

Hydrologic Service

Flooding affects the Pacific Northwest in many ways, and the National Weather Service provides information and warnings to reduce the impacts of flooding as much as possible. To provide more meaningful information to the public and to our partners, the NWS differentiates between floods and flash floods. The terms “flash flood” and “flood” are uniquely defined, with the difference between the two based on time of onset and often the type of weather or circumstances that cause the flooding.

Flash flooding develops over a very short period of time, typically 30 minutes to 6 hours. Flash flooding can be caused by several factors: very intense rainfall from thunderstorms, a dam failure, or a sudden rush of water due to the burst of a temporary debris/log jam or ice jam. Flash flooding most often occurs in areas where normal water drainage is hindered or focused, such as narrow mountain canyons or urban areas where ground surfaces are impervious and stream channels are altered or encroached upon by development.

Flooding is usually caused by prolonged heavy rainfall over a broad area, often combined with melting snow. Once the soils are saturated, the rivers rise over several hours or days and overflow their banks, flooding large areas of land. Larger rivers with high water levels can act as dams, backing up the water on smaller tributaries and causing them to flood.

The Northwest River Forecast Center (NWRFC) in Portland, Oregon is one of thirteen National Weather Service hydrologic centers in the United States. The NWRFC is responsible for monitoring and forecasting streamflow and water supply over the entire Columbia River drainage basin, an area encompassing over 285,000 square miles and including all or parts of seven states and western Canada. It is the second most hydrologically active River Forecast Center area in the United States.

The NWRFC specializes in flood and water resource forecasting, river flow modeling, and hydrologic system development. It works closely with the various water management agencies to facilitate the best possible operations of the Columbia River reservoir systems. The NWRFC is also very active in recreational and navigational hydrological forecasting.

Before and during floods, the Weather Forecast Offices, such as WFO Portland, and the River Forecast Centers work very closely to provide river information and forecasts to emergency management agencies, water managers, and the general public. The NWRFC provides river forecast guidance with specific information that is then used by the WFO staff in the issuance of flood watches, warnings, and statements. Flood products may be localized for a particular river or address several river basins, detailing current and expected river stages at specific locations.

Hydrologic Service

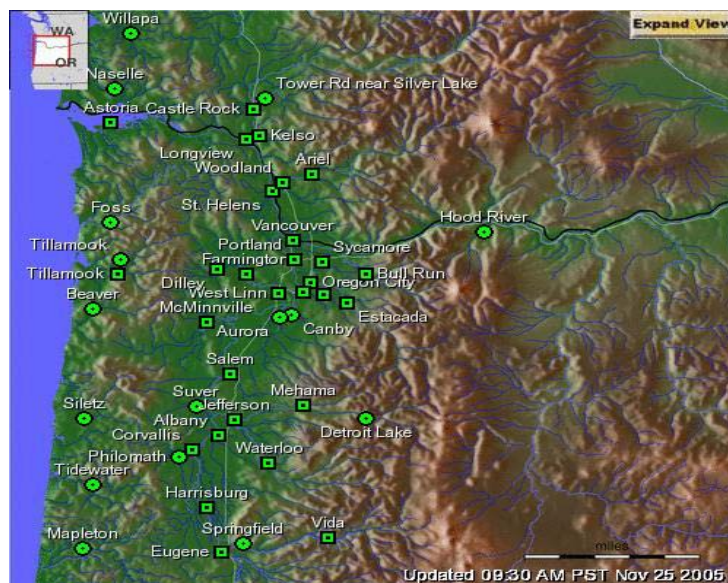
Common hydrologic products issued by the National Weather Service are displayed in the table below. The appropriate NWS and WMO (World Meteorological Organization) identification codes of the product are also listed.

<u>PRODUCT</u>	<u>NWS I.D.</u>	<u>WMO I.D.</u>
<i>Issued as needed:</i>		
Flood Potential Outlook/Water Supply Outlook	KPDX ES FPQR	FGUS76
Flood/Flash Flood Watch	KPDX FF APQR	WGUS66
Flood Warning	KPDX FL WPQR	WGUS46
Flash Flood Warning	KPDX FF WPQR	WGUS56
Flash Flood Statement	KPDX FF SPQR	WGUS76
Flood Statement	KPDX FL SPQR	WGUS86
Urban and/or Small Stream Flood Advisory	KPDX FL SPQR	WGUS86
Willamette Basin Irrigators Advisory	KPDX SP SPQR	FGUS86

Issued daily (less routinely in the summer)

RFC Hydrometeorological Discussion	KPDX HMD PQR	AGUS46
River Statement	KPDX RV SPQR	FGUS86

WFO Portland Hydrologic Area Map



Hydrologic Products

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WGUS66 KPQR DDHMM
PDXFFAPQR
ORZ001>013-WAZ019>23-039-040-060500-

URGENT-IMMEDIATE BROADCAST REQUESTED
FLOOD WATCH
NATIONAL WEATHER SERVICE PORTLAND OR
115 PM PDT WED OCT 5 2005

... FLASH FLOOD WATCH FOR THE ALL OF NORTHWEST OREGON AND SOUTHWEST
WASHINGTON WEST OF THE CASCADE CREST UNTIL 10 PM TONIGHT...

ORZ001>013-WAZ019>23-039-040-060500-
/O.NEW.KPQR.FF.A.0001.051005T2115Z-051006T1800Z/
/O.ER.00000T0000Z.00000T0000Z.00000T0000Z.OO/
115 PM PDT WED OCT 5 2005

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A

* FLOOD WATCH FOR ALL OF NORTHWEST OREGON AND SOUTHWEST WASHINGTON

* FROM THIS AFTERNOON UNTIL 10 PM TONIGHT

* THUNDERSTORMS PRODUCING HEAVY RAIN HAVE DEVELOPED OVER WESTERN
OREGON AND
WASHINGTON TODAY. STORMS WILL CONTINUE DEVELOPING AND MOVING ACROSS
THE
REGION THROUGH THE EVENING HOURS. HEAVY RAINS ASSOCIATED WITH THESE
STORMS HAVE THE POTENTIAL TO PRODUCE LOCAL FLASH FLOODING.

* THESE STORMS HAVE ALREADY PRODUCED LOCALIZED FLOODING IN THE SALEM
AREA AND
NEARLY ALL OF THE REGIONS SMALL CREEKS ARE NEAR BANKFULL.

A FLASH FLOOD WATCH MEANS THAT CONDITIONS ARE FAVORABLE FOR THE
DEVELOPMENT OF FLASH FLOODING ANYWHERE IN THE WATCH AREA. WARNINGS
WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IF FLASH FLOODING
BECOMES IMMINENT.

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Flash Flood Watch (FFA, WGUS66)

A Flash Flood Watch is issued to advise of current and developing conditions that indicate a threat of flash flooding, but the occurrence is neither certain nor imminent. The flash flood watch will contain:

1. County(s) or areas covered by the watch.
2. Effective time of the watch in hours or in general terms, such as evening.
3. Extent of conditions (localized or widespread).

The product is segmented, with updates, new areas, and cancellations in separate segments. It is in bullet format and contains Valid Time Event Code (VTEC).

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WGUS56 KPQR 272150
FFWPQR
ORC005-272300-
/O.NEW.KPQR.FF.W.0002.051027T2150Z-051027T2300Z/
/O.ER.00000T0000Z.00000T0000Z.00000T0000Z.OO/

BULLETIN - IMMEDIATE BROADCAST REQUESTED
FLASH FLOOD WARNING
NATIONAL WEATHER SERVICE PORTLAND OR
150 PM PST TUE OCT 27 2002

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A

* FLASH FLOOD WARNING FOR CLACKAMAS COUNTY IN OREGON

* UNTIL 300 PM PST

* AT 150 PM PST...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED
A THUNDERSTORM PRODUCING VERY HEAVY RAINFALL OVER MOLALLA. THE AREA
OF HEAVY RAIN WAS NEARLY STATIONARY.

* THE THUNDERSTORM PRODUCING VERY HEAVY RAINFALL WILL BE NEAR MULINO
AT 230 PM PST

LAT...LON 4393 12311 4406 12294 4419 12311 4406 12338

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Flash Flood Warning (FFW, WGUS56)

A Flash Flood Warning focuses on communities, streams, or areas where flooding is imminent or in progress. Persons in the warning area are advised to take necessary precautions immediately.

This product is brief to expedite the dissemination of the warning. More detailed information is contained in the flash flood statement issued shortly after the original warning.

The product is in bullet format and includes Valid Time Event Code (VTEC) at the top.

Hydrologic Products

WGUS76 KPQR 200518
FFSPQR

FLASH FLOOD STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
1020 PM PDT FRI AUG 19 2005

ORC047-200630-
/O.CON.KPQR.FF.W.0003.050820T0520Z-050820T0630Z/
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/
1020 PM PDT FRI AUG 19 2005

...THE FLASH FLOOD WARNING REMAINS IN EFFECT FOR MARION COUNTY UNTIL
1130 PM PDT...

AT 1005 PM PDT...NATIONAL WEATHER SERVICE DOPPLER RADAR CONTINUED TO
INDICATE A STATIONARY THUNDERSTORM PRODUCING VERY HEAVY RAIN 7 MILES
SOUTHEAST OF SILVERTON. DOPPLER WEATHER RADAR HAS ESTIMATED RAINFALL
RATES OVER 1.5 INCHES PER HOUR WITH THIS STORM.

EXCESSIVE RUNOFF FROM HEAVY RAINFALL WILL CAUSE FLOODING OF SMALL
CREEKS AND STREAMS...COUNTRY ROADS...AS WELL AS FARMLAND ALONG THE
BANKS OF CREEKS AND STREAMS.

TO REPORT FLOODING...HAVE THE NEAREST LAW ENFORCEMENT AGENCY RELAY
YOUR REPORT TO THE NATIONAL WEATHER SERVICE FORECAST OFFICE IN
PORTLAND.

LAT...LON 4438 12052 4446 12055 4447 12058 4455 12060

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Flash Flood Statement (FFS, WGUS86)

The Flash Flood Statement is used to follow-up a Flash Flood warning and may include:

1. The latest detailed information on the event.
2. Removal of parts of the geographical area covered by the original warning where flooding is no longer a threat or has ended.
3. Termination of the original flash flood watch or warning.

The product includes Valid Time Event Code (VTEC) at the top of each segment. Multiple segments in the product are ordered by corrections, cancellations, expirations, and updates.

FGUS76 KPQR 272009
ESFFQR
ORZ001>008-010-012-WAZ020>022-039-282000-

HYDROLOGIC OUTLOOK
NATIONAL WEATHER SERVICE PORTLAND OR
1210 PM PST TUE JAN 27 2004

...A FLOOD POTENTIAL OUTLOOK HAS BEEN ISSUED AND IS IN EFFECT FROM 10
AM THURSDAY TO 4 PM PST SATURDAY FOR THE CENTRAL AND NORTHERN COAST
AND COAST RANGE OF WESTERN OREGON...THE SOUTH WASHINGTON COAST AND
WILLAPA HILLS...THE WILLAMETTE VALLEY...THE GREATER PORTLAND AND
VANCOUVER METRO AREA...THE LOWER COLUMBIA AND I - 5 CORRIDOR IN
COWLITZ COUNTY...THE NORTHERN OREGON CASCADE FOOTHILLS...AND THE
CASCADE FOOTHILLS IN LANE COUNTY...

A SERIES OF STRONG PACIFIC STORM SYSTEMS WILL BRING HEAVY RAIN TO
NORTHWEST OREGON AND SOUTHWEST WASHINGTON WEDNESDAY THROUGH FRIDAY
MORNING. THERE IS A POTENTIAL FOR FLOODING ON MANY RIVERS BEGINNING
MID-DAY THURSDAY.

RAINFALL AMOUNTS FOR WEDNESDAY MORNING THROUGH FRIDAY MORNING ARE
EXPECTED TO RANGE FROM 2 INCHES AT LOWER ELEVATIONS UP TO 7 INCHES IN
THE COAST MOUNTAINS AND CASCADES. THE SNOW LEVEL IS EXPECTED TO BE
NEAR 6000 FEET DURING THE PERIOD OF HEAVY PRECIPITATION.

CURRENT RIVER FORECASTS INDICATE MODERATE TO SHARP RISES IN RIVER
LEVELS ON WEDNESDAY AND THURSDAY...WITH SOME FLOODING POSSIBLE
STARTING THURSDAY NIGHT AND CONTINUING THROUGH FRIDAY. RIVERS WITH
THE HIGHEST POTENTIAL FOR FLOODING INCLUDE COASTAL RIVERS IN
NORTHWEST OREGON AND SOUTHWEST WASHINGTON AND WILLAMETTE VALLEY
TRIBUTARIES DRAINING THE COAST RANGE AND CASCADES. NO FLOODING IS
EXPECTED ON THE MAINSTEM WILLAMETTE...ALTHOUGH HIGH RIVER LEVELS WILL
LIKELY RESTRICT FERRY OPERATIONS.

YOU CAN MONITOR WEATHER AND RIVER INFORMATION ON THE INTERNET AT
[HTTP://WWW.WEATHER.GOV/PORTLAND](http://www.weather.gov/portland) (LOWER CASE). THIS OUTLOOK WILL BE
UPDATED BY NOON WEDNESDAY.

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Flood Potential Outlook (ESF, FGUS76)

The Flood Potential Outlook is issued if meteorological conditions indicate a significant precipitation event may or may not cause flooding. At the issuance time, there is a high degree of uncertainty. The flood potential outlook is generally issued for time frames greater than 36 hours in the future. The outlook can contain:

1. Area(s) affected.
2. Timing of the event.
3. Discussion of hydrologic and meteorological consideration and factors.

The product is presented with a headline at the top identifying the area(s) affected and a narrative discussion of the situation.

Hydrologic Products

WGUS66 KPQR 220131
FFAPQR

BULLETIN - IMMEDIATE BROADCAST REQUESTED
FLOOD WATCH
NATIONAL WEATHER SERVICE PORTLAND OR
530 PM PST MON MAR 21 2005

...A FLOOD WATCH HAS BEEN EXPANDED TO INCLUDE THE WILLAMETTE TRIBUTARIES DRAINING THE NORTHWEST OREGON COAST RANGE AND CONTINUES IN EFFECT FOR THE COASTAL RIVERS AND STREAMS OF SOUTHWEST WASHINGTON AND NORTHWEST OREGON UNTIL WEDNESDAY MORNING...

REMEMBER...A FLOOD WATCH MEANS THAT FLOODING IS POSSIBLE BUT NOT IMMINENT. FOR THE LATEST RIVER OBSERVATIONS AND FORECASTS...VISIT OUR WEB PAGE AT WWW.WEATHER.GOV/PORTLAND (LOWER CASE).

ORZ006>008-220700-
/O.EXA.KPQR.FL.A.0002.050322T0130Z-050324T1800Z/
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/
BENTON-LANE-POLK-WASHINGTON-YAMHILL
530 PM PST MON MAR 21 2005

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS EXPANDED THE FLOOD WATCH TO INCLUDE WILLAMETTE VALLEY TRIBUTARIES DRAINING THE EAST SLOPES OF THE NORTHWEST OREGON COAST RANGE
* UNTIL WEDNESDAY MORNING
* RAIN CONTINUES TO FALL THIS EVENING OVER THE COAST RANGE OF SOUTHWEST WASHINGTON AND NORTHWEST OREGON...AND WILL CONTINUE TO BE HEAVY AT TIMES TONIGHT. STORM-TOTAL RAINFALL WILL LIKELY BE AS HIGH AS 6 INCHES IN THE COAST RANGE.
* RIVERS DRAINING THE EAST SLOPES OF THE COAST RANGE THAT ARE MOST AT RISK FOR FLOODING INCLUDE THE LUCKIAMUTE...THE MARYS...AND THE UPPER TUALATIN.

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ORZ001>004-WAZ021-220700-
/O.CON.KPQR.FL.A.0002.050322T0130Z-050324T1800Z/
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/
CLATSOP-LANE-LINCOLN-PACIFIC-TILLAMOOK-WAHKIAKUM
530 PM PST MON MAR 21 2005

THE FLOOD WATCH CONTINUES FOR
* COASTAL RIVERS AND STREAMS IN NORTHWEST OREGON AND SOUTHWEST WASHINGTON
* UNTIL WEDNESDAY MORNING
* RAIN OVER THE COAST AND COAST RANGE WILL CONTINUE TO BE HEAVY AT TIMES TONIGHT. STORM-TOTAL RAINFALL WILL LIKELY BE AS HIGH AS 6 INCHES IN THE COAST RANGE.
* RIVERS DRAINING THE WEST SLOPES OF THE COAST RANGE THAT ARE MOST AT RISK FOR FLOODING INCLUDE THE WILLAPA...NEHALEM...WILSON...SILETZ AND SIUSLAW. THESE RIVERS MAY REACH FLOOD STAGE AS EARLY AS TUESDAY MORNING.

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Flood Watch (FFA, WGUS66)

Flood Watches are issued to inform the public and cooperating agencies that there is a threat of flooding, but the occurrence is neither certain nor imminent. The Flood Watch will contain:

1. The county, counties, or geographical area covered by the watch.
2. The effective time of the watch expressed in hours or in general terms, such as evening.
3. The extent of flooding expected.

This product is presented in bullet format and includes Valid Time Event Code (VTEC) at the top of each segment. Multiple segments in the product are ordered by corrections, cancellations, expirations, new issuances, expansions in area, and updates.

Hydrologic Products

WGUS42 KPQR 150315
FLSPQR

FLOOD STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
715 PM PST SUN NOV 14 2004

...NW OREGON/SW WASHINGTON COASTAL BASINS BULLETIN NO. 6...

...FLOOD WARNING HAS ENDED FOR THE WILSON RIVER NEAR TILLAMOOK
AFFECTING TILLAMOOK COUNTY...

...FLOOD WARNING CONTINUES FOR THE FOLLOWING RIVERS...
NASELLE RIVER NEAR NASELLE AFFECTING PACIFIC AND WAHAKIUM
COUNTIES
WILLAPA RIVER NEAR WILLAPA AFFECTING PACIFIC COUNTY

...SMALL STREAM FLOOD ADVISORY CONTINUES UNTIL 11 PM PST SUNDAY
EVENING FOR WAHAKIUM AND PACIFIC COUNTIES...

...FLOOD WATCH REMAINS IN EFFECT UNTIL 4 AM PST MONDAY FOR
NORTHWEST OREGON COASTAL RIVERS...

.RAINFALL IS DECREASING ACROSS THE COASTAL MOUNTAINS AND HILLS OF
SOUTHWEST WASHINGTON AND NORTHWEST OREGON. HOWEVER...SOME MINOR
FLOODING IS STILL BEING REPORTED IN SOUTHWEST WASHINGTON. SOME
RIVERS ON THE NORTHWEST OREGON COAST ARE STILL RISING...AND WILL
APPROACH FLOOD STAGE AND CREST AROUND MIDNIGHT. THUS...A FLOOD WATCH
WILL REMAIN IN EFFECT FOR NORTHWEST OREGON COAST RIVERS INTO THE
EARLY MORNING HOURS MONDAY.

STAY TUNED TO NOAA WEATHER RADIO OR LOCAL MEDIA FOR UPDATES. FOR THE
LATEST RIVER STAGES AND FORECASTS...VISIT OUR WEB PAGE AT
[HTTP://WWW.WRH.NOAA.GOV/PORTLAND/PUBLIC_HYDRO](http://www.wrh.noaa.gov/portland/public_hydro). (LOWER CASE)

THE NEXT UPDATE FOR THESE LOCATIONS WILL BE ISSUED BY 11 PM TONIGHT.

ORC057-150415-
/O.CAN.KPQR.FL.W.0051.041114T0315Z-041115T0915Z/
/1.ER.041114T0315Z.041113T2115Z.041115T0315Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING IS CANCELLED FOR
WILSON RIVER NEAR TILLAMOOK
* AT 5 PM PST SUNDAY THE STAGE WAS 12.2 FEET / 11196 CFS
* FLOOD STAGE IS 13.0 FEET / 13200 CFS (DATUM 71.9 FT)
* FORECAST...THIS RIVER IS FORECAST TO CONTINUE TO FALL. HOWEVER...
RIVER LEVELS AT SOME LOCATIONS IN TILLAMOOK NEAR HWY 101 WILL FALL
AT A SLOWER RATE THROUGH THE NIGHT.

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WAC049-069-150700-
/O.CON.KPQR.FL.W.0052.011115T0500Z-011115T0800Z/
/1.ER.011115T0500Z.011115T0600Z.011115T0800Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING CONTINUES FOR
NASELLE RIVER NEAR NASELLE
* FROM THIS EVENING UNTIL LATE WEDNESDAY NIGHT
* AT 6 PM PST SUNDAY THE STAGE WAS 13.3 FEET / 5858 CFS
* MINOR FLOODING IS FORECAST
* FLOOD STAGE IS 15.5 FT / 8070 CFS (DATUM 24.0 FT)
* FORECAST...THIS RIVER IS RISING AND IS EXPECTED TO REACH FLOOD
STAGE AROUND 9 PM AND CREST NEAR 16 FT AROUND 10 PM SUNDAY AND
FALL BACK BELOW FLOOD STAGE BY MIDNIGHT.

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WAC049-150700-
/O.CON.KPQR.FL.W.0053.011115T0700Z-011115T1000Z/
/1.ER.011115T0700Z.011115T0800Z.011115T1000Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING CONTINUES FOR
WILLAPA RIVER NEAR WILLAPA
* UNTIL MONDAY MORNING
* AT 6 PM PST SUNDAY THE STAGE WAS 20.4 FT / 8888 CFS
* MINOR FLOODING IS FORECAST
* FLOOD STAGE IS 21.0 FT / 9310 CFS (DATUM 3.6 FT)
* FORECAST...THIS RIVER IS RISING AND WILL CREST NEAR FLOOD STAGE OF
21.0 FEET AROUND 11 PM SUNDAY. THE RIVER IS THEN EXPECTED TO
START RECEDING AROUND 2 AM. ONLY MINOR LOWLAND FLOODING IS
EXPECTED.

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Urban and Small Stream Flood Advisory (FLS, WGUS86)

The Urban and Small Stream Flood Advisory provides information on flooding that is an inconvenience to people living in the affected area.

Generally, **urban flooding** refers to flooding of streets and low-lying areas. **Small stream flooding** refers to minor flooding on small streams or creeks.

This product is presented in bullet format and includes Valid Time Event Code (VTEC) at the top of each segment. Multiple segments in the product are ordered by corrections, cancellations, expirations, new issuances, expansions in area, and updates.

Hydrologic Products

WGUS46 KPQR 051800
FLWPQR

BULLETIN - IMMEDIATE BROADCAST REQUESTED
FLOOD WARNING
NATIONAL WEATHER SERVICE PORTLAND OR
1000 AM PST SUN DEC 05 2004

...SW WASHINGTON/LOWER COLUMBIA BASINS BULLETIN NO. 2...

...THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A FLOOD WARNING UNTIL WEDNESDAY MORNING FOR THE FOLLOWING RIVERS IN SOUTHWEST WASHINGTON...

COWLITZ RIVER AT KELSO AFFECTING COWLITZ COUNTY
COLUMBIA RIVER AT LONGVIEW AFFECTING COWLITZ AND COLUMBIA COUNTIES

OVERNIGHT RAINS OF 2 TO 4 INCHES IN SOUTHWEST OREGON COUPLED WITH A FORECASTED 1 TO 2 INCHES FOR TODAY WILL PRODUCE FLOODING ON THE LOWER COWLITZ RIVER. A SEPARATE MINOR FLOODING PROBLEM EXISTS ON THE TIDAL COLUMBIA DUE TO ALREADY HIGH FLOWS MOVING DOWN THE RIVER COUPLED WITH HIGH TIDES.

RIVER STAGE FORECASTS ARE BASED ON OBSERVED AND FORECAST RAINFALL AND TEMPERATURES. IF ACTUAL RAINFALL AND TEMPERATURES VARY FROM THE FORECAST VALUES...THE RIVER STAGE WILL VARY ACCORDINGLY. NATIONAL WEATHER SERVICE RIVER FORECASTS INCLUDE CURRENT AND PLANNED RESERVOIR RELEASES.

FOR THE LATEST RIVER STAGES AND FORECASTS VISIT OUR WEB PAGE AT: [HTTP://AHPS.WRH.NOAA.GOV/CGI-BIN/AHPS.CGI?PQR](http://ahps.wrh.noaa.gov/cgi-bin/ahps.cgi?pqr) (LOWER CASE).

THE NEXT STATEMENT WILL BE ISSUED AT 10 PM THIS EVENING.

WAC015-060600-
/O.NEW.KPQR.FL.W.0078.041206T1400Z-041207T1800Z/
/1.ER.041206T1400Z.041206T2200Z.041207T1800Z.NO/
1000 AM PST SUN DEC 5 2004

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A
* FLOOD WARNING FOR
COWLITZ RIVER AT KELSO
* FROM MONDAY MORNING UNTIL TUESDAY MORNING
* AT 9 AM PST SUNDAY THE STAGE/FLOW WAS...20.2 FEET / 90000 CFS
* MINOR FLOODING IS FORECAST
* FLOOD STAGE/FLOW IS...21.5 FEET / 100000 CFS
* FORECAST...THE RIVER IS EXPECTED TO RISE THROUGH THE NIGHT...
REACHING FLOOD STAGE AROUND 6 AM MONDAY. IT WILL CONTINUE TO
RISE THROUGH THE MORNING HOURS AND CREST NEAR 25.0 FEET EARLY
AFTERNOON MONDAY AND REMAIN ABOVE FLOOD STAGE THROUGH THE DAY.
* ABOVE 24.5 FEET...FLOODING OF A FEW RESIDENTIAL AREAS IN THE KELSO
VICINITY BEGINS. ALSO...EXPECT WIDESPREAD FLOODING OF PASTURE LAND
AND LOW LYING ROADS.

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WAC015-060600-
/O.NEW.KPQR.FL.W.0078.041206T0300Z-041207T1600Z/
/1.ER.041206T0300Z.041207T1400Z.041207T1600Z.NO/
1000 AM PST SUN DEC 5 2004

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A
* FLOOD WARNING FOR
COLUMBIA RIVER AT LONGVIEW
* FROM THIS EVENING UNTIL TUESDAY MORNING
* AT 8 AM PST SUNDAY THE STAGE WAS...9.8 FEET
* MINOR FLOODING IS FORECAST
* FLOOD STAGE IS...12.0 FEET
* FORECAST...THE RIVER IS EXPECTED TO CREST NEAR 12.0 FEET AROUND
7 PM THIS EVENING...AND AT 12.5 FEET AROUND 6 AM TUESDAY...
CORRESPONDING WITH HIGH TIDES AT LONGVIEW.
* ABOVE 12.0 FEET...EXPECT MINOR FLOODING OF UN-LEVEED LOW LYING
FARMLAND NEAR THE COLUMBIA.

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Flood Warning (FLW, WGUS46)

Flood Warnings are issued for specific communities or areas along rivers where flooding is expected, imminent, or is in progress.

Flood warnings are generally issued for rivers that have historical data relating river levels to flood effects. Most of these rivers are monitored by automatic gauges.

There are times when a general flood warning will be issued covering a geographical area.

This product is presented in bullet format and includes Valid Time Event Code (VTEC) at the top of each segment. The product is segmented by river forecast points.

Hydrologic Products

WGUS42 KPQR 150315
FLSPQR

FLOOD STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
715 PM PST SUN NOV 14 2004

...NW OREGON/SW WASHINGTON COASTAL BASINS BULLETIN NO. 6...

...FLOOD WARNING HAS ENDED FOR THE WILSON RIVER NEAR TILLAMOOK
AFFECTING TILLAMOOK COUNTY...

...FLOOD WARNING CONTINUES FOR THE FOLLOWING RIVERS...
NASELLE RIVER NEAR NASELLE AFFECTING PACIFIC AND WAHAKIACUM
COUNTIES
WILLAPA RIVER NEAR WILLAPA AFFECTING PACIFIC COUNTY

...SMALL STREAM FLOOD ADVISORY CONTINUES UNTIL 11 PM PST SUNDAY
EVENING FOR WAHAKIACUM AND PACIFIC COUNTIES...

...FLOOD WATCH REMAINS IN EFFECT UNTIL 4 AM PST MONDAY FOR
NORTHWEST OREGON COASTAL RIVERS...

.RAINFALL IS DECREASING ACROSS THE COASTAL MOUNTAINS AND HILLS OF
SOUTHWEST WASHINGTON AND NORTHWEST OREGON. HOWEVER...SOME MINOR
FLOODING IS STILL BEING REPORTED IN SOUTHWEST WASHINGTON. SOME
RIVERS ON THE NORTHWEST OREGON COAST ARE STILL RISING...AND WILL
APPROACH FLOOD STAGE AND CREST AROUND MIDNIGHT. THUS...A FLOOD WATCH
WILL REMAIN IN EFFECT FOR NORTHWEST OREGON COAST RIVERS INTO THE
EARLY MORNING HOURS MONDAY.

STAY TUNED TO NOAA WEATHER RADIO OR LOCAL MEDIA FOR UPDATES. FOR THE
LATEST RIVER STAGES AND FORECASTS...VISIT OUR WEB PAGE AT
[HTTP://WWW.WRH.NOAA.GOV/PORTLAND/PUBLIC_HYDRO](http://www.wrh.noaa.gov/portland/public_hydro). (LOWER CASE)

THE NEXT UPDATE FOR THESE LOCATIONS WILL BE ISSUED BY 11 PM TONIGHT.

ORC057-150415-
/O.CAN.KPQR.FL.W.0051.041114T0315Z-041115T0915Z/
/I.ER.041114T0315Z.041113T2115Z.041115T0315Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING IS CANCELLED FOR
WILSON RIVER NEAR TILLAMOOK
* AT 5 PM PST SUNDAY THE STAGE WAS 12.2 FEET / 11196 CFS
* FLOOD STAGE IS 13.0 FEET / 13200 CFS (DATUM 71.9 FT)
* FORECAST...THIS RIVER IS FORECAST TO CONTINUE TO FALL. HOWEVER...
RIVER LEVELS AT SOME LOCATIONS IN TILLAMOOK NEAR HWY 101 WILL FALL
AT A SLOWER RATE THROUGH THE NIGHT.

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WAC049-069-150700-
/O.CON.KPQR.FL.W.0052.011115T0500Z-011115T0800Z/
/I.ER.011115T0500Z.011115T0600Z.011115T0800Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING CONTINUES FOR
NASELLE RIVER NEAR NASELLE
* FROM THIS EVENING UNTIL LATE WEDNESDAY NIGHT
* AT 6 PM PST SUNDAY THE STAGE WAS 13.3 FEET / 5858 CFS
* MINOR FLOODING IS FORECAST
* FLOOD STAGE IS 15.5 FT / 8070 CFS (DATUM 24.0 FT)
* FORECAST...THIS RIVER IS RISING AND IS EXPECTED TO REACH FLOOD
STAGE AROUND 9 PM AND CREST NEAR 16 FT AROUND 10 PM SUNDAY AND
FALL BACK BELOW FLOOD STAGE BY MIDNIGHT.

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WAC049-150700-
/O.CON.KPQR.FL.W.0053.011115T0700Z-011115T1000Z/
/I.ER.011115T0700Z.011115T0800Z.011115T1000Z.NO/
715 PM PST SUN NOV 14 2004

THE FLOOD WARNING CONTINUES FOR
WILLAPA RIVER NEAR WILLAPA
* UNTIL MONDAY MORNING
* AT 6 PM PST SUNDAY THE STAGE WAS 20.4 FT / 8888 CFS
* MINOR FLOODING IS FORECAST
* FLOOD STAGE IS 21.0 FT / 9310 CFS (DATUM 3.6 FT)
* FORECAST...THIS RIVER IS RISING AND WILL CREST NEAR FLOOD STAGE OF
21.0 FEET AROUND 11 PM SUNDAY. THE RIVER IS THEN EXPECTED TO
START RECEDING AROUND 2 AM. ONLY MINOR LOWLAND FLOODING IS
EXPECTED.

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Flood Statement (FLS, WGUS86)

A Flood Statement updates and expands the information in the Flood Warning. The flood statement may be used for minor flooding that presents no threat to life or property. The flood statement is also used to terminate a flood warning.

Flood statements are issued at periodic intervals during flooding to keep the public informed of the situation until the stream has returned within its banks.

Flood statements include information on current river stages, flood stage, and predicted time of river crests. In addition, specific river stages may be given for particular river gauge locations (see right side of the example). Datum information is used by emergency operations managers.

Flood Statements are presented in bullet format and include Valid Time Event Code (VTEC) at the top of each segment. The product is segmented by river forecast points, and the segments are ordered by corrections, cancellations, expirations, extensions, and continuations.

Hydrologic Products

FGUS86 KPQR 302035
RVSPQR

HYDROLOGIC STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
140 PM PDT WED JUL 30 2003

SELECTED OREGON AND SW WASHINGTON RIVERS AS OF 01:30 PM WEDNESDAY:

RIVER	LOCATION	FLOW (CFS)	STAGE (FEET)	24 HR CHANGE
WILLAMETTE R	AT EUGENE	2735 CFS	10.1 FT	-0.06 FT
	AT HARRISBURG	4723 CFS	2.3 FT	-0.04 FT
	AT CORVALLIS	5478 CFS	0.4 FT	-0.02 FT
	AT ALBANY	4970 CFS	2.8 FT	0.01 FT
	AT SALEM	6688 CFS	5.2 FT	-0.03 FT
	AT OREGON CITY UPR	14477 CFS	54.2 FT	0.04 FT
	AT OREGON CITY LWR	*NOT AVBL	5.0 FT	0.28 FT
COLUMBIA R	AT VANCOUVER	*NOT AVBL	3.3 FT	0.25 FT
	AT LONGVIEW	*NOT AVBL	1.9 FT	0.00 FT
MCKENZIE R	NR VIDA	1845 CFS	1.0 FT	0.00 FT
N SANTIAM R	AT MEHAMA	934 CFS	2.7 FT	-0.01 FT
S SANTIAM R	AT WATERLOO	689 CFS	2.7 FT	0.00 FT
SANTIAM R	AT JEFFERSON	1123 CFS	1.4 FT	0.00 FT
S YAMHILL R	AT MCMINNVILLE	34 CFS	10.2 FT	-0.06 FT
TUALATIN R	AT WEST LINN	215 CFS	2.6 FT	-0.07 FT
CLACKAMAS R	ABOVE THREE LYNX CRK	599 CFS	0.6 FT	0.01 FT
CLACKAMAS R	AT ESTACADA	673 CFS	10.5 FT	-0.05 FT
SANDY R	NR BULL RUN	437 CFS	7.9 FT	-0.07 FT
E FK LEWIS R	NR HEISSON	48 CFS	10.2 FT	-0.02 FT
LEWIS R	AT WOODLAND	*NOT AVBL	8.0 FT	0.23 FT
COWLITZ R	AT CASTLE ROCK	5129 CFS	31.6 FT	0.21 FT
COWLITZ R	AT KELSO	*NOT AVBL	9.6 FT	0.00 FT
WILLAPA R	NR WILLAPA	25 CFS	2.8 FT	-0.02 FT
NASELLE R	NR NASELLE	23 CFS	3.8 FT	0.04 FT
NEHALEM R	NR FOSS	74 CFS	1.2 FT	-0.01 FT
WILSON R	NR TILLAMOOK	84 CFS	1.9 FT	-0.01 FT
NESTUCCA R	NR BEAVER	86 CFS	3.5 FT	-0.01 FT
SILETZ R	AT SILETZ	82 CFS	2.5 FT	-0.02 FT
ALSEA R	NR TIDEWATER	103 CFS	1.3 FT	-0.02 FT
SIUSLAW R	NR MAPLETON	176 CFS	3.1 FT	-0.02 FT
ROGUE R	NR AGNESS	1863 CFS	2.7 FT	-0.04 FT
N UMPQUA R	NR WINCHESTER	815 CFS	1.8 FT	-0.01 FT
DESCHUTES R	AT MOODY	4195 CFS	2.4 FT	-0.05 FT
GRANDE RONDE R	AT TROY	668 CFS	3.4 FT	0.00 FT

*NOT AVBL: FLOW NOT AVAILABLE AT THESE SITES DUE TO TIDAL EFFECTS.

RANGE OF THE PORTLAND HARBOR STAGE DURING THE PAST 24 HOURS:

HIGHEST 6.1 AT 6:30 AM WEDNESDAY
LOWEST 2.2 AT 4:00 PM TUESDAY

PORTLAND/VANCOUVER HARBOR STAGE FORECAST:

LOW 2.3 FEET AT 5 PM WEDNESDAY
HIGH 4.7 9 PM

LOW 2.5 FEET AT 4 AM THURSDAY
HIGH 5.7 8 AM
LOW 2.5 4 PM
HIGH 4.9 9 PM

LOW 2.4 FEET AT 4 AM FRIDAY
HIGH 5.6 8 AM
LOW 2.3 6 PM

NORTHWEST OREGON AND SOUTHWEST WASHINGTON RIVER TRENDS:
NEAR STEADY LEVELS FOR RIVERS AND STREAMS TODAY AND THURSDAY

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River Statement (RVS, FGUS86)

River Statements are issued routinely, twice daily, at 6:00 am and 2:00 pm local time. The product includes current river levels for gages in Oregon, their change over the last 24 hours, and daily main stem river forecasts.

River Statements may also be issued on an 'as needed' basis. These special statements will be used to communicate river gauge readings, low flows and chemical spills, low harbor stages, and other hazards to river traffic.

This product is generally presented in tabular format but may be in a narrative format for 'as needed' statements to address special situations.

Hydrologic Products

WATER SUPPLY FORECASTS

...FORECAST AND AVERAGE ARE IN THOUSANDS OF ACRE-FEET...
 ...'% IS PERCENT OF AVERAGE BASED ON 1971 - 2000 NORMALS...
 ...'CHANGE' IS CHANGE IN FCST PERCENT OF AVE FROM PREVIOUS MONTH...

STREAM AND STATION	PERIOD	FORECAST	%	CHANGE	AVERAGE
COLUMBIA RIVER					
THE DALLES	APR-SEP	81400.0	83	N/A	98650.
OWYHEE RIVER					
OWYHEE RES INFLOW	MAR-JUL	153.0	25	+2	613.
MALHEUR RIVER					
NEAR DREWSEY	MAR-JUL	62.0	56	+13	110.
N. F. MALHEUR RIVER					
BEULAH RES INFLOW	MAR-JUL	46.0	57	+5	81.
BURNT RIVER					
NEAR HEREFORD	MAR-JUL	28.0	55	-2	51.
POWDER RIVER					
NEAR SUMPSTER	MAR-JUL	46.0	66	+2	70.
IMNAHA RIVER					
IMNAHA	MAR-JUL	270.0	90	-3	301.
GRANDE RONDE RIVER					
LA GRANDE	MAR-JUL	193.0	78	+4	249.
TROY	MAR-JUL	1460.0	93	-3	1578.
UMATILLA RIVER					
NEAR GIBBON	APR-JUL	63.0	86	-7	73.
PENDLETON	APR-JUL	106.0	71	-12	149.
S. F. WALLA WALLA RIVER					
NEAR MILTON	APR-JUL	50.0	94	-14	53.
M. F. JOHN DAY RIVER					
RITTER	APR-JUL	91.0	74	+2	123.
N. F. JOHN DAY RIVER					
NEAR MONUMENT	APR-JUL	470.0	79	+2	597.
JOHN DAY RIVER					
SERVICE CREEK	APR-SEP	650.0	75	+3	865.
DESCHUTES RIVER					
BENHAM FALLS	APR-SEP	350.0	66	-1	528.
CROOKED RIVER					
PRINEVILLE RES INFLOW	MAR-JUL	70.0	38	-1	184.
OCHOCO CREEK					
OCHOCO RES INFLOW	MAR-JUL	17.0	49	-5	35.
MCKENZIE RIVER					
NEAR VIDA	APR-SEP	885.0	74	-12	1300.
S. SANTIAM RIVER					
WATERLOO	APR-SEP	510.0	87	-8	587.
N. SANTIAM RIVER					
MEHAMA	APR-SEP	700.0	84	-1	834.
WILLAMETTE RIVER					
SALEM	APR-SEP	4070.0	85	-7	4804.
CLACKAMAS RIVER					
ESTACADA	APR-SEP	670.0	90	-4	748.
N. UMPQUA RIVER					
LEMOLO LK INFLOW	APR-SEP	119.0	79	-8	151.
ROGUE RIVER					
RAYGOLD	APR-SEP	770.0	87	0	889.
CHEWAUCAN RIVER					
NEAR PAISLEY	MAR-JUL	43.0	48	-7	89.
SILVIES RIVER					
BURNS NR	APR-SEP	27.0	27	0	99.
...FORECASTS FOR UPPER KLAMATH BASIN LAST UPDATED IN JUNE...					
WILLIAMSON RIVER					
BELOW SPRAGUE	MAY-SEP	185.0	70	0	265.
SPRAGUE RIVER,					
NEAR CHILOQUIN	MAY-SEP	110.0	71	0	155.
UPPER KLAMATH FALLS					
RIVER INFLOW	MAY-SEP	240.0	71	0	340.
LOST RIVER					
GERBER RES INFLOW	MAY-JUL	8.0	125	0	6.4
THESE FORECASTS ARE SELECTED FROM THOSE PREPARED BY: NATIONAL WEATHER SERVICE, NATURAL RESOURCE CONSERVATION SERVICE, AND B. C. HYDRO AND POWER AUTHORITY. FOR VARIOUS PROJECT INFLOWS, THE FORECASTS HAVE BEEN COORDINATED WITH THE U. S. ARMY CORP OF ENGINEERS AND THE U. S. BUREAU OF RECLAMATION. FOR FURTHER DETAILS ON THE WATER SUPPLY FORECAST VISIT HTTP://WWW.NWRFC.NOAA.GOV/WATER_SUPPLY/WATER_SUPPLY.CGI (LOWER CASE).					
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Water Supply Outlook (ESF, FGUS76)

The Water Supply Outlook provides an overview of the state's water supply based on the seasonal, precipitation, snowpack, and reservoir conditions. Included at the end of the product are forecast seasonal runoff volumes for several Oregon basins.

Typically, this product is issued once a month from January through July. In dry years, it is updated twice monthly.

The format of this product is a combination of narrative and tabular information.

Hydrologic Products

FGUS56 KPQR 151905
RVSPQR

RIVER STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
1205 PM PDT THU MAY 15 2003

...WILLAMETTE BASIN SPECIAL RIVER STATEMENT...

UNUSUALLY WET SPRING WEATHER WILL CONTINUE IN WESTERN OREGON AS A SERIES OF PACIFIC WEATHER SYSTEMS SLIDE INTO THE REGION.

PRECIPITATION IN THE WILLAMETTE BASIN HAS BEEN MODERATE THE PAST 24 HOURS WITH A FEW SITES RECEIVING OVER AN INCH OF RAIN...AND PERIODS OF RAIN ARE EXPECTED THROUGH THURSDAY.

MOST WILLAMETTE BASIN RIVERS ARE RISING STEADILY TODAY WITH THOSE RISES FORECAST TO CONTINUE TONIGHT AND THURSDAY. RIVERS WILL REMAIN WELL BELOW FLOOD LEVELS...BUT RISES COULD BE GREAT ENOUGH TO THREATEN ELECTRIC IRRIGATING PUMP INSTALLATIONS ALONG THE BANKS OF BASIN STREAMS...PARTICULARLY THE MAINSTEM WILLAMETTE.

OBSERVED AND FORECAST RIVER LEVELS AS OF 12:05 PM THURSDAY...

RIVER AND LOCATION	OBSERVED		FORECAST	
	12 PM TODAY		FRI 11 AM	SAT 11 AM
WILLAMETTE				
HARRISBURG	5.2 FT		7.0 FT	8.0 FT
ALBANY	7.3 FT		9.0 FT	12.0 FT
SALEM	10.1 FT		12.0 FT	14.0 FT
OREGON CITY UPPER	54.7 FT	55.6 FT	56.5 FT	
NORTH SANTIAM				
MEHAMA	5.4 FT		6.0 FT	6.0 FT
SOUTH SANTIAM				
WATERLOO	5.4 FT		4.5 FT	4.5 FT
SANTIAM				
JEFFERSON	6.7 FT		8.0 FT	8.0 FT

IRRIGATORS WHO HAVE RIVER PUMPS IN PLACE ARE ADVISED TO TAKE NECESSARY PRECAUTIONS TO PROTECT THEIR INSTALLATIONS.

THIS STATEMENT WILL BE UPDATED FRIDAY MORNING.

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Willamette Basin Special River Statement (RVS, FGUS86)

The Willamette Basin Special River Statement is issued non-routinely to address unusually significant late-Spring or early-Summer rises (i.e. 3 ft/day) on the Willamette or Santiam Rivers.

It provides crucial river stage information, expected rainfall over the next several days, and a brief look at trends on the rivers. This information provides irrigators with sufficient lead-time to protect irrigation equipment and other equipment that may be installed or operating on or near the banks of the affected rivers.

Hydrologic Products

AGUS46 KPTR 041725
HMDPDR
HYDROMETEOROLOGICAL DISCUSSION
09:56 AM PDT FRI JUL 04 2003

HYDROMETEOROLOGICAL CONDITIONS...PAST 24 HOURS...4 AM - 4 AM

A QUICK MOVING SYSTEM BROUGHT SOME LIGHT, SCATTERED PRECIPITATION INTO THE NORTHERN TIER OF THE RFC AREA YESTERDAY. AMOUNTS WERE NO MORE THAN .2 INCH. ELSEWHERE... DRY CONDITIONS PREVAILED. FREEZING LEVELS THIS MORNING RANGED BETWEEN 11200 FEET AT QUILLAYUTE...AND 12600 FEET AT BOISE.

HYDROLOGIC CONDITIONS...

RECESSIONS DOMINATED FLOWS ACROSS THE REGION.

HYDROMETEOROLOGICAL FORECAST...04 JUL - 08 JUL

A SERIES OF FLAT SHORT WAVES SHIFTING THROUGH BRITISH COLUMBIA ARE EXPECTED TO OCCASIONALLY CLIP FAR NORTHERN TIER BASINS WITH OCCASIONAL SCATTERED LIGHT RAIN THROUGH THE PERIOD WHILE A MAJORITY OF THE REGION REMAINS DRY. NEAR NORMAL EARLY PERIOD TEMPERATURES ARE FORECAST TO SLOWLY CLIMB ABOVE NORMAL AS ONSHORE FLOW GRADUALLY DIMINISHES THROUGH THE PERIOD ACROSS MOST FORECAST LOCATIONS.

HYDROLOGIC FORECAST...

EXPECT LITTLE CHANGE IN CONTINUED RECESSIONS ACROSS THE REGION.

6-10 DAY OUTLOOK...09 JUL - 13 JUL

LOOK FOR PROGRESSIVE LARGELY DRY WESTERLY FLOW WITH A GRADUALLY DEEPENING GULF TROUGH THURSDAY-FRIDAY THAT MAY PUSH IN SCATTERED LIGHT RAIN ACROSS NORTHWESTERN TIER BASINS AT TIMES NEAR THE END OF THE WEEK. EXPECT NEAR NORMAL TEMPERATURES THROUGH A MAJORITY OF THE PERIOD.

NOTE THAT THIS IS THE LAST HYDROMETEOROLOGICAL DISCUSSION FOR THIS WATER YEAR. DISCUSSION WILL RESUME WITH THE START OF THE WATER YEAR 2004.

FIND ADDITIONAL INFORMATION ON OUR WEBSITE: [HTTP://WWW.NWRFC.NOAA.GOV](http://www.nwrfc.noaa.gov)

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Hydrometeorological Discussion (HMD, AGUS46)

The Hydrometeorological Discussion provides a brief synopsis of hydro-meteorological conditions over the past 24 hours, a forecast for the short-term (2-3 days) and an outlook (6-10 days). It is primarily used for general planning and is issued by the NOAA/NWS Northwest River Forecast Center.