

Southern Oregon Climate Action Now

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Confronting Climate Change

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Co-Chair Taylor, Co-Chair Reardon and members of the Joint Committee on Ways and means Natural Resources sub-committee:

I write on behalf of the 1500 concerned Southern Oregon residents who are Southern Oregon Climate Action Now who are hoping to see passage of HB2020 to establish the Oregon Climate Action Program as the leading greenhouse gas emissions reduction program in the country.

My personal and professional concern about the climate change consequences of global warming caused by our emissions of greenhouse gases extends back to the period when I was teaching ecology at Southeast Missouri State University.

Nearly three decades ago, I was teaching a segment in the course on community ecology which was designed to explore the characteristics of natural systems (forests, grasslands deserts, tundra etc) and explain what environmental factors determines their distribution around the planet. During this discussion, I routinely employed a chart developed by Robert H. Whittaker that identified how the two variable of mean average temperature and mean average precipitation are the dominant factors determining the distribution on the planet of natural systems, and the biodiversity they support.

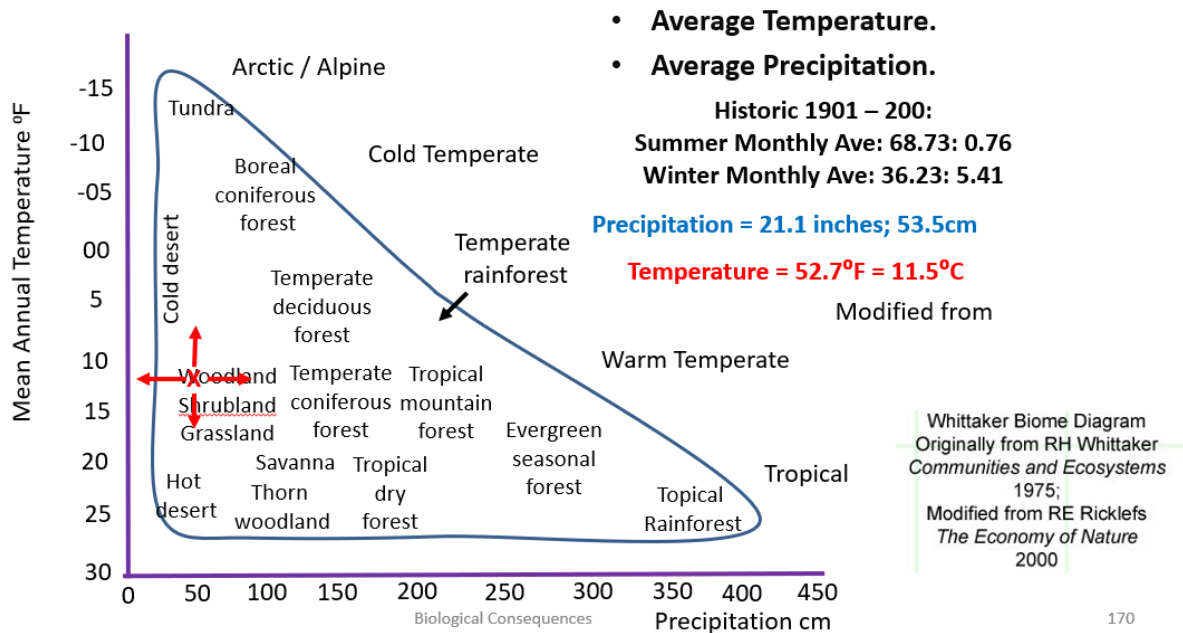
The version I currently use in courses and presentations is presented as Figure 1. This illustrates how the climatic range appropriate for each of the various natural systems (or biomes) around the planet is relatively narrow. The message is that relatively small shifts in climate can alter conditions in any location such that the natural system currently occupying a portion of the landscape is no longer able to survive. The result will be local extirpation of the species comprising that natural system.

While it may seem reasonable to argue that natural systems can and will simply exhibit range (distribution) adjustment to follow the climate shift, this almost certainly will only rarely occur. This is for two reasons (1) the ability of natural systems to shift distribution is limited to the mobility of the species (or their seeds), which is generally not great, and (2) because of human land use (farms, forests etc.) and human infrastructure (cities, roads etc.) we provide huge barriers to range shifts. Thus, natural systems likely will be unable to shift as rapidly as the climate is shifting due to our activity in emitting greenhouse gases. This, incidentally, is one of the major factors driving the current (6th) extinction.

In the chart, the red X represents the climatic conditions of the Rogue Valley - which naturally supports oak/pine woodland, shrubland, and grassland. If temperatures rise, the climate would shift to one appropriate for a hot desert whereas an increase in precipitation would would lead to a climate that

What Determines Biome Location?

Whittaker's Biome Chart



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typical of temperature coniferous forest. What I realized as I was teaching this material, and also hearing about global warming due to greenhouse gas emissions, was that our global natural biodiversity would be tremendously threatened by the process if it occurred as projected since a shift of just a few degrees will render a location inhospitable to the species currently occupying it. Furthermore, I realized that those natural systems existing geographically at the edge of their climatic range would be the most compromised.

Simultaneously with this realization came the recognition that the same variables control our agriculture, forestry, and fisheries. This means that even those who care little about biodiversity but value food and housing, should be concerned about the climatic trends.

This realization led me to spend considerable time exploring basic climate science to determine if the projections were credible. Once I had undertaken this exploration, and accepted the science as entirely credible, I also committed to investing time in helping others understand the science so that we, collectively, could take action to address it.

The data tell us clearly and incontrovertibly that global warming is happening and that it is caused by human activity resulting in the emissions of greenhouse gases. It is well understood that absent human activity, the natural forces at play influencing global temperature would be taking our planet back into an Ice Age. This means that human activity is responsible for over 100% of the warming we have been experiencing; absent our action, the planet would be cooling, so we have not only caused the warming, on top of that we have countered the cooling.

The most recent assessment of our current plight released in 2018 by the Intergovernmental Panel on Climate Change indicates that we cannot afford to allow warming to reach the 2.0°C above pre-industrial levels that the Paris Agreement identified. Rather, assessment of the risks posed to all aspects

of planetary life support upon which we depend indicate that we must limit warming to 1.5°C above pre-industrial temperatures. In terms of greenhouse gas emissions, this means we need to achieve 45% below 2010 emissions by 2030, and net zero emissions by 2050. Fortunately, we have the technology and capacity to achieve those targets. All we need is the collective and political will to make it happen.

While it is certainly the case that Oregon's In-boundary greenhouse gas emissions represent a small percentage of the total contribution of the United States, and a yet smaller proportion of the total global contribution, we have to make the critical moral decision as to whether we wish to continue as part of the problem or become leaders in solving the problem. Unless we establish a downward trajectory for our greenhouse gas emissions, we have no credibility or moral authority to ask other states and nations to reduce theirs. And we know that protecting Oregon from the ravages of global warming will require a global effort.

In House Bill 2020, Oregon has a proposal that has been produced with input from a wide range of sectors of the statewide community. With engagement from a statewide coalition of environmental and climate conscious activists, labor, social justice and equity groups, business and industry, and the general public through statewide Hearings, a proposal has been developed that not only established a meaningful trajectory for greenhouse gas emissions reductions, but also addresses the needs of emissions intensive - trade exposed industries, and utilities and the public in terms of protection against rate increases. In addition, the involvement of labor and social justice representatives has assured that the proposal provides mechanisms not only for addressing long-standing environmental injustice, but also for assisting disadvantaged Oregon communities to achieve better lives.

While there is no doubt that some sectors of society will find aspects of the proposal uncomfortable, the economic analysis of HB2020 undertaken early in its existence reveals that the Oregon Climate Action Program has the potential to encourage a greater economic growth in Oregon than would it absence, while simultaneously generating tens of thousands of good-paying jobs and billions of dollars in health care cost savings for Oregonians.

We need to place Oregon on a reasonable greenhouse gas emission trajectory as soon as possible in order to protect ourselves against a necessary steeper trajectory later since we can be confident that a steeper trajectory would pose greater economic risks.

I encourage the sub-committee on Natural Resources of the Joint Committee on Ways and Means to support HB2020 with a favorable recommendation, to encourage the same outcome from the full committee and then from the House and Senate.