

COLORADO AIR QUALITY CONTROL COMMISSION
AGENDA ITEM SUMMARY

Item Title: Forecasting Air Quality in Colorado _____

Meeting Date: May 16, 2013 _____

TYPES OF ACTION		
<i>NON-HEARING ACTIONS</i>	<i>REQUEST FOR HEARING</i>	<i>HEARING</i>
<input type="checkbox"/> Administrative	<input type="checkbox"/> Rulemaking	<input type="checkbox"/> Rulemaking
<input checked="" type="checkbox"/> Briefing	<input type="checkbox"/> Public	<input type="checkbox"/> Public
<input type="checkbox"/> Policy	<input type="checkbox"/> Adjudicatory	<input type="checkbox"/> Adjudicatory
<input type="checkbox"/> Other	<input type="checkbox"/> Informational	<input type="checkbox"/> Informational
RECOMMENDED ACTION		
<input type="checkbox"/> Adoption	<input type="checkbox"/> Approval	<input type="checkbox"/> Denial
MOTION		
<input type="checkbox"/> Required	<input type="checkbox"/> Attached	<input type="checkbox"/> Not Applicable
STATUTORY AUTHORITY		
General _____		Specific _____
EPA SUBMITTAL		
Is this issue considered a SIP revision? <input type="checkbox"/> No <input type="checkbox"/>		
Which SIP? _____		
EPA submission deadline: _____		
Is this a delegated program? _____		

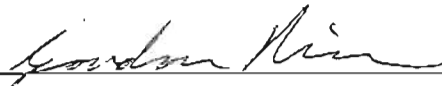
ISSUE STATEMENT:


The Division will provide an overview of the approaches employed in its statewide air quality forecasting and advisory programs. (10 minutes presentation, 10 minutes discussion)

ATTACHMENTS:

SIGNATURES:

1.  May 9, 2013
Preparer Date

2.  5/9/2013
Supervisor or Program Manager Date

3.  9 May 13
Division Director Date

Forecasting Air Quality in Colorado

May 16, 2013

Presentation to the Colorado Air Quality Control Commission

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Statewide Air Quality Forecasting/Advisory Program

- Air quality forecasting provides public health protection and pollution prevention information.



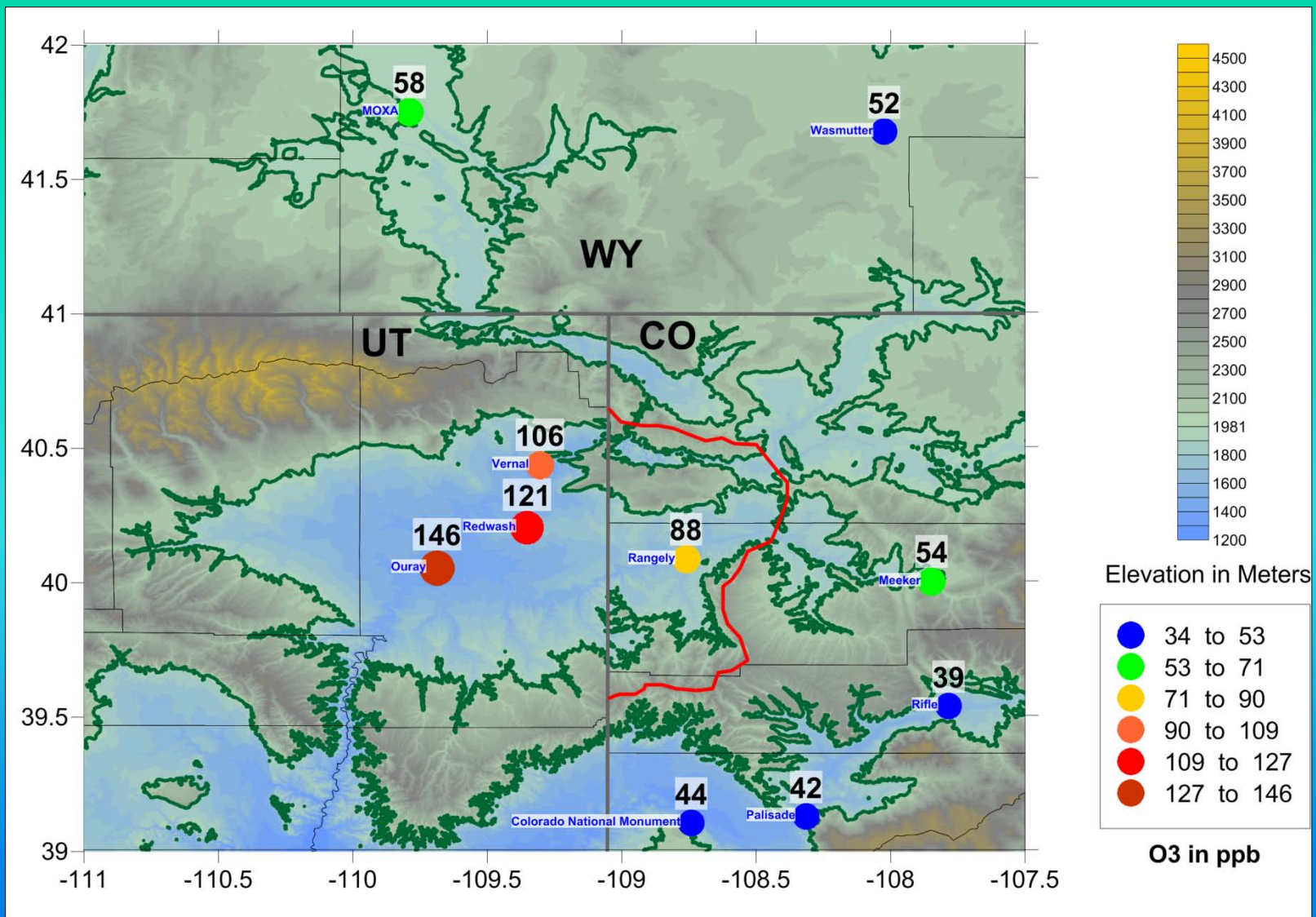
- Air Quality Index (AQI) forecasts are issued daily year-round for the Denver-Boulder area, Ft. Collins, Greeley, Colorado Springs, Grand Junction, and the Colorado River Valley (DeBeque to Glenwood).

Scale - Air Quality Index (AQI)	
0 - 50	GOOD
51 - 100	MODERATE
101 - 150	UNHEALTHY for sensitive groups
151 - 200	UNHEALTHY
201 - 300	VERY UNHEALTHY
301 - 500	HAZARDOUS

- Advisories such as “Action Days” are issued when air quality standards are exceeded or expected to be exceeded (year-round).
- Long-standing seasonal advisory programs include:
 - Denver Metro area High Pollution Day program (Nov 1 to March 31), which triggers mandatory residential burning restrictions and voluntary measures.
 - Front Range OzoneAware program (June 1 to Aug 31).
- Advisories issued for natural events include “Blowing Dust Advisory” and “Wildfire Smoke Health Advisory”.

The APCD Issues Action Days or Advisories and Air Quality Index Forecasts for Multiple Pollutants Statewide

- For the Front Range region these include O₃, PM_{2.5}, PM₁₀, and visibility. 42 Action Days for O₃ issued (including summertime OzoneAware alerts).
- Action Days for wintertime PM_{2.5} are sometimes issued for Mesa and Garfield Counties (15 this winter). Action Days for wintertime O₃ are sometimes issued for portions of Moffat and Rio Blanco Counties (8 this winter).
- Blowing Dust advisories are issued for any affected counties in the state. 33 were issued in 2012, and 17 have been issued in 2013 through April.
- Action Days for O₃ caused by stratospheric intrusions are issued for any counties affected by these events. A few are issued each spring.
- Wildfire Smoke Health Advisories are issued for any affected counties in the state. About 50 were issued in 2012.
- In general, Action Days for any pollutant are issued when necessary for any location where data for such pollutants are available.



Elevated wintertime ozone in the Uintah Basin in northeast Utah will sometimes move into extreme southwestern Moffat and extreme western Rio Blanco counties after days of buildup in Utah. (Map shows 8-hour max O3, 02/14/2011.)



Colorado Department
of Public Health
and Environment

Air Quality Notifications

Action Day for Ozone

Issued for Southwest Moffat County and western Rio Blanco County from Kenney Reservoir west, including Rangely and Dinosaur National Monument.

Issued by the Colorado Department of Public Health and Environment.

Originally Issued at 4:00 PM Monday, January 21, 2013

Updated and Continued at 4:00 PM Sunday, January 27, 2013.

Affected Areas: areas below 7,000 ft in Southwestern Moffat County and areas west of Kenney Reservoir in western Rio Blanco County, including Rangely and Dinosaur National Monument.

Advisory in Effect: 4:00 PM Sunday 01/27/13 to 4:00 PM Monday 01/28/13.

Ozone concentrations are expected to be in the high Moderate to Unhealthy-for-Sensitive-Groups range on Sunday through at least Monday. These conditions are expected to continue through Monday in valley locations of Southwestern Moffat County and Western Rio Blanco County. Active children and adults, older adults, and people with lung disease, such as asthma, should reduce prolonged or heavy outdoor exertion.

An Action Day for Ozone was issued for western Rio Blanco and southwestern Moffat Counties on January 21, 2013, and continued for several days.

Blowing Dust Advisories Are Issued for Any Location in Colorado When Dust Is Expected to Cause Unhealthy Concentrations of PM10

- Sustained winds must be 30 mph or higher or gusts must be 40 mph or greater.
- Soils must be dry, 30-day precipitation totals less than 0.5 to 1.0 inches of water. Visibility drops to less than 7 miles.
- A variety of weather models, surface observations, satellite observations, and web cams are used to identify or predict areas with blowing dust.
- Significant dust storms are more common in southwestern, south-central, and southeastern Colorado.



Colorado Department
of Public Health
and Environment

Air Quality Notifications

Blowing Dust Advisory

Issued for western and south-central Colorado

Issued by Colorado Department of Public Health and Environment

Issued at 9:30 AM Tuesday, April 16, 2013

Affected Area: western and south-central Colorado, including Moffat, Rio Blanco, Garfield, Mesa, Delta, Montrose, Ouray, San Miguel, Dolores, San Juan, Montezuma, La Plata, Hinsdale, Mineral, Archuleta, Conejos, Rio Grande, Saguache, Alamosa, and Costilla counties. Cities include, but are not limited to Craig, Meeker, Rifle, Grand Junction, Delta, Montrose, Telluride, Cortez, Durango, Pagosa Springs and Alamosa.

Advisory in Effect: 10:00 AM Tuesday 4/16/2013 to 8:00 PM Tuesday 4/16/2013

Public Health Recommendations: If significant blowing dust is present and reducing visibility to less than 10 miles across a wide area, *People with heart or lung disease, older adults, and children in the affected area should reduce prolonged or heavy indoor and outdoor exertion.*

A Blowing Dust Advisory was issued for western and southwestern Colorado on April 16, 2013.

U.S. Drought Monitor

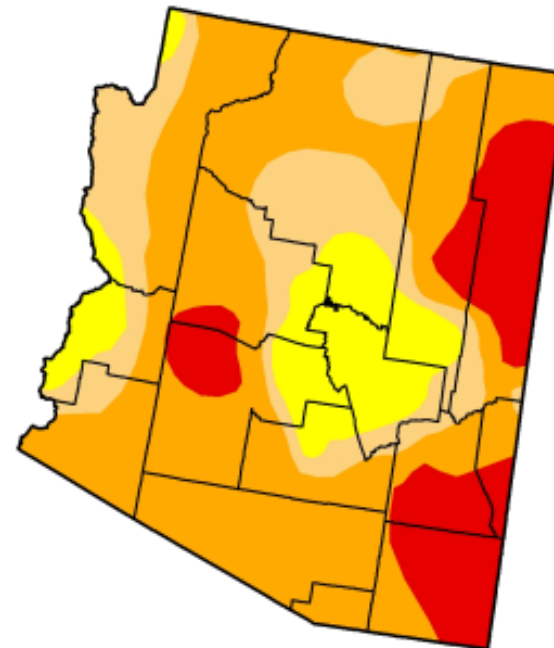
April 30, 2013

Valid 7 a.m. EST

Arizona

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	86.66	66.28	16.22	0.00
Last Week (04/23/2013 map)	2.62	97.38	83.62	57.69	13.80	0.00
3 Months Ago (01/29/2013 map)	0.00	100.00	88.73	33.06	6.62	0.00
Start of Calendar Year (01/01/2013 map)	0.00	100.00	97.91	37.78	8.68	0.00
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	31.93	5.67	0.00
One Year Ago (04/24/2012 map)	0.00	100.00	95.98	67.19	16.29	0.00



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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

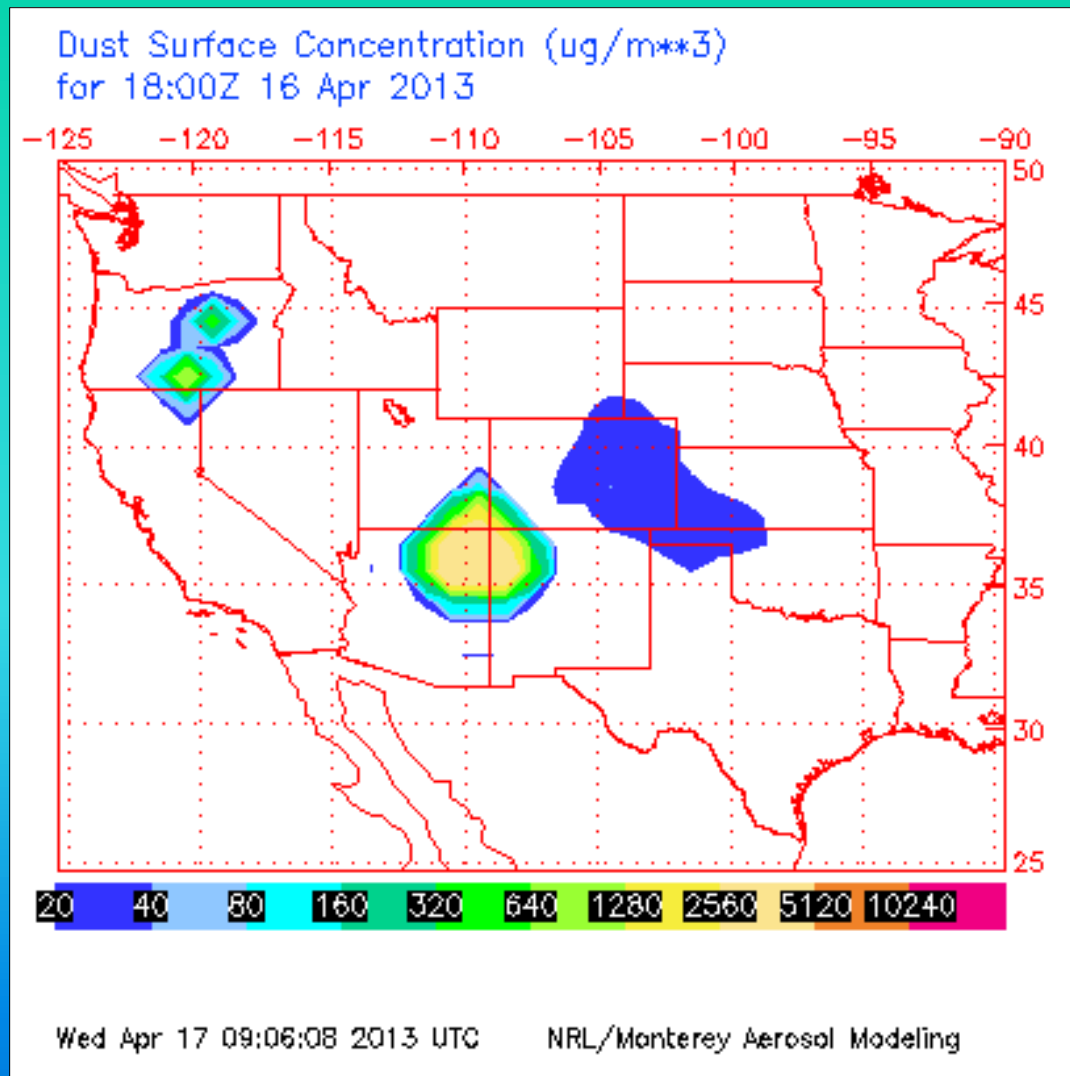
<http://droughtmonitor.unl.edu>



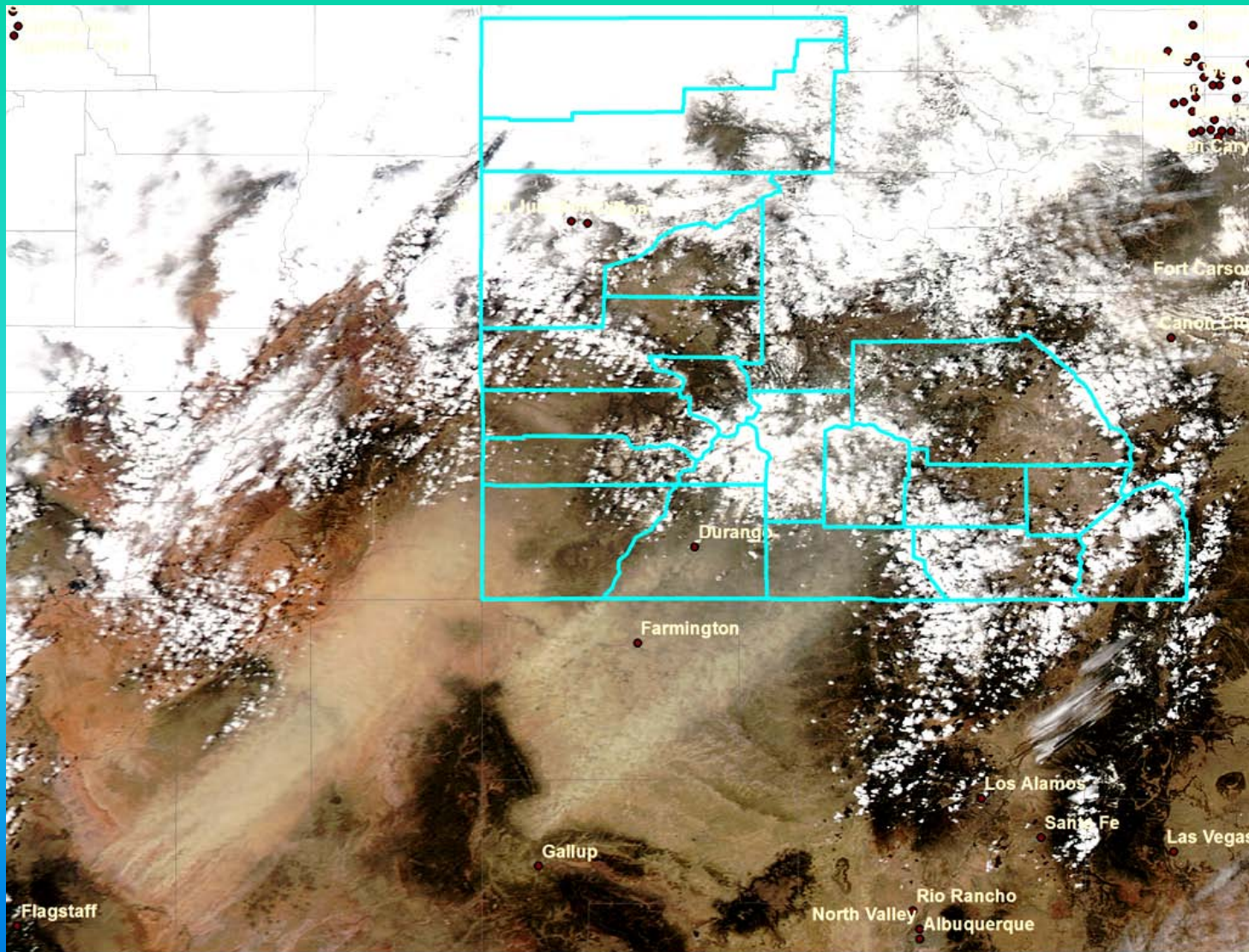
Released Thursday, May 2, 2013

Eric Luebehusen, U.S. Department of Agriculture

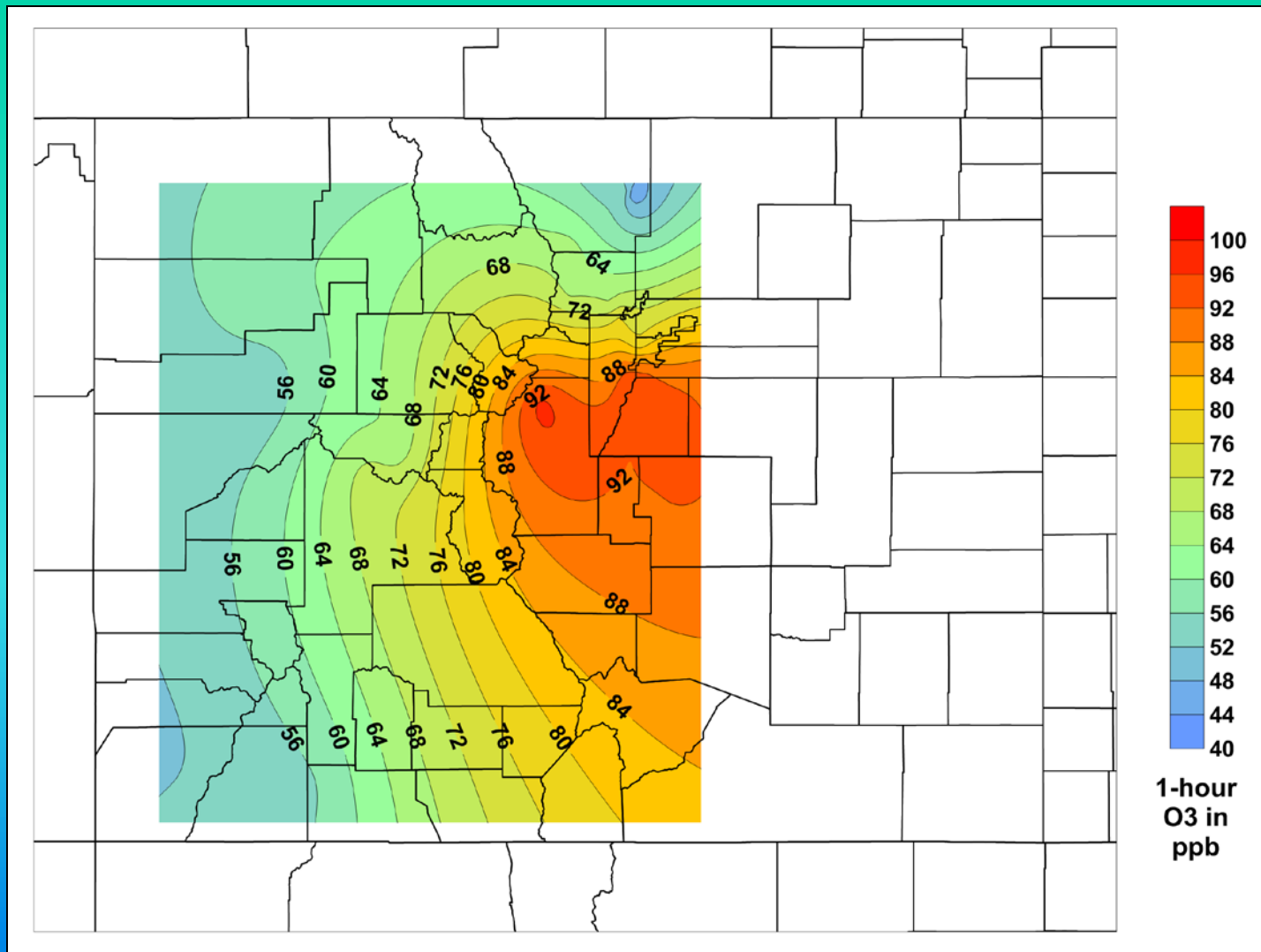
Much of Arizona, New Mexico, Utah, and Colorado experienced moderate to extreme drought conditions on April 16, 2013.




The Navy Aerosol and Analysis Prediction System (NAAPS) forecast severe blowing dust conditions for the Four Corners area on April 16, 2013.



On April 16, 2013, large plumes of blowing dust from the Painted Desert of Arizona and arid regions of northwest New Mexico and southeast Utah were transported to the northeast into Colorado. Counties under dust advisory are high-lighted in blue



Several times each spring, a lobe of ozone-rich stratospheric air will be mixed to the surface behind a windy cold front. This can lead to exceedances of the ozone standard. An Action Day for O₃ was issued for May 24, 2010, depicted in this one-hour ozone concentration map for midday on May 24.



Here is One of Many 2012 Advisories or Action Days Issued in Response to Smoke

Air Quality Advisory

Denver Metro/Front Range:

Issued: 6/10/2012 2:59:00 PM

Action Day – Particulates

Effective: 6/10/2012 4:00:00 PM - 6/11/2012 4:00:00 PM

Smoke from the High Park Fire in Larimer County will affect most of the Front Range on Sunday and Monday. Periods with concentrations of fine particulates in the Moderate to Unhealthy-for-Sensitive-Groups range are expected on Sunday and Monday. Active children and adults, the elderly, and those with lung disease (such as asthma) should reduce prolonged or heavy indoor or outdoor exertion on Sunday and Monday. Smoke will be heavy at times near the Larimer County fire eastward across Ft Collins this afternoon and evening and across much of the Front Range region tonight and Monday morning.

AQI and Advisory or Action Day Information Are Broadcast in a Variety of Ways

- LISTSERV messages are broadcast to dozens of media outlets and local officials when advisories are issued.
- Colorado APCD makes AQI and Advisory information available on web pages and social media sites including:

http://www.colorado.gov/airquality/colorado_summary.aspx

<https://www.facebook.com/cdphe.apcd>

<https://twitter.com/cdpheapcd>

- AQI forecasts and many advisories are presented on EPA AIRNow pages and distributed via EPA EnviroFlash notifications.
- APCD AQI forecasts and advisory information for the Front Range region are presented on APCD hotlines (303-758-4848 and 303-782-0211).
- We are gradually expanding our coverage and services across the state.