunities in Washington. It also highlights how conservation and restoration projects can help to build resilience in some of our most critical ecological systems. The DVD will be posted on the TRCP website soon, but in the meantime contact Lynn if you would like to borrow a copy. More information about TRCP work in climate change is available at their website: <http://www.trcp.org/issues/climate-change>

UPCOMING EVENTS

Tuesday, February 28, 10-11am

WEBINAR: The National Climate Assessment: Presentation on the Northwest Chapter and the Tribal Chapter, hosted by C3, a group of Northwest federal agencies which coordinate on climate change activities. National climate assessments, required by the U.S. Congress to be produced every four years, act as status reports about climate change science and impacts in the United States. The Administration is seeking to issue the next assessment (NCA) in 2013. The NCA aims to incorporate advances in the understanding of climate science into larger social, ecological, and policy systems, and with this provide integrated analyses of impacts and vulnerability. It will also serve to integrate scientific information from multiple sources and highlight key findings and significant gaps in our knowledge. In addition to chapters covering a range of topics at the national level, the 2013 NCA will include eight regional chapters. The Northwest chapter covers Washington, Oregon, and Idaho.

Conference Call dial-in number: 877-952-8012 Passcode: 520083#

Webex --

<https://mmancusa.webex.com/mmancusa/j.php?ED=177616162&UID=494717212&PW=NNzYzNmWZDkz&RT=MiMO>

Enter the required fields (if any) No passcode is needed. WebEx may prompt you to enter or select a phone number to receive a call back. Select "close" since you should already be connected via the conference line information, above.

Mapping Climate Refugia

March 8th -- 1:00-4:00 pm, Room 172 in the Natural Resources Building in Olympia.

This half day workshops includes a mini-primer on climate adaptation strategies for natural resources, and highlights two projects which tackle the challenge of identifying areas in Washington which may be able to provide refugia for species under stress from changing climatic conditions. Meade Krosby, post

doc with the UW, will be joining us to introduce the “Climate-gradient Corridors Analysis”, a recent project of the Washington Habitat Connectivity Working Group.

Eric Mielbrecht and Jessi Kershner, of EcoAdapt, will present a short, mini primer on climate adaptation strategies for natural resource conservation and present the climate informed conservation blueprint for western Washington for discussion, as well as introducing a new project to develop climate-informed adaptation opportunities for Puget Sound freshwater and coastal marine systems.

NEWS AND RESOURCES

North Cascadia Adaptation Partnership

The North Cascadia Adaptation Partnership (NCAP) is a Forest Service – National Park Service collaboration on climate change adaptation. NCAP addresses adaptation at a large scale – the region that includes Mt. Baker-Snoqualmie National Forest, Okanogan-Wenatchee National Forest, North Cascades National Park Complex, and Mount Rainier National Park – a land area of 6 million acres. NCAP is the third Forest Service – National Park Service partnership on climate change adaptation in the country. Two previous case studies – Olympic NF/Olympic NP (Washington) and Inyo NF/Devils Postpile NM (California) – serve as successful examples of the benefits of this type of cross-boundary partnership. NCAP takes on the challenge of applying this approach to a larger landscape that is more geographically, ecologically, and institutionally complex than its predecessors. NCAP is also a science-management partnership. The USFS Pacific Northwest Research Station is leading the effort and the Climate Impacts <http://northcascadia.org/>

CLIMATE SCIENCE

Climate Change can alter community structure in intertidal habitats

A study by University of B.C. zoologist Chris Harley shows that intertidal habitats in the Strait of Juan de Fuca that once teemed with mussels, barnacles and hundreds of other species have shrunk by as much as 51 per cent due to rising water temperatures. Harley used experiments and spatial and temporal comparisons to demonstrate that warming substantially reduces predator-free space on rocky shores. The vertical extent of mussel beds decreased by 51% in 52 years, and reproductive populations of mussels disappeared at several sites. Prey species were able to occupy a hot, extralimital site if predation pressure was experimentally reduced, and local species richness more than doubled as a result. These results suggest that anthropogenic climate change can alter interspecific interactions and produce unexpected changes in species distributions, community structure, and diversity. PDF of article attached.

NASA study explores how plant life will shift as the Earth’s climate changes

By 2100, global climate change will modify plant communities covering almost half of Earth's land surface and will drive the conversion of nearly 40 percent of land-based ecosystems from one major ecological community type - such as forest, grassland or tundra - toward another, according to a new NASA and university computer modeling study. Researchers from NASA's Jet Propulsion Laboratory and the California Institute of Technology in Pasadena, Calif., investigated how Earth's plant life is likely to react over the next three centuries as Earth's climate changes in response to rising levels of human-produced greenhouse gases. **Study results are published in the journal Climatic Change.** The model projections paint a portrait of

increasing ecological change and stress in Earth's biosphere, with many plant and animal species facing increasing competition for survival, as well as significant species turnover, as some species invade areas occupied by other species. Most of Earth's land that is not covered by ice or desert is projected to undergo at least a 30 percent change in plant cover - changes that will require humans and animals to adapt and often relocate. In addition to altering plant communities, the study predicts climate change will disrupt the ecological balance between interdependent and often endangered plant and animal species, reduce biodiversity and adversely affect Earth's water, energy, carbon and other element cycles.

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