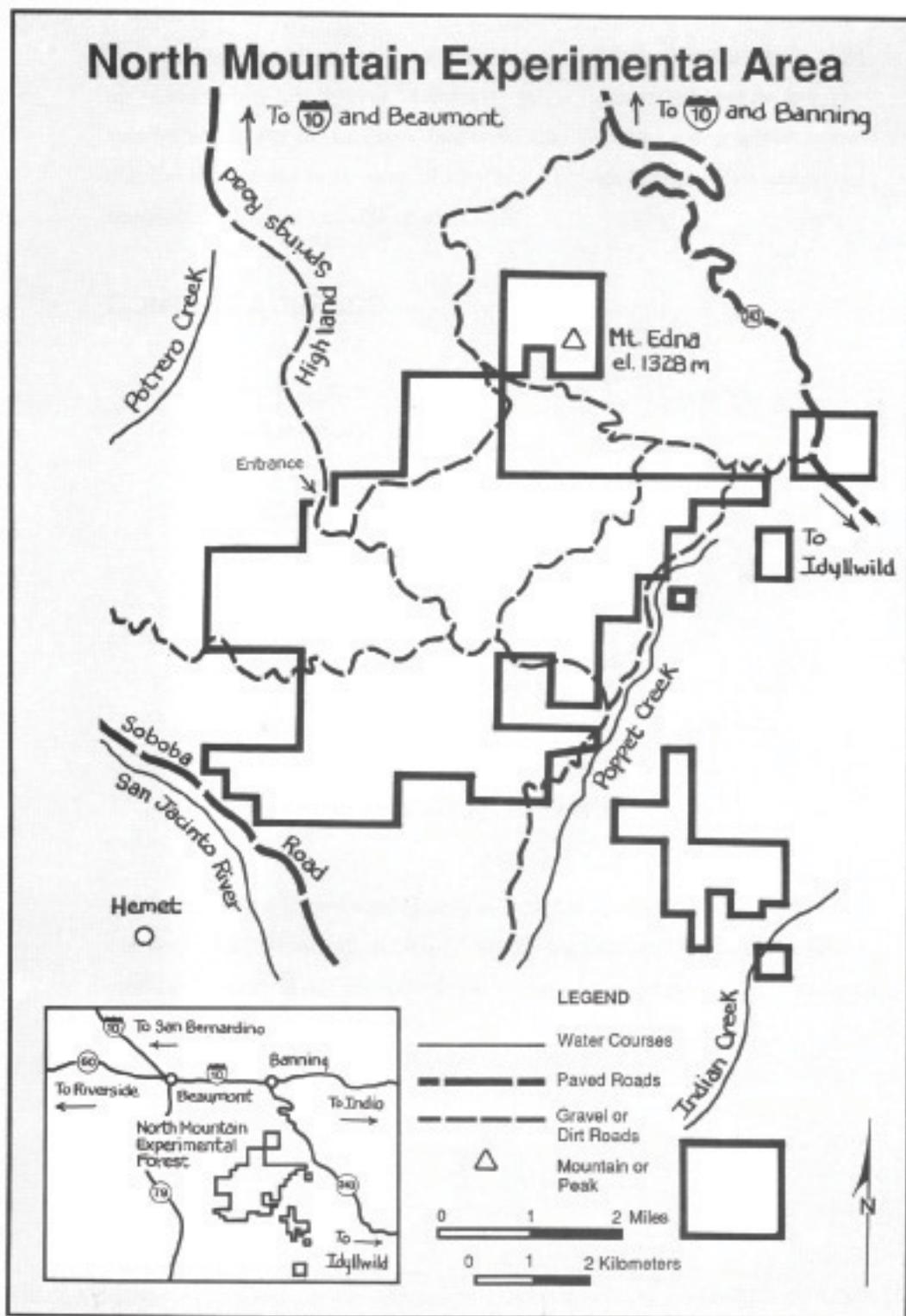


North Mountain Experimental Area



NORTH MOUNTAIN Experimental Area

The North Mountain Experimental Area (NMEA) was established on January 8, 1964, when land previously administered by the Bureau of Land Management, U.S. Department of the Interior, was withdrawn from all appropriation under the Public Land laws including mining/mineral leasing laws by Public Land Order 3221. This withdrawal occurred by authority of the President, and pursuant to Executive Order 10355 of May 26, 1952.

The NMEA contains a total of 4348 hectares. Nearly the entire area is covered with chaparral that is representative of southern California, low elevation, interior nontimbered wildlands. No unique or special features are found within the NMEA. The Bureau of Land Management land examiner described the area as “badlands,” created apparently by uplifting along the Hot Springs Fault line. Three major drainages dissect the NMEA: Potrero, Poppet, and Indian Creeks. All three are ephemeral. Since 1983, nearly all of the vegetation on the Experimental Area has burned. A major fire in 1932 burned over 80 percent of the area, and again in 1967 the Bailiff Fire burned about 60 percent of the NMEA. Use of the Area is subject to valid existing rights and is limited to activities directly related to research in problems of prevention and control of forest and range fires.

Early studies at the North Mountain Experimental Area centered on fuelbreaks and fuel properties (*fig. 3*). Plant control



Figure 3—This fuelbreak along the Castile Truck Trail was a part of the extensive fuelbreak research conducted by the Forest Fire Laboratory in Riverside.

research was conducted in two main categories (*fig. 4*): (1) the eradication of either selective brush plants or all vegetation, and (2) the reduction of plant growth with growth-inhibiting substances. The research centered around the use of herbicides which were believed to give the most effective and economical control of brush regrowth in established fuelbreaks. Another study concerned shrub seed production, dispersal, and deposition on chaparral vegetation to develop better techniques for reducing the volume of hazardous brush fuels.

Other studies involved development of a low volume shrub that would slow down or repel fires and the use of sheep to reduce fuel volume on fuelbreaks. Studies to determine fuel properties affecting fire behavior of chamise (*Adenostoma fasciculatum*) and other species were included. North Mountain was also the site of wind pattern investigations to compare collected wind data with predictions from theoretical models of valley convections (*fig. 5*).

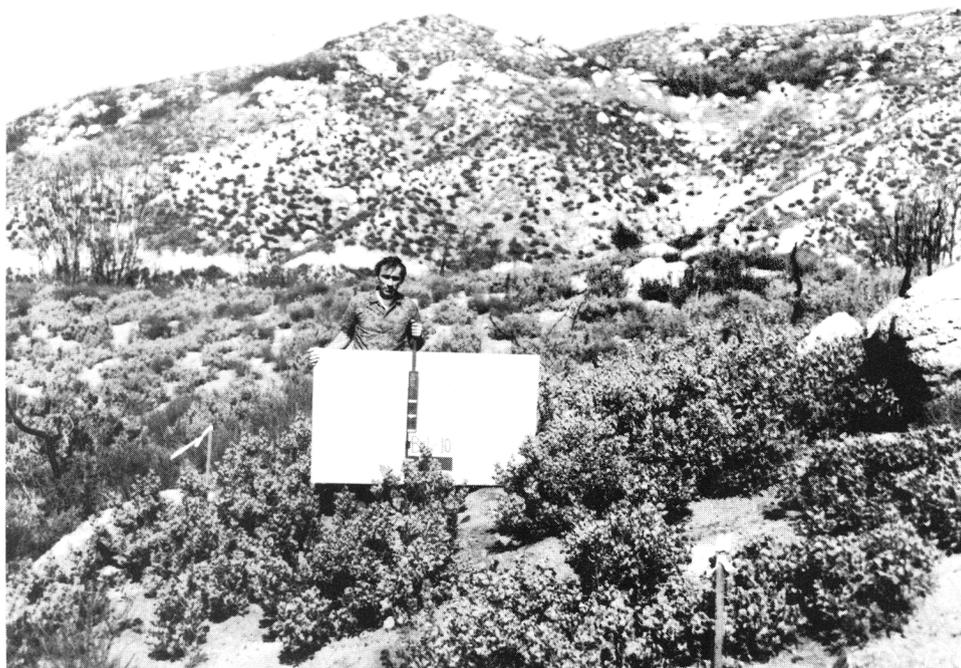


Figure 4—The use of growth inhibitors on this previously burned site decreased the vegetative growth of the sprouts.

CLIMATE

The climate of the NMEA is typically Mediterranean. Due to its inland location, summers can be quite hot and dry, and winters cool and wet. Mean maximum temperatures over 30°C and relative humidity values below 35 percent are typical for California inland stations.

Mean temperatures for Hemet (8 km southwest) are as follows:

	January	July
Minimum	3°C	15°C
Maximum	16°C	32°C

The annual precipitation is only about 250 millimeters. Rain falls primarily between October and April. January is typically the wettest month, with some 50 millimeters of precipitation.

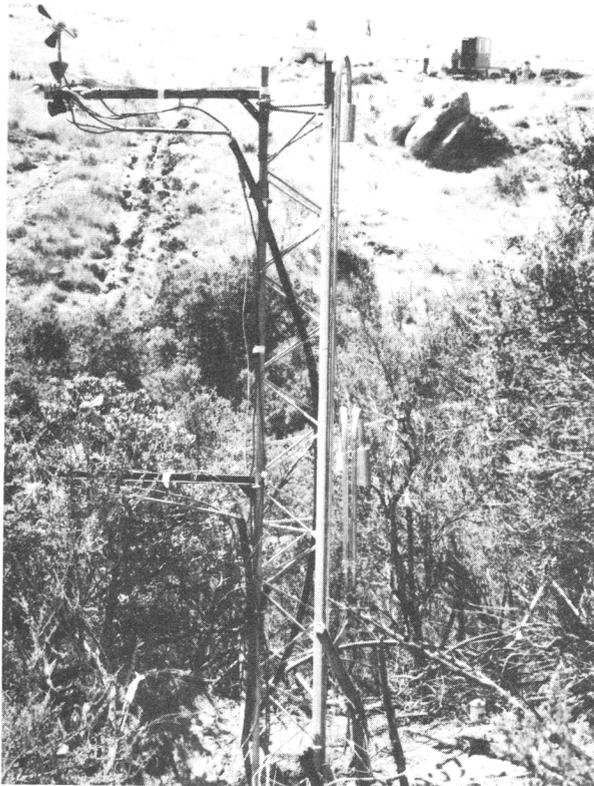


Figure 5—Surface weather data were used for meteorological research related to predicting wind velocities.

SOILS

Soils throughout most of the Experimental Area are derived from granitic rocks. They vary considerably in depth, are low in organic matter, are moderately coarse to very coarse, and neutral to slightly acid with the pH ranging from 6.5 to 5.8. They are low in fertility and have relatively low water holding capacity. Some soils on rolling-to-steep uplands are moderately coarse Lithosols developed from mica schists. The surface texture of these soils is predominately sandy loam, but grades into clay loam a few inches below the surface. These soils are also low in fertility, and are moderately permeable with medium to rapid runoff. Structural development is lacking throughout the profile.

MAIN COMMUNITIES

The plant community is primarily of the Shrub Formation (Paysen and others 1980). The major subformations are the Chaparral Subformation (Chamise, Manzanita, Ceanothus, Mountain Mahogany, and Scrub Oak Series) and the Soft Chaparral Subformation (California Buckwheat Series). Several other series are present in minor and varying amounts.

DATA BASES

Aerial photographs are available: 1:20,000 vertical aerial photographs (1961), and oblique aerial photographs (1964). A variety of maps are available: 7.5- and 15-minute topographic maps, 7.5-minute orthophotographic maps, and field-drawn vegetation maps at the series level. Wildfire history maps go back to about the 1930's.⁶

⁶Available from the San Bernardino National Forest, San Bernardino, Calif.; and the California Department of Forestry and Fire Protection, Sacramento.

EXAMPLES OF RESEARCH

- Fuel physical and chemical properties, and arrangement
- Short- and long-term recovery from prescribed fires under varying conditions (fig. 6)
- Factors that affect hydrologic processes, vegetation dynamics, air pollution, and nutrient cycling
- Ecological and physiological studies of chaparral.

There is also a need to establish a long-term meteorological study site or sites in southern California brush fields, to avoid site-use conflicts from possible vegetation manipulations and to help better understand the meteorological components of management. North Mountain has such areas and is particularly attractive from this standpoint.



Figure 6—Associated with fuelbreak research, prescribed fire was studied as an alternative treatment to mechanical and chemical methods.

FACILITIES

No offices, laboratories, or living facilities are within the NMEA. The Forest Fire Laboratory and the University of California in Riverside are within an hour's drive of the Area.

The Vista Grande Ranger Station (San Bernardino National Forest) is located approximately 5 kilometers from the east entrance to the NMEA.

CONTACT ADDRESS

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LOCATION

The NMEA is located in Riverside County. The nearest full facility community is Banning—located 5 kilometers north of the NMEA boundary (see map). Beaumont and Hemet are also within 8 kilometers of the boundary. Elevation ranges from 460 meters to 1328 meters.

Road access to the NMEA is best from Banning/Idyllwild Highway, State Route 243. Due to the limited use of the area, road maintenance is infrequent and minimal, at this writing.