

The ARL/SORD Website

Jim Sanders

NOAA/ARL/SORD
Las Vegas, NV

1 May 2006



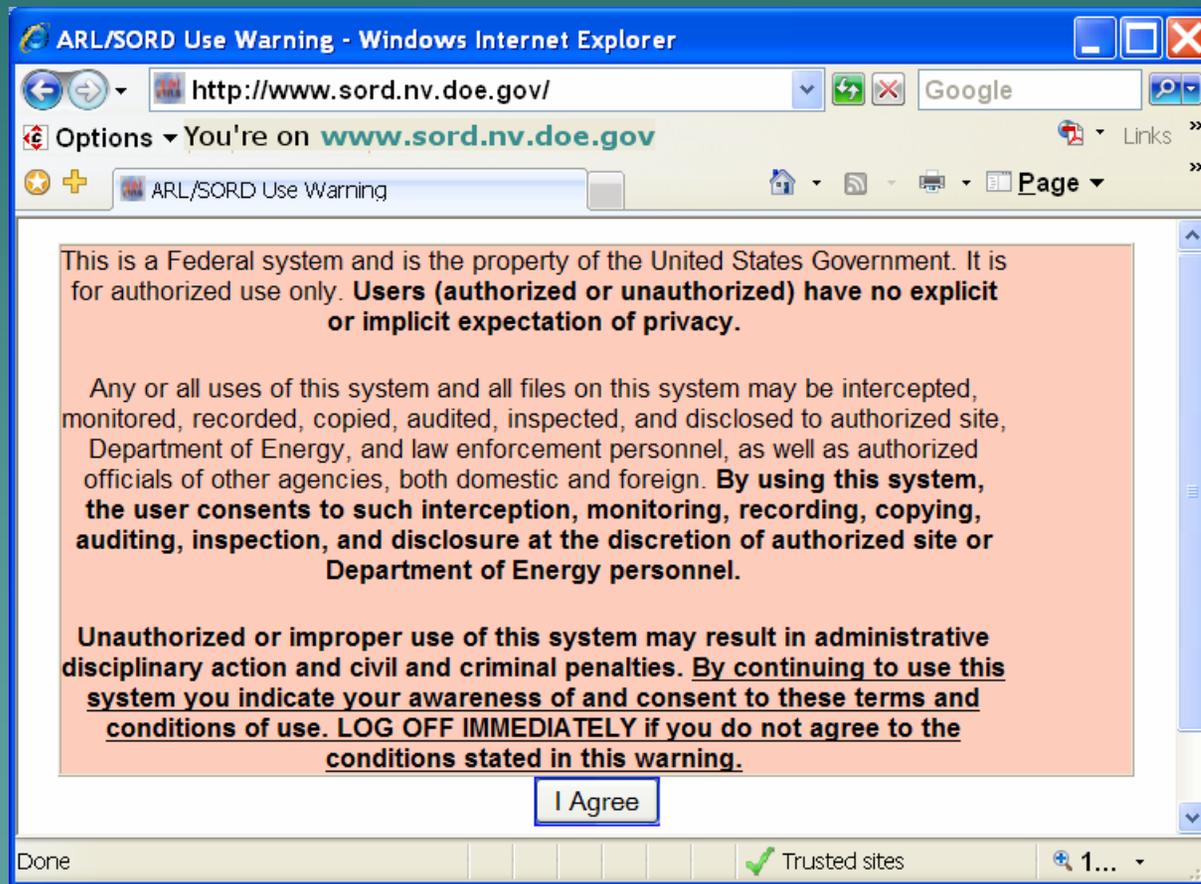
Overview

- ◆ Surf SORD
- ◆ ARL/SORD Home Page, Privacy and Disclaimer
- ◆ Forecasts and Warnings
- ◆ Current Meteorological Data
- ◆ Emergency Response
- ◆ Models
- ◆ Climate
- ◆ Research
- ◆ About SORD
- ◆ External Links
- ◆ Text Only
- ◆ Alternate Site Navigation



Surf SORD

◆ <http://www.sord.nv.doe.gov>



ARL/SORD Use Warning - Windows Internet Explorer

http://www.sord.nv.doe.gov

Options You're on www.sord.nv.doe.gov

ARL/SORD Use Warning

This is a Federal system and is the property of the United States Government. It is for authorized use only. **Users (authorized or unauthorized) have no explicit or implicit expectation of privacy.**

Any or all uses of this system and all files on this system may be intercepted, monitored, recorded, copied, audited, inspected, and disclosed to authorized site, Department of Energy, and law enforcement personnel, as well as authorized officials of other agencies, both domestic and foreign. **By using this system, the user consents to such interception, monitoring, recording, copying, auditing, inspection, and disclosure at the discretion of authorized site or Department of Energy personnel.**

Unauthorized or improper use of this system may result in administrative disciplinary action and civil and criminal penalties. By continuing to use this system you indicate your awareness of and consent to these terms and conditions of use. LOG OFF IMMEDIATELY if you do not agree to the conditions stated in this warning.

Done Trusted sites 1...



ARL/SORD Home Page

The main page features the NOAA logo and the text "Air Resources Laboratory Special Operations". Below this is a "noaa research" logo and a photograph of a building. A central map displays "SURFRAD" data with various numerical values and zoom options: "Zoom to North", "Zoom to Central", and "Zoom to South". At the bottom, there is a "RAOB & Surface Observations" section and the name "Dr. Darryl Randerson - Director".

NOAA ARL - Windows Internet Explorer
http://www.sord.nv.doe.gov/Privacy.htm
NOAA ARL

NOAA ARL/SORD Web Site Privacy Policy

Thank you for visiting the Air Resources Laboratory/Special Operations and Research (ARL/SORD) web site. This policy establishes how we will handle information we learn about you from your visit to our web site. Please be assured that the privacy of our visitors is of utmost importance to us. As appropriate, organizations with the Department of Commerce also provide information on privacy policies when visiting their respective web sites.

When you visit the ARL/SORD site...

...to read or download information: For each http request received, we collect and store *only* the following information: the date and time, the originating IP address, the object requested, and the completion status of the request. **No "cookies" are created or used by this site.**

We use this information that we collect to measure the number of visitors to the different sections of our site, and to help us make our site more useful to visitors. This includes analyzing these logs periodically to determine the traffic through the servers, the number of pages served, and the level of demand for pages of interest during a month. The logs may be processed indefinitely and used at any time and in any way.

Reader for your operating system.

DISCLAIMER - Windows Internet Explorer
http://www.sord.nv.doe.gov/disclaim.html
DISCLAIMER

- DATA DISCLAIMER

USE AT YOUR OWN RISK

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NOAA AIR RESOURCES LABORATORY

RAOB & Surface Observations

Dr. Darryl Randerson - Director



Forecasts and Warnings

NOAA ARL Air Resources Laboratory

Special Operations and Research Division

NOAA Research

Home

Forecasts

Weather Data

NTS Forecasts

NTS Warnings

NTS Advisories

NEVADA TEST SITE/TONOPAH TEST RANGE WEATHER FORECASTS
 AIR RESOURCES LABORATORY/SPECIAL OPERATIONS & RESEARCH DIVISION
 800 AM PDT TUE APR 18 2006

OFFICIAL SUNSET TODAY 1922 PDT
 OFFICIAL SUNRISE WEDNESDAY 0604 PDT

FORECASTER J SANDERS

...FOR THE NEVADA TEST SITE...

.TODAY...MOSTLY SUNNY. NORTH WINDS 10 TO 20 MPH. HIGH TEMPERATURES...LOW 50S TO LOW 60S ON THE MESAS...UPPER 60S TO MID 70S AT THE LOWER ELEVATIONS...72 AT MERCURY.

.TONIGHT...MOSTLY CLEAR. NORTH TO NORTHWEST WINDS 15 TO 25 MPH. LOW TEMPERATURES...20S ON THE MESAS...MID 30S TO LOW 40S ON THE DRY LAKES...43 AT MERCURY.

.WEDNESDAY...MOSTLY SUNNY. NORTH WINDS 5 TO 15 MPH. HIGH TEMPERATURES...UPPER 50S TO MID 60S ON THE MESAS...LOW TO UPPER 70S AT THE LOWER ELEVATIONS...74 AT MERCURY.

.THURSDAY...MOSTLY SUNNY. SOUTHWEST WINDS AT 5 TO 15 MPH. LOW TEMPERATURES...30S AND 40S ON THE DRY LAKES...30S ON THE MESAS...45 AT MERCURY. HIGH TEMPERATURES...60S ON THE MESAS...UPPER 60S TO UPPER 70S AT THE LOWER ELEVATIONS...75 AT MERCURY.

.FRIDAY AND SATURDAY...PARTLY CLOUDY WITH A SLIGHT CHANCE OF SHOWERS. SOUTHWEST WINDS AT 10 TO 20 MPH. LOW TEMPERATURES...30S AND 40S ON THE DRY LAKES...30S ON THE MESAS...43 AT MERCURY. HIGH TEMPERATURES...UPPER 50S ON THE MESAS...MID 60S TO MID 70S AT THE LOWER ELEVATIONS...72 AT MERCURY.

...FOR THE TONOPAH TEST RANGE...

NOAA ARL Air Resources Laboratory

Special Operations and Research Division

Forecasts and Warnings

NTS Forecasts

NTS Warnings

NTS Watches

NTS Advisories

NTS Forecast Maximum Temperature

State

NWS Forecasts

NWS Watches

Dep

resource

energy

Las Ve

e - (702

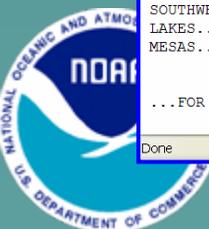
(702) 2

/www.s

MEDA Predicted Max Temps (F)

18 Apr 2006

Location	Temperature (F)
Top Left	65
Top Center	61
Top Right	56
Center Left	67
Center Middle	71
Center Right	71
Bottom Left	69
Bottom Center	73
Bottom Right	78



Current Meteorological Data



Air Resources Laboratory

Special Operations and Research Division

Current Nevada Test Site (NTS) and Southwest US Weather
Meteorological Data Acquisition System (MEDA) station location map with links to 24 hours of data

MEDA

Graphics (Updates every 15 Minutes)

[-SURFACE DATA PLOTS-]

[-SURFACE DATA PLOTS-]

MEDA Overview

NTS MEDA

NTS North

NTS Central

NTS South

[-SURFACE DATA PLOTS - HIRES Terrain-]

MEDA Overview

NTS MEDA

NTS North

[-MEDA SUMMARIES AND ARCHIVES-]

Other Meteorological Data

Graphics

[-SURFACE DATA PLOTS-]

Text

[-YUCCA MOUNTAIN-]

Upper Air

[-WIND PROFILERS-]

Lightning

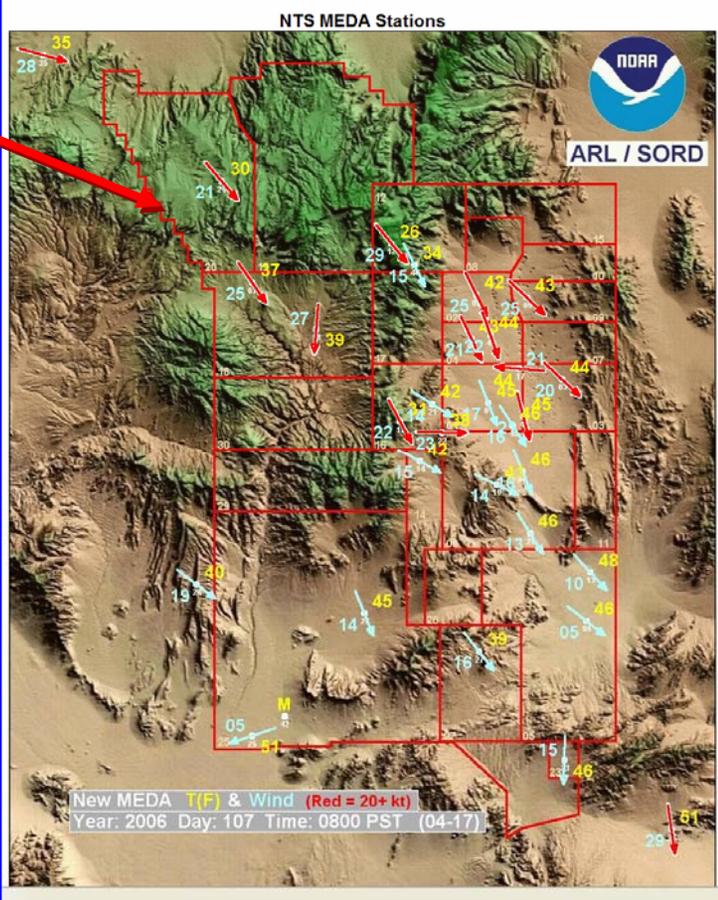
[-CURRENT AND SUMMARY-]

Imagery

[-SATELLITE-]

[MEDA Station Information](#)
[METAR Stations ID Lookup](#)
[Decoding Weather Codes](#)
[Wind Chill Chart](#)
[Heat Index Table](#)
 U.S. Department of Commerce / NOAA / OAR / ARL
 Air Resources Laboratory/Special Operations and Research Division
 232 Energy Way
 North Las Vegas, NV 89030
 Phone - (702) 295-1232

NTS MEDA Stations



	40	35	30	25	20	15
Calm	40	35	30	25	20	15
5	36	31	25	19	13	7
10	34	27	21	15	9	3
15	32	25	19	13	6	0
20	30	24	17	11	4	-2
25	29	23	16	9	3	-4
30	28	22	15	8	1	-5
35	28	21	14	7	0	-7
40	27	20	13	6	-1	-8
45	26	19	12	5	-2	-9
50	26	19	12	4	-3	-10
55	25	18	11	4	-3	-11
60	25	17	10	3	-4	-11

Frostbite Times

Wind Chill (°F) = 35.7

Where, T = /

New MEDA T(F) & Wind (Red = 20+ kt)

Year: 2006 Day: 107 Time: 0800 PST (04-17)

13th Meeting of the DOE Meteorological Coordinating Council – 1 May 2006

Current Lightning Strikes

NOAA Air Resources Laboratory
Special Operations and Research Division

Current Nevada Test Site (NTS) and Southwest US Weather
Meteorological Data Acquisition System (MEDA) station location map with links to 24 hours of data

MEDA

Graphics (Updates every 15 Minutes)
NTS MEDA

Text (Updates every 15 Minutes)
[-TEXT DATA-]

Daily Summaries
[-MEDA SUMMARIES AND ARCHIVES-]

Other Meteorological Data

Graphics
[-SURFACE DATA PLOTS-]

Text
[-YUCCA MOUNTAIN-]

Upper Air
[-WIND PROFILERS-]

Lightning
NTS Lightning Summary
[-CURRENT AND SUMMARY-]
NTS Lightning Summary
[-ANIMATED-]
NTS Overview
[-PLOT CENTER-]

MEDA Station Information
METAR Stations ID Lookup
Decoding Weather Codes
Wind Chill Chart
Heat Index Table
U.S. Department of Commerce / NOAA / OAR

Air Resources Laboratory/Special Operations and Research Division
232 Energy Way
North Las Vegas, NV 89030
Phone - (702) 295-1232

Wind Chill Chart

SORD Lightning Data

Southwest - With Terrain

Strike Age	ZOOM level			
2 Hour	Full	1	2	NTS
Recent	Full	1	2	NTS

Southwest - Without Terrain

Strike Age	ZOOM level			
2 Hour	Full	1	2	NTS
Recent	Full	1	2	NTS

Zoomed Lightning data with Range Rings

TTR

2 Hour	40	30	20	10
Recent	40	30	20	10

Area 20

2 Hour	40	30	20	10
Recent	40	30	20	10

BEEF

2 Hour	40	30	20	10
Recent	40	30	20	10

Area 16

2 Hour	40	30	20	10
Recent	40	30	20	10

Area 01

2 Hour	40	30	20	10
Recent	40	30	20	10

Area 06

2 Hour	40	30	20	10
Recent	40	30	20	10

Overview Lightning Strikes
04/18/06
09:42 - 11:42 PDT

No Lightning Detected

Summary
Test: 1

Red line encloses alert area



Emergency Response

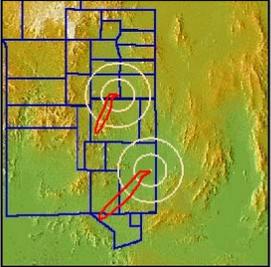
SORD Plumes for Emergency Response - Windows Internet Explorer

http://www.sord.nv.doe.gov/internal/Emergency_Response/Plume_emerg.htm

Options You're on www.sord.nv.doe.gov

SORD Plumes for Emergency Response

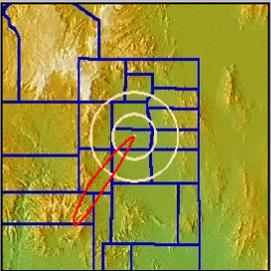
Click on an image to zoom to that location



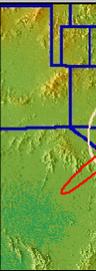
Areas 1 & 5
 $X/Q = 0.886E-07$
 $X/Q = 0.289E-07$



Area 6



Area 4
 $X/Q = 0.231E-07$



Area 23

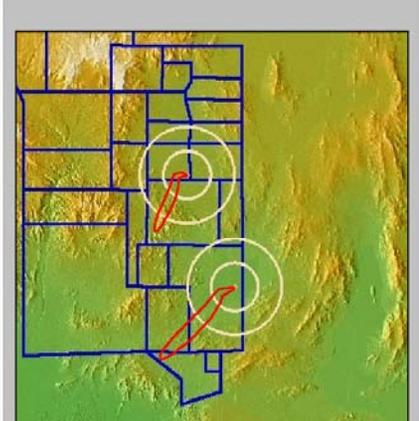
1 Hour Plume Projection

Start: April 18, 2006 10:15 PST
 Stop: April 18, 2006 11:15 PST

Calculations use previous 15-minute and current data extrapolated out 45 minutes to generate a 1 hour plume
 Circle radii: Inner - 5km, Outer - 10km

NOAA ARL/SORD

Area 1 and Area 5



Areas 1 & 5
 $X/Q = 0.289E-07$ $X/Q = 0.886E-07$

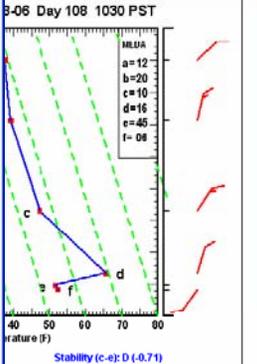
1 Hour Plume Projection

Start: April 18, 2006 10:15 PST
 Stop: April 18, 2006 11:15 PST

Calculations use previous 15-minute and current data extrapolated out 45 minutes to generate a 1 hour plume
 Circle radii: Inner - 5km, Outer - 10km

NOAA ARL/SORD

04-18-2006 (Day 108) 1030 PST



Stability (c-e): D (-0.71)

Temp	Rel Humid	Wind	Heat Index	Press	Stability (A-F)
51	19%	-	-	-	B
54	16%	-	-	-	C
53	18%	-	-	887.6	B
47	20%	40	-	-	D
51	18%	-	-	882.8	B
52	16%	-	-	-	B
52	17%	-	-	-	B

04-18-2006 (Day 108) 1030 PST

Miscellaneous Data

Lightning Strikes - Area 01				
2 Hour	40	30	20	10
Recent	40	30	20	10

Profiler
BUY



Atmospheric Models

RAMS Model - Windows Internet Explorer
<http://www.sord.nv.doe.gov/RAMS/RAMS-model.htm>

NOAA/ARL/SORD Home - Windows Internet Explorer
http://www.sord.nv.doe.gov/home_2_km_domain-00Z-new.htm
 Options You're on www.sord.nv.doe.gov
 NOAA/ARL/SORD Home

2 km Domain (Model Initialization time is 03Z)

Model Time Step (hour)	00	03	06	09	12	15	18	21	24	27	30	33	36	
Level	Valid Time (UCT)													
	Today							Tomorrow						
10 m Wind Vectors	03	06	09	12	15	18	21	00	03	06	09	12	15	
10 m Wind Speed Contours	03	06	09	12	15	18	21	00	03	06	09	12	15	
Total Precipitation	03	06	09	12	15	18	21	00	03	06	09	12	15	
Surface Temperature	03	06	09	12	15	18	21	00	03	06	09	12	15	
2 m Relative Humidity	03	06	09	12	15	18	21	00	03	06	09	12	15	
48 m Streamlines	03	06	09	12	15	18	21	00	03	06	09	12	15	
Mixing Height	03	06	09	12	15	18	21	00	03	06	09	12	15	
850 MB Wind Vectors	03	06	09	12	15	18	21	00	03	06	09	12	15	
700 MB Wind Vectors	03	06	09	12	15	18	21	00	03	06	09	12	15	
500 MB Wind Vectors	03	06	09	12	15	18	21	00	03	06	09	12	15	
300 MB Wind Vectors	03	06	09	12	15	18	21	00	03	06	09	12	15	

RAMS NTS 2 km Grid

Trusted sites



Climatological Data

NOAA/ARL/SORD Home - Windows Internet Explorer
http://www.sord.nv.doe.gov/home_climate_MEDA.htm
 Nevada Test Site Meteorological Data Acquisition (MEDA) Climate Data
 Wind

Air Resources Laboratory
 Special Operations and Research Division

Nevada Test Site (NTS) Climatological Rain Gauge Data

Daily Rainfall in: [MS Excel](#)
 Monthly Rainfall in: [MS Excel](#)
 [ASCII Text](#)

[Precipitation Graphs](#)
[NTS Climatological Rain Gauge Locations](#)

The Microsoft Excel viewer is available for download [here](#).

NTS Extreme Precipitation

Maximum Hourly Precipitation (inches)	Location
1.30	Jackass Flats (4JA)
1.15	Mid Valley (MV)
0.88	Mercury (MER)
Maximum Daily Precipitation (inches)	Location
3.63	Mercury (MER)
Maximum Annual Precipitation (inches)	Location
26.87	Rainer Mesa (A12)
16.47	Mid Valley (MV)
16.21	Yucca Flat (UCC)
14.40	Jackass Flats (4JA)
11.12	Mercury (MER)
9.67	Well 5B (W5b)

U.S. Department of Commerce / NOAA / OAR / ARL
 Air Resources Laboratory/Special Operations and Research Division Report web page problems to: SORD Webmaster

TEMP F
 115
 110
 105
 100
 95
 90
 85
 80
 75
 70
 65
 60
 55
 50
 45
 40
 35
 30

18 19 20 21 22 23

Low = blue



Research Activities

The screenshot shows a Windows Internet Explorer browser window displaying the NOAA Air Resources Laboratory website. The address bar shows the URL http://www.sord.nv.doe.gov/research/home_research-new.htm. The website header includes the NOAA logo and the text "Air Resources Laboratory Special Operations and Research". A navigation menu lists "Research Projects" with sub-links for "Lightning Research", "Cloud-to-Ground Lightning Climatology", "Heavy Precipitation Project", and "Air Quality". A sidebar on the left contains links for "Home", "Forecasts", "Weather Data", "Emergency Response", "Models", "Climate", "Research", "About SORD", "Links", and "Text Only".

Overlaid on the right side of the browser window is a map titled "NTS Warm Season (June through September) Cloud-to-Ground Lightning Flash Counts (fl/km²) (1993 through 2000)". The map shows the Nevada Test Site area with a grid overlay. A legend at the bottom of the map indicates the total flash count for 8 years, with color-coded ranges: light grey for ≥ 4 fl/km² to < 6 fl/km², pink for ≥ 6 fl/km² to < 8 fl/km², light blue for ≥ 8 fl/km² to < 10 fl/km², dark blue for ≥ 10 fl/km² to < 12 fl/km², and red for ≥ 12 fl/km². The map shows higher flash counts in the central and eastern parts of the site.

NOAA logo and text: "NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE".
ARL / SORD logo and text: "AIR RESOURCES LABORATORY SPECIAL OPERATIONS AND RESEARCH U.S. DEPARTMENT OF COMMERCE".

About SORD

The screenshot shows a Windows Internet Explorer browser window displaying the SORD Information website. The address bar shows the URL http://www.sord.nv.doe.gov/home_SORD_Infor.htm. The page features the NOAA logo and the Air Resources Laboratory (ARL) logo, with the text "Air Resources Laboratory" and "Special Operations and Research Division". A navigation menu includes links for Mission, Organization, History, Equipment, Applications, Research Projects, and ARL EEO. On the left side, there is a sidebar with links for Home, Forecasts, Weather Data, Emergency Response (Restricted Access), Models, Climate, Research, About SORD, Links, Text Only, and Alternate Site Navigation. The main content area contains a "noaa research" logo, a "Mission" tab, and a "Hot Items" section with links to "OAR 'Hot Items'", "OAR Intranet", and "Search SORD Website". Below this is a "Directions to DOE/NV and SORD" section with a note: "NOTE: This link takes you to Yahoo maps." A large map of the region is displayed, showing various locations and data points, with labels for "SURFRAD", "Operations Support & Special Studies", "Emergency Response", "Lightning Research", "RAMS Modeling", "Zoom to North", "Zoom to Central", "Zoom to South", "Mesonet, Climatology & Forecasting", "Transport & Dispersion", and "RAOB & Surface Observations". At the bottom of the page, there is contact information for the Air Resources Laboratory/Special Operations and Research Division, including the address (232 Energy Way, North Las Vegas, NV 89030), phone number (702) 295-1232, fax number (702) 295-3068, and website URL <http://www.sord.nv.gov>. A footer note says "Report web page problems to: [SORD Webmaster](#)" and "Date Modified: 11/30/05". The browser status bar at the bottom indicates "Trusted sites" and "1...".



External Links to Weather Related Sites

Links - Windows Internet Explorer
 http://www.sord.nv.doe.gov/home_links.htm
 Options You're on www.sord.nv.doe.gov

Air Resources Laboratory
Special Operations and Research Division

Note: When you click on any of the following links you will be leaving the ARL/SORD Web site. You may wish to review the privacy notice on those sites since their information collection practices may differ from ours.

Weather Related Site Links

NOAA

ARL HQ Web Server	LA NIÑA - EL NIÑO at NOAA Climate Diagnostic Center
National Climatic Data Center (NCDC) (Username and Password required for data access)	Forecast Systems Laboratory (FSL) Demonstration Division (Wind and Temperature Profilers)

National Weather Service

NWS Forecast Offices (WFO)	NWS Centers
NWS Weather Forecast Offices Map	National Centers for Environmental Prediction (NCEP)
NWS Western Region Headquarters	National Hurricane Center
Elko	World Wide Weather
Flagstaff	Boise Fire Weather Center
Hanford	
Las Vegas	
Los Angeles	
Phoenix	
Reno	

Academic

Colorado State University	University Center for Atmospheric Research (UCAR)
Florida State University	University of Utah (MesoWest)
Ohio State University	Desert Research Institute Western Regional Climate Center
University of Oklahoma	University of California - L.A. (UCLA)
Texas A&M	University of Wyoming

Other Environmental

[Las Vegas Valley \(LVV\) EMPACT Project](#)

DMCC and Other

Department of Energy Meteorological Coordination Council (DMCC)	Other
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[U.S. Department of Commerce / NOAA / OAR / ARL](#)
 Air Resources Laboratory/Special Operations and Research Division Report web page problems to: [SORD Webmaster](#)

Trusted sites



Alternate Site Navigation

NOAA Air Resources Laboratory

Special Operations NOAA/Air Resources Laboratory with links to NOAA and ARL

Lightning Safety

Please note that in order to read this file an Adobe Acrobat reader, version 3.0 or higher is required. You may download a free copy of this reader from the Adobe Web site. Please make sure you download the appropriate reader for your operating system.

Dr. Darryl Banderson - Director



The End

◆ Any Questions?

