

Wildfire Mitigation at Los Alamos National Laboratory

Background

Established in 1943, Los Alamos National Laboratory consists of 1,280 buildings in 47 technical areas spread out over 37 square miles. The complex includes 11 nuclear facilities and more than 10,000 workers.

In the past, large wildfires in the area, including the La Mesa Fire (1977), the Dome Fire (1996), the Oso Fire (1998), the Cerro Grande Fire (2000), and the Las Conchas Fire (2011) demonstrate that forests on and surrounding the Laboratory are susceptible to destructive crown fires – fires which spread from treetop to treetop.

Current snowpack and prior moisture has placed northern New Mexico at a lower risk for catastrophic wildfires than seen in recent years. Nonetheless, conditions change quickly and the Laboratory maintains a high level of readiness to respond to a wildfire.

Wildfire Mitigation

Emergency Operations maintains an annual and a five-year wildfire management plan that responds directly to Los Alamos National Security, LLC (LANS) and Department of Energy (DOE) policies.

Central to the Laboratory's Fire Mitigation program are 5 wildfire buffer zones comprising approximately 12,000 acres. Each of these zones is carefully maintained to prevent combustible materials from igniting to create a hazard from wildfire. Mitigation strategies include:

- Establishing defensible zones around sensitive areas
- Removing invasive species
- Clearing dead trees
- Mulching vegetation
- Ensuring that potential fuels remain at knee height or below

An Integrated Approach

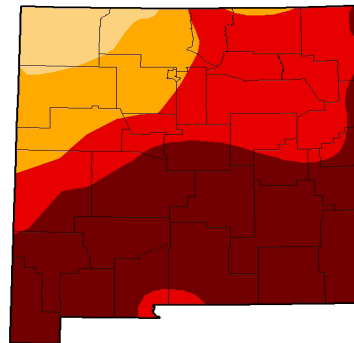
The Laboratory's Fire Mitigation program is closely integrated with Los Alamos County, the U.S. Forest Service and the National Park Service to fight any wildfire in the region. The Laboratory's Fire Management posts daily Fire Danger Ratings on their website. Local and regional resources are staged and tracked dependent on the severity of the rating. Fire hazard is assessed on a scale of 1 to 5, with 1 being most severe. Firefighters at the Laboratory conduct routine drills beginning in April. Drills cover a wide variety



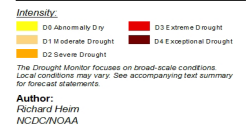
Reviewing procedures at the Emergency Operations command center.

U.S. Drought Monitor New Mexico

June 28, 2011
(Released Thursday, Jun. 30, 2011)
Valid 7 a.m. EST



	Drought Conditions (Percent Area)					
	None	D0-D1	D2-D3	D4-D5	D6	D7
Current	0.00	100.00	100.00	93.95	79.34	49.09
Last Week 6/21/11	0.00	100.00	93.98	87.35	71.18	49.09
3 Months Ago 3/28/11	4.81	85.19	91.19	74.00	10.43	0.00
Start of Calendar Year 1/1/11	6.34	93.65	40.44	0.00	0.00	0.00
Start of Water Year 10/1/10	76.66	23.34	0.00	0.00	0.00	0.00
One Year Ago 6/28/10	50.23	49.77	17.27	0.00	0.00	0.00

Intensity:


 D0 Abnormally Dry D1 Moderate Drought D2 Severe Drought
 D3 Extreme Drought D4 Exceptional Drought
 D5 D6 D7

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Richard Heim
NCEM/NOAA

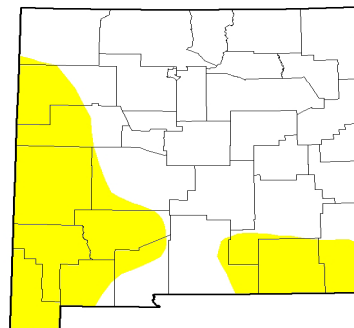


<http://droughtmonitor.unl.edu/>

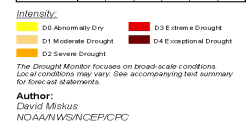
Drought conditions in northern New Mexico at the time of the 2011 Las Conchas Fire.

U.S. Drought Monitor New Mexico

March 1, 2016
(Released Thursday, Mar. 3, 2016)
Valid 7 a.m. EST



	Drought Conditions (Percent Area)					
	None	D0-D1	D2-D3	D4-D5	D6	D7
Current	87.54	32.40	0.00	0.00	0.00	0.00
Last Week 2/24/16	74.47	25.53	0.00	0.00	0.00	0.00
3 Months Ago 12/1/15	73.76	26.24	0.00	0.00	0.00	0.00
Start of Calendar Year 1/1/16	73.76	26.24	0.00	0.00	0.00	0.00
Start of Water Year 10/1/15	56.70	43.30	7.94	0.00	0.00	0.00
One Year Ago 3/01/15	12.81	87.19	67.59	19.60	0.00	0.00

Intensity:


 D0 Abnormally Dry D1 Moderate Drought D2 Severe Drought
 D3 Extreme Drought D4 Exceptional Drought
 D5 D6 D7

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Author:
David Miskus
NOAA/NWS/INCEP/CPC



<http://droughtmonitor.unl.edu/>

Drought conditions in northern New Mexico as of March 1, 2016.

of scenarios to test different firefighting strategies and tactics.

The Interagency Fire Base located at Technical Area (TA) 49 serves as a regional command center for fire suppression activities in the area. Engine crews, Helo Crews, and light air resources are stationed on site during wildfire season. Large air tankers are stationed within two hours of Laboratory property in Durango, Colorado; Clovis and Alamogordo, New Mexico. Smaller tankers can fight fires from their bases in Las Vegas or Taos, New Mexico.

Mitigation Strategies at Area G

Area G, the Lab's waste disposal site, is where above-ground waste is stored, including drums of remediated nitrate salts (RNS). The RNS drums are secured inside a steel-framed contamination-controlled structure covered in a fire retardant fabric dome. Ensuring these drums remain stored safely is a top priority for DOE and LANS.

Additional mitigation activities are in place that further reduce the risk of fire to the RNS drums. LANS has conducted extensive thinning operations in the canyons that border Area G. A defensible perimeter has been created around the structure that houses the remaining RNS drums – no vegetation taller than 6 inches grows within 75 feet of this structure. The RNS drums are protected by a sprinkler system that activates automatically when the indoor temperature reaches 155°F. Combustible materials within all of Area G are strictly controlled and minimized.

Area G Facility Emergency Response Actions have been upgraded to augment the protection of the RNS drums in the event of an imminent fire hazard. Safety protocols in place include:

- Increased monitoring of interior and exterior temperatures
- Increased monitoring of ventilation and fire suppression systems
- Placement of fire retardant blankets over the RNS drums

The Los Alamos Fire Department Pre-Incident Plan for Area G identifies the structure where the RNS drums are stored as a priority response location in the event of a wildfire. This response would include using air tanker support to lay a blanket of fire retardant chemicals on the canyon slope adjacent to the building where the RNS drums are stored.



Fire suppression crews onsite at the Laboratory.



Above-ground waste is stored at Area G at TA-54.



The perimeter of Area G before and after thinning operations.



The Los Alamos Fire Department routinely conducts drills at the Laboratory.