

## Climate Change - Its impact on People, Polar Bears, Butterflies

*by Bend Weekly News Sources*

Zoo's conservation lecture series reveals how global warming is harming the world's wildlife

Some say global warming isn't an issue, but in the past 50 years, average temperatures in Alaska, western Canada and eastern Russia have climbed by as much as 4 to 7 degrees Fahrenheit (3 to 4 degrees Celsius). Worldwide, temperatures have risen by about 1 degree (0.6 C) in the past 100 years. The changing climate is affecting animals as large as polar bears and as small as butterflies - and rising ocean levels threaten coastal populations. Scientists will discuss climate change at the Oregon Zoo as part of the Wildlife Conservation Lecture Series, sponsored by Pro Photo Supply, Shiels Oblatz Johnsen and New Belgium Brewing.

"This series helps bring attention to this critical global issue," said Tony Vecchio, zoo director. "The biggest threat wildlife faces is the world's dramatic warming. We're already seeing it with polar bear deaths due to the melting sea ice in the arctic. Without sea ice, the bears just can't survive. Each one of these lecturers will give us a glimpse of what our future may be like if we don't act to curtail greenhouse gases."

On Jan. 30, Peter U. Clark, from Oregon State's department of geosciences, lectures on the causes and effects of global warming. Climate models suggest that warming over the past few decades can only be explained by the known increase in greenhouse gas concentrations. Global warming will impact glaciers and ice sheets, global sea level, species distribution and extinctions, and the frequency and intensity of droughts, heat waves and possibly hurricanes.

On Feb. 27, Steven C. Amstrup, research wildlife biologist with the Alaska Science Center, discusses polar bears in decline due to dramatic climate change. Though their diet consists almost exclusively of seals, polar bears are not aquatic; their only access to seals is from the surface of the sea ice. Over the past 25 years, the summer sea-ice melt period has lengthened, and the summer sea-ice cover has declined by more than a half million square miles. Because of their dependence upon the sea ice, these changes directly affect whether

Arctic polar bears will live or die. Ongoing studies are aimed at understanding polar bears' movement patterns in response to changing ice conditions.

On March 27, Jessica J. Hellmann, assistant professor of biological sciences at Notre Dame, addresses the impact of global warming on insects, which are extremely useful for investigating the responses of biodiversity to climate change. Hellmann discusses her current studies of butterflies on the West Coast. Findings so far show that species respond differently to climate change based on their ecology, evolutionary history and characteristics. Hellmann poses the question, "Should we be optimistic or pessimistic about the future of species with which we share our planet?"

"The motivation for this series is the hope that community knowledge will be raised in the areas of wildlife conservation, environmental problems and ecological systems.

Pro Photo Supply, Shiels Obletz Johnsen and New Belgium Brewing present the series, which is hosted by the Audubon Society of Portland, the Oregon Zoo and the World Forestry Center. Lectures are held in the Oregon Zoo's Banquet Center and begin at 7 p.m. The cost for each lecture is \$10 for nonmembers and \$8 for members of host organizations, students or seniors.

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