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Tuesday, May 20, 2008

EVIDENCE OF CLIMATE CHANGE IN NEW MEXICO

Santa Fe, New Mexico—The New Mexico office of the Nature Conservancy will release “Implications of Recent Climate Change on Conservation Priorities in New Mexico” by Dr. Carolyn Enquist and Dr. Dave Gori later this week.

“The report is based on solid science,” says Terry Sullivan, New Mexico state director of The Nature Conservancy. “It establishes without question that climate change is having an effect on the plants, animals and landscapes of New Mexico right now and that it has been for at least the last 15 years.”

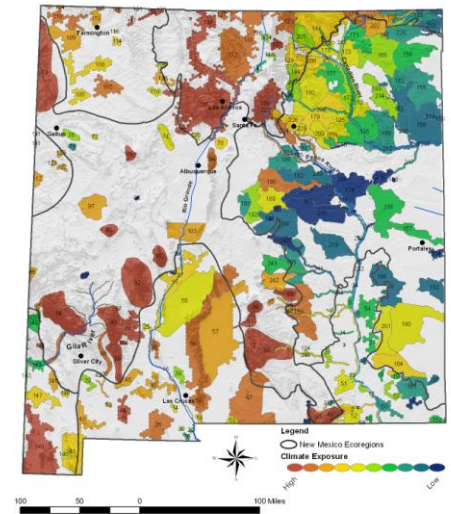
“Mean annual temperature in New Mexico has increased 0.6 degrees Fahrenheit per decade, with an overall change of 1.8 degrees Fahrenheit since 1976,” says Enquist. “This is primarily due to a rise in mean winter temperature, but springtime temperature has also risen rapidly. Precipitation, when averaged across the state, has increased slightly since the mid-1970s.”

“We’re concerned about the effect the change is having on our plants and animals,” adds Gori. “Rapid climate change is stressful, and many species and ecosystems may not be able to adapt.”

Climate change is likely to exacerbate the effects of natural processes such as wildfire, insect outbreaks, flooding and erosion across all New Mexico’s habitat types. It may also prompt abrupt ecological changes. This is particularly true in ecosystems such as grasslands, riparian areas, and forests, where the effects of past management and land use change are substantial.

Key findings in the report include:

- Over 95% of New Mexico has experienced mean temperature increases; warming has been greatest in southwestern, central and northwestern parts of the state, especially in the Jemez Mountains. While no change or slight cooling has occurred in parts of several mountainous habitats surrounding the Gila River headwaters, the Zuni Mountains, and the Sangre de Cristo Mountains, other parts of these ranges have experienced increasing trends in either minimum or maximum temperatures from 1970-2006.
- Precipitation changes have been more variable than temperature with 54% of the state tending toward wetter conditions, 41% drier conditions, and 5% showing no discernable change in precipitation between 1991 and 2005 compared to a 30-year baseline (1961-1990). This also holds true for the recent drought (2000-2005) with 24% of the state experiencing wetter conditions, 70% drier conditions, and 4% of the state showing no change.
- Most of New Mexico’s mid- to high-elevation forests and woodlands have experienced consistently warmer and drier conditions or greater variability in temperature and precipitation from 1991 to 2005. Three areas may be particularly vulnerable: the southwestern corner of the state (the “bootheel”), the Jemez Mountains, and the Southern Sangre de Cristo Mountains.



- In contrast, a series of lower-elevation landscapes that are also rich in drought sensitive species experienced lower climate exposure (i.e., smaller increases in temperature coupled with smaller changes in precipitation). These include: Bottomless Lakes, Bitter Lake and Blue River/Eagle Creek—all riparian sites rich in native fish species. Other sites with fewer drought sensitive species experienced even lower climate impacts from 1991 to 2005. These include the Western Plains of San Augustin, Salt Basin/Northern Brokeoff Mountains, Middle Pecos River, Rio Agua Negra, Salado Creek, Grulla National Wildlife Refuge, and Pastura Grasslands—all riparian or grasslands sites and all but two located in eastern New Mexico.

The Nature Conservancy's assessment of recent climate change in New Mexico provides a new perspective and information for planning and management. By identifying the potential vulnerability of habitat types, priority landscapes for conservation, and species to climate change, the report will enable conservation practitioners and resource managers to make better-informed decisions and to take action in the near term.

The report was designed to support the New Mexico Department of Game & Fish's Comprehensive Wildlife Conservation Strategy (CWCS) – which identified climate change as an issue of significant concern requiring further study. The New Mexico CWCS is the state's framework for protecting all wildlife in the places they live. The plan provides a foundation to allow agencies, individuals and conservation organizations to work collaboratively and pro-actively to keep species off the endangered species list by protecting important habitat while it is still cost effective.

Increased research and monitoring of these conservation priorities will be critical to documenting ecological responses to climate change at local and regional scales so that conservation practitioners and resource managers can incorporate this information into their planning and management processes.

This report is the first of three studies that will strengthen the current understanding of the vulnerability of native species and ecosystems to ongoing climate change. The second report, focused on the watersheds of New Mexico, is scheduled for release in July 2008. The final report, which will include future climate projections for the state, is due out in early fall 2008. This work will also identify pragmatic adaptation strategies that can be implemented by natural resource managers throughout the region to enhance the resilience of New Mexico's biodiversity and ecosystem services.

Financial support of "Implications of Recent Climate Change on Conservation Priorities in New Mexico" was provided by the Public Service Company of New Mexico (PNM) and the Wildlife Conservation Society (WCS) on behalf of the Doris Duke Foundation.

The Nature Conservancy is a leading international, nonprofit organization that preserves plants, animals and natural communities representing the diversity of life on Earth by protecting the lands and waters they need to survive. To date, the Conservancy and its more than one million members have been responsible for the protection of more than 14 million acres in the United States and have helped preserve more than 83 million acres in Latin America, the Caribbean, Asia and the Pacific.

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