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BOB DOPPELT: Envision climate change as part of Eugene's planning effort

(<http://www.registerguard.com/csp/cms/sites/web/opinion/24803315-47/future-eugene-growth-development-envision.csp>)

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My favorite philosopher, Yogi Berra, once said, "The future ain't what it used to be." He must have been thinking about global warming.

The heating of the Earth's lands and oceans is fundamentally changing the conditions that shape future growth and quality of life. Planning processes aimed at guiding future development must adjust to this new reality.

A case in point is Envision Eugene. The questions it currently asks are too limited to produce credible results.

Envision Eugene is part of a process mandated by the state aimed at determining where the city's urban growth boundary should be set to accommodate future population growth. According to law, the UGB must include enough land to meet the city's expected needs for the next 20 years.

The first step involves estimating future population growth and preparing an inventory of the land needed to house that growth.

These forecasts are made by projecting historic growth patterns into the future. This process concluded that 35,000 more people would reside here in 20 years.

The next step involves soliciting the views of local residents about how the city should accommodate the projected growth and still maintain community vitality. This is what Envision Eugene is about.

But misguided conclusions are certain if citizens are asked to debate how the city should grow without first understanding environmental factors that will profoundly affect future conditions.

Rather than asking how to accommodate more people, the first question that should be asked is, "How will our community look and function in 20 years under global warming?"

The results of this inquiry should form the basis of future land use and development

decisions.

Last year my program at the University of Oregon, with the help of the U.S. Forest Service Research Station and others, analyzed the likely effects of global warming for the upper Willamette basin, including Eugene.

We found that if global emissions of greenhouse gases continue as they have in the past (only the recession has constrained them) annual average local temperatures are likely to increase from 2 to 4 degrees Fahrenheit by 2040.

Summers will on average be hotter by as much as 4 to 6 degrees. Winters by 2040 will likely warm by 1 to 2 degrees.

Although total precipitation might not change, more is expected to arrive in mid-winter and less during spring, summer and fall. Longer periods of drought are also likely.

Warmer temperatures will turn precipitation that formerly fell as snow into rain, reducing average snowpack by as much as 60 percent by 2040. In addition, rising temperatures will produce earlier snowmelt, drying out soils and diminishing summer and fall streamflows.

These shifts, combined with warming oceans, indicate that the future will include extreme storm events, including flooding in local rivers.

Fish, wildlife and plants are likely to be stressed by the speed of these changes. Wildfire is anticipated to be a major agent of change.

It's important to note that even if global greenhouse gas emissions are reduced, most of the effects described in the report are still likely to unfold by midcentury due to inertia in the Earth's climate system. (To see the whole report, go to climlead.uoregon.edu.)

Whether or not the local population increases, these fundamental alterations must be considered in any dialogue about future development.

Increased risk of flooding and wildfire, for example, promises rising damage to buildings, transportation systems and other infrastructure, especially those in or near floodplains or the urban-rural forest interface. Where and how should development occur to prevent loss of property and lives, constrain demands for emergency services and maintain community well being?

Lower summer streamflows will reduce hydroelectric power at the same time that energy demand rises due to increased use of air conditioners. If solar power is part of the energy mix used to meet the energy demands of a larger population, how will this affect future residential and commercial development?

Rising ground-level ozone, along with increased allergens and degraded air quality caused by more wildfire, will increase asthma and other respiratory diseases.

Longer periods of high temperature extremes probably will increase incidences of heat stroke and cardiovascular disease, especially for people without air conditioning. How should future development be shaped to protect public health?

So Yogi was right: Global warming means the future will be very different from the past.

Rather than using historic patterns to anticipate the future, planning must focus on the future range of variability driven by new climatic conditions.

The most important task before us today is to ensure that Eugene becomes the most climate resilient community possible.

The City Council should ensure that this becomes a central focus of Envision Eugene.

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