

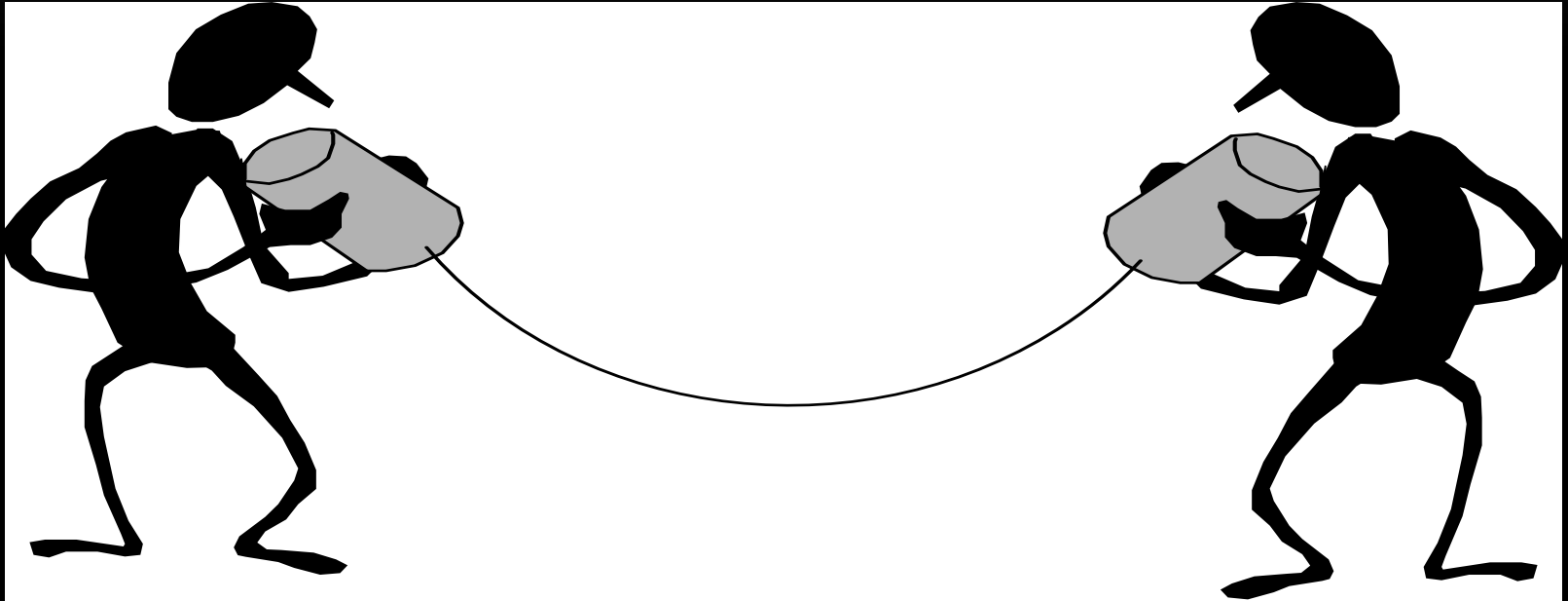
WILCOX AG/WX CONFERENCE

Jerald Meadows

NWS Meteorologist

June 12th, 2014

TWO WAY COMMUNICATION



VEGETATION IMPACT PROGRAM (VIP)

- Midwestern Regional Climate Center (MRCC) collaboration project with weather forecasters, climatologist, Extension Specialist, and other vegetation experts (Growers)
- Forecasters issue products from given thresholds.
 - I.E., $\leq 28^{\circ}$ = Hard Freeze Warning
- Though, different vegetation has different critical thresholds.
- Project open to anyone with vegetation expertise by joining the Listserv
- Simple answers go a long way
 - “No” – there isn’t any plants that are susceptible to low temps at this time. (Plants dormant so headline would be unwarranted)
 - “Maybe” – may be there are only a few plants susceptible to low temps. (Now NWS forecasters know to communicate with experts if low temps forecast)
 - “Yes” – Plant susceptible to low temps present (if low temps forecast issue headline)

VEGETATION IMPACT PROGRAM (VIP)

Station Data is Valid for:
May 31 2014

Layers: Legend(s)

Points | Shading

- None
- NWS Guidance Input
- Non-NWS Guidance Input
- Lowest Minimum Temp
- Lowest Min Temp (3-deg)
- Date of First Freeze
- Date of Most Recent Frz
- Days Since Most Rcnt Frz
- Days Below temp w/in 2 wks


Choose Temp:

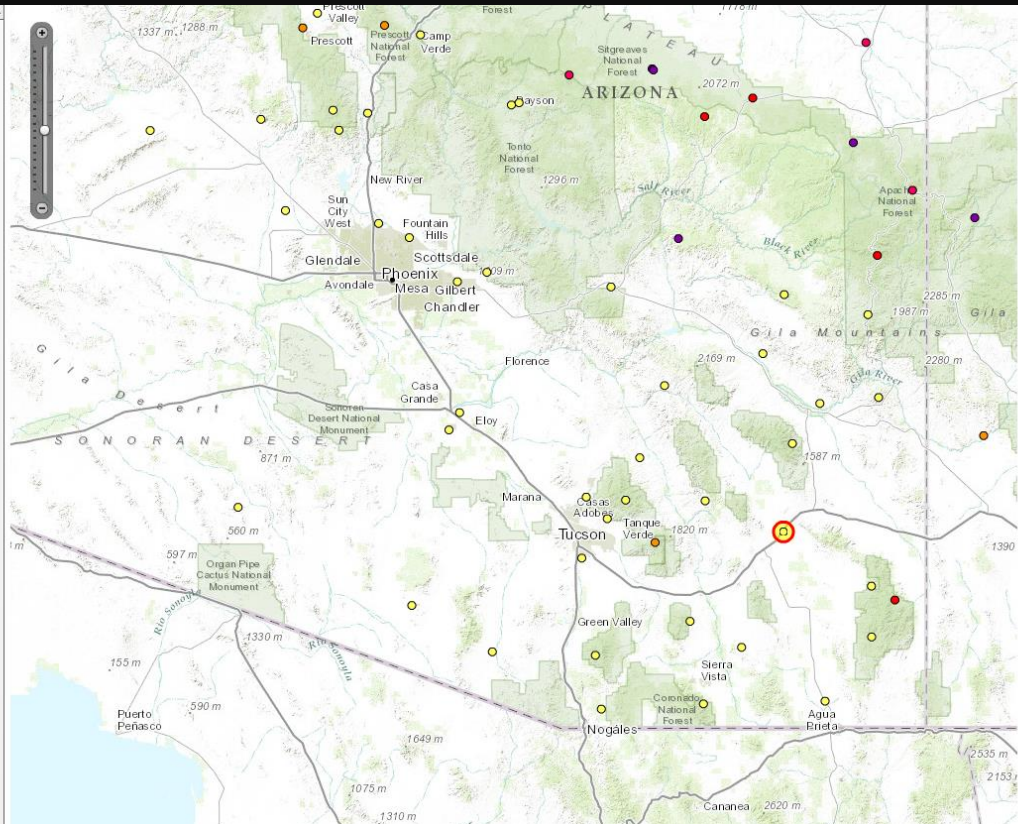
Growing Degree Days: ?

Base Temp:

Start Date:

Climatology:



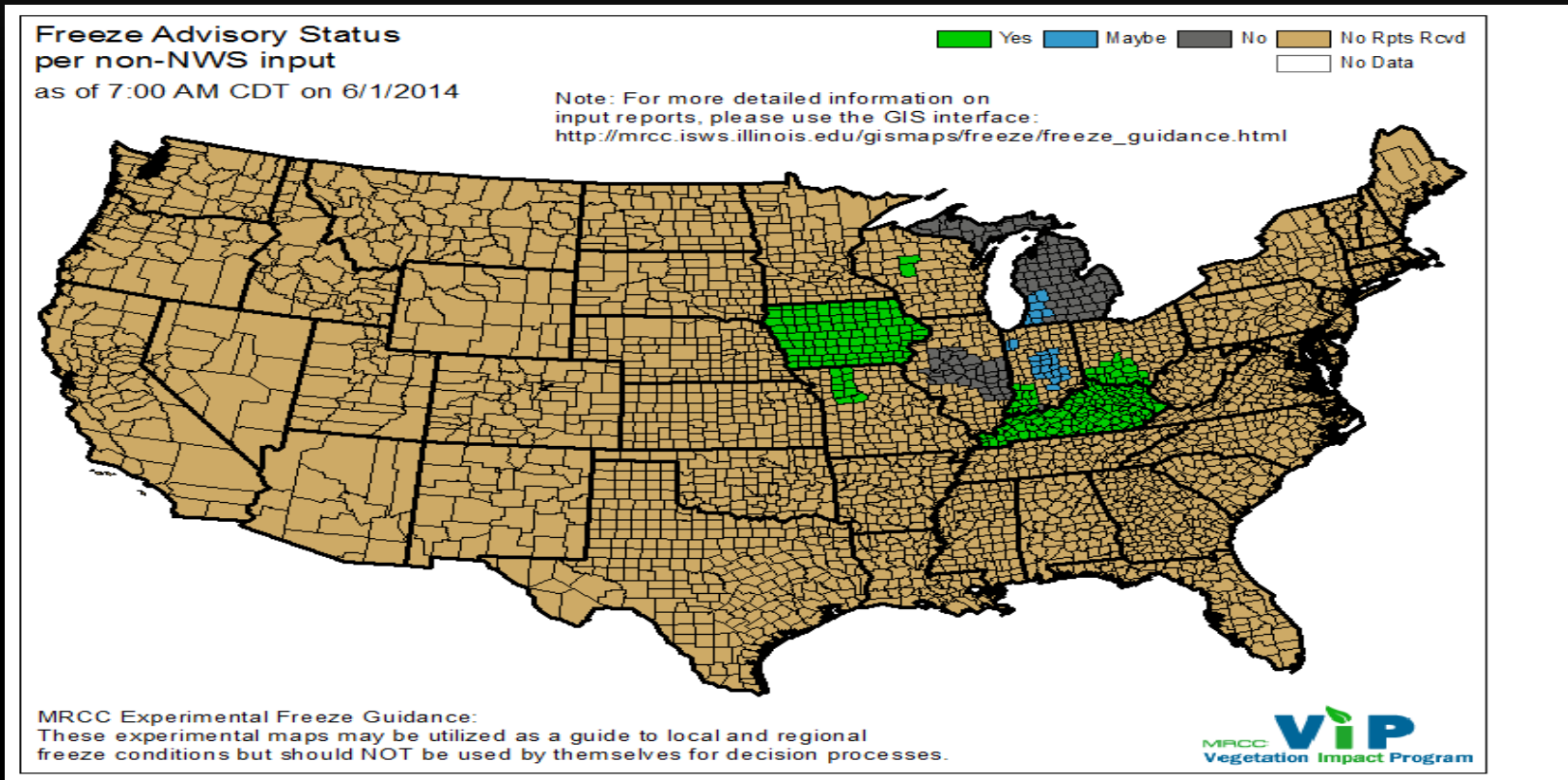


Station Name	WILLCOX
Lowest Min Temp	20
Date of First 28°F	20131031
Date of First 32°F	20131020
Date of Last 28°F	20140222
Date of Last 32°F	20140318
# Days snc Last 28°F	98
# Days snc Last 32°F	74
# rcnt Days below 28°F	0
# rcnt Days below 32°F	0
MGDD snc Last 28°F	1428
MGDD snc Last 32°F	1174
Susceptibility (trial)	0

Select a station or county by clicking on it on the map, or use the 'Select by Extent' button above to select multiple stations.

Locate an address, city or zip code

VEGETATION IMPACT PROGRAM (VIP)



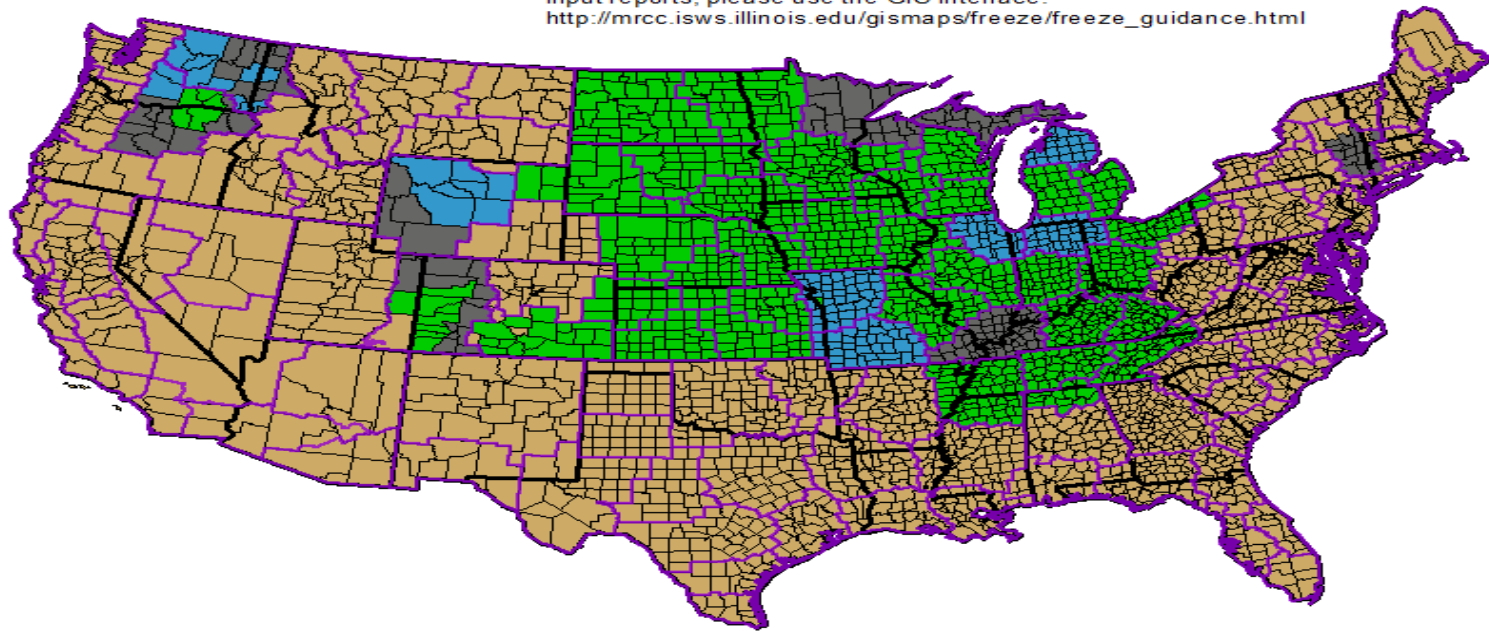
VEGETATION IMPACT PROGRAM (VIP)

Freeze Advisory Status per NWS input

as of 7:00 AM CDT on 6/1/2014

Yes Maybe No No Rpts Rcvd
No Data

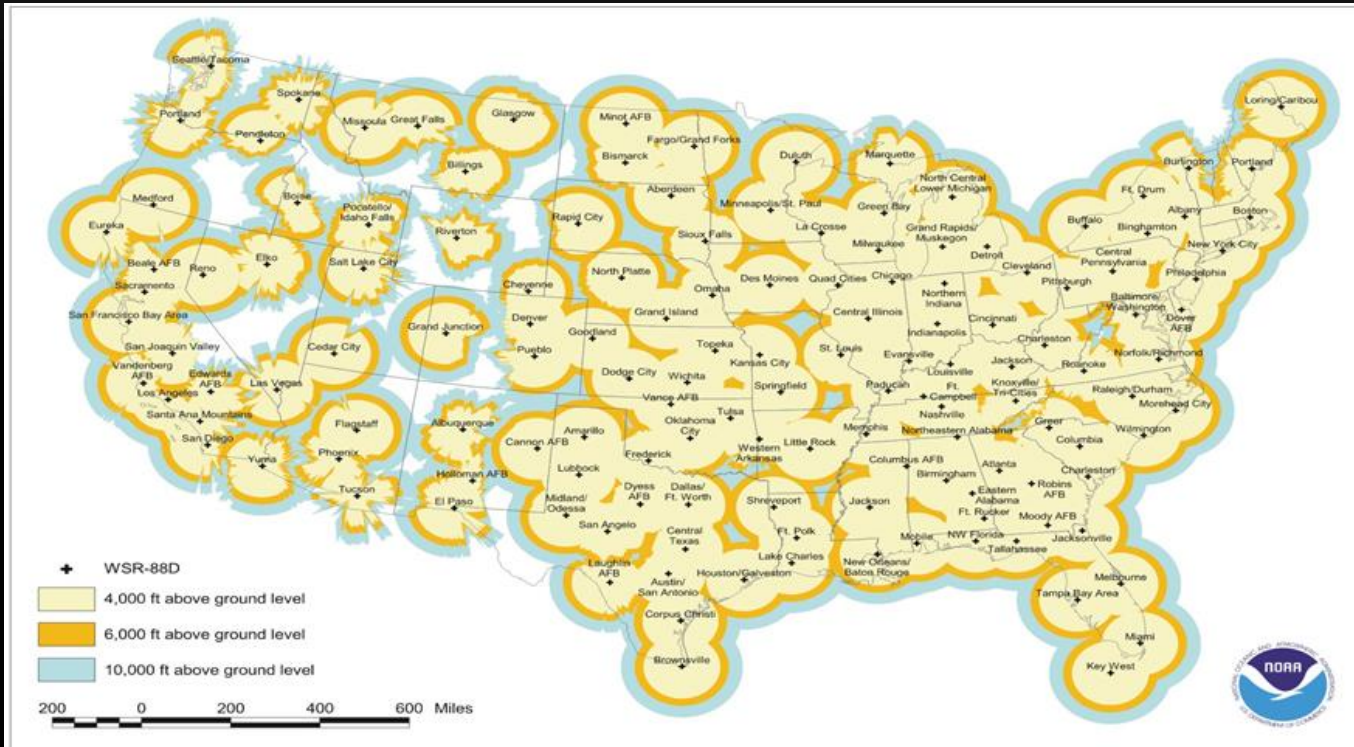
Note: For more detailed information on
input reports, please use the GIS interface:
http://mrcc.isws.illinois.edu/gismaps/freeze/freeze_guidance.html



MRCC Experimental Freeze Guidance:
These experimental maps may be utilized as a guide to local and regional
freeze conditions but should NOT be used by themselves for decision processes.

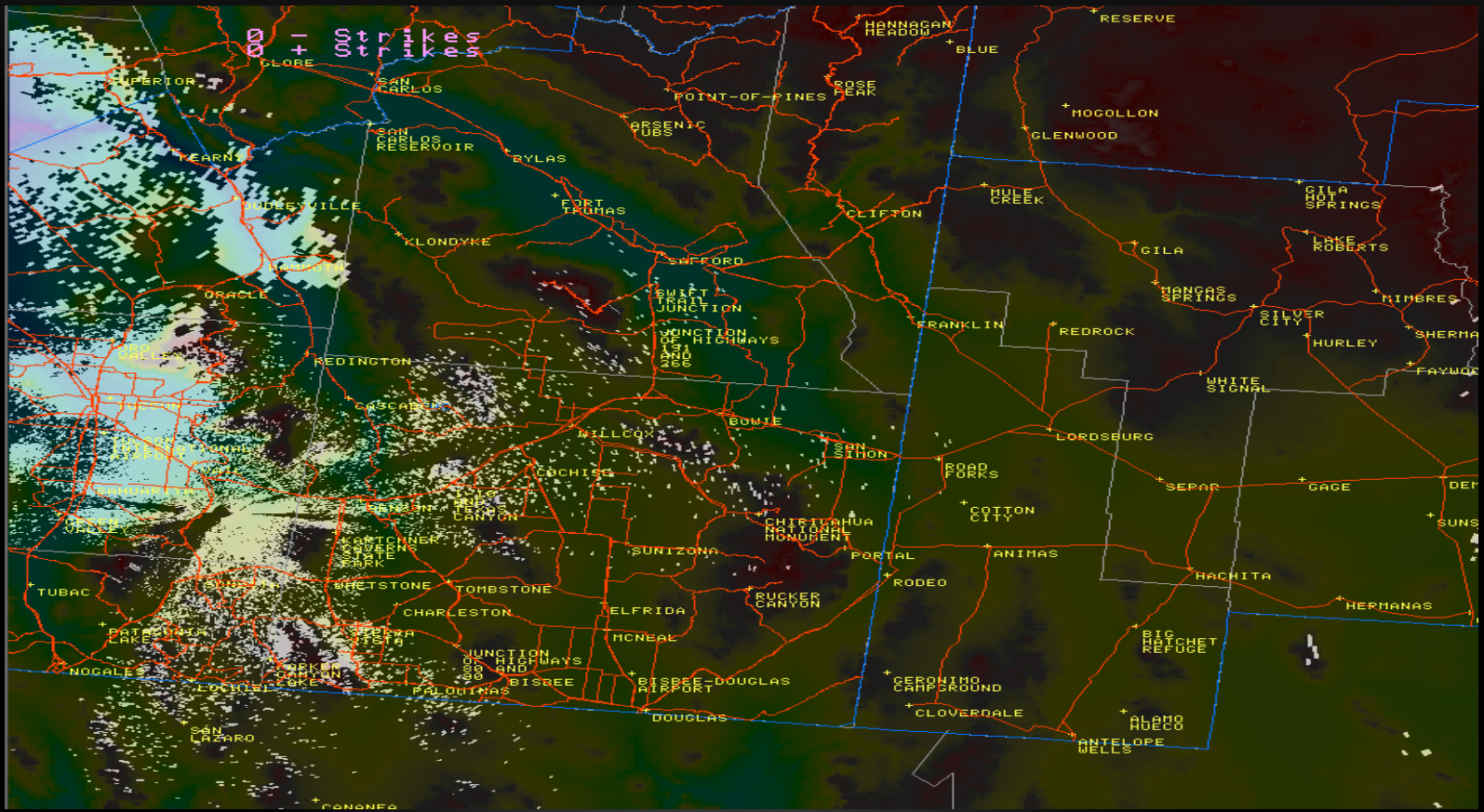
MRCC **ViP**
Vegetation Impact Program

RADAR COVERAGE

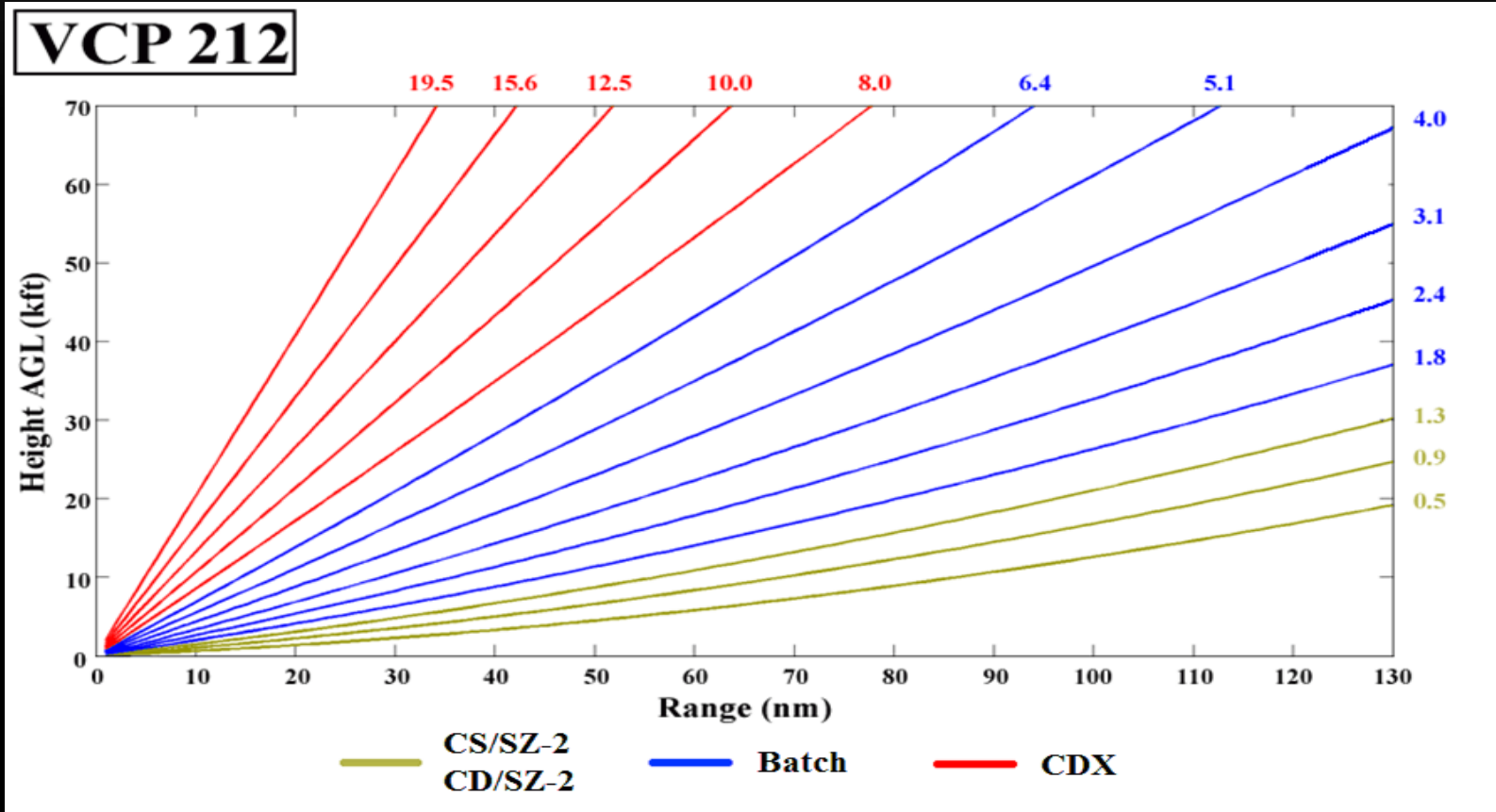


Doppler weather radar coverage of CONUS at 4,000, 6,000, and 10,000 feet above radar ground elevation from the nationwide network of WSR-88Ds (Next Generation Weather Radars). (Courtesy of SRI International)

RADAR COVERAGE CONTINUED



RADAR TILTS



RADAR

- ~5000 ft ASL
- Wilcox is ~50 miles away at near 4190 ft ASL
- That makes the lowest beam possible to reach Wilcox is roughly 6000 ft above the city
- So the take away we can't see what is happening at that level, especially when it comes to dust.

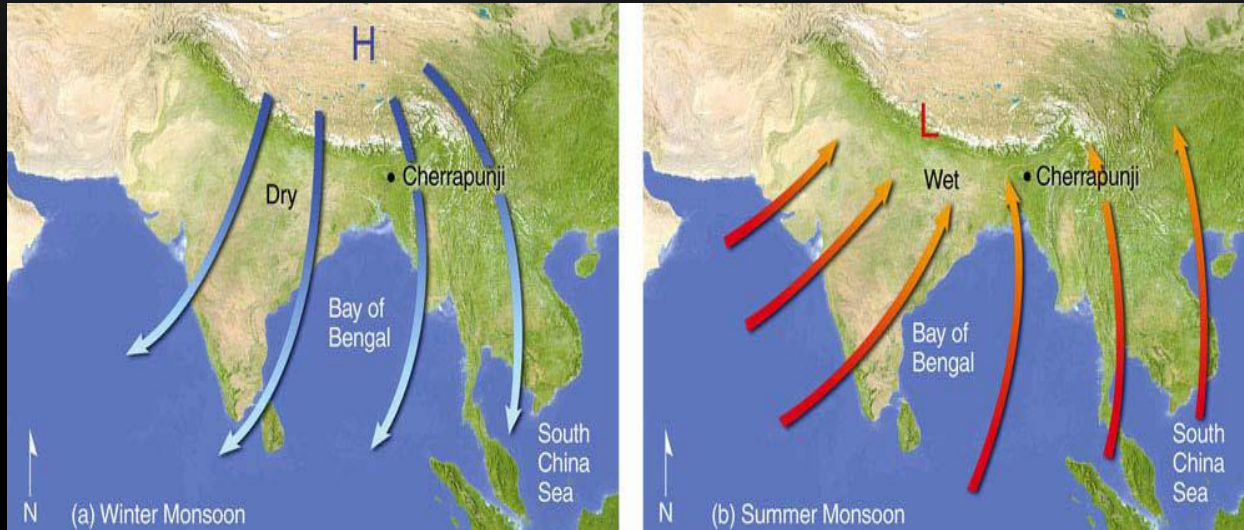
THE MONSOON...

- Comes from the Arabic word for season
- Used by the NWS in the same way as you use the word summer or autumn. “I will be in Canada for the next 6 months, so I will miss the monsoon.”
- Does not refer to an individual thunderstorm or several thunderstorms
- Begins June 15th and continued through September 30th

What is a Monsoon?

Seasonal Wind Shift on a Regional Scale

Asian Monsoon



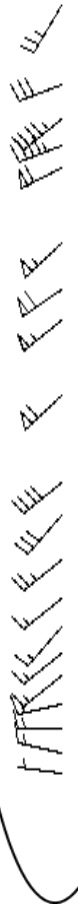
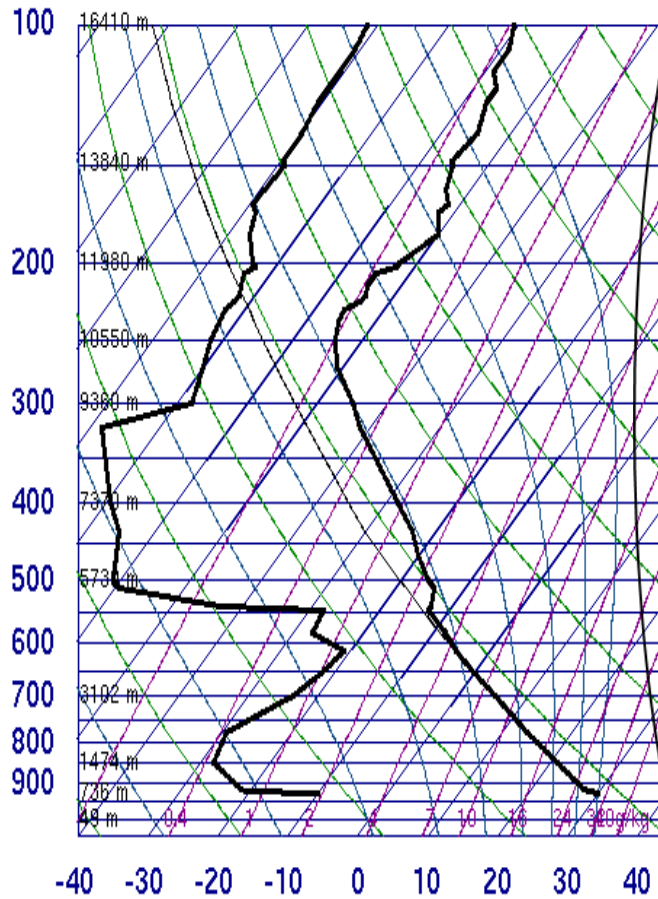
North American Monsoon



Mean 50 kPa Flow Patterns over SW North America

Non-Monsoon Season

72274 TUS Tucson



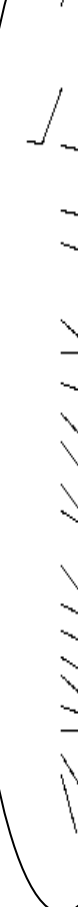
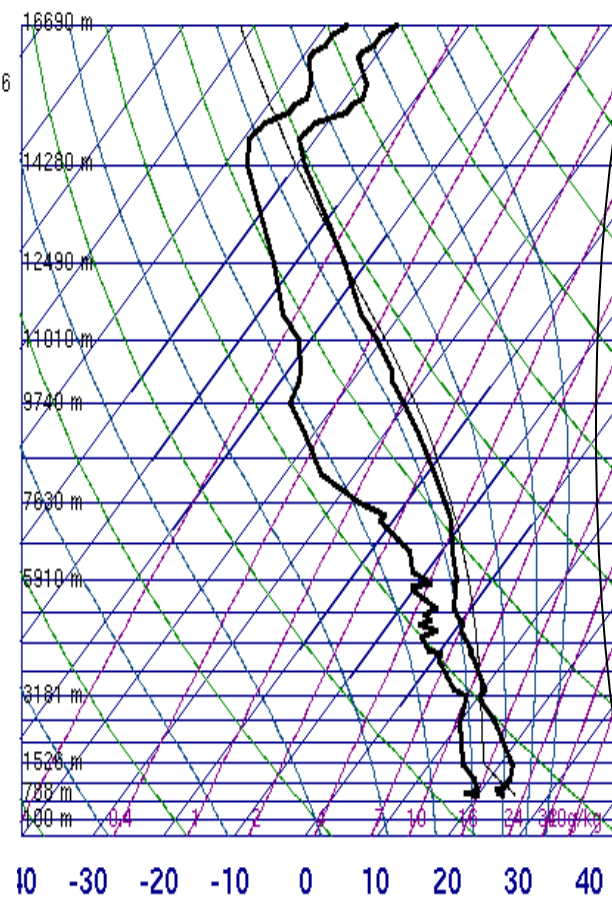
SLAT 32.23
 SLON -110.96
 SELV 751.0
 SHOW 6.41
 LIFT 5.76
 LFTV 5.56
 SWET 54.00
 KINX -19.9
 CTOT -11.9
 VTOT 37.10
 TOTL 25.20
 CAPE 0.00
 CAPV 0.00
 CINS 0.00
 CINV 0.00
 EQLV -9999
 EQTV -9999
 LFCT -9999
 LFCV -9999
 BRCH 0.00
 BRCV 0.00
 LCLT 242.2
 LCLP 429.7
 MLTH 308.4
 MLMR 0.70
 THCK 5681.
 PWAT 2.85

00Z 08 May 2012

University of Wyoming

Monsoon Season

TUS Tucson



SLAT 32.23
 SLON -110.96
 SELV 751.0
 SHOW -0.67
 LIFT -1.68
 LFTV -2.05
 SWET 209.2
 KINX 39.00
 CTOT 19.50
 VTOT 26.50
 TOTL 46.00
 CAPE 442.8
 CAPV 537.0
 CINS -151.
 CINV -128.
 EQLV 198.9
 EQTV 198.4
 LFCT 707.5
 LFCV 714.1
 BRCH 61.20
 BRCV 74.22
 LCLT 290.6
 LCLP 848.9
 MLTH 304.5
 MLMR 15.03
 THCK 5810.
 PWAT 43.79

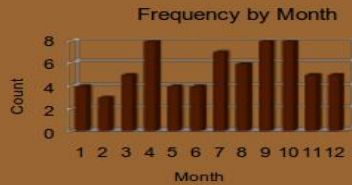
9 Jul 2012

University of Wyoming

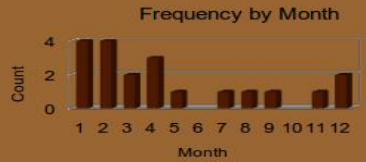
DUST PRODUCTS

Blowing Dust and Dust Storms in Arizona Frequency by Month and Climate Region 1950 to 2011

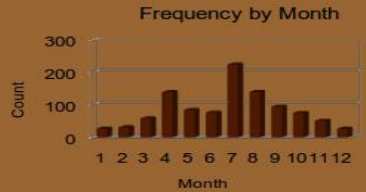
AZ Northwest Climate Region



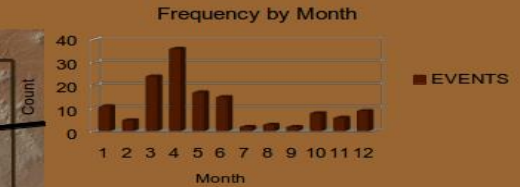
AZ Central Climate Region



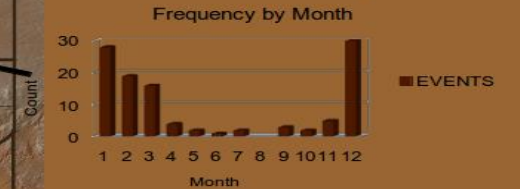
AZ Southwest Climate Region



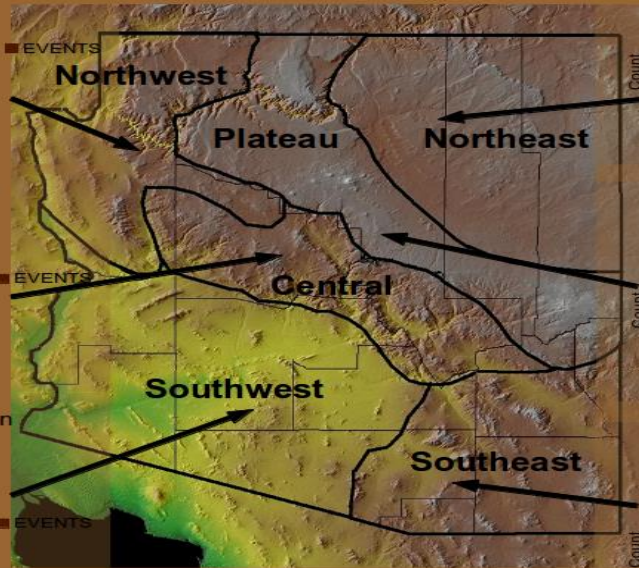
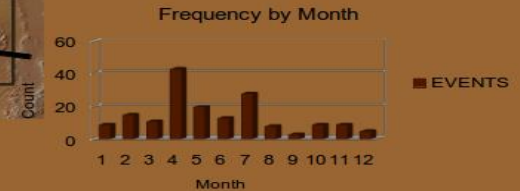
AZ Northeast Climate Region



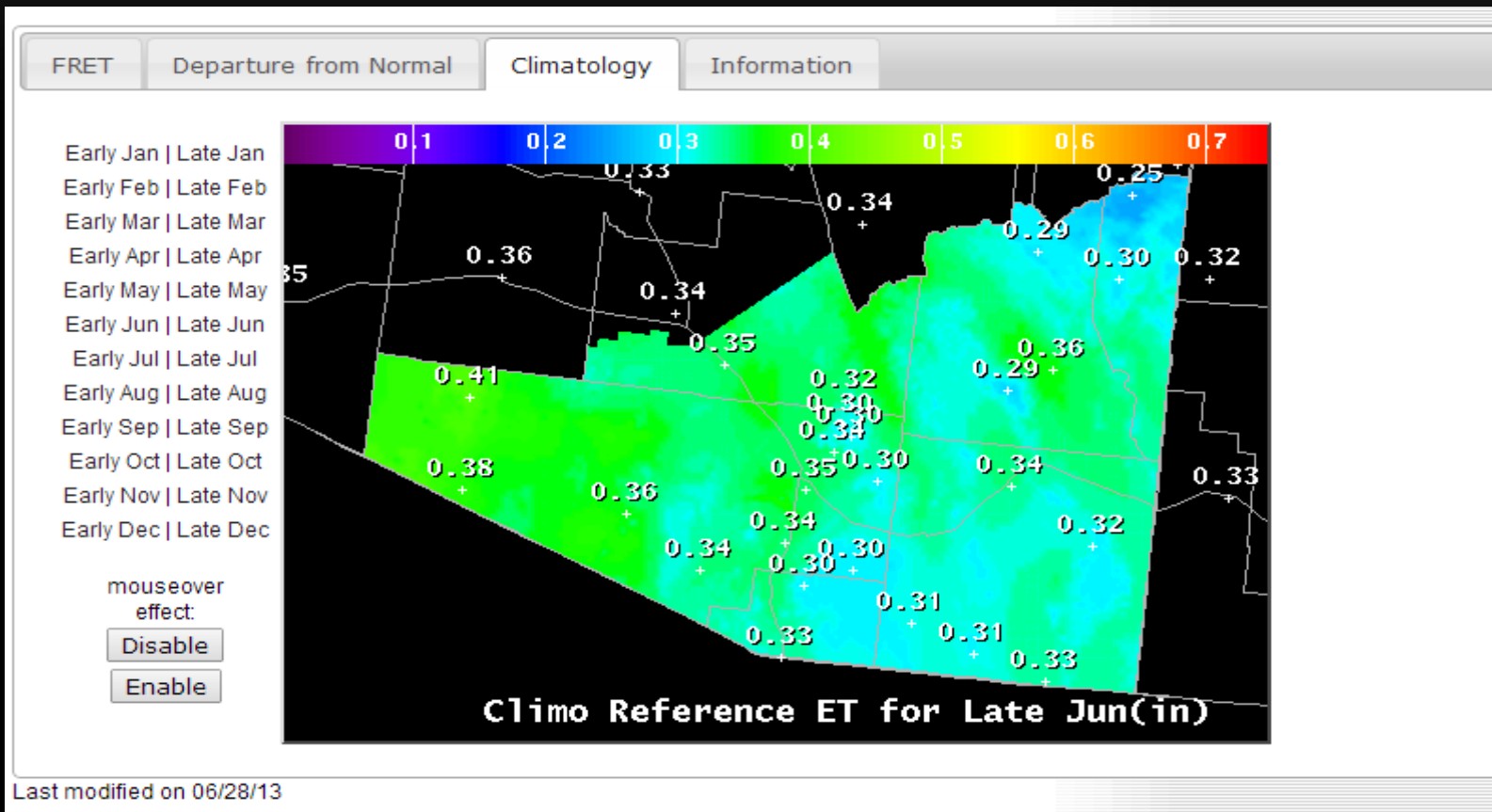
AZ Plateau Climate Region



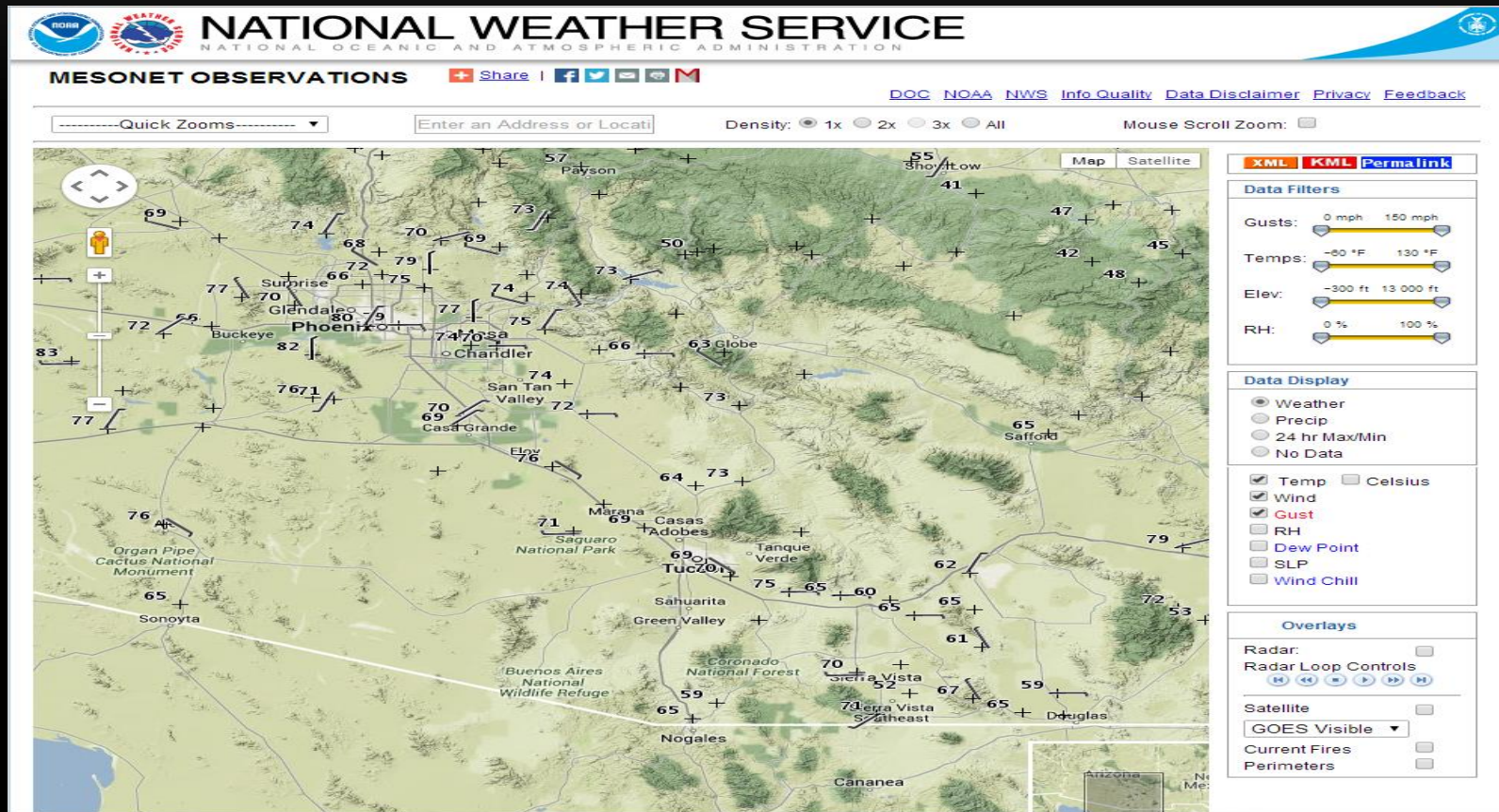
AZ Southeast Climate Region



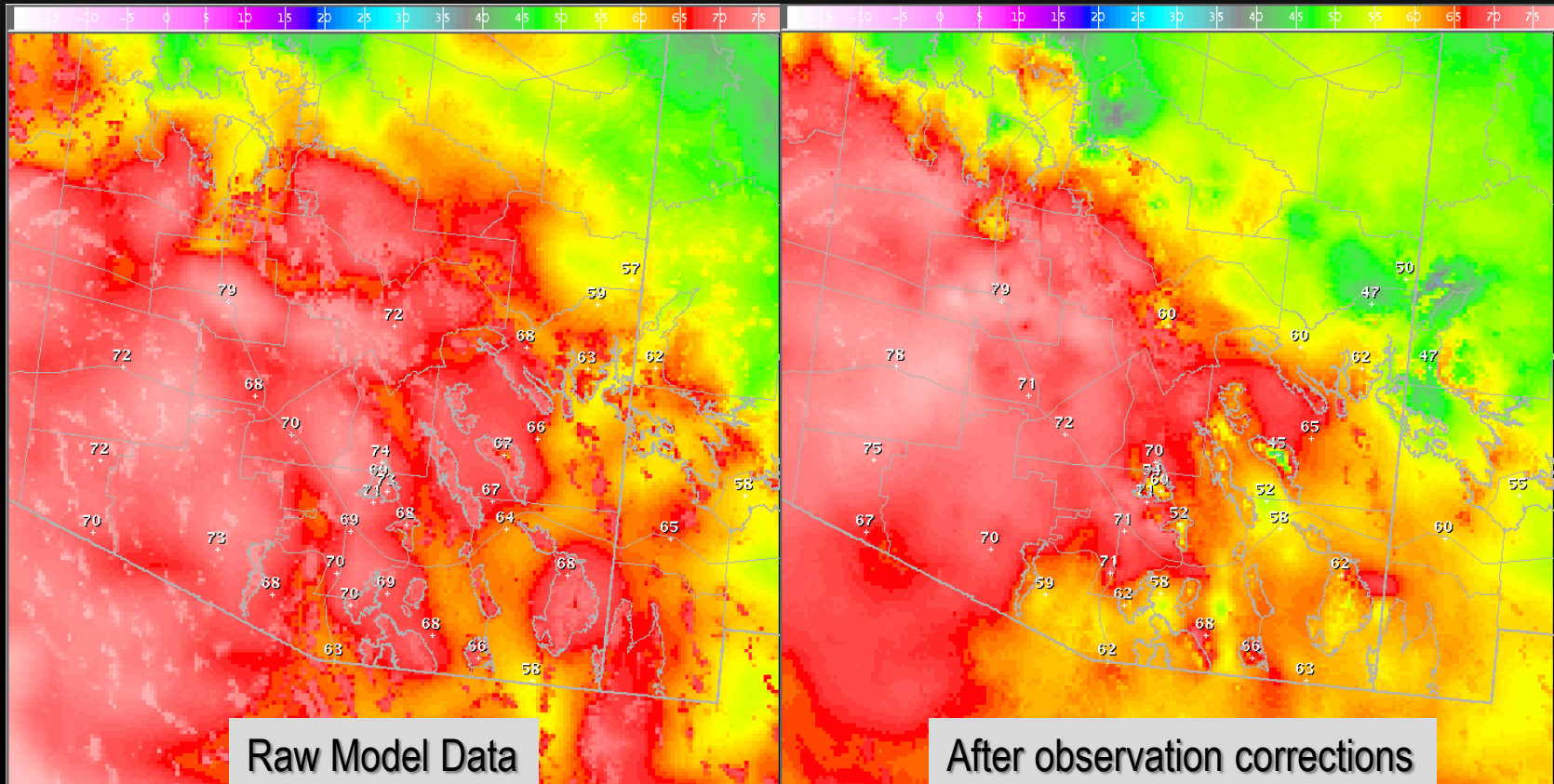
FORECAST REFERENCE CROP EVAPOTRANSPIRATION



OBSERVATIONS/GROUND TRUTH



OBSERVATIONS MAKE A WORLD OF DIFFERENCE



OUR HOME PAGE

The screenshot shows the homepage of the National Weather Service Forecast Office for Tucson, AZ. The page features a blue header with the NOAA logo and the text "National Weather Service Forecast Office Tucson, AZ". Below the header is a navigation bar with links for Home, News, Organization, and FAQ, along with social media icons and a search bar. The main content area is divided into several sections:

- Forecast by "City, State" or ZIP:** A search box with "Go" and "RSS Feeds" links.
- Top News of the Day:** A list of news items, including "May/Spring climate report for Tucson" and "El Nino and Monsoon rainfall across SE AZ".
- Southern Arizona Weather:** A map of Southern Arizona with a legend for weather alerts. A yellow box highlights the "Excessive Heat Warning" legend item. The legend includes: Excessive Heat Warning (red), Red Flag Warning (orange), Excessive Heat Watch (yellow), Special Weather Statement (green), and Hazardous Weather Outlook (blue).
- Latest Conditions at Tucson, AZ:** A section showing the current time (4:53 am MST), temperature (72 °F), and other weather data (Wind: S 6 MPH, RH: 11%, DewPt: 14 °F).
- Social Media and Weather Map:** Links to social media and a weather map.
- KTUS Current 31 Day Period:** A bar chart showing observed weather data compared to normals and records.

The left sidebar contains a list of links for various weather services, including Current Hazards, Observations, and Forecasts.

FORECAST

7 Day Forecast

NWS Weather Forecast Office

TODAY	TONIGHT	TUESDAY	TUESDAY NIGHT	WEDNESDAY	WEDNESDAY NIGHT	THURSDAY	THURSDAY NIGHT	FRIDAY
								
Sunny High: 101 °F	Mostly Clear Low: 61 °F	Sunny High: 102 °F	Mostly Clear Low: 59 °F	Sunny High: 99 °F	Mostly Clear Low: 59 °F	Breezy High: 99 °F	Mostly Clear Low: 60 °F	Breezy High: 96 °F

Detailed Forecast

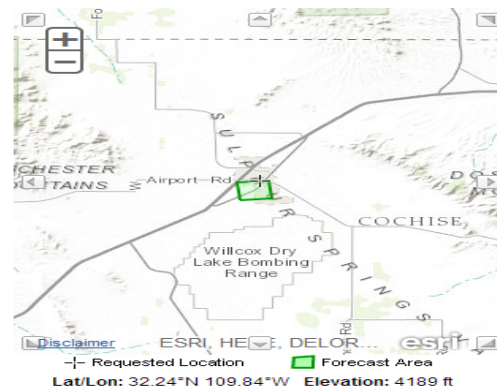
Today	Sunny, with a high near 101. South wind 5 to 14 mph becoming west in the afternoon.
Tonight	Mostly clear, with a low around 61. West northwest wind 7 to 14 mph.
Tuesday	Sunny, with a high near 102. South southwest wind 6 to 11 mph becoming west 13 to 18 mph in the afternoon.
Tuesday Night	Mostly clear, with a low around 59. West northwest wind 7 to 15 mph.
Wednesday	Sunny, with a high near 99. West southwest wind 6 to 11 mph increasing to 12 to 17 mph in the afternoon.
Wednesday Night	Mostly clear, with a low around 59.
Thursday	Sunny, with a high near 99. Breezy.
Thursday Night	Mostly clear, with a low around 60.
Friday	Sunny, with a high near 96. Breezy.
Friday Night	Clear, with a low around 57.
Saturday	Sunny, with a high near 94.
Saturday Night	Mostly clear, with a low around 56.
Sunday	Sunny, with a high near 95.

Additional Forecasts and Information

ZONE AREA FORECAST FOR EASTERN COCHISE COUNTY, BELOW 5000 FEET INCLUDING DOUGLAS/WILCOX, AZ

Topographic

Click Map For Forecast



ABOUT THIS FORECAST

Point Forecast: Point Forecast: Willcox AZ
32.24°N 109.84°W (Elev. 4189 ft)

Last Update: 2:46 am MST Jun 2, 2014

Forecast Valid: 6am MST Jun 2, 2014-6pm MST Jun 8, 2014

[Forecast Discussion](#)

KML

XML

RADAR & SATELLITE IMAGES



FORECAST

Sunday	Sunny, with a high near 97. Breezy.
Sunday Night	Mostly clear, with a low around 55.
Monday	Sunny, with a high near 96.
Monday Night	Mostly clear, with a low around 56.
Tuesday	Sunny, with a high near 95.

Additional Forecasts and Information

[ZONE AREA FORECAST FOR EASTERN COCHISE COUNTY BELOW 5000 FEET INCLUDING DOUGLAS/WILLCOX, AZ](#)

[Forecast Discussion](#)
[Printable Forecast](#)
[Text Only Forecast](#)

[Visible Satellite Imagery](#)
[Infrared Satellite Imagery](#)

[Hourly Weather Graph](#)
[Tabular Forecast](#)
[Quick Forecast](#)

[Climatic Data](#)
[SE AZ Drought Monitoring](#)

[Air Quality Forecasts](#)
[International System of Units](#)
[About Point Forecasts](#)
[Forecast Weather Table Interface](#)

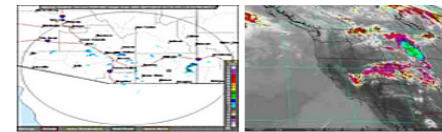
[How to use this page](#)
[User Defined Area](#)

ABOUT THIS FORECAST

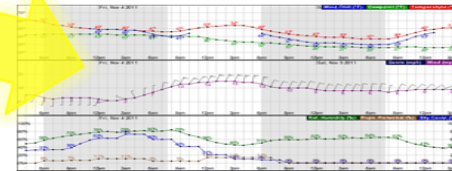
Point Forecast: Point Forecast: 2 Miles WSW Willcox AZ
32.24°N 109.87°W (Elev. 4195 ft)
Last Update: 2:08 pm MST Jun 10, 2014
Forecast Valid: 7pm MST Jun 10, 2014-6pm MST Jun 17, 2014
[Forecast Discussion](#)

[KML](#) [XML](#)

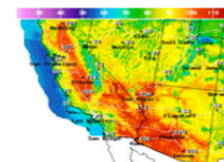
RADAR & SATELLITE IMAGES



HOURLY WEATHER GRAPH



NATIONAL DIGITAL FORECAST DATABASE



High Temperature



Chance of Precipitation

FORECAST

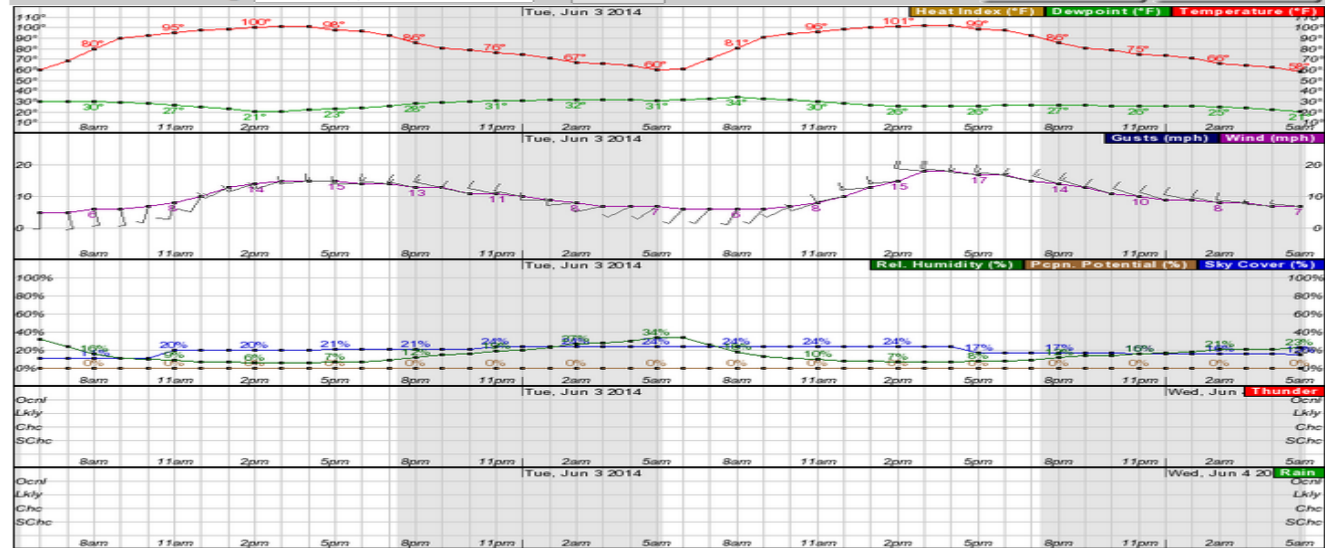
Point Forecast: Willcox AZ
32.26N 109.87W (Elev. 4195 ft)

Last Update: 2:46 am MST Jun 2, 2014

Hourly Weather Forecast Graph

Weather Elements <input checked="" type="checkbox"/> Temperature (°F) <input checked="" type="checkbox"/> Dewpoint (°F) <input checked="" type="checkbox"/> Heat Index (°F) <input checked="" type="checkbox"/> Surface Wind <input type="text" value="mph"/> <input checked="" type="checkbox"/> Sky Coverage <input checked="" type="checkbox"/> Precipitation Potential <input checked="" type="checkbox"/> Relative Humidity		Weather/Precipitation <input checked="" type="checkbox"/> Thunder <input checked="" type="checkbox"/> Rain	Fire Weather <input type="checkbox"/> Mixing Height (x100ft) <input type="checkbox"/> Haines Index <input type="checkbox"/> Lightning Activity Level <input type="checkbox"/> Trans. Wind <input type="text" value="mph"/> <input type="checkbox"/> 20ft Wind <input type="text" value="mph"/> <input type="checkbox"/> Vent Rate (x1000 mph-ft)
--	--	---	---

48-Hour Period Starting:



Monday, June 2 at 6am
 Temperature: 80 °F Dewpoint: 30 °F Heat Index: N/A Surface Wind: S 5mph
 Sky Cover: 11% Precipitation Potential: 0% Relative Humidity: 32%
 Thunder: <10% Rain: <10%

FORECAST

Sunday Night	Sunny, with a high near 97. Breezy.
Monday	Sunny, with a high near 96.
Monday Night	Mostly clear, with a low around 56.
Tuesday	Sunny, with a high near 95.

ABOUT THIS FORECAST

Point Forecast: Point Forecast: 2 Miles WSW Willcox AZ
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Last Update: 2:08 pm MST Jun 10, 2014
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[KML](#) [XML](#)

Additional Forecasts and Information

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[Text Only Forecast](#)

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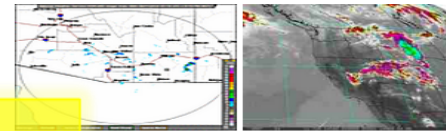
[Air Quality Forecasts](#)
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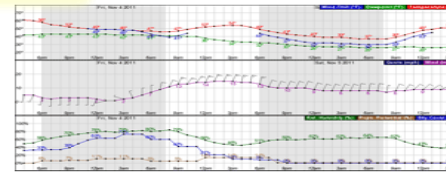
[Climatic Data](#)
[SE AZ Drought Monitoring](#)

[How to use this page](#)
[User Defined Area](#)

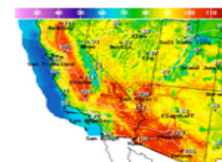
RADAR & SATELLITE IMAGES



HOURLY WEATHER GRAPH



NATIONAL DIGITAL FORECAST DATABASE



High Temperature



Chance of Precipitation

OUR HOME PAGE

National Weather Service Forecast Office
Tucson, AZ

Home News Organization FAQ Share | Facebook Twitter YouTube RSS

Forecast by "City, State" or ZIP
Enter location ...
Go

Top News of the Day
May/Spring climate report for Tucson [NEW](#)
El Nino and Monsoon rainfall across SE AZ [NEW](#)

Last 17 Products Issue Forecast by City

Watches & Warnings Observations Forecast Graphics Rivers & Lakes Climate Fire Weather Detailed Hazards Monsoon Tracker

Southern Arizona Weather Map FAQs Glossary

Click on the map below for the latest forecast.



Read watches, warnings & advisories
Zoom In
Zoom Out

- Excessive Heat Warning
- Red Flag Warning
- Excessive Heat Watch
- Special Weather Statement
- Hazardous Weather Outlook

Last map update: Jun. 2nd 2014 at 4:56:14 am MST

Latest Conditions at Tucson, AZ
Jun-02 Choose Your Front Page Site

5:53 am MST (4 minutes old)  **72 °F** (22 °C)
Fair
Wind: S 6 MPH RH: 11% DewPt: 14 °F More Details (KTUS) XML View

Social Media: Facebook, Twitter, YouTube, RSS, Stroy Connected

Click Images For More Information: Radar, Satellite, Weather Map

KTUS Current 31 Day Period
Observed Normals Records



USER DEFINED FORECAST AREA



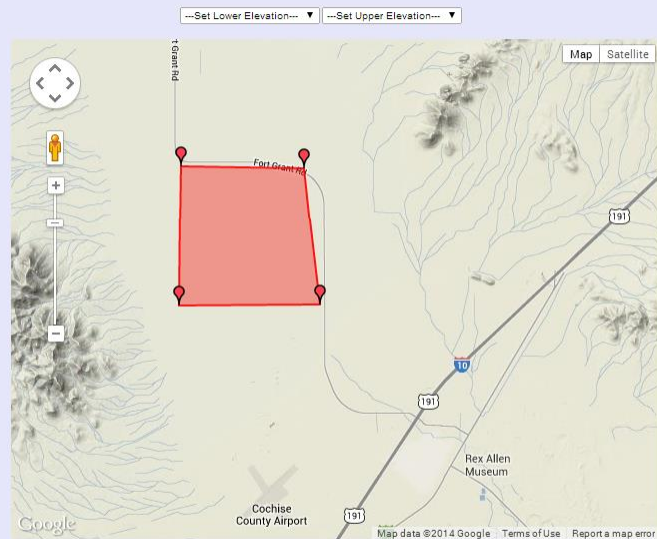
National Weather Service Forecast User Defined Area Forecast Tucson, AZ



Experimental Product: [Description](#) | [Survey](#)

This page allows a user to get a forecast for an area they design. An area is created by clicking on the map and placing markers on the map to create a polygon. The forecast returned will be an average forecast for the entire area.

- Click on map to set each marker.
- There must be at least 3 markers to make an area.
- All markers are draggable and removable (click on a marker to remove it).
- Elevation limits (upper and lower) can be set using the drop down menus.
- Once an area is defined, click on "Get Area Forecast".
- To start over, click Clear Map.
- *Note: Grids that fall within Marine areas will not be included in calculations.*



Get Area Forecast

Clear Map



US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service

Web Master's Email: w-nws.webmaster@noaa.gov

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[Information Quality](#)
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[Glossary](#)

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[Freedom of Information Act \(FOIA\)](#)
[About Us](#)
[Career Opportunities](#)

USER FORECAST AREA

Today	Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday
								
Hi 100 °F	Lo 58 °F	Hi 101 °F	Lo 57 °F	Hi 98 °F	Lo 56 °F	Hi 98 °F	Lo 57 °F	Hi 94 °F

This table displays the range of values for each weather element during each period. Forecast presented is based on 2 forecast grids, covering an area of 5 sq miles. The elevation ranges from 4205 ft. to 4225 ft.

	Mon	Mon Night	Tue	Tue Night	Wed	Wed Night	Thu	Thu Night	Fri
Temp (F)	100 101	58 58	101 102	58 59	98 98	57 57	98 98	56 57	94 95
PoP (%)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
QPF (in)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Sky	0 5	10 20	20 25	25 25	15 15	10 15	10 10	5 10	5 5
Wind (mph)	5 10	15 15	5 10	15 20	5 10	15 15	5 10	20 20	5 10
Wind Dir	N	S	W	W	WNW	W	WNW	WSW	W
Weather									

[Hide Table \[X\]](#)

Detailed 7-day Forecast

Hazardous weather condition(s):

Excessive Heat Warning
Excessive Heat Watch

Today: Sunny, with highs around 100. South southeast wind 5 to 15 mph becoming west.

Tonight: Mostly clear, with lows mainly in the upper 50s. West northwest wind between 7 and 14 mph.

Tuesday: Sunny, with highs near 101. West southwest wind 6 to 9 mph increasing to between 15 and 18 mph.

Tuesday Night: Mostly clear, with lows mostly in the upper 50s. West northwest wind between 8 and 16 mph.

Wednesday: Sunny, with highs mainly in the upper 90s. West southwest wind 6 to 9 mph increasing to between 14 and 17 mph.

Wednesday Night: Mostly clear, with lows mostly in the middle 50s.

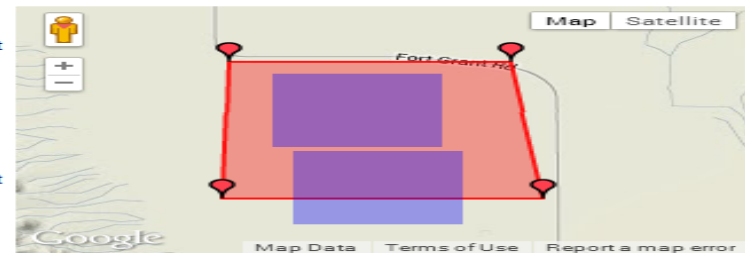
Thursday: Sunny, with highs mostly in the upper 90s. Breezy.

Thursday Night: Mostly clear, with lows mainly in the upper 50s.

Friday: Sunny, with highs mainly in the middle 90s. Breezy.

Detailed Point Forecast [\[Move Down\]](#)

Edit map below and click "Get Area Forecast" to redefine your area. Click "Clear Map" to remove the current area.



User Defined Area Grids Used in Forecast

[Get an Area Forecast](#)

[Clear Map](#)



XML

Current Conditions [\[Move Up\]](#)

OUR HOME PAGE

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- KTUS Current 31 Day Period:** A bar chart showing observed weather conditions compared to normals and records.

The left sidebar contains a comprehensive list of links for various weather-related services, including "Current Hazards", "Observations", "Forecast Discussion", and "Monsoon Safety".

WEATHER ACTIVITY PLANNER

Weather Activity Planner

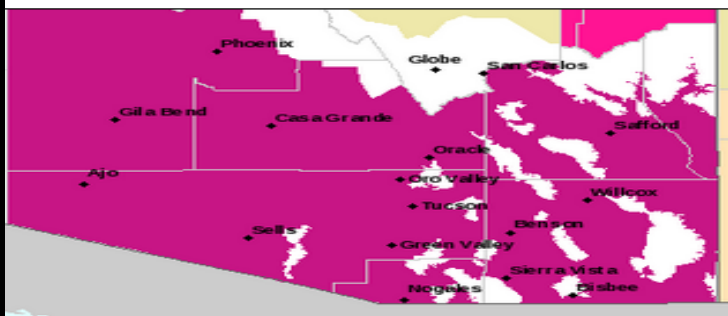
Welcome to the Weather Activity Planner. Please enter the range of weather parameters required for your activity. Then, either click the approximate location on the map below, or enter the specific latitude and longitude and hit submit. This will query the forecast grids to find when your weather requirements will be met at the nearest grid point over the next 7 days. Public comments and suggestions are encouraged.

This application generates products from a digital forecast data base. It is intended to allow a user to define and produce a forecast for general planning purposes only. As any weather or hydrologic event evolves, updated forecasts and warnings are issued by the NWS. Customers are urged to obtain the latest official forecast information prior to engaging in any weather sensitive activity, and to monitor forecasts for updates during such activities.

The Weather Activity Planner is NOT meant to replace a spot forecast request. Weather Activity Planner surface winds are a gridded representation of projected, local surface winds at a 5km or 2.5km resolution. The surface winds returned do NOT account for fuel type, sheltering or slope aspect. Users can select either surface wind speeds or 20 foot winds (if the 20 foot wind grid is available). If precise wind forecasts are needed, please submit a spot forecast request to your servicing Weather Forecast Office.

[\[English Units - Click to Change\]](#)

Element	Min	to	Max	Element	Min	to	Max
Temperature (°F) ▼	<input type="text"/>	to	<input type="text"/>	Surface Wind Direction ▼	<input type="text"/>	to	<input type="text"/>
Relative Humidity ▼	<input type="text"/>	to	<input type="text"/>	Sky Cover ▼	<input type="text"/>	to	<input type="text"/>
Surface Wind Speed (mph) ▼	<input type="text"/>	to	<input type="text"/>	Precipitation Potential ▼	<input type="text"/>	to	<input type="text"/>



Last Updated: Mon, Jun. 02 2014 5:20 AM

Read watches, warnings & advisories

Zoom Out

- Excessive Heat Warning
- Excessive Heat Watch
- Special Weather Statement
- Hazardous Weather Outlook

Latitude/Longitude Entry
 decimal degrees (i.e. 42.134) or
 deg min sec (i.e. 42 23 34)

Latitude:

Longitude:

Use "-" (negative sign) in longitude
 for locations in Western
 Hemisphere

NOAA's National Weather Service
 Tucson, AZ

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