Sevilleta Long Term Ecological Research Program

(SEV LTER) is headquartered at the University of New Mexico's Department of Biology and is operated in close collaboration with the U.S. Fish and Wildlife Service Sevilleta National Wildlife Refuge (SNWR). Additional research partners include New Mexico Tech, New Mexico State University, University of California Riverside, University of Colorado, US Forest Service Rocky Mountain Research Station, and Los Alamos National Labs. Initiated in 1988, SEV LTER is funded by a grant from the National Science Foundation and is part of a coordinated network of 26 LTER sites in North America, Antarctica and the South Pacific.

The **SEV LTER Research Experience for Undergraduates** (REU) program partners each student with a SEV LTER faculty mentor to develop and conduct independent summer research on SNWR. During the course of the summer, students live at the UNM Sevilleta Field Research Station and gain broadly-based training in field-oriented ecological research in Chihuahuan Desert ecosystems.

UNM Sevilleta Field Research Station houses up to 48 researchers. Each of eight residence buildings offers full kitchen and bath amenities. Research facilities include laboratories, shop and storage space, museum reference collections, library, and computer center with high speed wireless internet throughout the facility.

Conference rooms support meetings, workshops and educational functions of up to 80 persons.

The **SEV LTER Schoolyard** program brings science education to students from over 40 New Mexico schools by way of the **Bosque Ecosystem Monitoring Program** (BEMP). BEMP uses volunteers (mainly K-12 teachers and their students) to monitor key indicators of structural and functional change in the endangered Middle Rio Grande riparian forest (*bosque* in Spanish). Started with fewer than 200 students in 1997, BEMP now has over 2,000 students participating in field data collection, lab processing, and follow-on classroom activities.

For more information:

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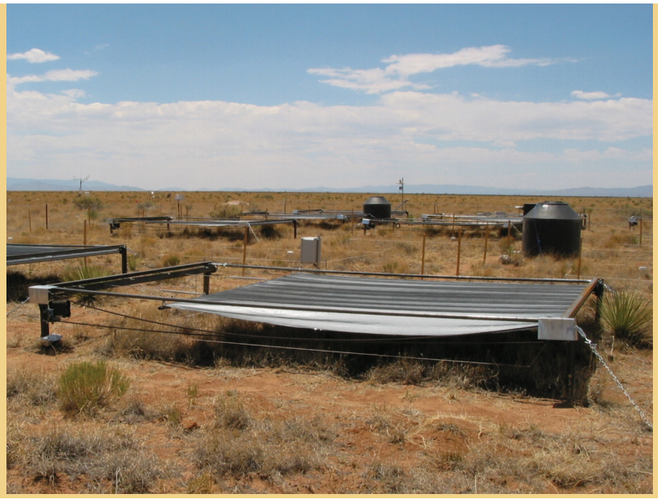
Sevilleta

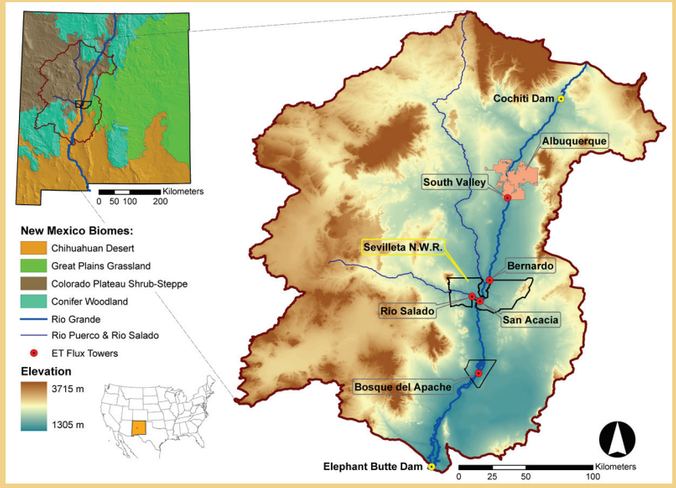
LTER Long-Term Ecological Research

SEVILLETA LTER

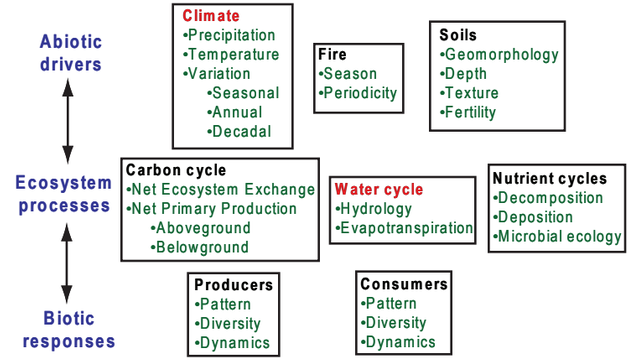
SEV LTER addresses ecological concepts and theory through a comprehensive and interdisciplinary research program in desert grassland, shrubland, forest and riparian habitats in central New Mexico. Focal sites are the 92,060 ha Sevilleta National Wildlife Refuge and the Middle Rio Grande Valley between Cochiti Dam to the north and Elephant Butte Reservoir to the south.

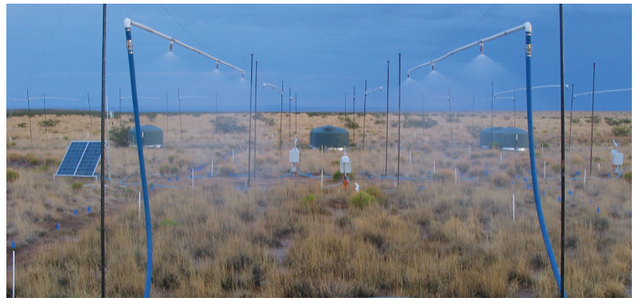
Our studies are linked by an overarching aim to understand how abiotic pulses and constraints affect species interactions, community structure and ecosystem processes in aridland ecosystems.





Sevilleta National Wildlife Refuge is located about 80 kilometers south of Albuquerque, New Mexico. The Refuge and its surroundings are located at the intersection of several major biotic zones: Chihuahuan Desert grassland and shrubland to the south, Great Plains grassland to the north and east, piñon-juniper woodland at upper elevations in the mountains, Colorado Plateau shrub-steppe to the north and west, and riparian vegetation along the middle Rio Grande Valley.





SEV LTER research is designed to understand the individual and interactive effects of three key system components: abiotic pulses and constraints, ecosystem processes, and biotic responses and feedbacks. The main abiotic pulses and constraints are (1) seasonal, annual, and decadal variations in climate, (2) geomorphology, soil texture, structure and depth, and surface and riparian hydrology, and (3) season, periodicity, and intensity of fire. These abiotic factors affect dynamics of biogeochemical pools and cycles; water input, storage, use and loss; and patterns and controls on primary production. Biotic responses to the coupling of these abiotic factors and ecosystem processes include dynamics and stability in the distribution, abundance, and diversity of plant and animal populations and communities. Given the fundamental relationship between primary production and community structure in ecological communities, one of our core LTER activities is to link climate dynamics, disturbances, and soil structure with soil nutrient and water fluxes to better understand seasonal and annual variability in Net Primary Productivity (vegetation) and how that variability ultimately effects the dynamics, distribution and abundance of aridland producers and consumers.