

OREGON'S DROUGHT



IT'S DRY AND GETTING DRIER

"This many consecutive years below normal (rainfall) hasn't happened before in the fifty plus years that records have been kept at the airport," states Robert Rowe, Supervisory Meteorological Technician at the National Weather Service Forecast Office in Portland. "1984 was the last time we were normal or above. 1985 was the driest year on record and 1985 to 1991 inclusive, we've lost over a year's worth of rain — 46.12 inches," he states. Rowe points out that the mountain snow pack is disastrously low. "Crater Lake at the end of May should have had 61 inches on the ground, but this year at the end of May there was no snow." He also says that the longrange forecast for the summer is "hot and dry."

Fire, drought and calamity loom in the near future, and it is a worldwide phenomenon. As Californians talk of shipping Columbia River water south to alleviate their drought, Central Americans eye California as a refuge to escape their drought. Parts of Brazil are very dry, including the area where the "Earth Summit" was held in June. In Uruguay and Argentina the drought last year was so bad that 800,000 cattle died and the corn harvest was down by a half.

In Africa the whole southern cone is desiccated. In Zimbabwe, the provincial capital of Bulawayo has had normal rainfall in just two of the past thirteen years. Residents are already collecting money for a new pipeline to the Zambezi River, 250 miles to the north, for water. Ethiopia and the Horn of Africa have drought now which seems permanent. The long drought in the Middle East was eased slightly this winter by something which is becoming a familiar term, the "anomalous weather pattern." The Middle East had huge snowstorms last winter.

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BY WILLIAM KÖTTKE

"Weatherwise," a trade magazine of meteorologists, says, "In January (1991), the anomalous warmth stretched from England into the European USSR. The next month above-normal temperatures stretched all the way from England across northern Asia to western Siberia and southeastward to northeast China and Japan. For Moscow and Kiev, both January and February were the warmest in over a century of record." The "record breakers" are also becoming a common word in weatherpeople's vocabulary. Oregon has just recorded its driest May on record. The late May temperatures are also the hottest Oregon has ever recorded. Medford had the warmest first five months of the year on record — 12.7 degrees above normal. While Oregon hasn't had good rain in years, the drought in Eastern Australia was broken by torrential rains last year in January and February. But unfortunately the "anomalous" moisture didn't last and the area was dry by the end of the year, withering wheat crops and grasslands. In 1991 the only areas in the world with good crops were Canada, West and East Africa (including the Sahel).

Since its beginnings, the peculiar human form called civilization has had problems with water. In the Sumerian/Babylonian eras the capital city had to be moved up the Tigris-Euphrates valley several times. One of the reasons was salinization of the soil caused by irrigation, and the other was the huge silt load in the rivers which clogged the irrigation works. The silt came from the mountains that were eroding because of overgrazing with sheep and goats.

Topsoil is one of the largest reservoirs of fresh water on the planet. On forest or grassland, rainfall soaks in to become long-lasting soil moisture and some water continues downward to charge underground aquifers. The aquifers hold water for deep vegetation roots and feed springs which in turn water meadows and streams further down. Though we lack precise statistics on quantities of water underground, we know that when water is depleted in the swiss cheese-like underground passages, wells go dry, springs go dry and river flows lessen.

Eastern Oregon, prior to cattle ranching, was a bunch grass ecosystem. Once the sod was eliminated (prior to 1900), the soil began to go down the rivers. When topsoil cannot absorb and hold the water, it runs off in torrents, creating wide, dry damaged riverbeds full of rocks. This is how former rainforests such as in southern Oaxaca, Mexico, can become deserts. It is dry, then the rains come and run off, then it's dry again. This has been the story of civilized people and their grazing animals for eight thousand years.

The civilized propensity to tear down forests has a similar regional effect because after the forest is gone, the topsoil leaves soon after through plowing or grazing.

In addition to holding the soil, forests perform another key task: evapo-transpiration. Very simply, trees of the forest respire water from

underground. Studies in the Amazon Basin have shown that water evaporating upward is critical to further rainfall. The old story we got in school about water evaporating off the oceans and falling on land is too simplistic. Water does come off the oceans, but the weather fronts are continually recharged by water evaporation off the earth.

Tearing down forests and eroding of topsoil can wreck the climate of whole regions, and the earth has only 24% of its primary forests still standing. Deserts are spreading rapidly, which further cuts net evapo-transpiration. And this includes Eastern Oregon.

The earth is a creature of cycles — in its seasons, in its weather. When the effects of civilization upon the earth reach such proportion that these cycles begin to be affected, we can then expect them to fluctuate wildly. Massive deforestation, massive desertification, the heat islands of cities, smog, the defoliation of the rainforests of Vietnam, the unprecedented burning of oil in Iraq and Kuwait, the changing of whole river systems by human engineering, the damming of rivers to create lakes from which 50% of the water evaporates, the destruction of the world's tropical forests, the greenhouse effect, the ozone layer thinning — these and many other activities of civilized humans are unbalancing the cycles of nature.

When white settlers appeared in Oregon, they grabbed the best first. They set up fish wheels and canneries on the rivers and began to haul away the protein. By the 1870s huge cattle herds were denuding Eastern Oregon. By the 1830s the Columbia Basin was being plowed for wheat, and the horrendous erosion of those hills was beginning. All during this time, the Willamette Valley was being denuded of forests by near-indentured Chinese contract laborers, and the vast wetlands of the lower valley were being drained and plowed. The water-nature of our land was being changed inexorably, the hydrological cycles were getting knocked out of balance.

As the settlers spread out, they decimated the beavers. Beaver dams spanned the rivers up into the high mountains. Such dams slow water

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