

WY05 Hydrologic Highlights & WY05 Climate Outlook

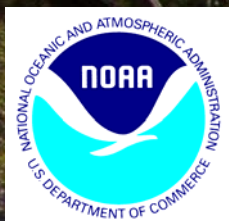
**Powder/Tongue River
Basin Advisory Group**

September 29, 2004

Joe Sullivan

National Weather Service

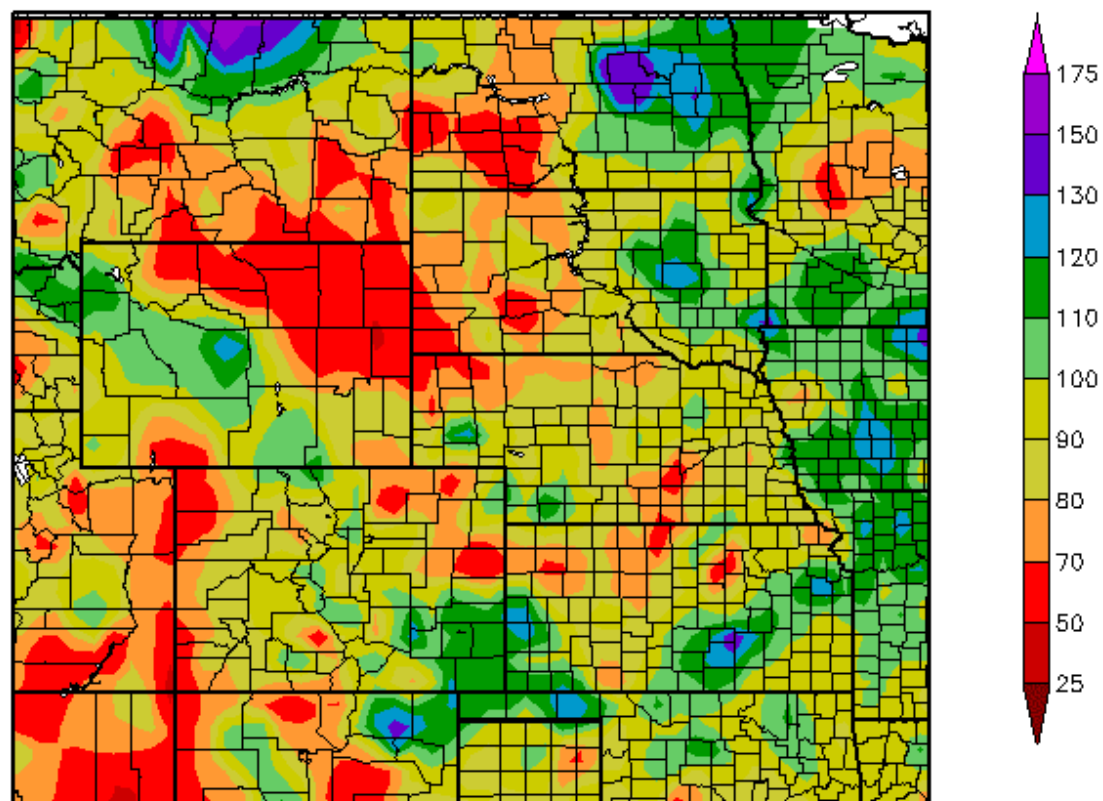
Riverton WY



Regional 1-yr Precipitation

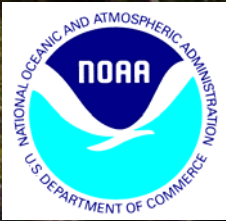


Percent of Normal Precipitation (%)
9/16/2003 – 9/15/2004



Generated 9/16/2004 at HPRCC using provisional data.

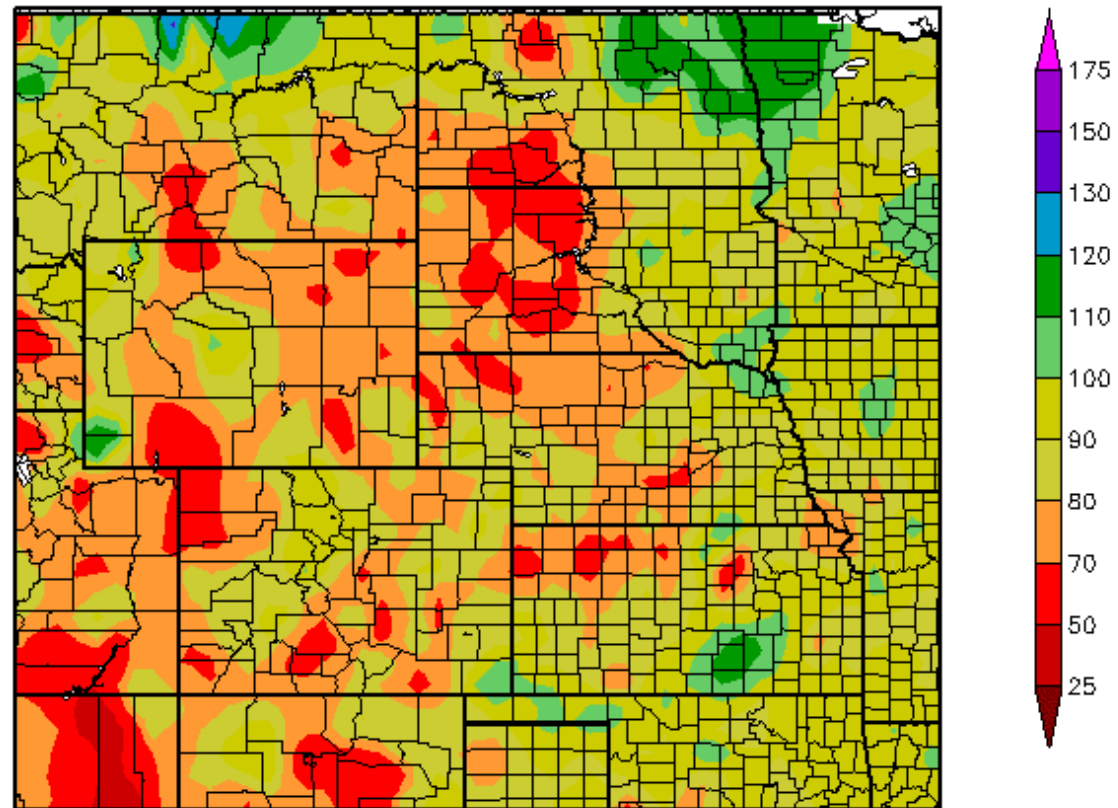
NOAA Regional Climate Centers



Regional 3-yr Precipitation

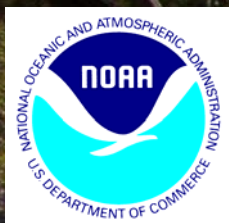


Percent of Normal Precipitation (%)
9/16/2001 – 9/15/2004



Generated 9/16/2004 at HPRCC using provisional data.

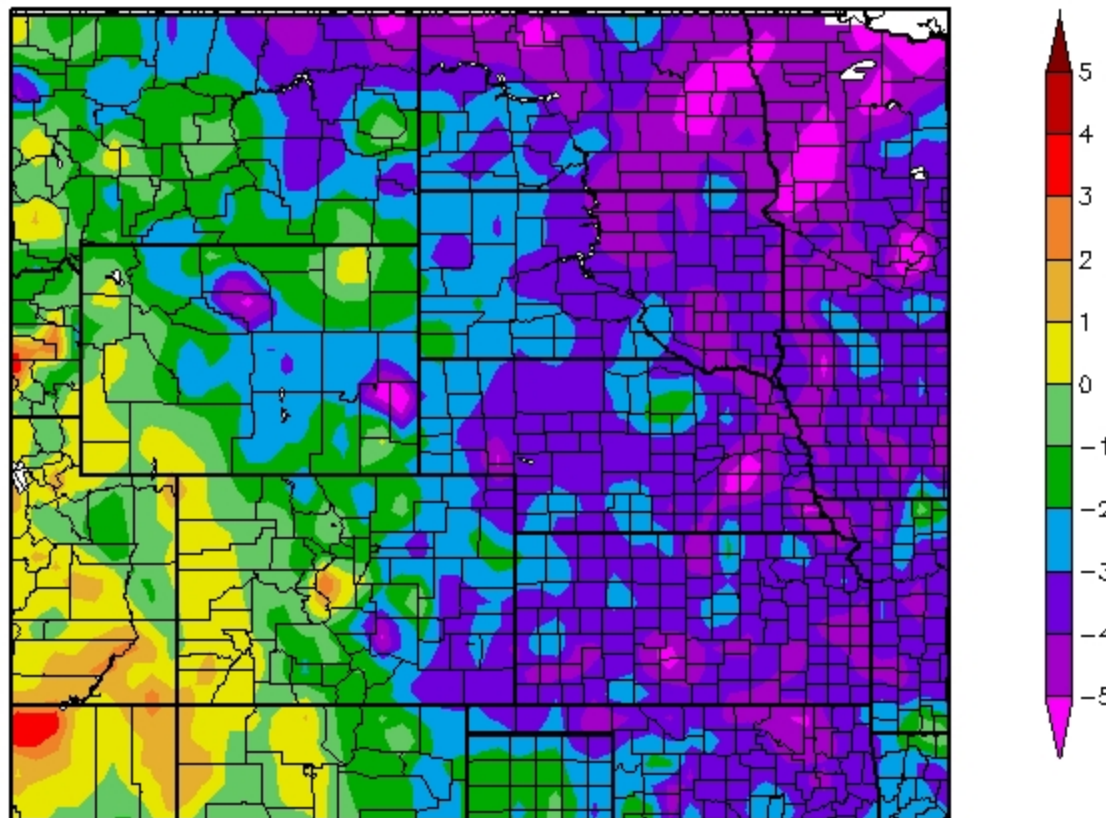
NOAA Regional Climate Centers



Regional Temperature Anomalies



Departure from Normal Temperature (F)
6/1/2004 - 8/31/2004

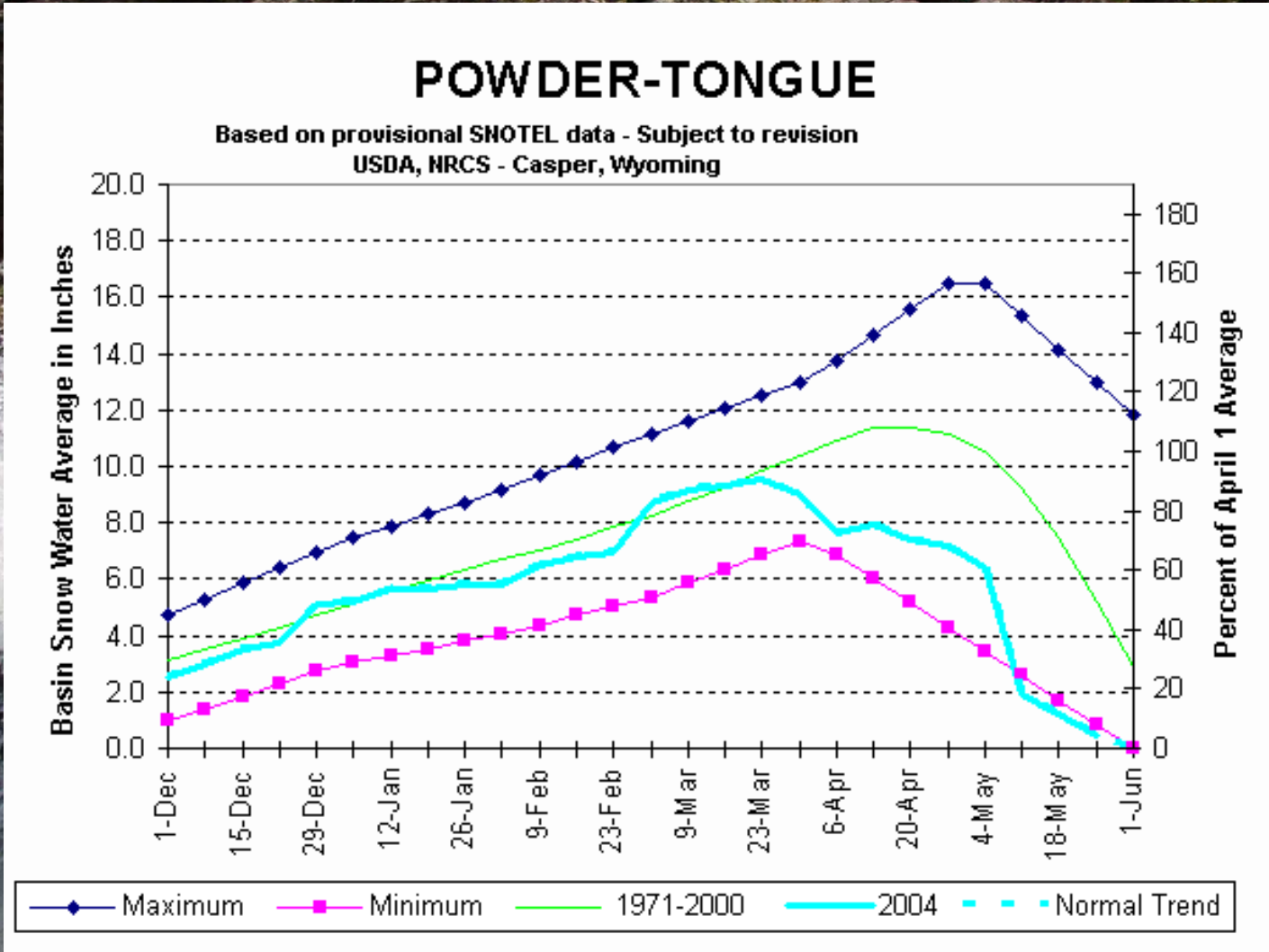


Generated 9/21/2004 at HPRCC using provisional data.

NOAA Regional Climate Centers

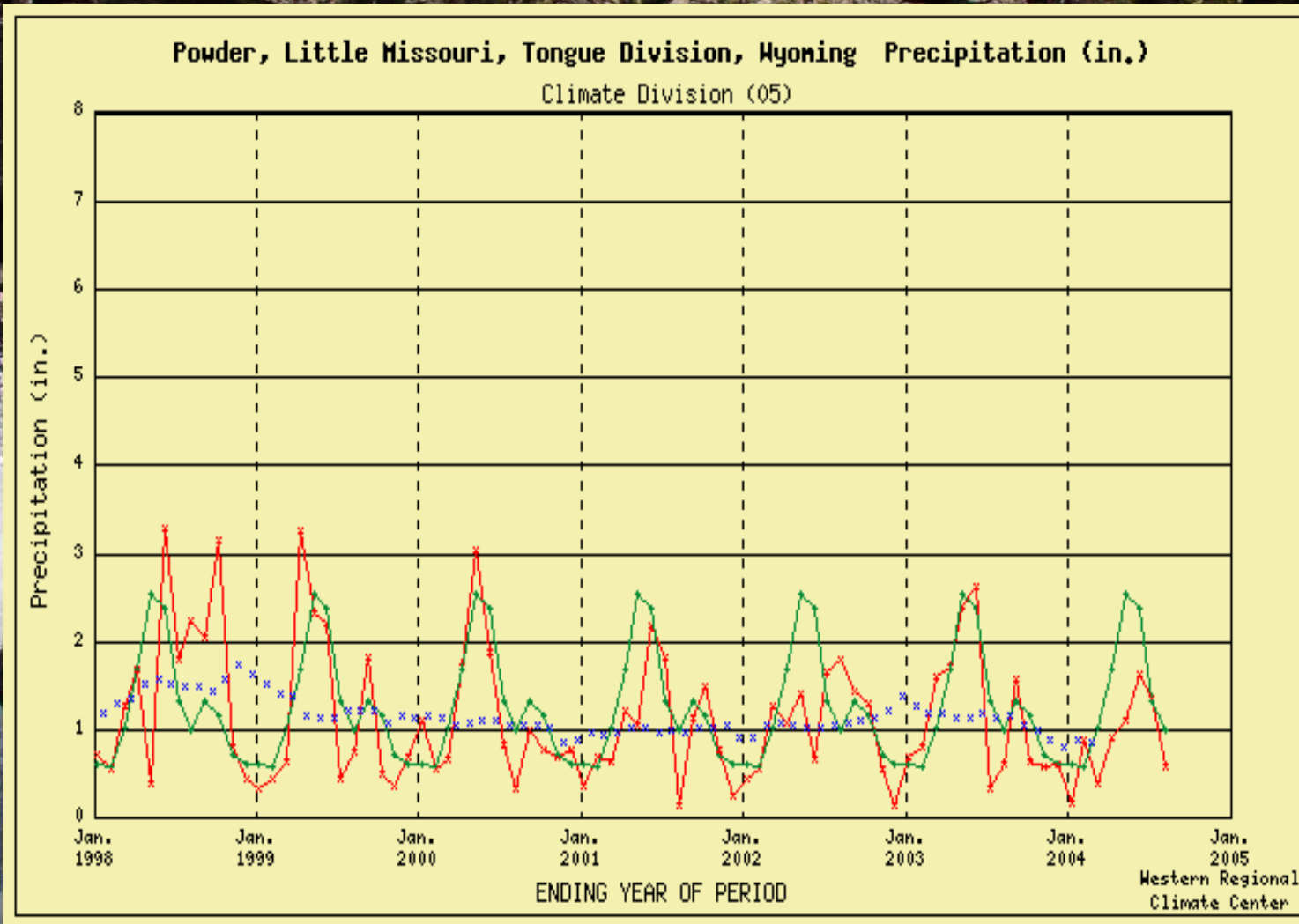


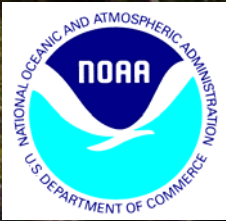
SWE for WY04 Powder-Tongue Basin





1998-2004 Precipitation Powder-Tongue Basin

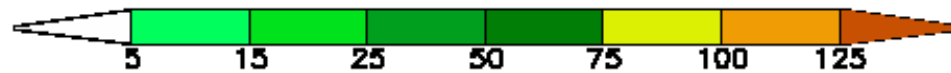
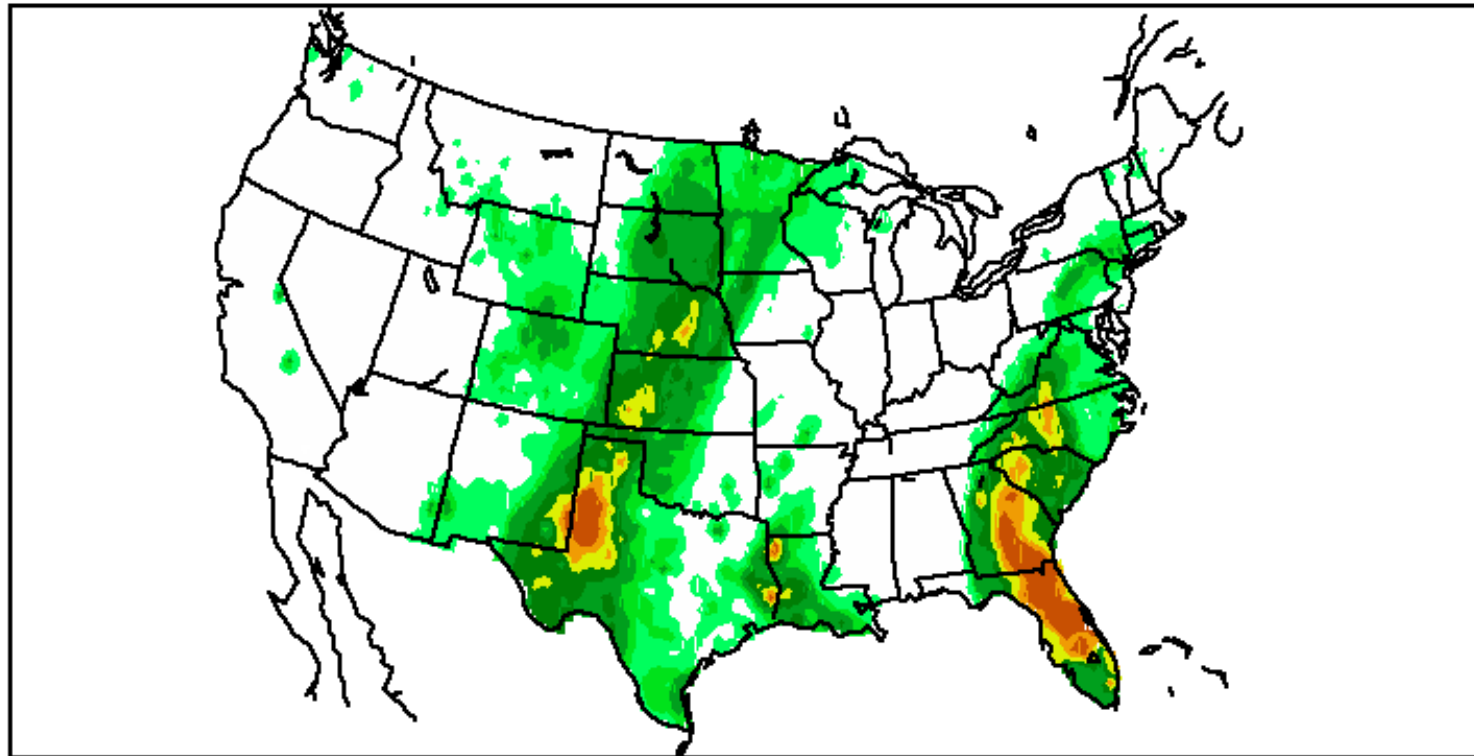


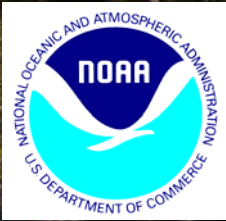


Accumulated Precipitation September 21-28, 2004



7-day accumulation (mm) ending 20040928

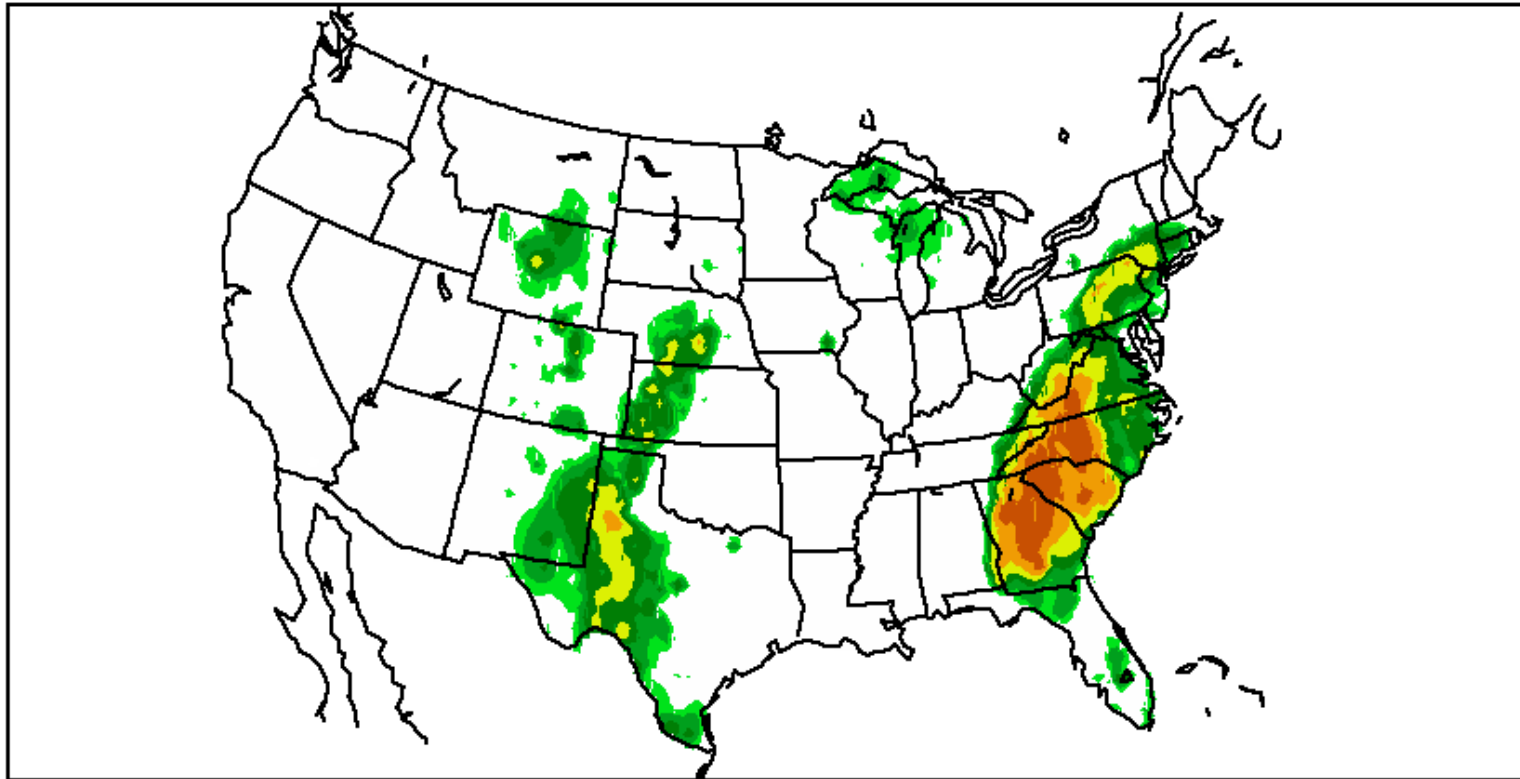




Accumulated Precipitation September 27-28, 2004

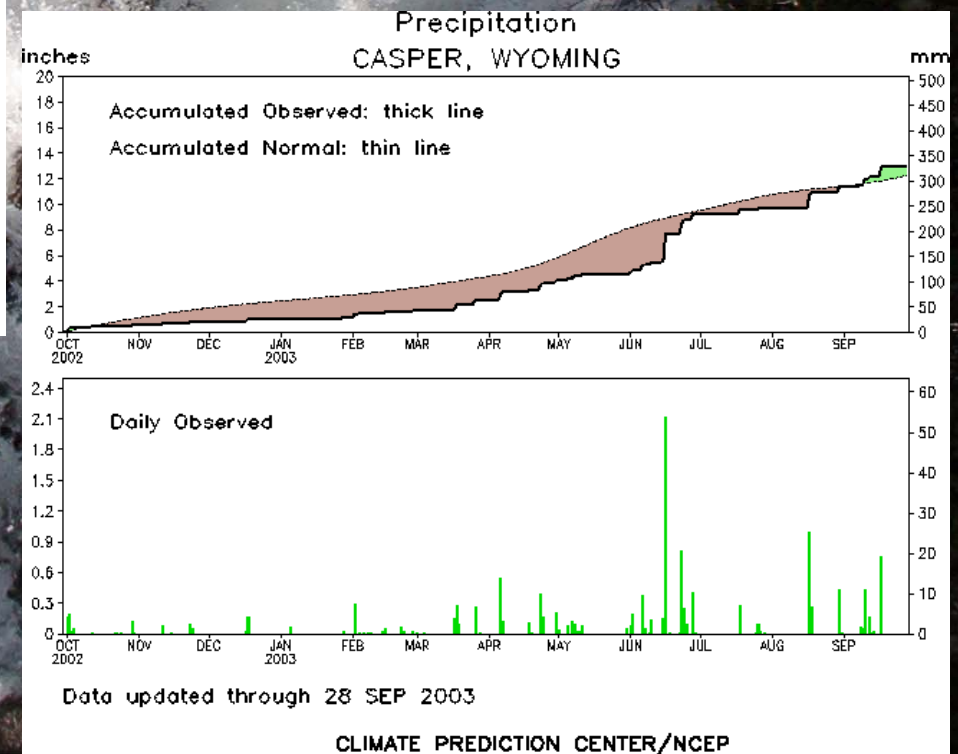
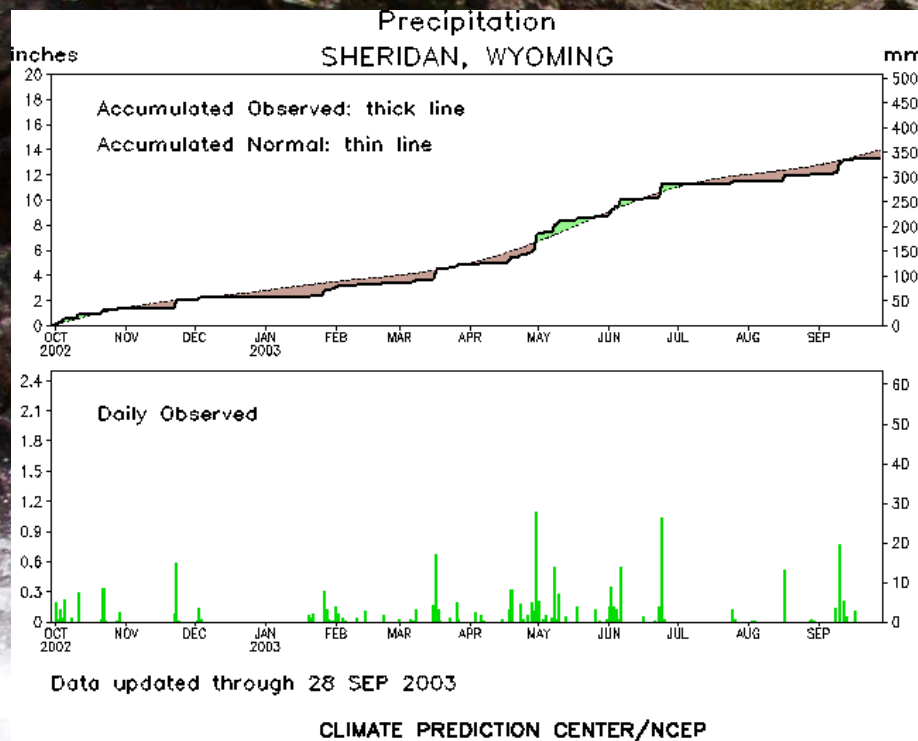


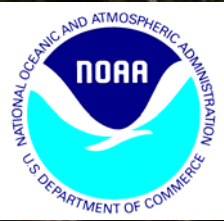
24-hour Precipitation (mm) ending 12Z 20040928





WY04 Precipitation Northeast Wyoming

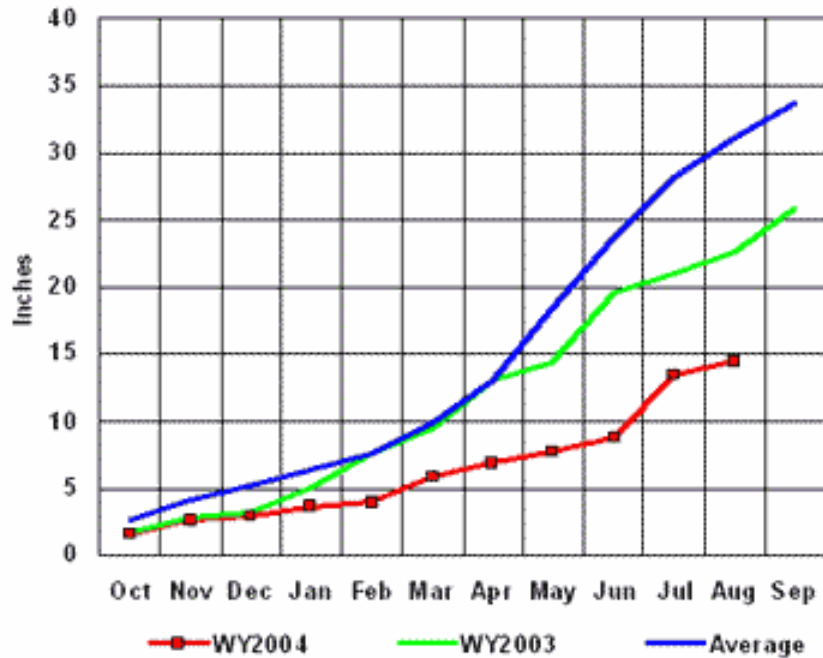




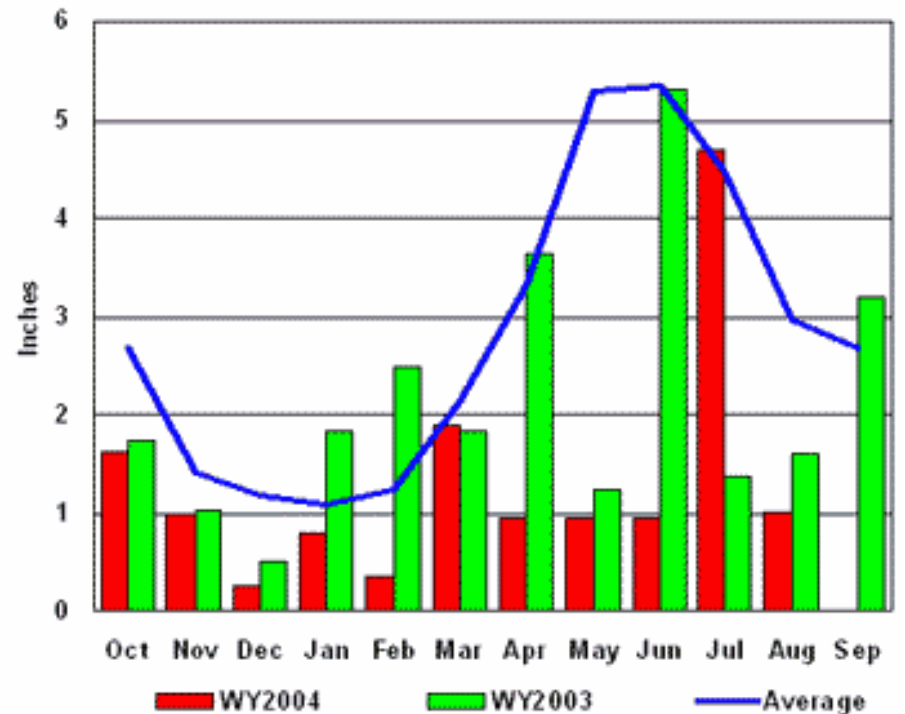
WY04 Precipitation Keyhole Reservoir



Monthly Accumulated Precipitation



Monthly Actual Precipitation

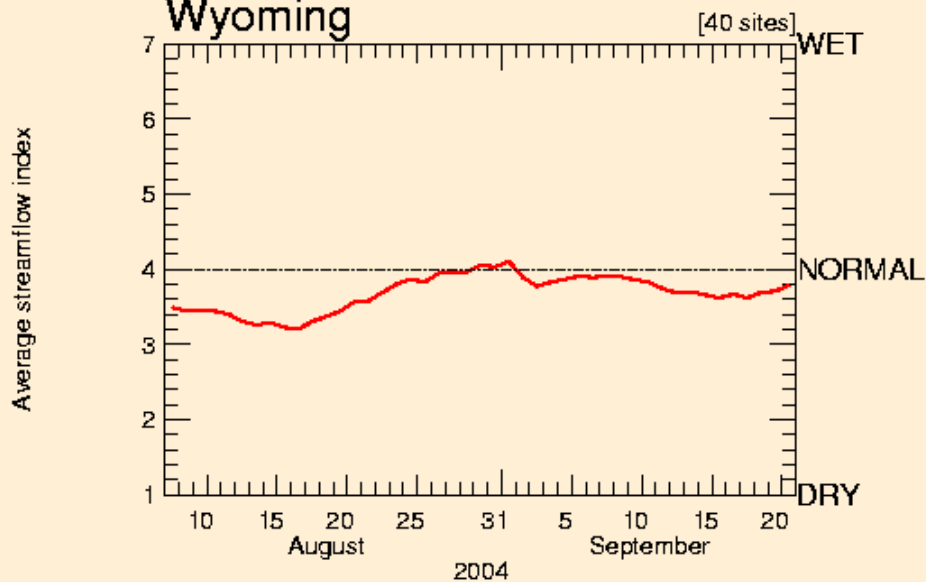




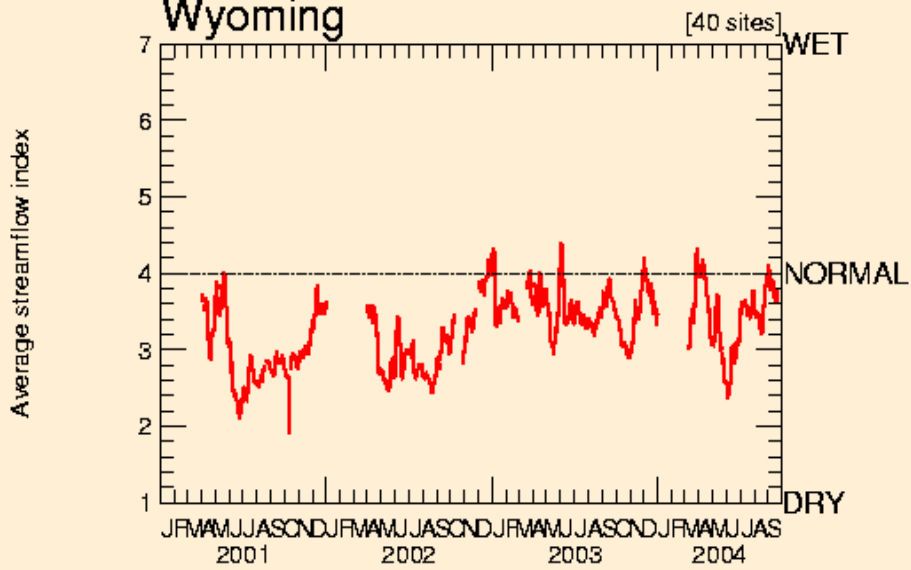
Streamflow Trends

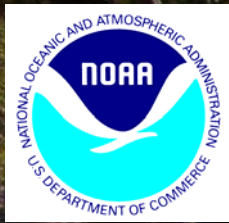


Last 45 Days
Wyoming



Since January 16, 2001
Wyoming

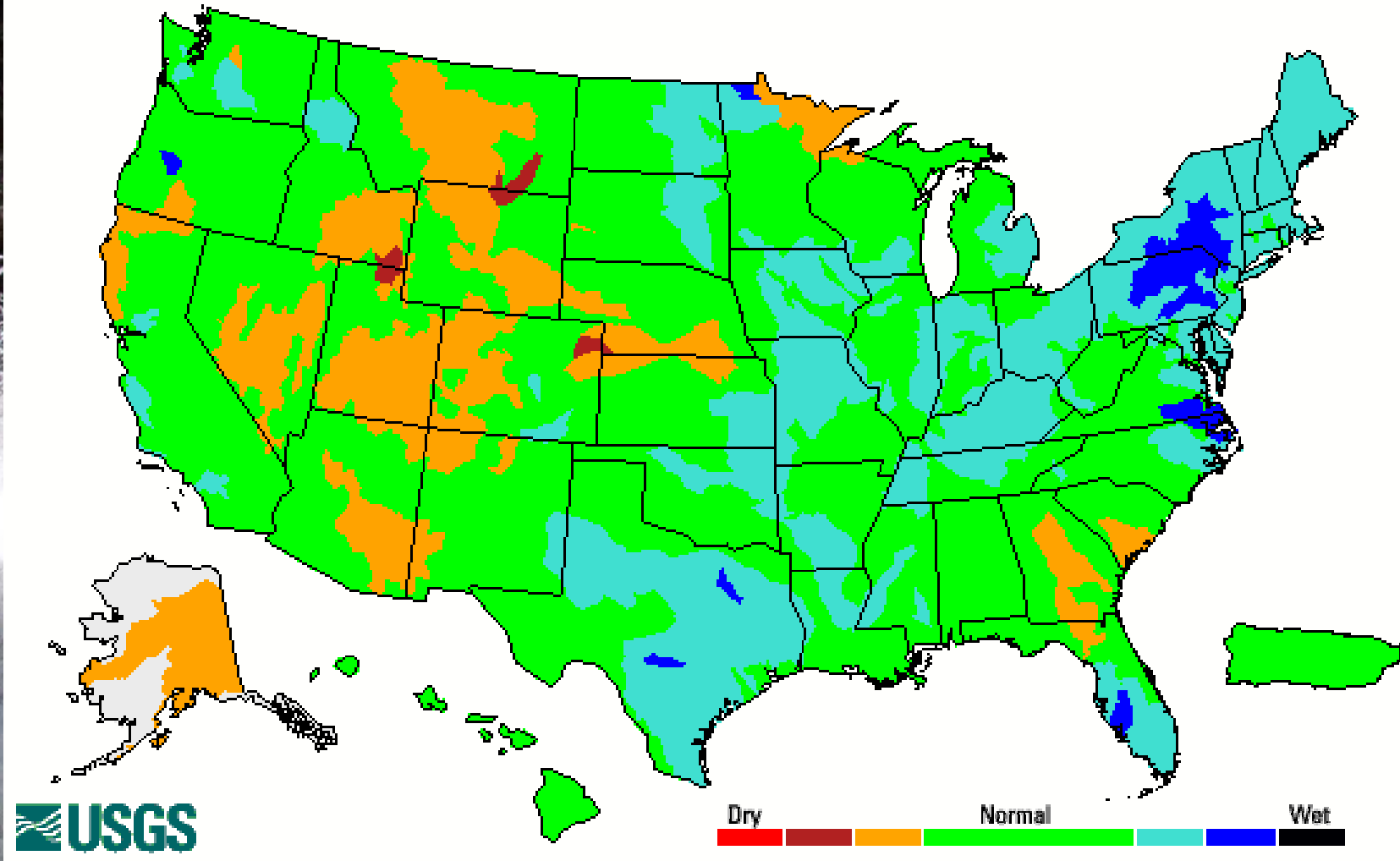




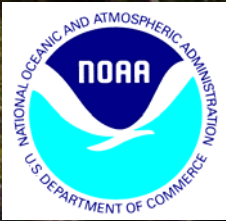
Average Streamflow for August 04



August 2004

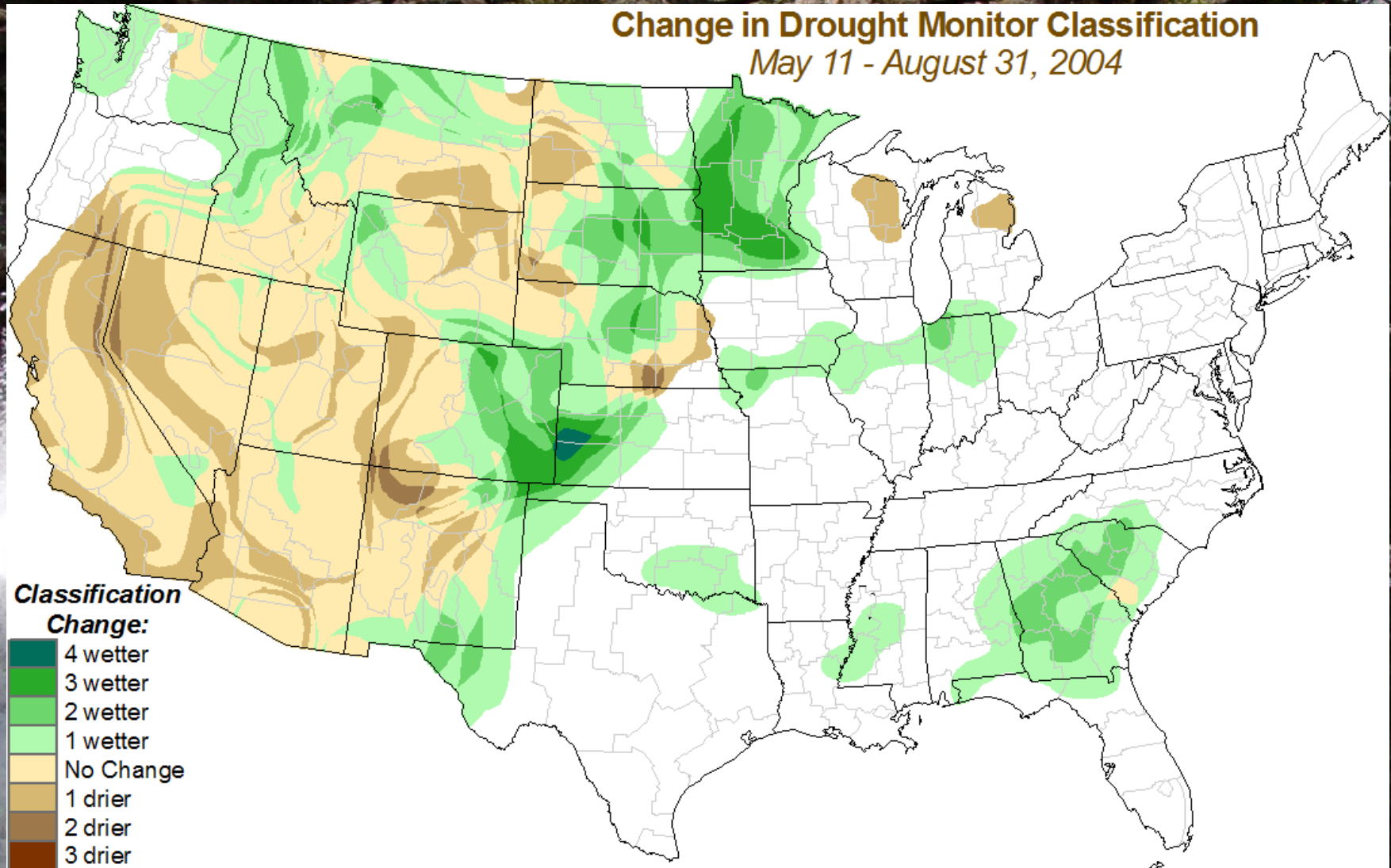


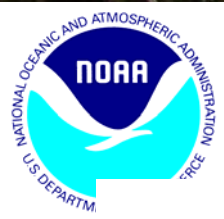
Dry Normal Wet



Drought Monitor Trends

Change in Drought Monitor Classification
May 11 - August 31, 2004



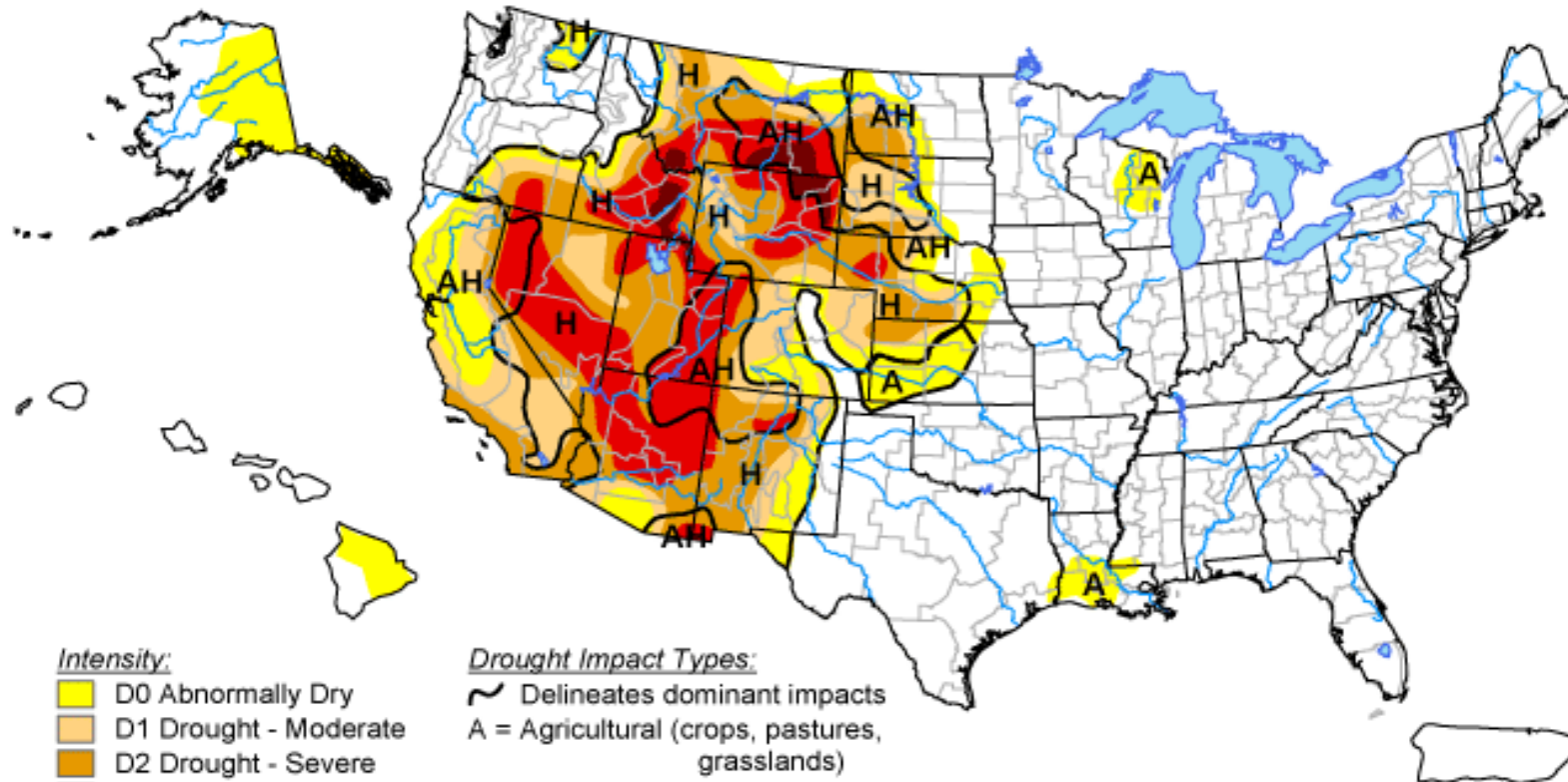


National Drought Monitor



U.S. Drought Monitor

September 14, 2004
Valid 8 a.m. EDT



Intensity:

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

Drought Impact Types:

- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)

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



Released Thursday, September 16, 2004
Author: Douglas Le Comte, CPC/NOAA

<http://drought.unl.edu/dm>



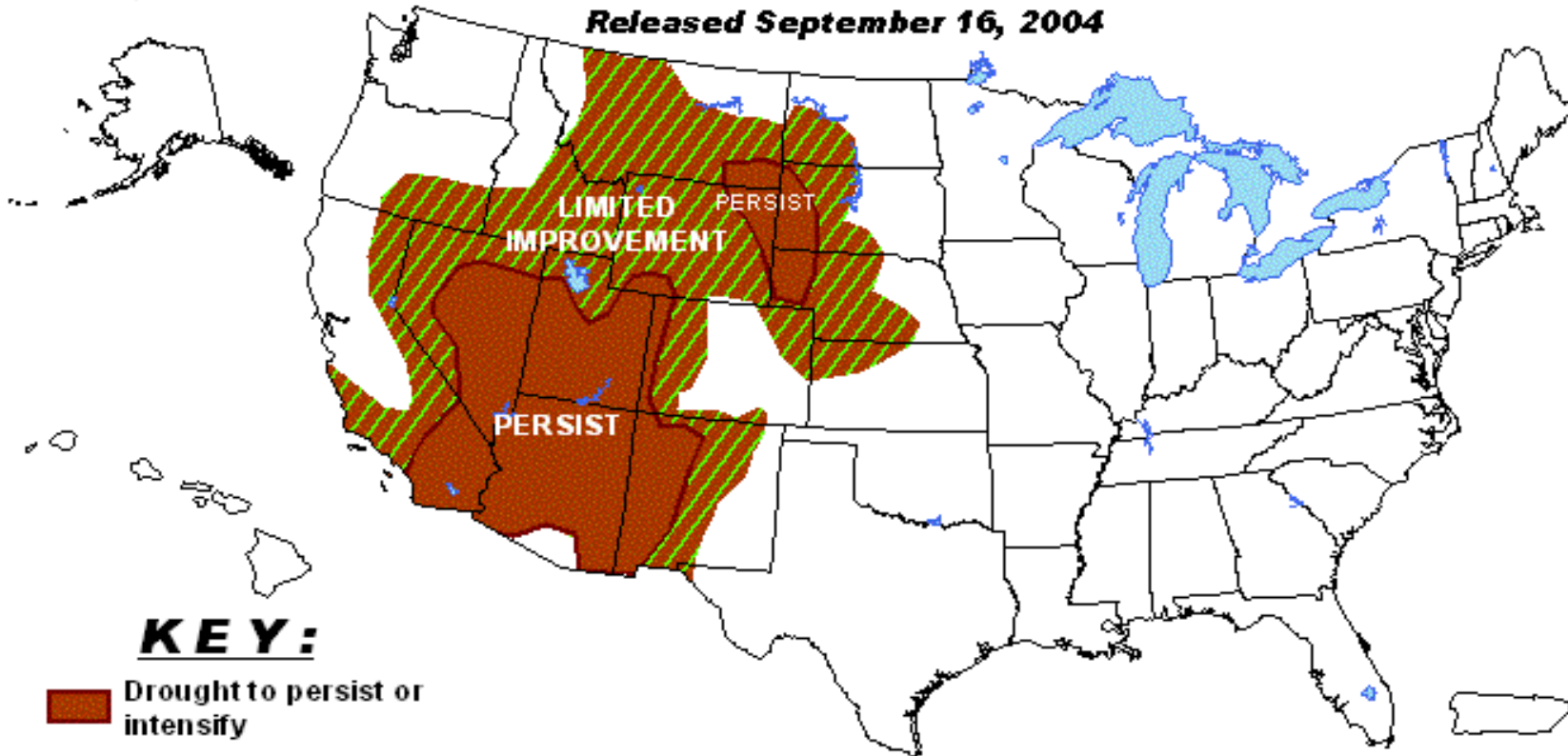
Drought Outlook



U.S. Seasonal Drought Outlook

Through December 2004

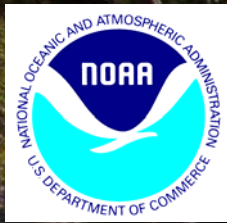
Released September 16, 2004



KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

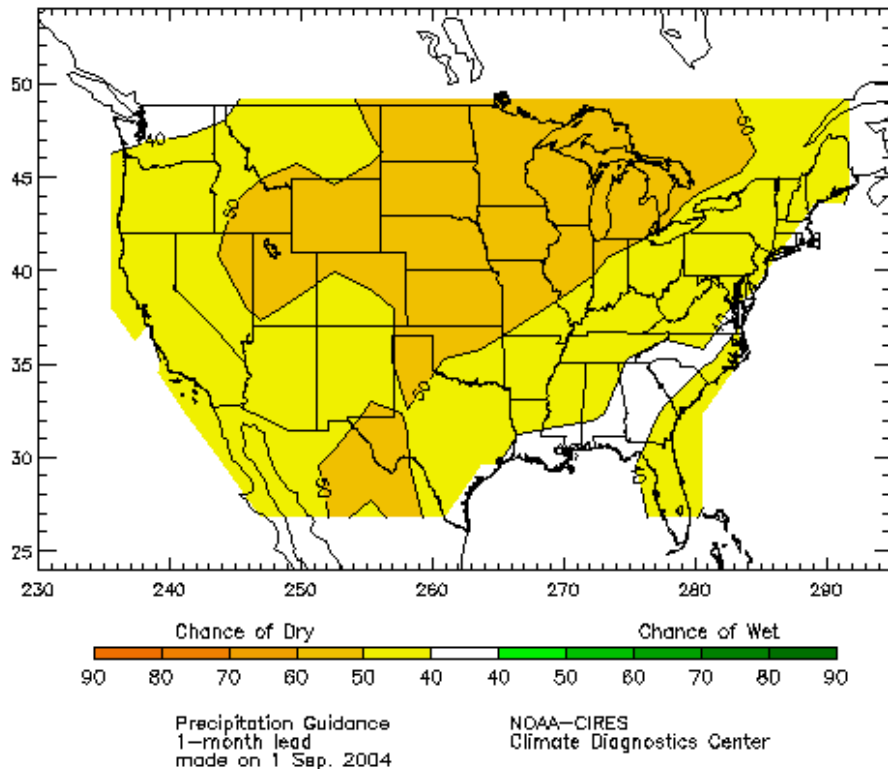
Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.



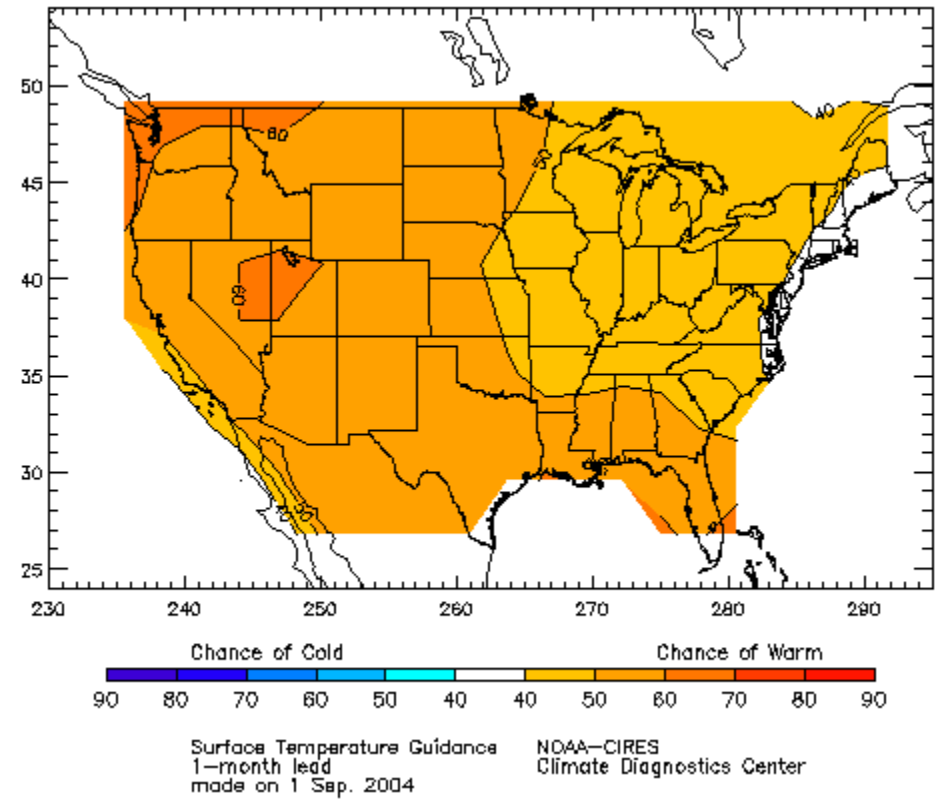
Outlook for the next 3 months

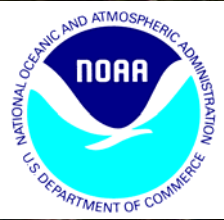


Oct–Nov–Dec 2004

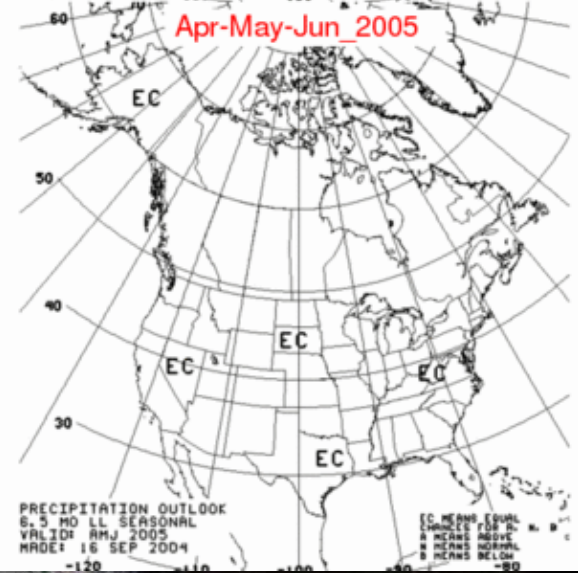
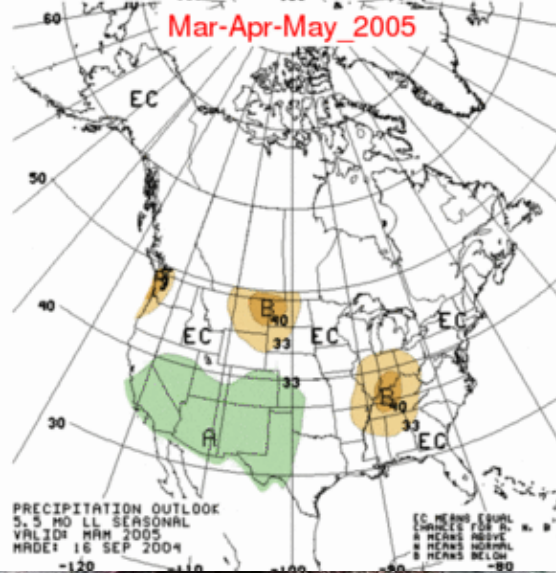
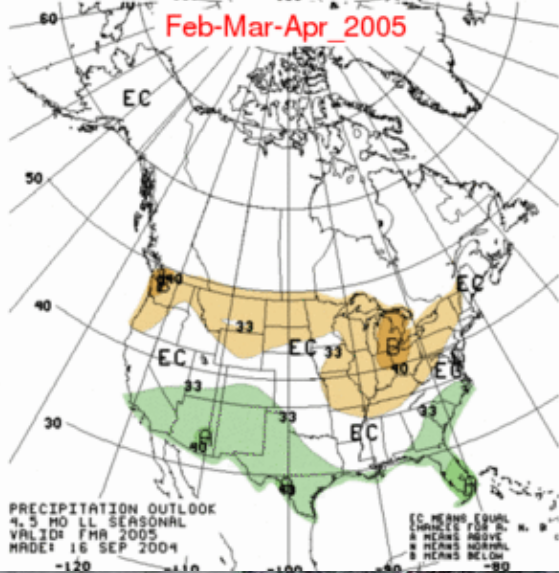
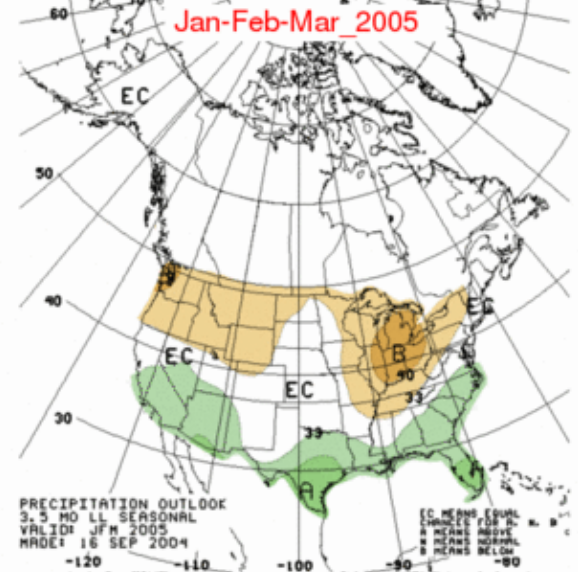
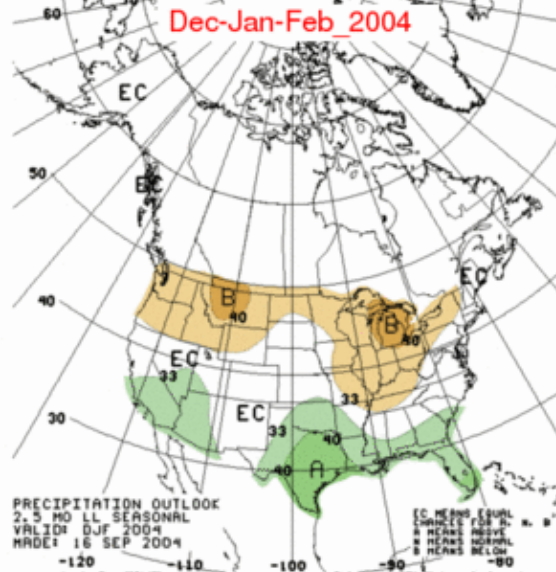
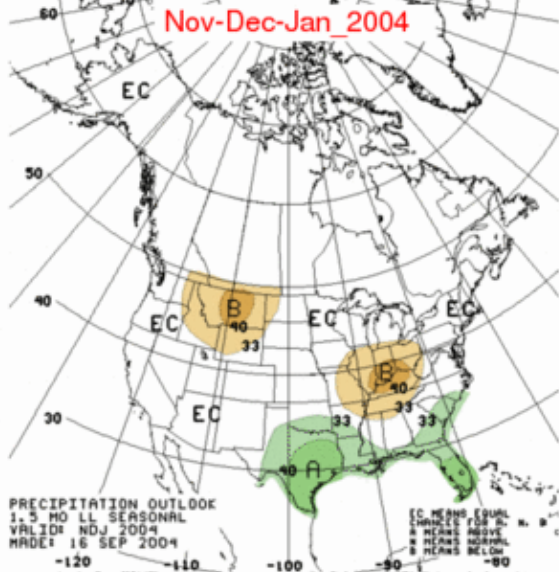


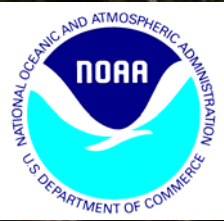
Oct–Nov–Dec 2004



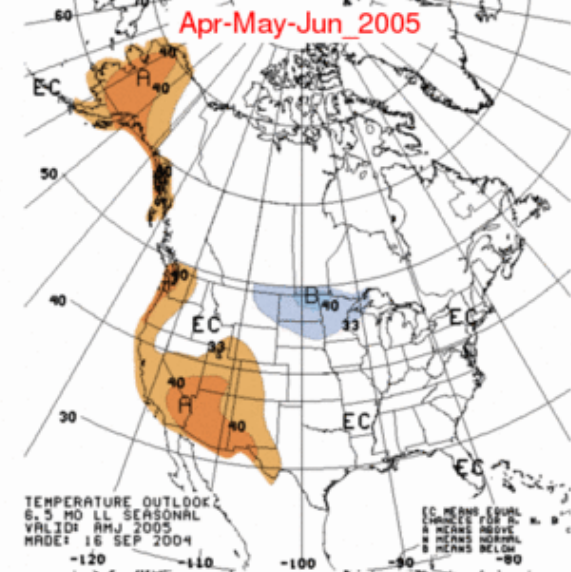
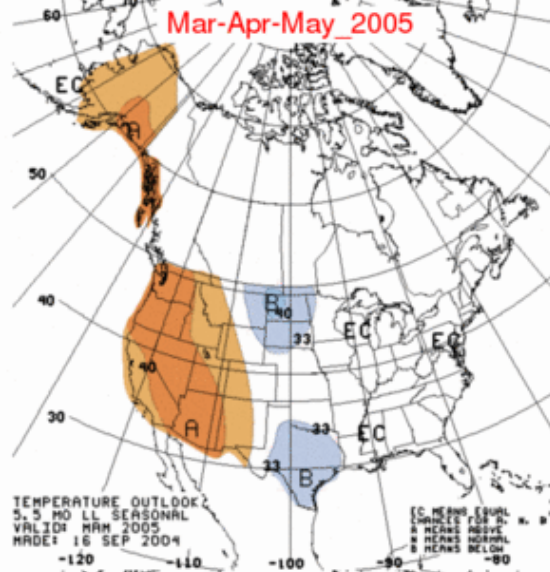
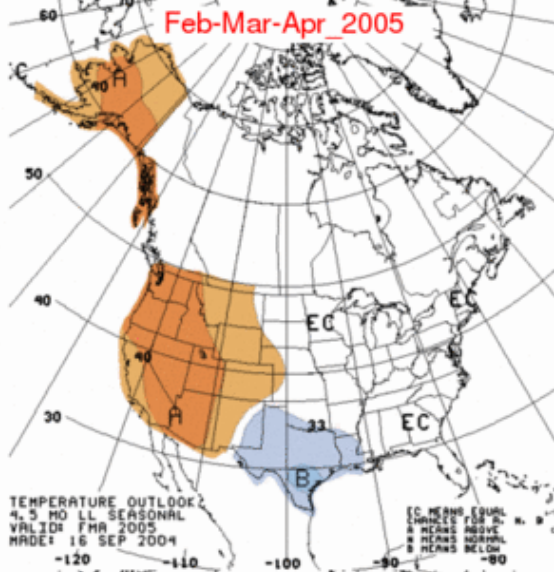
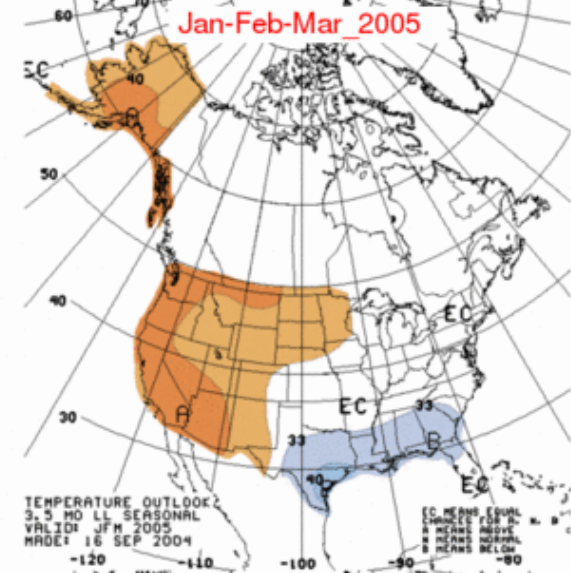
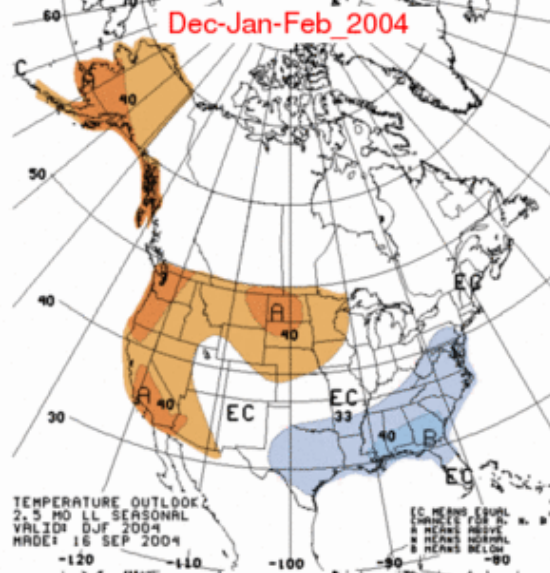
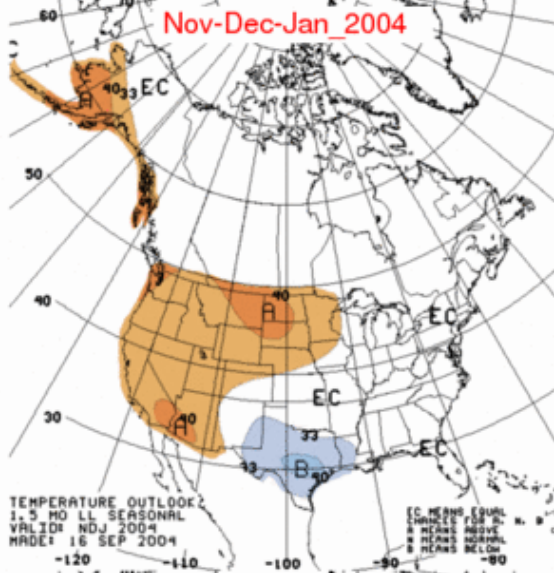


Outlook through June 2005





Outlook through June 2005





El Nino snowfall trends

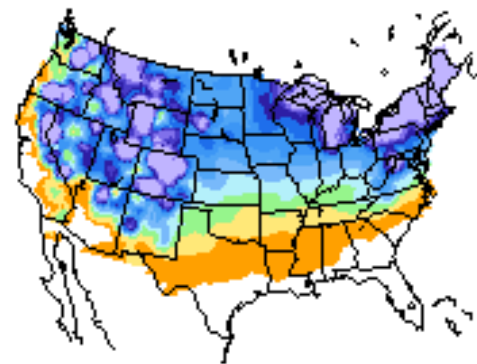
Snowfall (Inches; 1948-1993)

November thru March

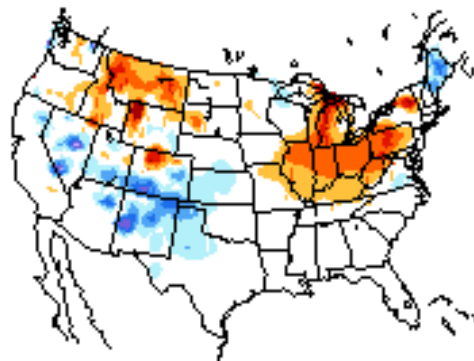
7 El Nino Years *
8 La Nina Years *
19 Neutral Years

* Moderate & Strong events only

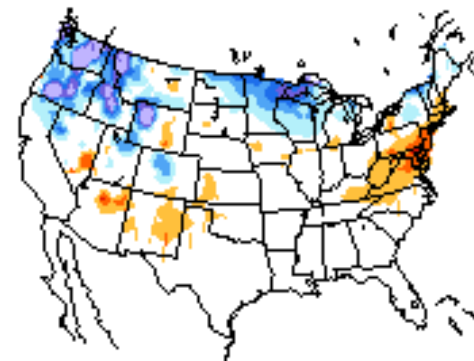
Neutral Year Mean



El Nino mean - Neutral mean



La Nina mean - Neutral mean





El Nino temperature trends

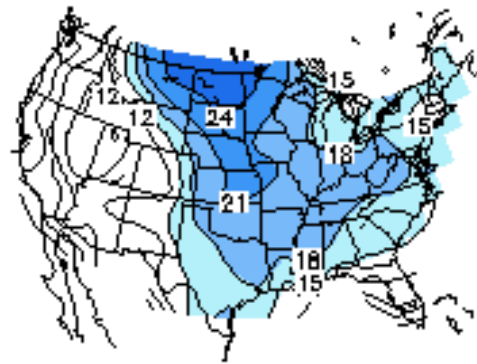
of days/season when daily Tmax is > 5C below Normal
(1949-1993 base period; 7-day smoothed)

December thru February

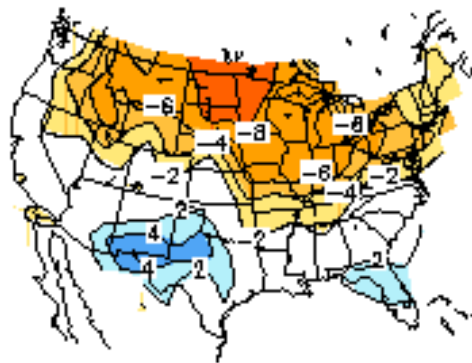
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- 8 La Nina Years *
- 19 Neutral Years

* Moderate & Strong events only

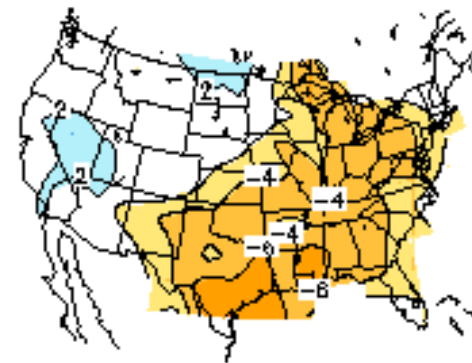
Neutral Year Mean



El Nino mean - Neutral mean



La Nina mean - Neutral mean





El Nino temperature trends

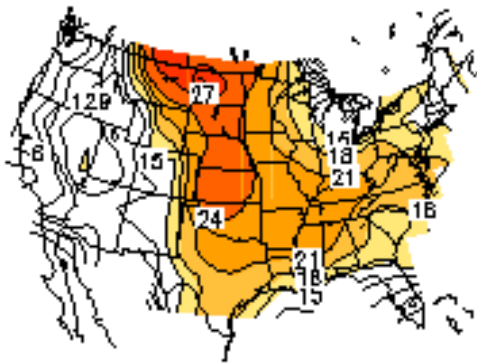
of days/season when daily Tmax is > 5C above Normal
(1949-1993 base period; 7-day smoothed)

December thru February

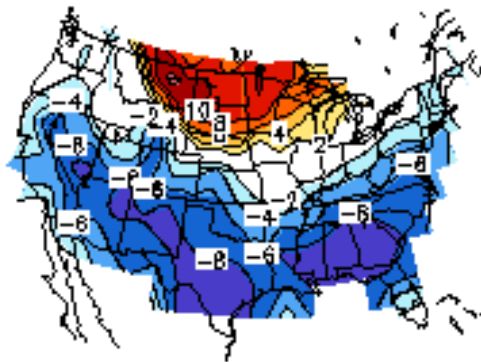
7 El Nino Years *
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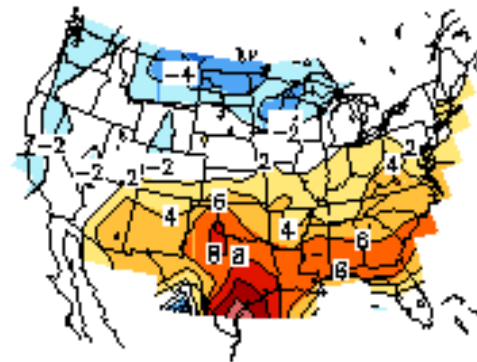
Neutral Year Mean

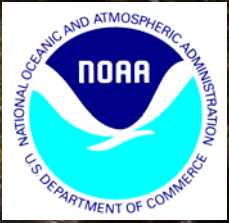


El Nino mean - Neutral mean



La Nina mean - Neutral mean



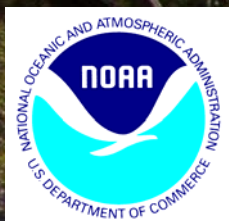


National Weather Service

Riverton, WY



Questions?



National Weather Service

Riverton, WY



NWS Mission Statement:

*The National Weather Service (NWS) **provides weather, hydrologic, and climate forecasts and warnings** for the United States, its territories, adjacent waters and ocean areas, **for the protection of life and property and the enhancement of the national economy.** NWS data and products form a national information database and infrastructure which **can be used by other governmental agencies, the private sector, the public, and the global community.***



National Weather Service Riverton, WY



www.nws.noaa.gov

 **National Weather Service Forecast Office** 

Riverton, WY

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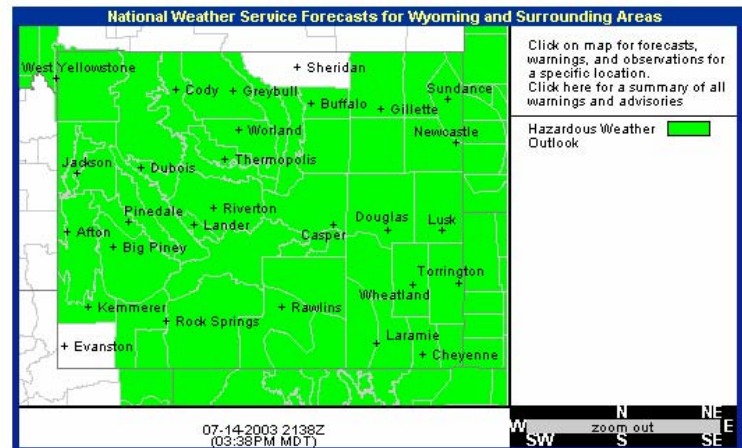
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Top News of the Day

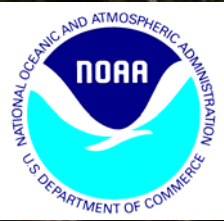
- High and Lows by Zones
- Casper Posts the Wettest June and Sixth Wettest Month
- Rock Springs Records their Fifth Wettest June
- Severe Storms Rock Central Wyoming - June 28, 2003
- 2003 Spotter Training Schedule
- Past News Stories
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National Weather Service



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National Weather Service Forecast Office
Riverton, WY

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Click on a point or river on the map or select from the menus below.

- North Platte River --
- Little Wind River --
- Wind River --
- South Fork Shoshone River --
- Big Horn River --
- Snake River --
- Salt River --
- Big Sandy River --
- Black's Fork River --
- Ham's Fork River --
- Green River --

Map Legend

● or above Flood Stage	 A square indicates that hydrograph information is available
 or near Flood Stage	 A circle indicates that both probability and hydrograph information are available
 or below Flood Stage	

Updated 03:10 PM MDT Jul 14 2003



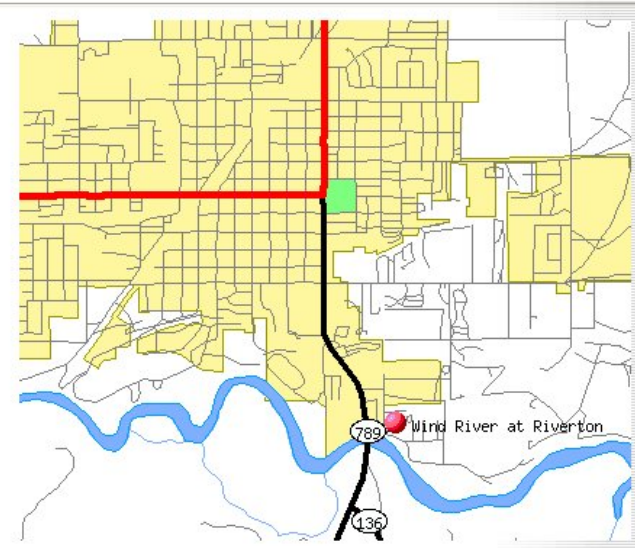
Forecast Precipitation

Information

- Photos**
[At the gage location](#)
[Looking upstream](#)
[Looking downstream](#)

- Top 5 Historical Crests**
(1) 10.86 ft on 06/10/1997
(2) 10.84 ft on 06/20/1999
(3) 10.8 ft on 12/30/1983
(4) 10.5 ft on 06/14/1991
(5) 10.15 ft on 06/15/1935
[More Past Crest and Flow Information](#)

- Top Low Water Event**
(1) 1.5 ft on 05/28/1977
[Low Water Flow Information](#)



Impacts

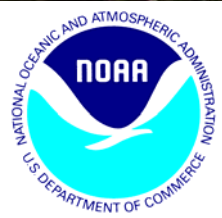
- 10.9 Feet Record flooding begins.
- 10.9 Feet Record flood stage set June 10, 1997.
- 10.8 Feet Occupied mobile homes northeast of Gas Hills Road Jct. is still dry. Continuous monitoring/repair of levees be residents necessary. Nutrition center is dry, but the water is within 20 ft of the structure. There is 2-4 inches of water flowing across the driveway of the Nutrition Center. WY Hwy 789 is still open.
- 10.0 Feet Abandoned mobile homes are under 2-3 ft of water. Mobile homes to the east are still protected by dirt and sandbag levees. The Nutrition Center is sandbagged, but the water is 30 to 50 feet from the structure. WY Hwy 789 is usually sand leveed by WYDOT on the north side of the river. The Hwy remains open.
- 9.0 Feet The old channel, closest to WY Hwy 789 will break through the temporary levees. Abandoned mobile homes will begin to flood. Other temporary levees protecting 4 to 6 mobile homes to the east, next to the Nutrition Center, are monitored.

Other Data Sources

[U.S. Geological Survey \(USGS\) Data and Site Info for Riverton](#)

The National Weather Service prepares its forecasts and other services in collaboration with agencies like the US Geological Survey, US Bureau of Reclamation, US Army Corps of Engineers, Natural Resource Conservation Service, National Park Service, ALERT Users Group, Bureau of Indian Affairs, and many state and local emergency managers across the country. For details, please click here.



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AHPS

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Monthly Precipitation Summary

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 HYMRIW
 WYC003-013-017-019-023-025-029-035-037-039-043-601-302300-

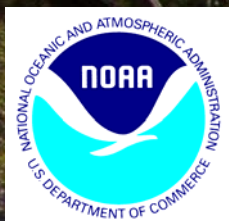
MONTHLY PRECIPITATION FOR WYOMING
 NATIONAL WEATHER SERVICE RIVERTON WY
 151 PM MDT TUE JUL 8 2003

WYOMING PRECIPITATION TOTALS FOR JUNE 2003
 ALL DATA PRELIMINARY...OFFICIAL CLIMATE DATA AVAILIABLE THROUGH THE
 NATIONAL CLIMATIC DATA CENTER APPROXIMATELY 60 DAYS AFTER END OF THE
 MONTH.

.BR RIW 0701 M DH00/PPM

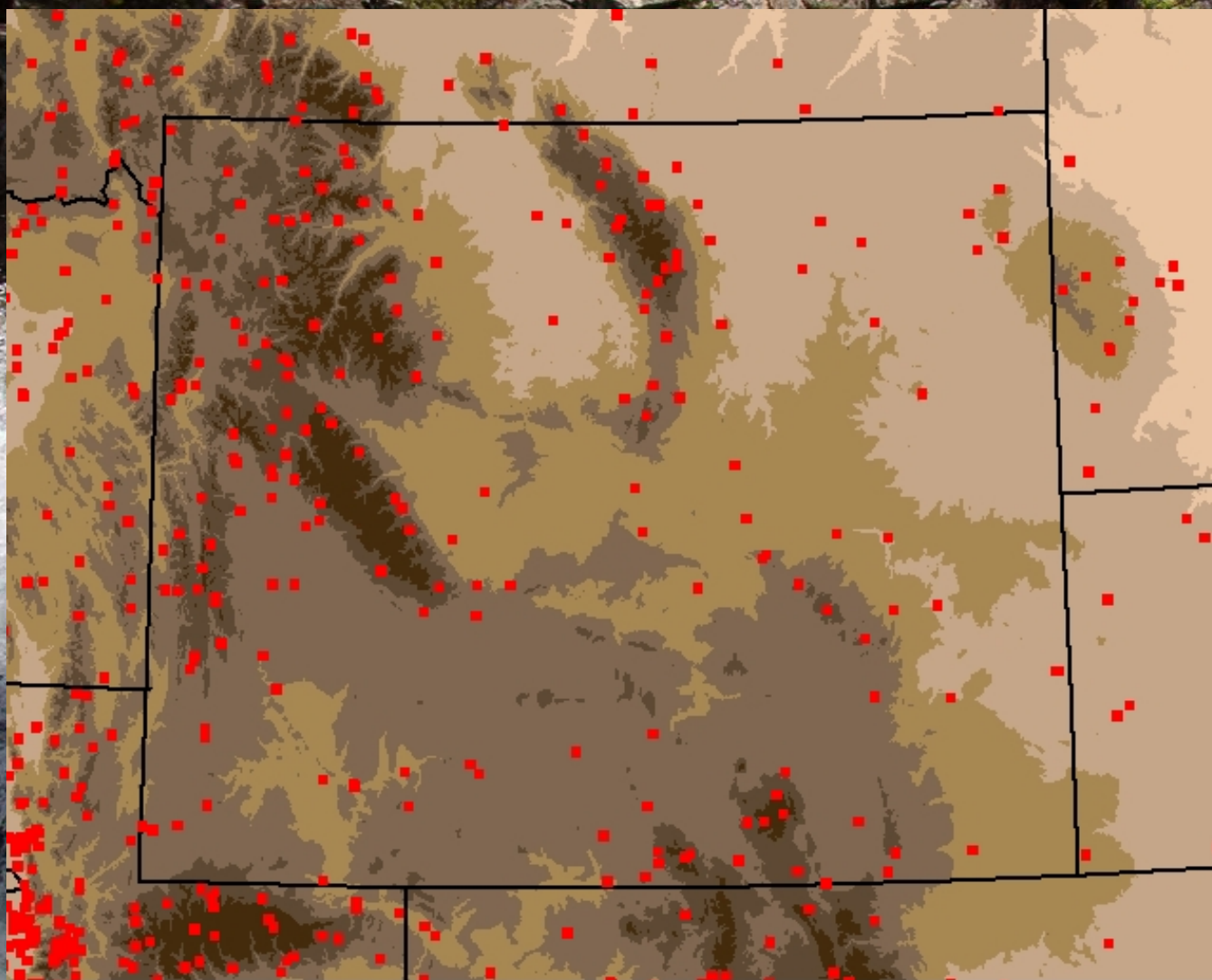
:SHEF ID	PCPN	AVG	PERCENT	STATION
ACVW4	3.35	: 1.06	316%	PATHFINDER DAM
AFOW4	1.30	: 1.49	87%	AFTON
ALTW4	0.99	: 2.12	47%	ALTA 1NNW
BCRW4	2.76	: 1.34	206%	BATES CREEK
BDFW4	1.52	: 1.85	82%	BEDFORD 3SE
BDRW4		: 1.10	%	BORDER 3N
BFFW4		: N/A	N/A	BUFFALO 5WSW
BFLW4		: N/A	N/A	BUFFALO SPOTTER
BITW4		: 0.60	N/A	BITTER CREEK 4NE
BKRW4		: N/A	N/A	BECHLER RIVER RS
BLYW4	2.24	: 2.07	108%	BILLY CREEK
BMTW4	1.89	: 1.36	139%	THERMOPOLIS 9NE
BNWW4	1.13	: 1.56	72%	BONDURANT
BPI	1.13	: N/A	N/A	BIG PINEY-MARBLETON ASOS
BPIW4	1.49	: 0.72	207%	BIG PINEY
BRRW4	1.91	: 1.18	162%	BURRIS
BRSW4	1.49	: 1.21	123%	BOULDER REARING STATION
BRNW4	0.81	: 1.00	81%	BASIN
BTSW4		: N/A	N/A	TENSLEEP 18SSE

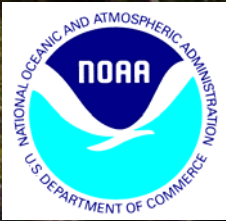




National Weather Service

Riverton, WY





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- Spotters
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- MWS Offices
- News Archives
- Contact Us
- Webmaster
- Staff

- Daily and Monthly Climate Summaries
- ASOS 15 Day Summaries and MesoWest, WYDOT stations' climatology
- Local Climate Data (LCDs)
- Snow and River Data & Miscellaneous Climate Links
- Weather Trivia
- Primary Sources for Official Climate Records (for legal reasons, etc)
- Other Regional Climate Centers
- FAQ - Where to Find Weather and Climate Information

Daily Climate Reports	Last Month's Climate Summaries
<ul style="list-style-type: none"> • Casper • Lander/Riverton • Cheyenne 	<ul style="list-style-type: none"> • Casper • Lander/Riverton • Cheyenne <p style="text-align: center;">Monthly Precipitation Summary (HYM)</p>

Preliminary Local Climate Data (F-6)

- Casper
- Lander
- Riverton
- Archived (F-6)

Note: This data is considered "unofficial". The National Climatic Data Center (NCDC) in Asheville, NC, which collects and stores this information, is the official source of climate in the U.S. For a copy of an official F-6, contact:

NCDC
 151 Patton Ave, Rm 120
 Asheville, NC 28801-5001
 (828) 271-4800 (ask for "Climate Services Division")

<http://lwf.ncdc.noaa.gov/oa/ncdc.html>

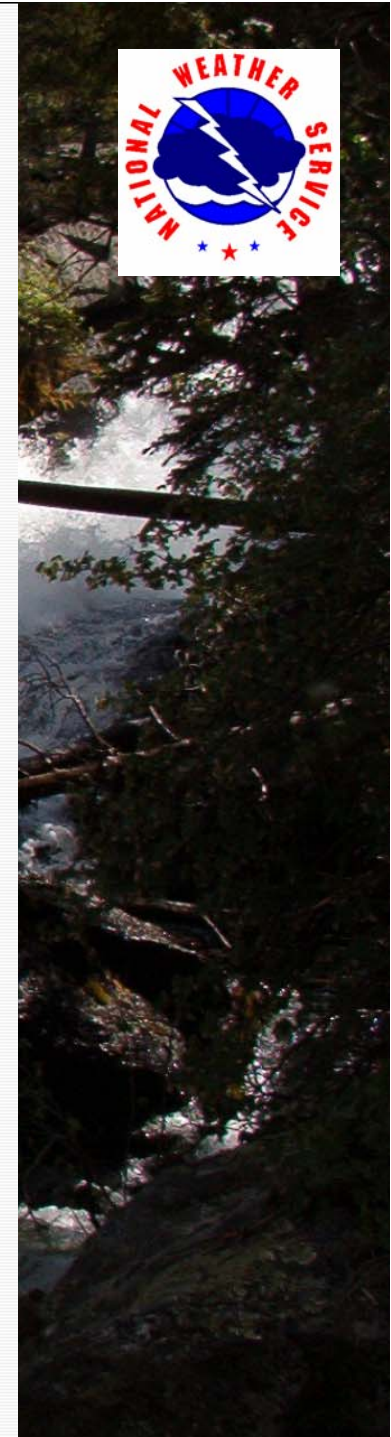
e-mail requests at: orders@ncdc.noaa.gov

Maximum/Minimum Temperatures and Precipitation Tables	Record Reports
<ul style="list-style-type: none"> • Western and Central Wyoming • Southeast Wyoming/Nebraska Panhandle • Wyoming • Yellowstone's Winter Daily Report 	<ul style="list-style-type: none"> • Record Report for West and Central Wyoming • Record Report for Southeast Wyoming • Record Report for Northeast Wyoming

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15 Day Summaries from ASOS (Automated Surface Observing Systems)

*Some data sets may be missing due to software upgrades or outages





Local forecast by city and state

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Regional Temp/Precip Table

[Oldest Product](#) | [Previous Product](#) | [Newest Product](#) | [Text Only](#) | [Print](#)

000
 ASUS65 KRIW 151704
 RTPRIW
 REGIONAL TEMPERATURE AND PRECIPITATION TABLE
 NATIONAL WEATHER SERVICE RIVERTON WY
 1059 AM MDT TUE JUL 15 2003

.BR RIW 0715 M DH00/TX/DH06/TAIRZP/PP/SF/SD

:
 :VALUES REPRESENT YESTERDAYS HIGHS... LOWS OVER THE LAST 12 HOURS
 :AND PRECIPITATION OVER THE LAST 24 HRS ENDING AT 0600 AM

				24 HR SNOW		SNOW		
:ID		STATION	ELEV	HIGH	LOW	PCPN	FALL	DEPTH
BPI	:	BIG PINEY	6974:	89 /	46 /	0.00 /	/	/
BYC	:	BUFFALO	4968:	85 /	57 /	0.00 /	/	/
CPR	:	CASPER	5319:	91 /	53 /	0.00 /	/	/
COD	:	CODY	5100:	84 /	59 /	0.00 /	/	/
EVW	:	EVANSTON	7163:	88 /	62 /	0.00 /	/	/
GEY	:	GREYBULL	3933:	91 /	58 /	0.00 /	/	/
JAC	:	JACKSON AIRPORT	6444:	82 /	41 /	0.00 /	/	/
P60	:	LAKE YELLOWSTONE	7835:	76 /	38 /	0.00 /	/	/
LND	:	LANDER	5586:	94 /	61 /	0.00 /	/	/
RIW	:	RIVERTON	5568:	92 /	57 /	0.00 /	/	/
RKS	:	ROCK SPRINGS	6761:	91 /	62 /	0.00 /	/	/
WRL	:	WORLAND	4245:	91 /	54 /	0.00 /	/	/

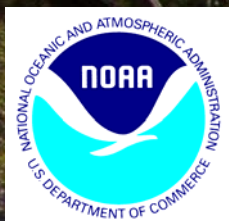
.END

.BR RIW 0715 M DH07/TX/TN/PP/SF/SD

:
 :COOPERATIVE OBSERVATIONS
 :VALUES ARE FOR THE PREVIOUS 24 HOURS

				24 HR SNOW		SNOW		
:ID		STATION	ELEV	HIGH	LOW	PCPN	FALL	DEPTH
AFOW4:	AFTON	6210:	88 /	47 /	0.00 /	0.0 /	0	0
BRW4:	BOULDER	6940:	87 /	42 /	0.00 /	0.0 /	0	0
BDW4:	BOYSEN	4642:	94 /	63 /	0.00 /	0.0 /	0	0
KTOW4:	CASPER R2	5220:	94 /	48 /	0.00 /	0.0 /	0	0
CLAW4:	CLARK FISH HATCH	4090:	88 /	52 /	0.00 /	0.0 /	0	0
CRDW4:	CRANDALL CREEK	6580:	85 /	37 /	0.00 /	0.0 /	0	0
DBOW4:	DUBOIS	6960:	87 /	44 /	0.00 /	0.0 /	0	0
EYPW4:	EAST ENTRANCE YNP	6951:	80 /	40 /	0.00 /	0.0 /	0	0
FSNW4:	FARSON	6590:	91 /	54 /	0.00 /	0.0 /	0	0
HUDW4:	HUDSON	5090:	97 /	52 /	0.00 /	0.0 /	0	0
JEFW4:	JEFFREY CITY	6340:	95 /	48 /	0.00 /	0.0 /	0	0
KBYW4:	KIRBY	4328:	92 /	56 /	0.00 /	0.0 /	0	0
LNRW4:	LANDER (TOWN)	5320:	94 /	49 /	0.00 /	0.0 /	0	0
OLFW4:	OLD FAITHFUL YNP	7360:	78 /	37 /	0.00 /	0.0 /	0	0
NFKW4:	PAHASKA	6726:	82 /	39 /	0.00 /	0.0 /	0	0
PVLW4:	PAVILLION	5440:	95 /	54 /	0.00 /	0.0 /	0	0
PFSW4:	DOWNL. FRIED ST	4370:	90 /	56 /	0.00 /	0.0 /	0	0





National Weather Service

Riverton, WY



How can you access NWS information?

- NOAA Weather Radio (NWR)
- Internet

www.crh.noaa.gov/riw

- Telephone: (800) 211-1448