



California-Nevada River Forecast Center

WY 2106

Russian River Forecasts

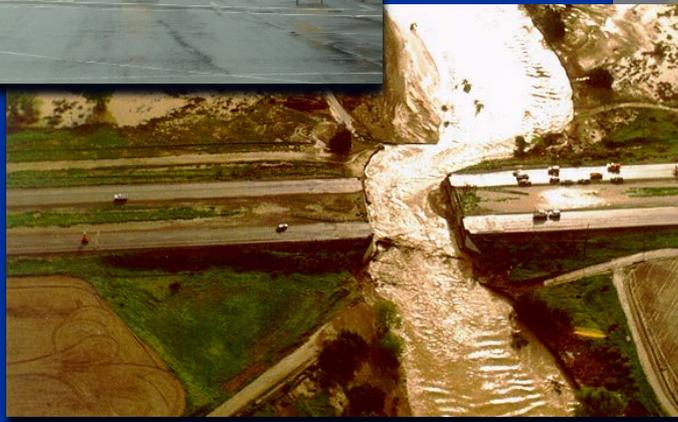
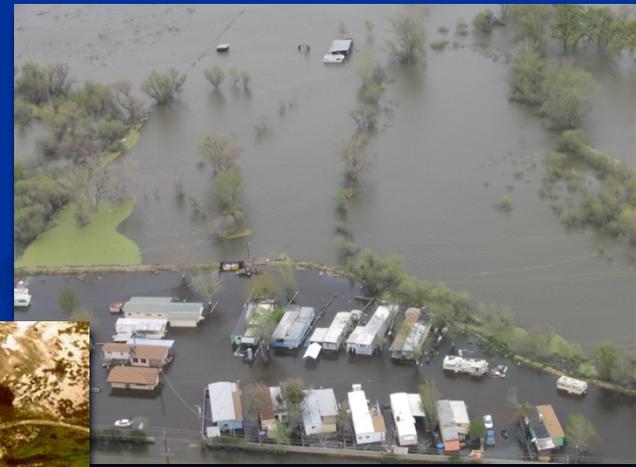
FIRO Workshop, San Diego

June 2016



Mission of NWS Hydrologic Services Program

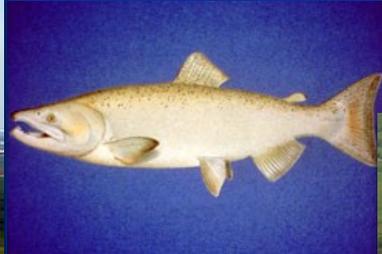
- Provide river and flood forecasts and warnings for the protection of lives and property





Mission of NWS Hydrologic Services Program

- Provide basic hydrologic forecast information for the nation's environmental and economic well being

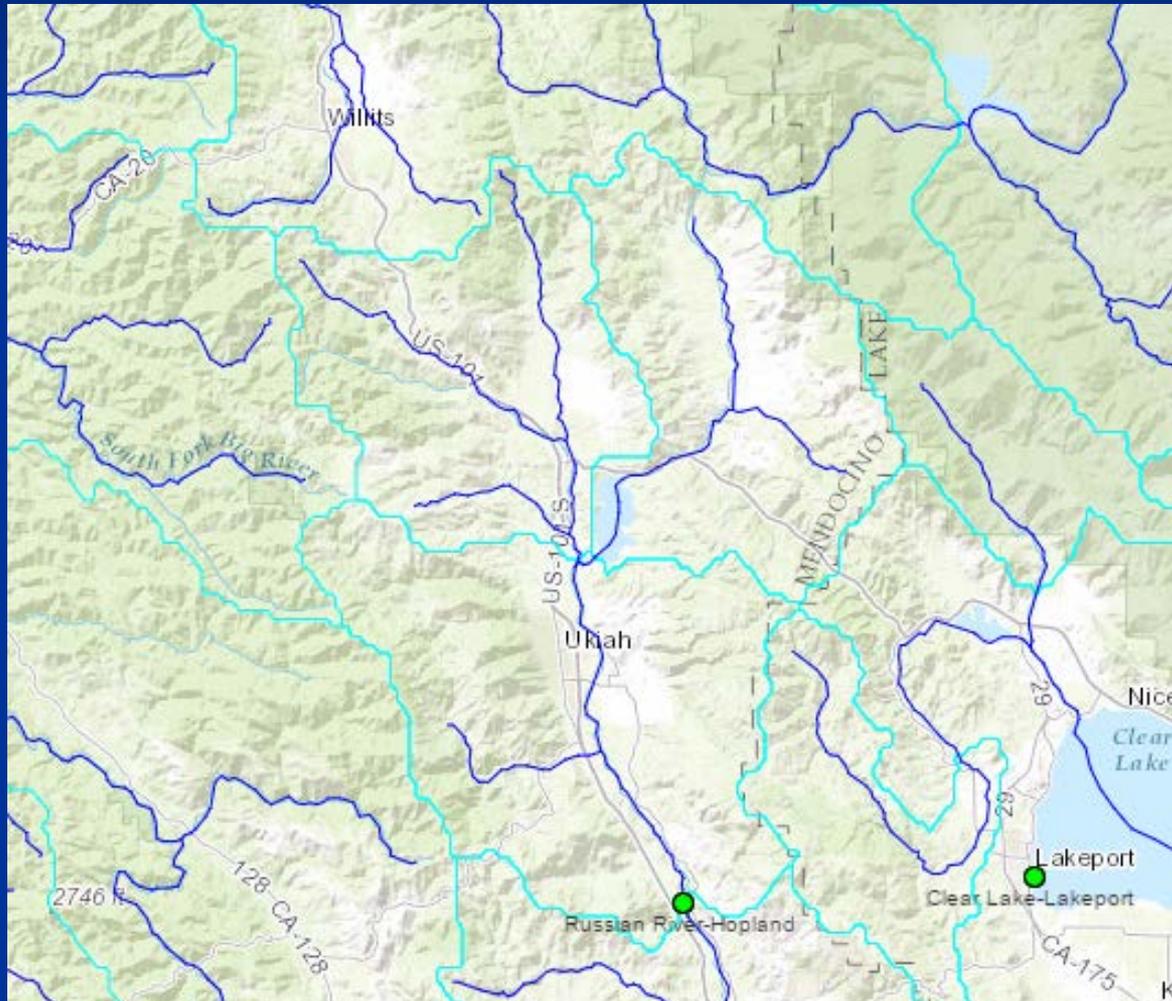




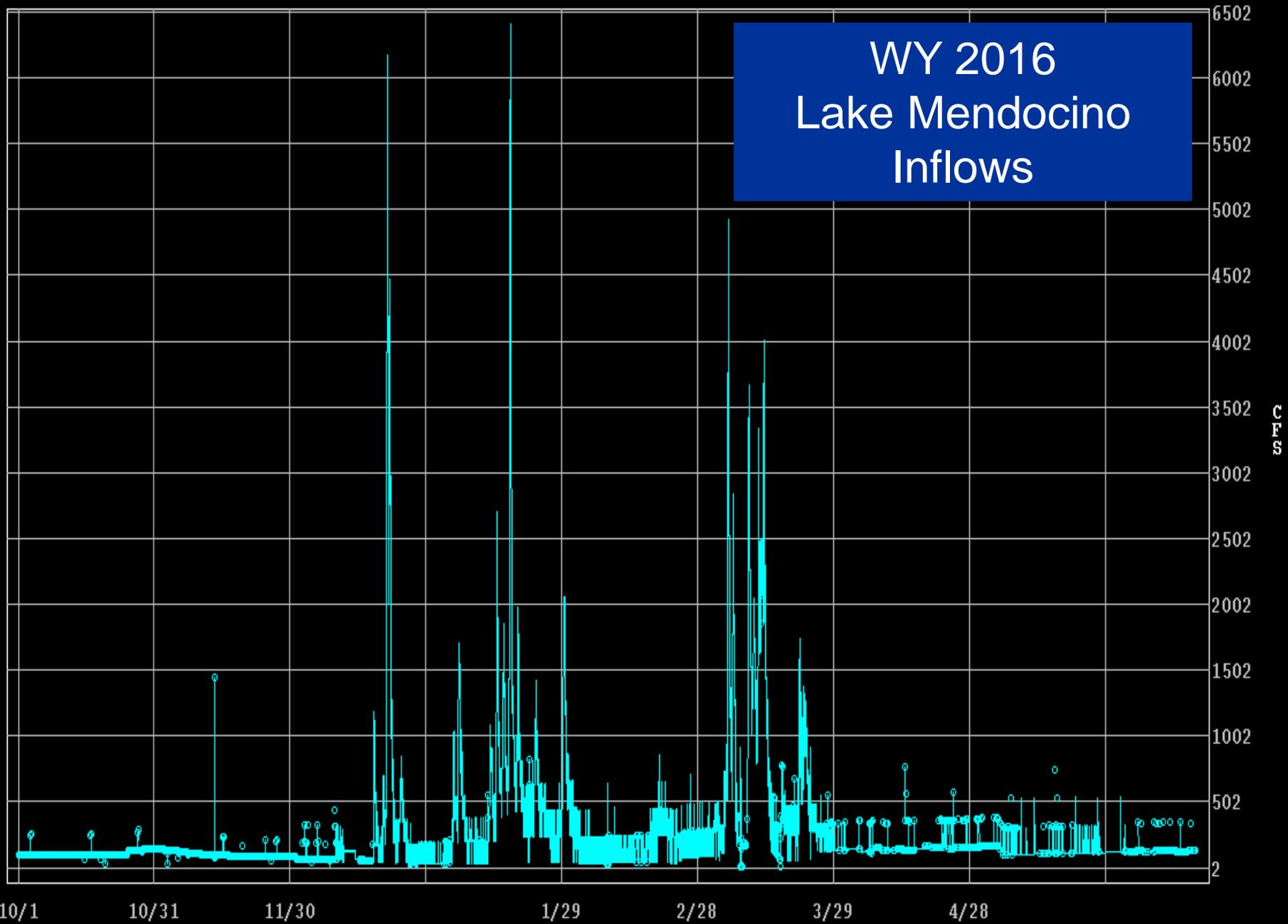
Let's look at what happened
this past winter in the
Russian River Watershed...



Upper Russian Watershed



EF RUSSIAN - COYOTE DAM (670 FT)
LAMC1 QIIRGZZ (NEXT: UNKNOWN)
Max= 6416 at 01/18/16 05Z
Min= 3 at 03/09/16 08Z



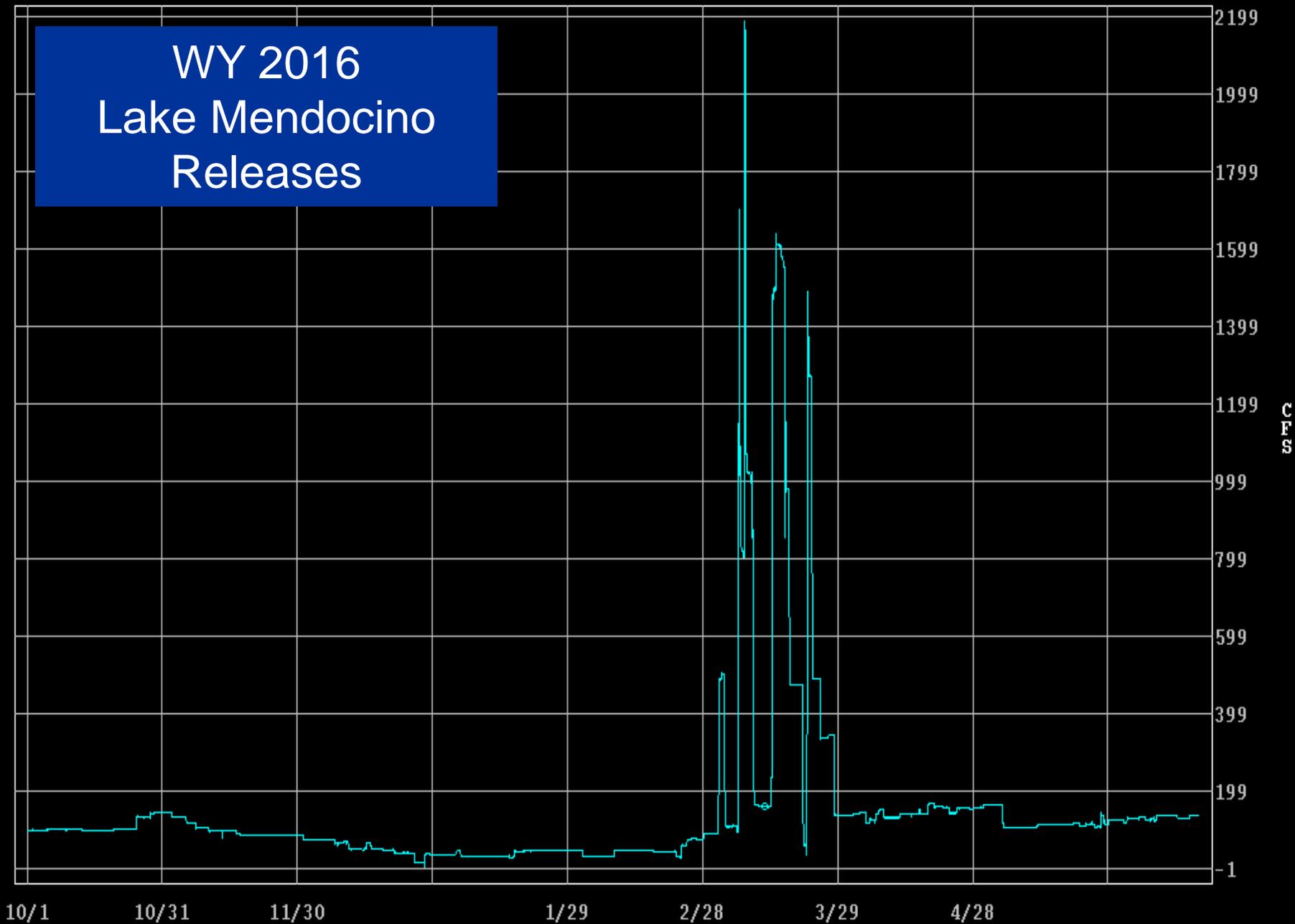
EF RUSSIAN - COYOTE DAM (670 FT)

LAMC1 ORIGZZ

Max= 2189 at 03/08/16 23Z

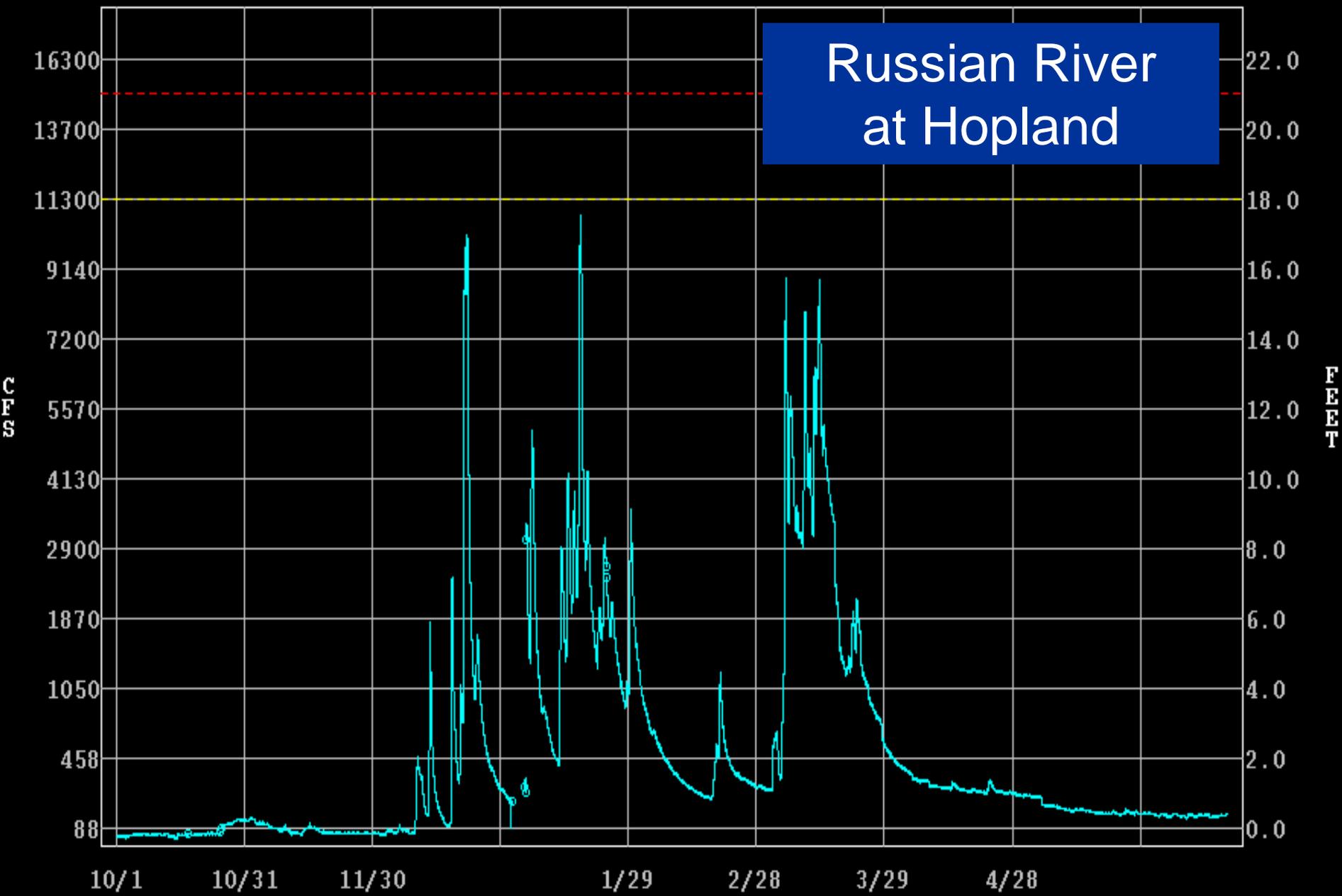
Min= 0 at 12/28/15 18Z

WY 2016 Lake Mendocino Releases



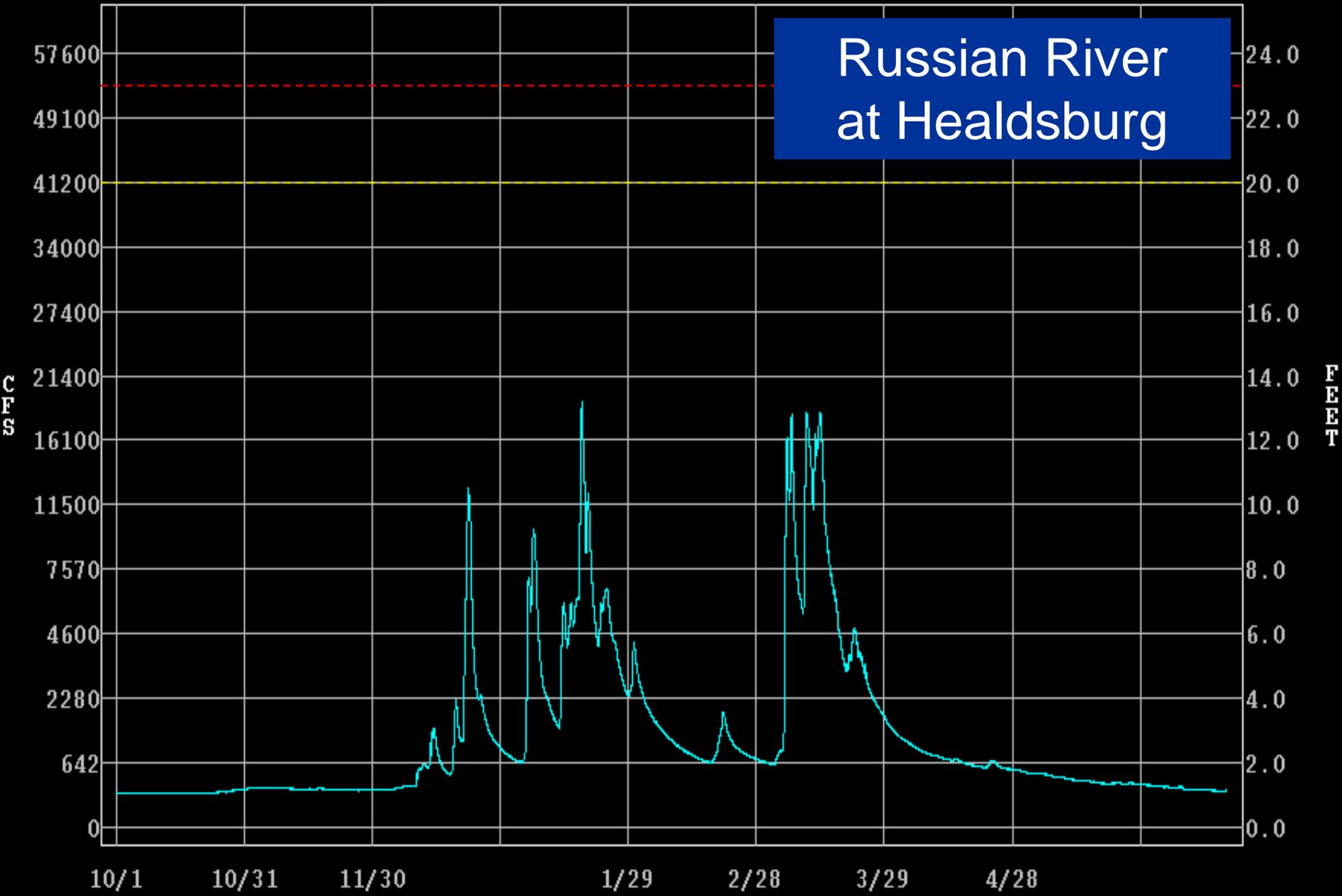
RUSSIAN - HOPLAND, NR (498 FT)
HOPC1 HGIRGZZ (NEXT: 2204Z R)
Max= 17.5 10759 at 01/18/16 10Z
Min= -0.3 0 at 10/15/15 13Z

Russian River
at Hopland



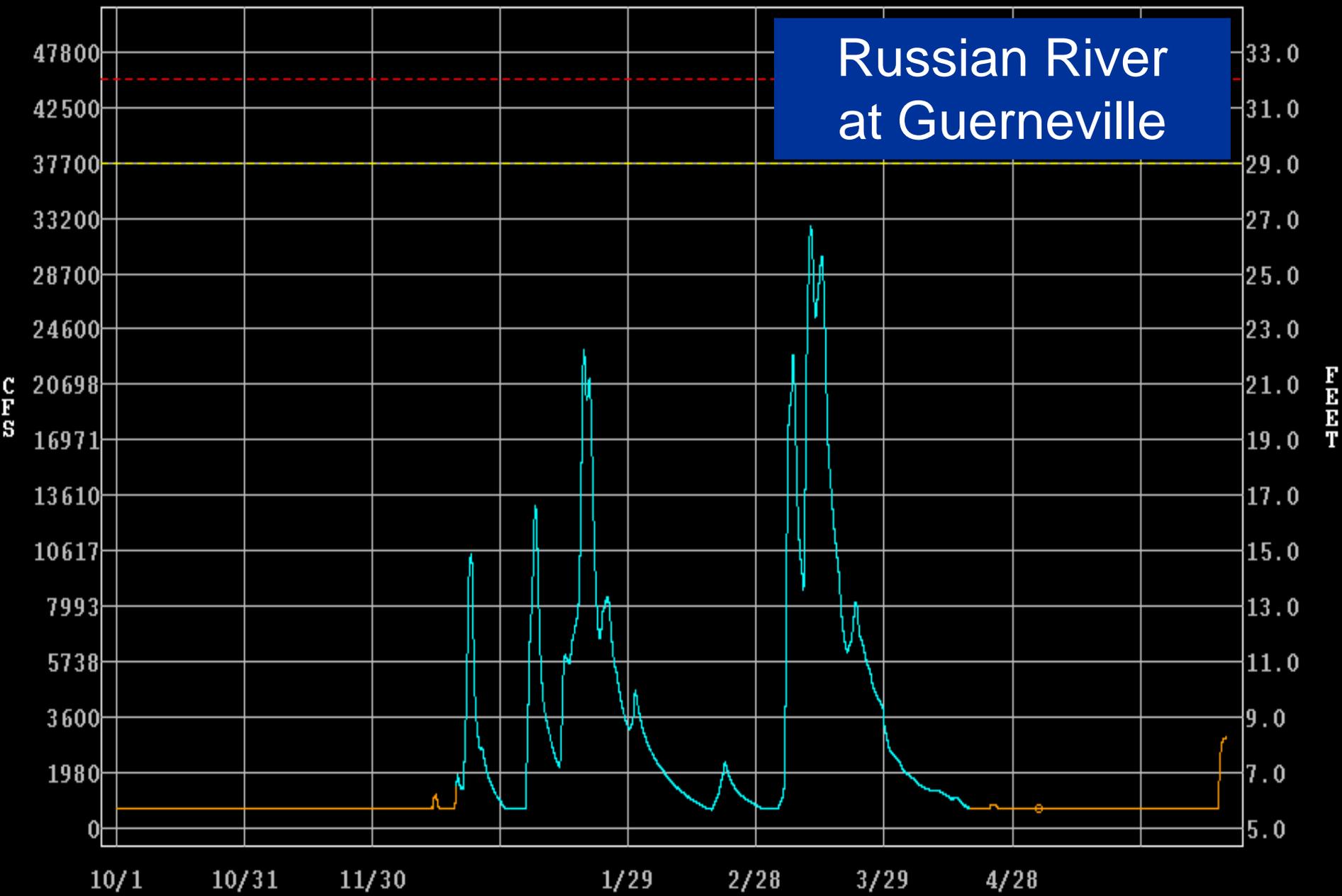
RUSSIAN - HEALDSBURG, NR (77 FT)
HEAC1 HGIRGZZ (NEXT: 2203Z R)
Max= 13.2 19267 at 01/18/16 16Z
Min= 1.0 120 at 10/04/15 23Z

Russian River
at Healdsburg



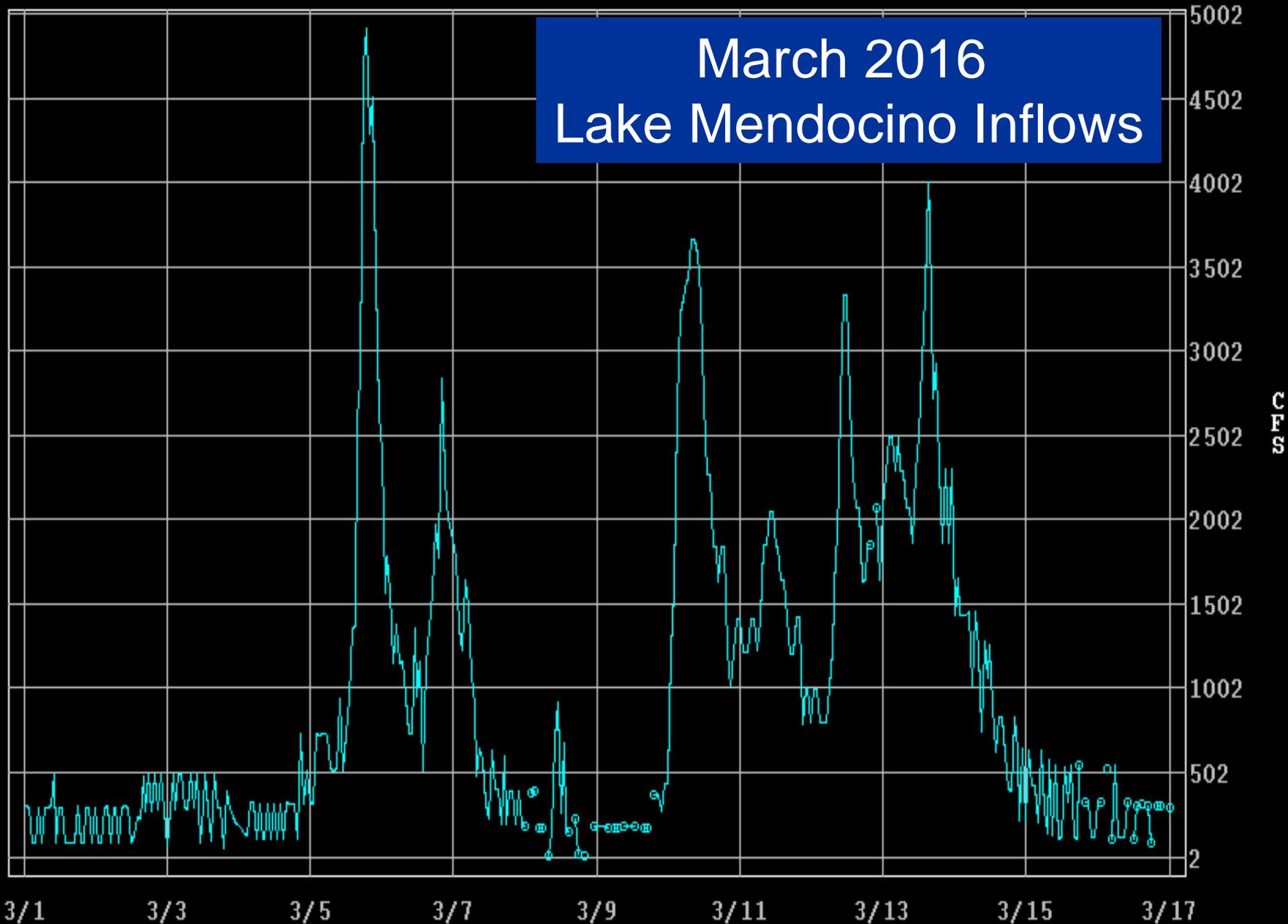
RUSSIAN - GUERNEVILLE BRIDGE (30 FT)
GUEC1 HGIRGZZ (NEXT: 1838Z R)
Max= 26.7 32548 at 03/12/16 06Z
Min= 5.6 913 at 02/18/16 01Z

Russian River
at Guerneville



EF RUSSIAN - COYOTE DAM (670 FT)
LAMC1 QIIRGZZ (NEXT: UNKNOWN)
Max= 4922 at 03/06/16 07Z
Min= 3 at 03/09/16 08Z

March 2016 Lake Mendocino Inflows



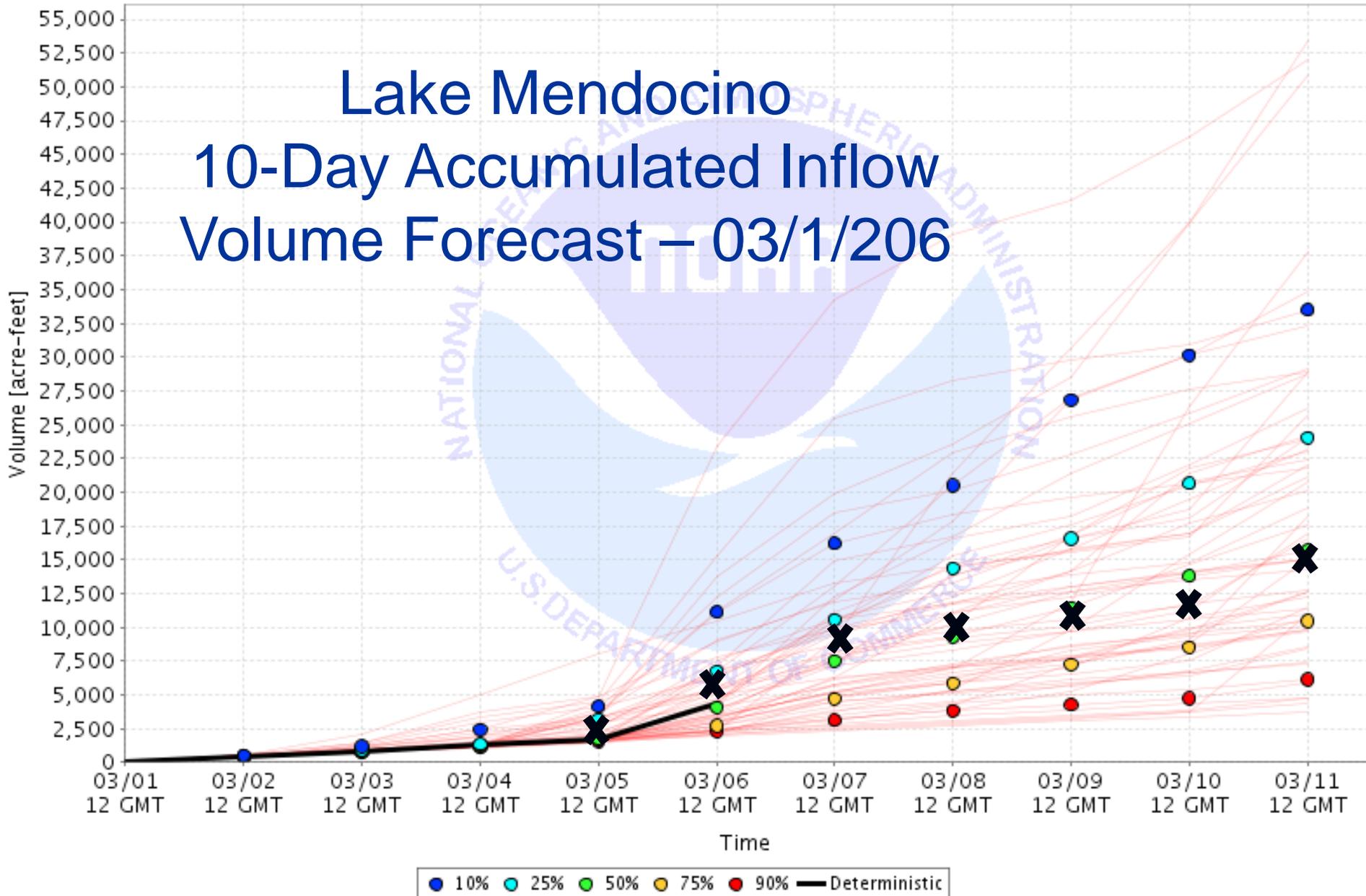


Lake Mendocino

- 10-Day Accumulated Inflow Volume Forecasts
- Generated daily
- QPF sources
 - Days 1-3 CNRFC HAS
 - Days 4-15 GEFS v10

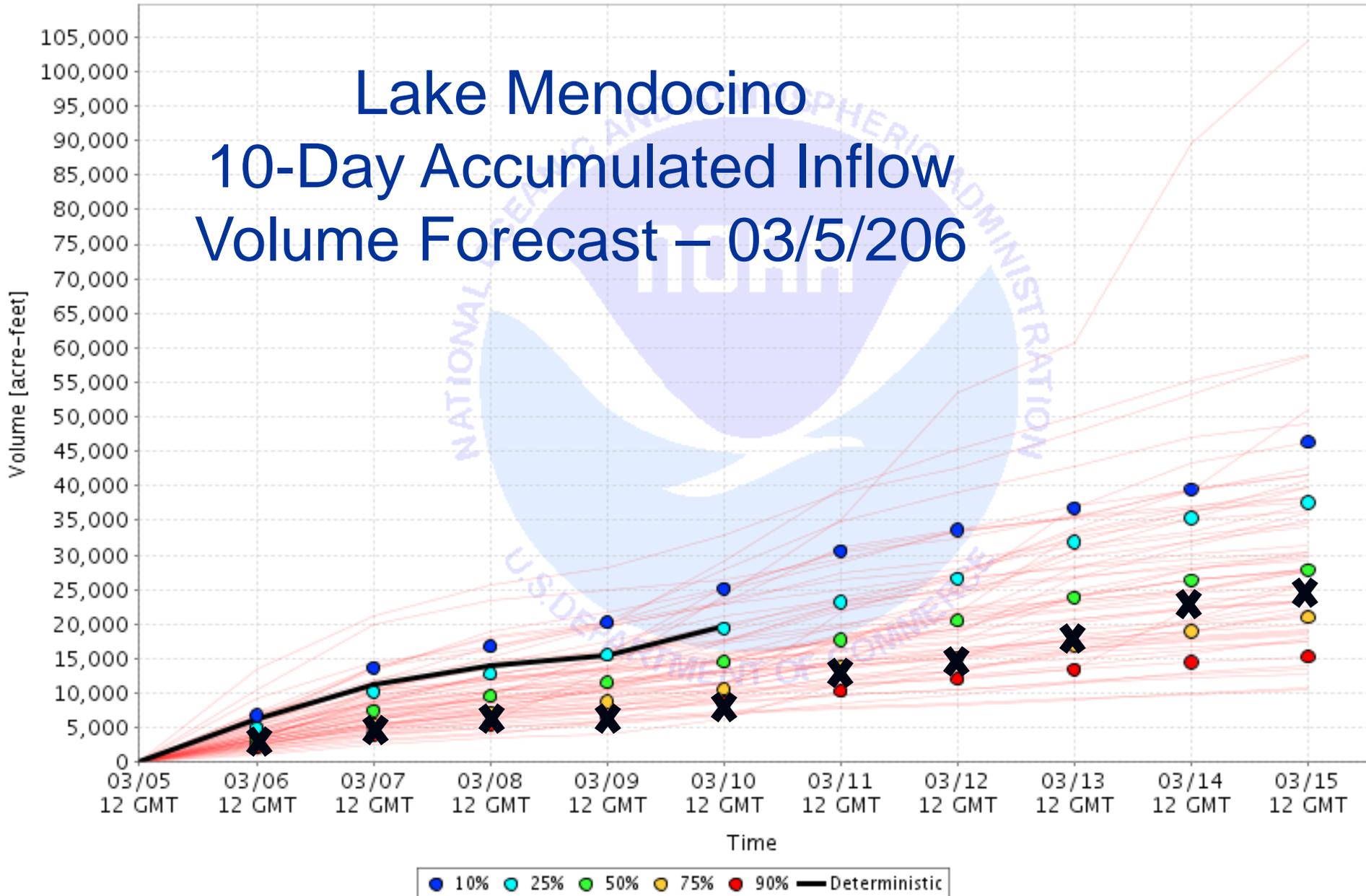
Volume Accumulation For EF RUSSIAN - COYOTE DAM
Latitude: 39.20028 Longitude: -123.186386
Forecast for the period 03/01/2016 - 03/11/2016
This is a conditional simulation based on the current conditions as of 03/01/2016
(src= D)

Lake Mendocino 10-Day Accumulated Inflow Volume Forecast – 03/1/2016



Volume Accumulation For EF RUSSIAN - COYOTE DAM
 Latitude: 39.20028 Longitude: -123.186386
 Forecast for the period 03/05/2016 - 03/15/2016
 This is a conditional simulation based on the current conditions as of 03/05/2016
 (src= D)

Lake Mendocino 10-Day Accumulated Inflow Volume Forecast – 03/5/2016





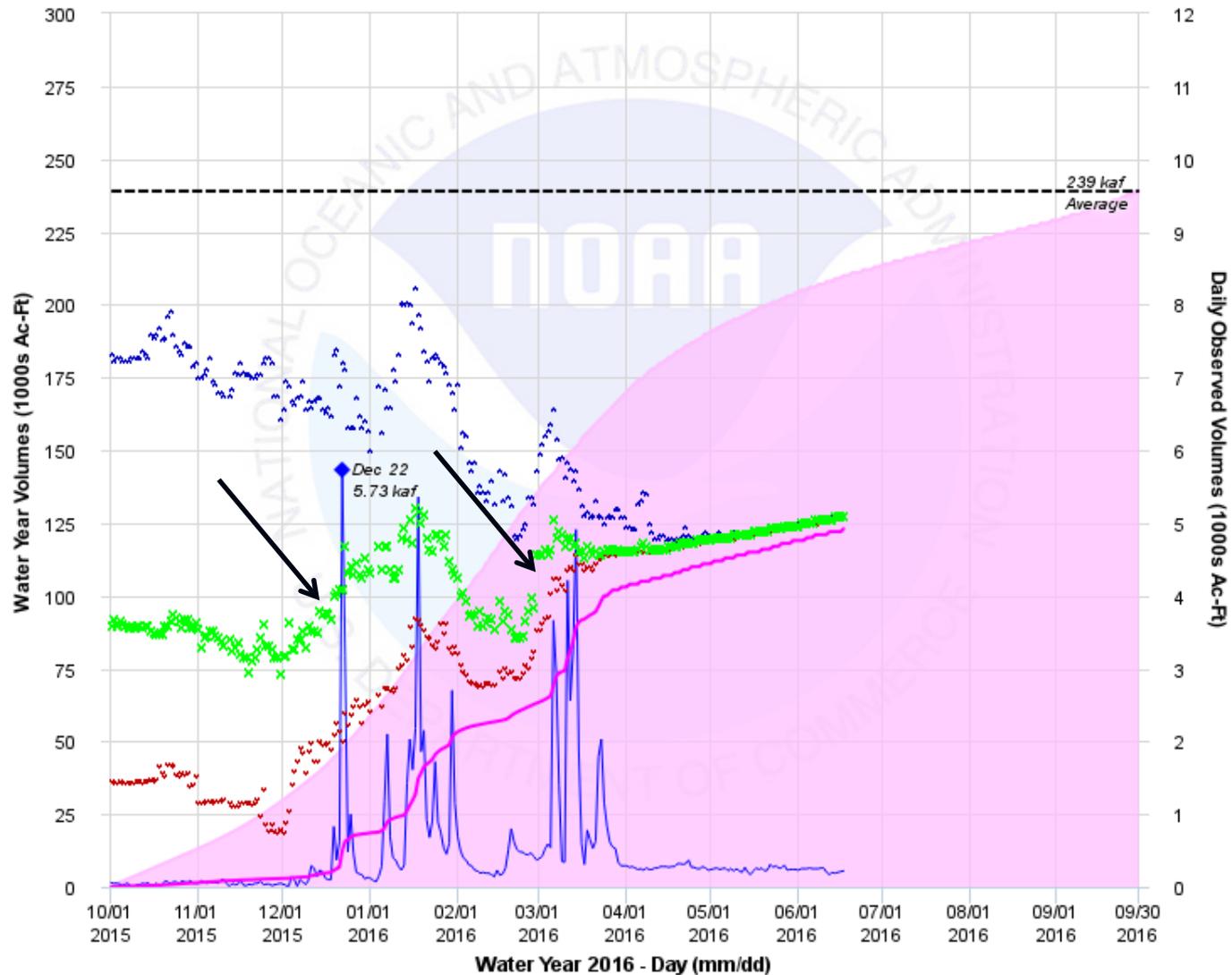
Lake Mendocino

- Water Year forecast progression
- Note that “increases” in volume are telegraphed in January and March
 - Inclusion of 15-day GEFS information



EF RUSSIAN - LK MENDOCINO (LAMC1) 06/17/2016
Most Probable: 127 kaf | 53% of Average | MM of Median

Created: 06/17/2016 at 07:59 AM PDT





Russian River @ Hopland

- Forecast Sequence for March 1-15, 2016
- Only morning forecasts shown
- Blue is OBSERVED
- Green is FORECAST



RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

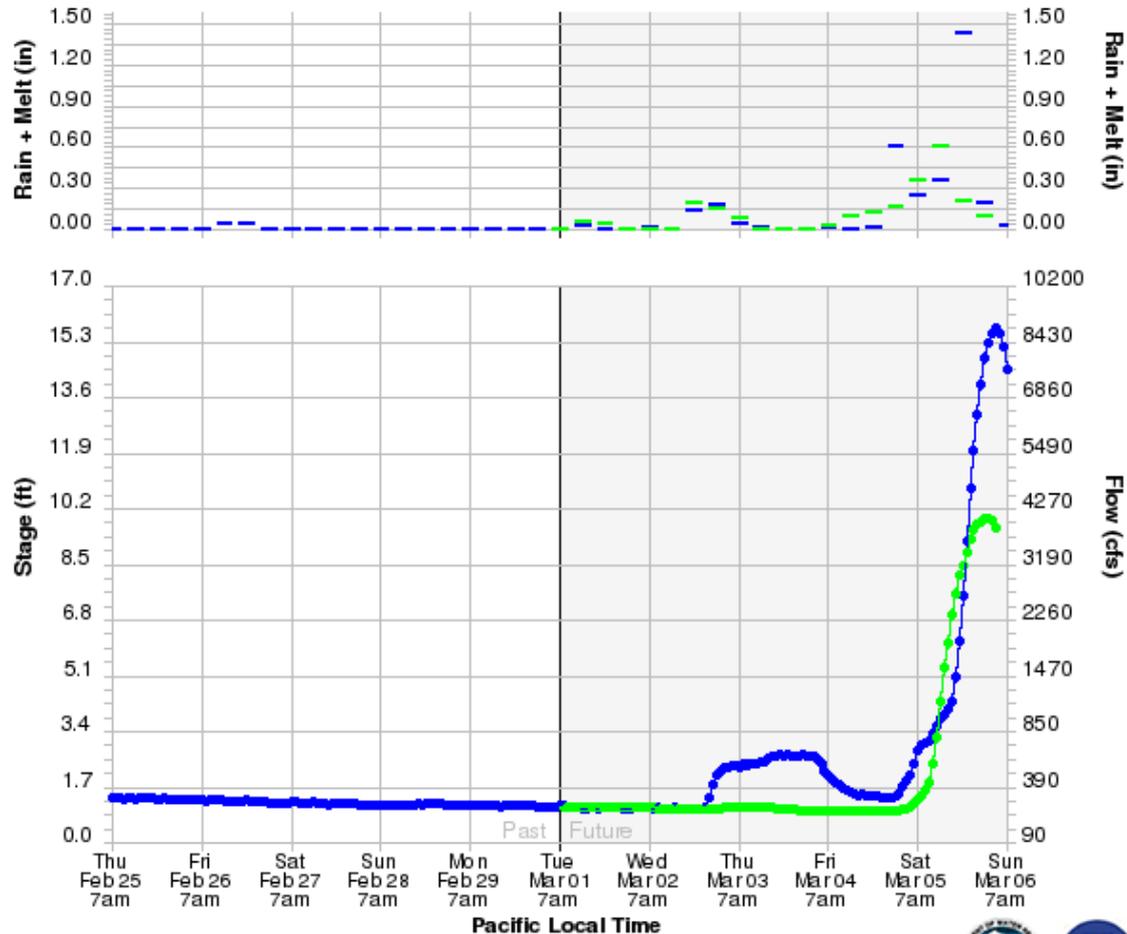
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
Monday 02/29/2016 18-00 UTC	Tuesday 03/01/2016 18-00 UTC
Selected Date: Tuesday 03/01/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 01, 2016 at 07:49 AM PST



Observed ● Forecast ●

FCTime: 1549Z ID: HOPC1

Created: 03/07/2016 at 1:00 AM PST

(Source = C)

NOAA / NWS / California

California Department of Water Resources

NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

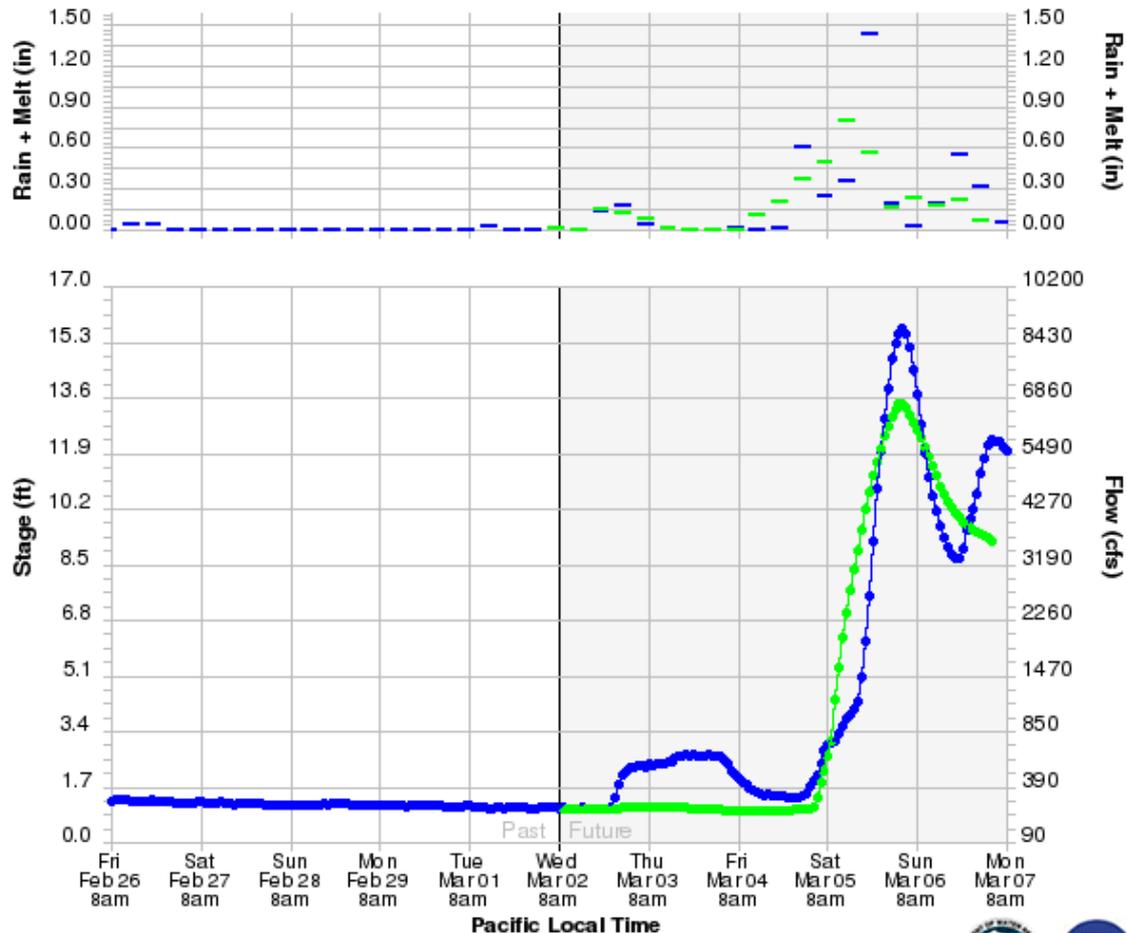
River Group: Russian Napa

Forecast Observed

Previous Forecast	Next Forecast
Tuesday 03/01/2016 18-00 UTC	Thursday 03/03/2016 12-18 UTC
Selected Date: Wednesday 03/02/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 02, 2016 at 08:07 AM PST



Observed Forecast

FCTime: 1607Z ID: HOPC1

Created: 03/08/2016 at 1:00 AM PST (Source = C)

NOAA / NWS / California Nevada River Forecast Center

California Department of Water Resources





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

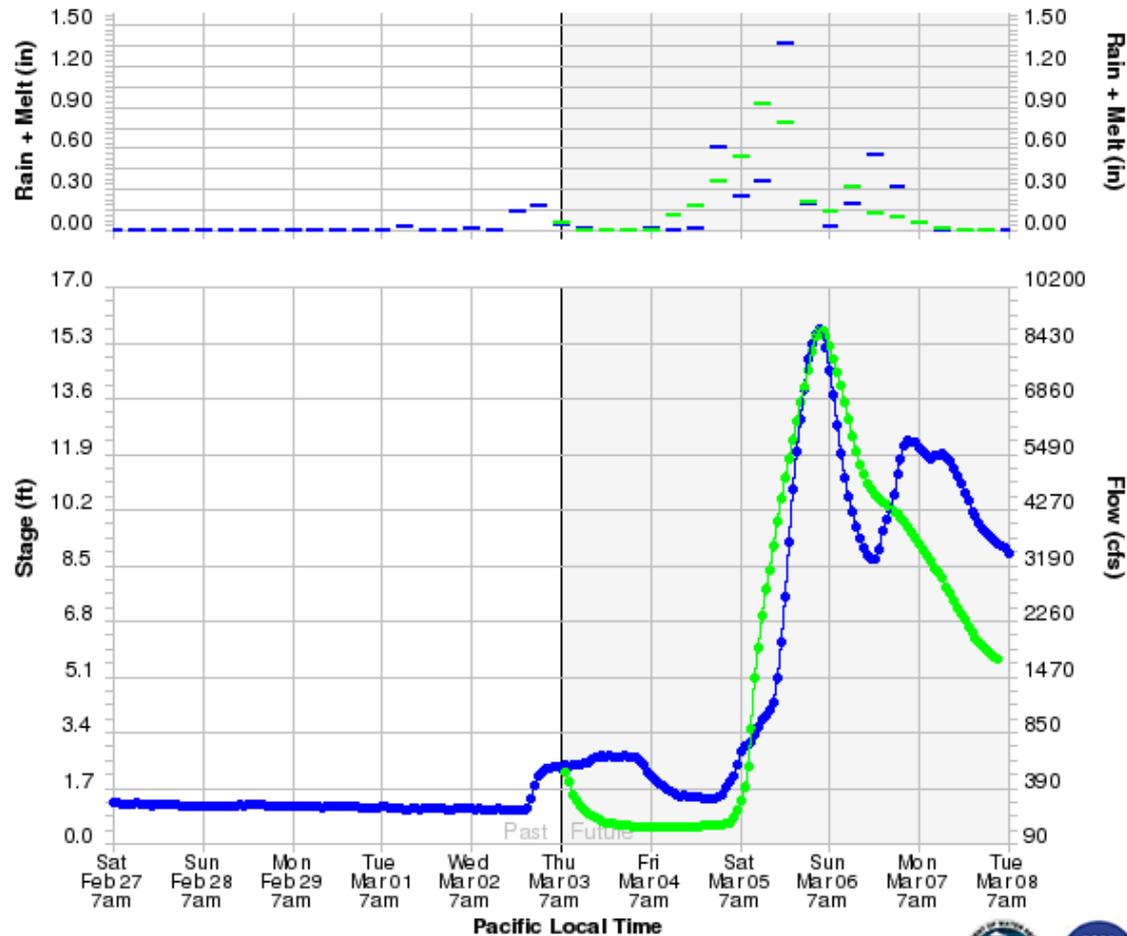
River Group: Russian Napa

Forecast Observed

Previous Forecast	Next Forecast
Wednesday 03/02/2016 12-18 UTC	Thursday 03/03/2016 18-00 UTC
Selected Date: Thursday 03/03/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 03, 2016 at 07:49 AM PST



Observed Forecast

FCTime: 1549Z ID: HOPC1

Created: 03/09/2016 at 1:00 AM PST

(Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

River Group: Russian Napa

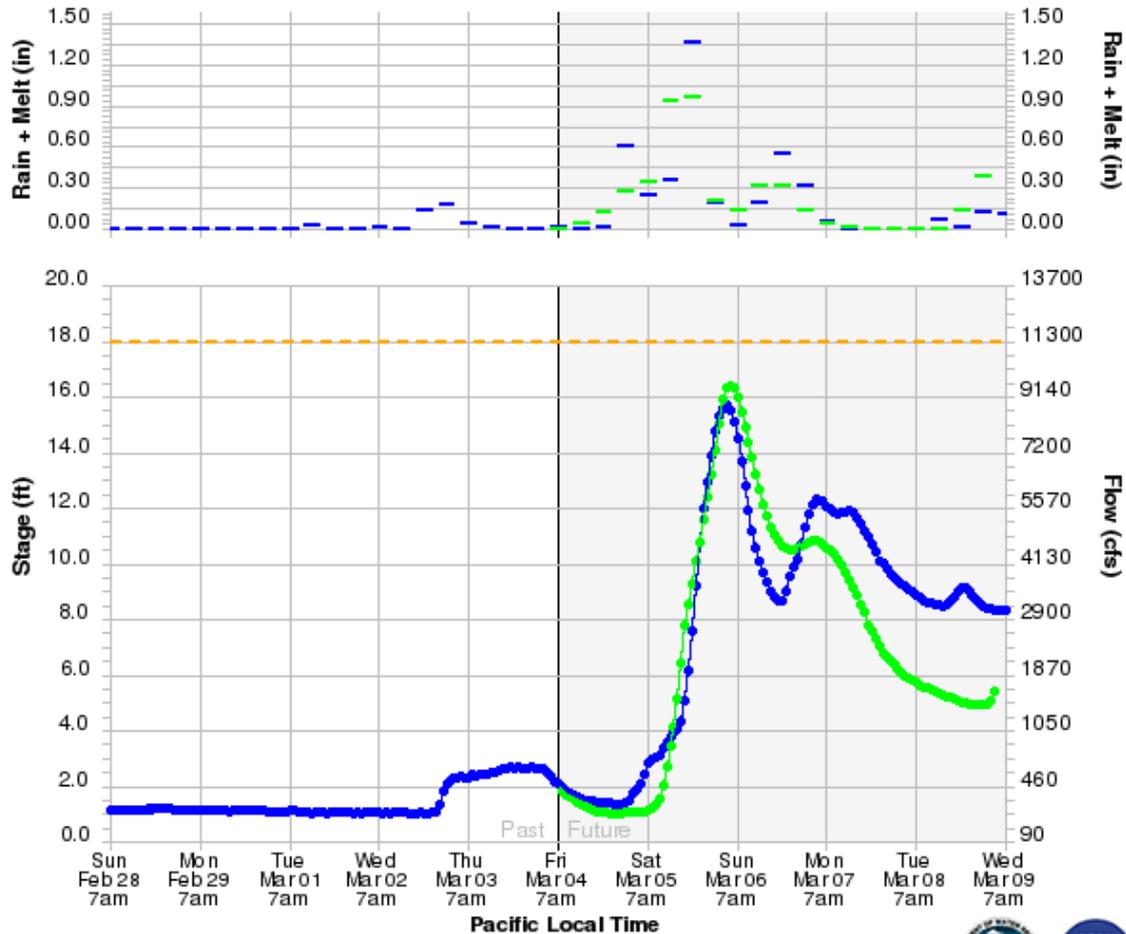
Forecast — Observed —

Previous Forecast	Next Forecast
Thursday 03/03/2016 18-00 UTC	Friday 03/04/2016 18-00 UTC

Selected Date: Friday 03/04/2016 12-18 UTC

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 04, 2016 at 07:41 AM PST



Observed ● Forecast ● Monitor —

FCTime: 1541 Z ID: HOPC1

Created: 03/10/2016 at 1:01 AM PST (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

River Group: Russian Napa

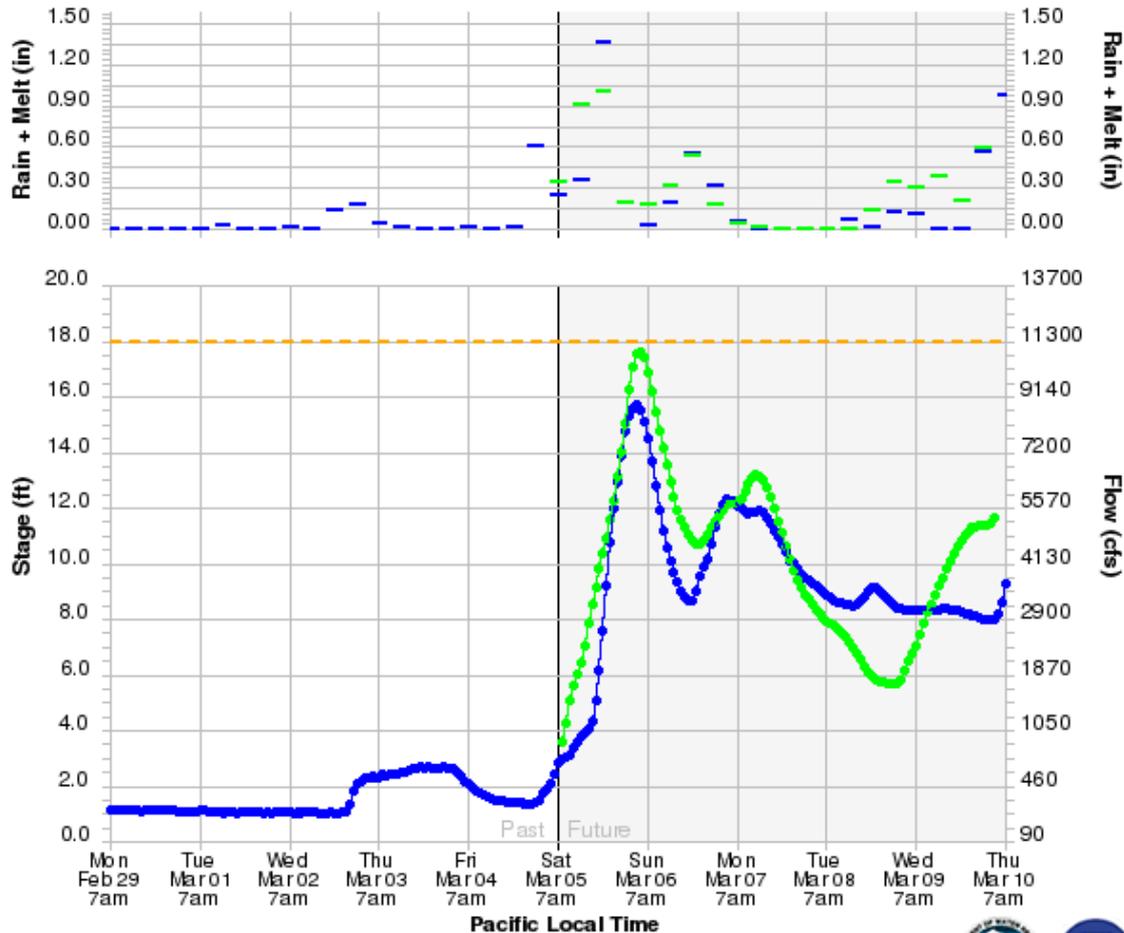
Forecast Observed

Previous Forecast	Next Forecast
Friday 03/04/2016 18-00 UTC	Saturday 03/05/2016 18-00 UTC

Selected Date: Saturday 03/05/2016 12-18 UTC

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 05, 2016 at 07:56 AM PST



Observed Forecast Monitor

FC Time: 1556Z ID: HOPC1

Created: 03/11/2016 at 1:00 AM PST (Source = C)

NOAA / NWS / California Nevada River Forecast Center

California Department of Water Resources





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

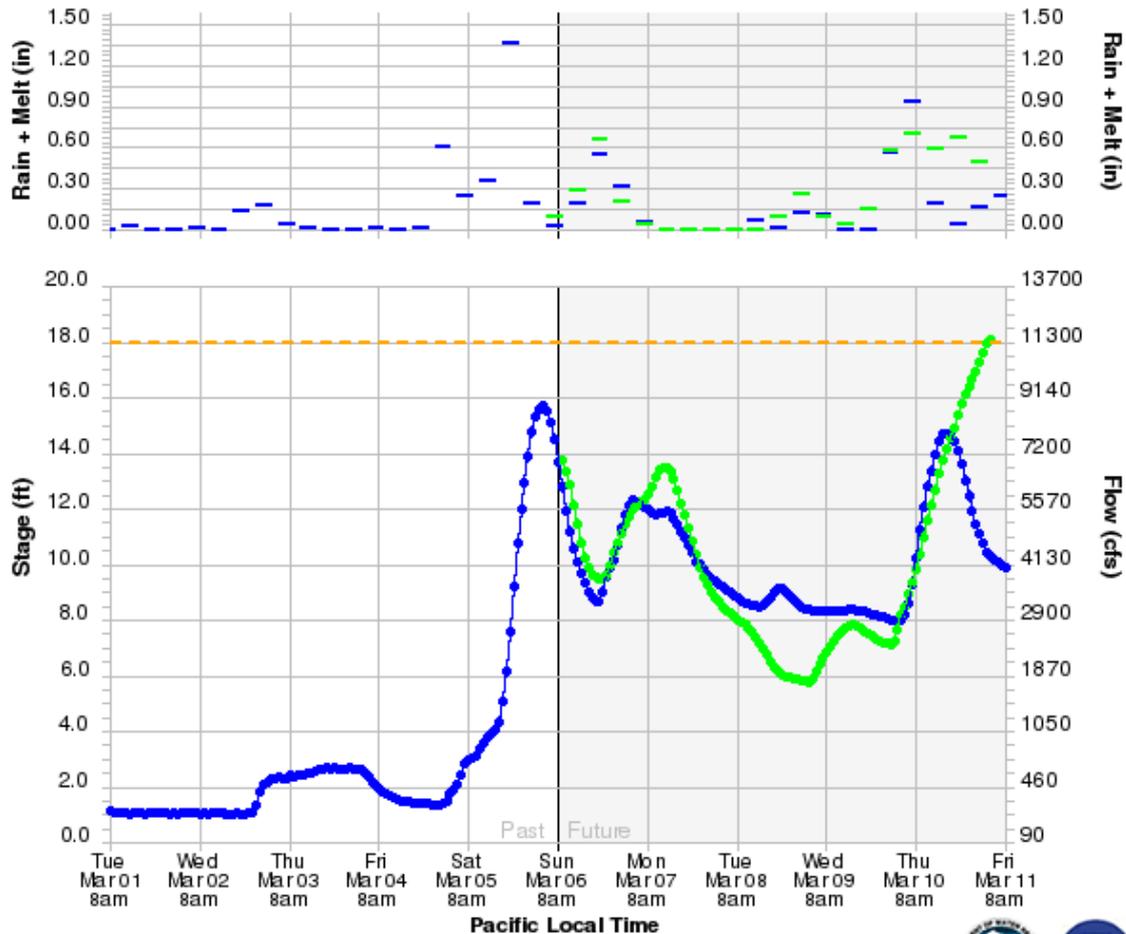
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
◀ Sunday 03/06/2016 06-12 UTC	Sunday 03/06/2016 18-00 UTC ▶
Selected Date: Sunday 03/06/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 06, 2016 at 08:07 AM PST



Observed ● Forecast ● Monitor —

FCTime: 1607Z ID: HOPC1

Created: 03/12/2016 at 1:01 AM PST (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

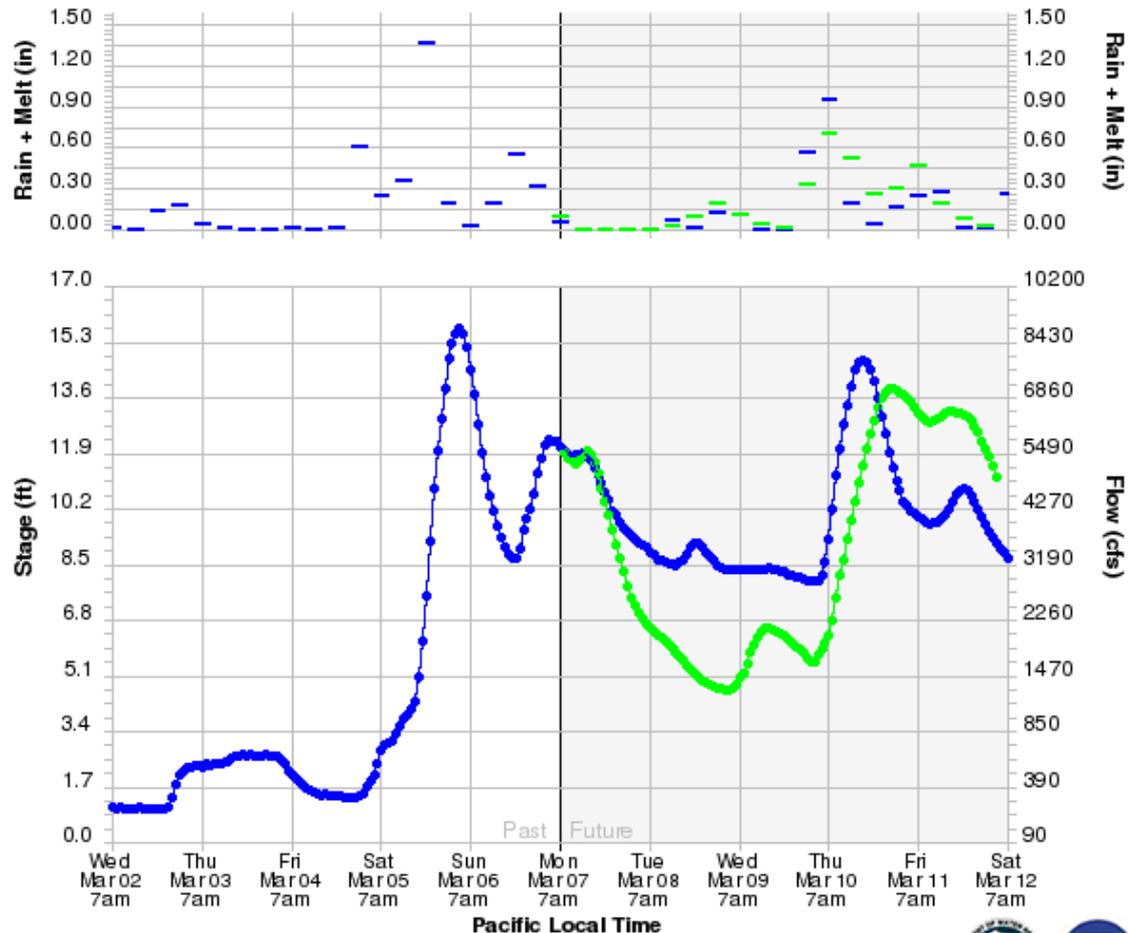
River Group: Russian Napa

Forecast Observed

Previous Forecast	Next Forecast
Sunday 03/06/2016 18-00 UTC	Monday 03/07/2016 18-00 UTC
Selected Date: Monday 03/07/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 07, 2016 at 07:40 AM PST



Observed Forecast

FCTime: 1540Z ID: HOPC1

Created: 03/13/2016 at 1:00 AM PST (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

River Group: Russian Napa

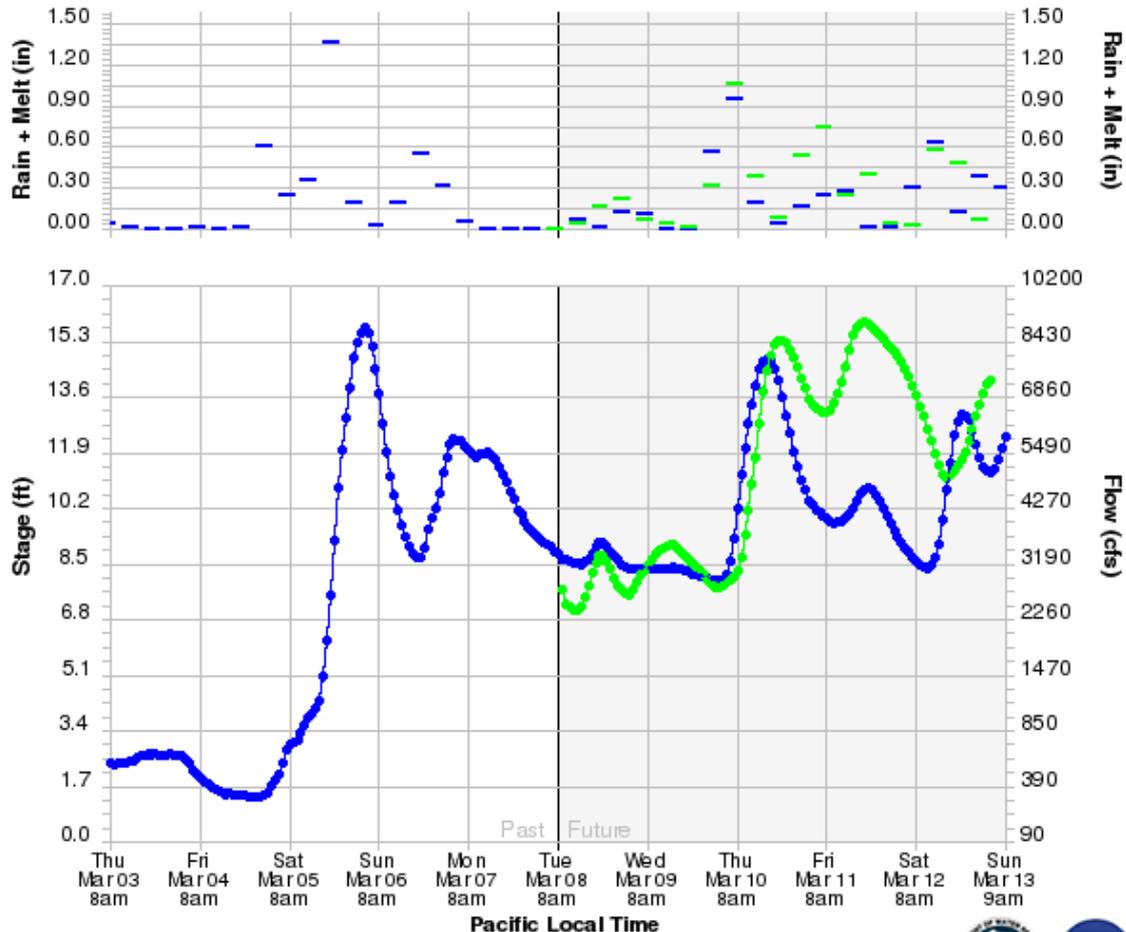
Forecast — Observed —

Previous Forecast	Next Forecast
Monday 03/07/2016 18-00 UTC	Tuesday 03/08/2016 18-00 UTC

Selected Date: Tuesday 03/08/2016 12-18 UTC

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 08, 2016 at 08:28 AM PST



Observed ● Forecast ●

FC Time: 1628Z ID: HOPC1

Created: 03/14/2016 at 2:00 AM PDT (Source = C)

NOAA / NWS / California Nevada River Forecast Center

California Department of Water Resources





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

River Group: Russian Napa

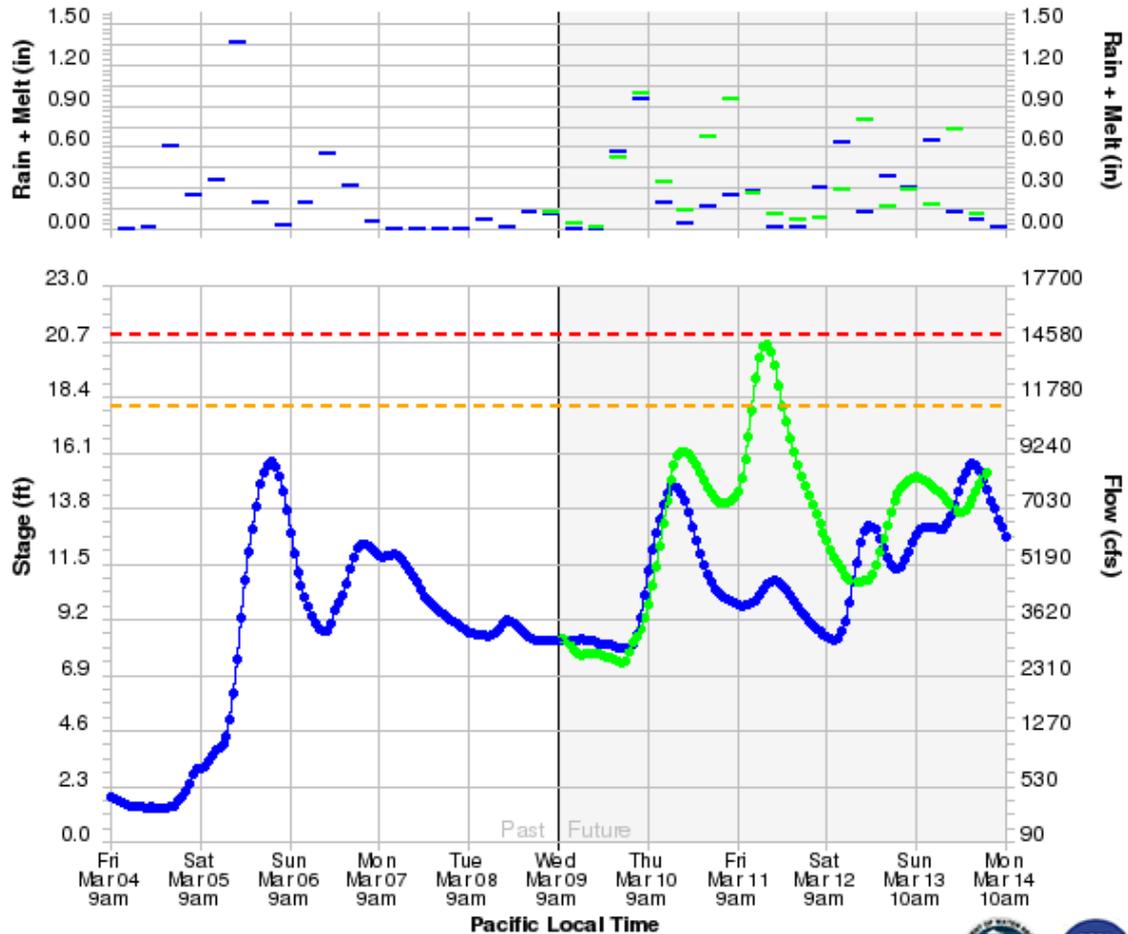
Forecast — Observed —

Previous Forecast	Next Forecast
Tuesday 03/08/2016 18-00 UTC	Wednesday 03/09/2016 18-00 UTC

Selected Date: Wednesday 03/09/2016 12-18 UTC

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 09, 2016 at 09:35 AM PST



Observed ● Forecast ● Monitor — Flood —

FCTime: 1735Z ID: HOPC1

Created: 03/15/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

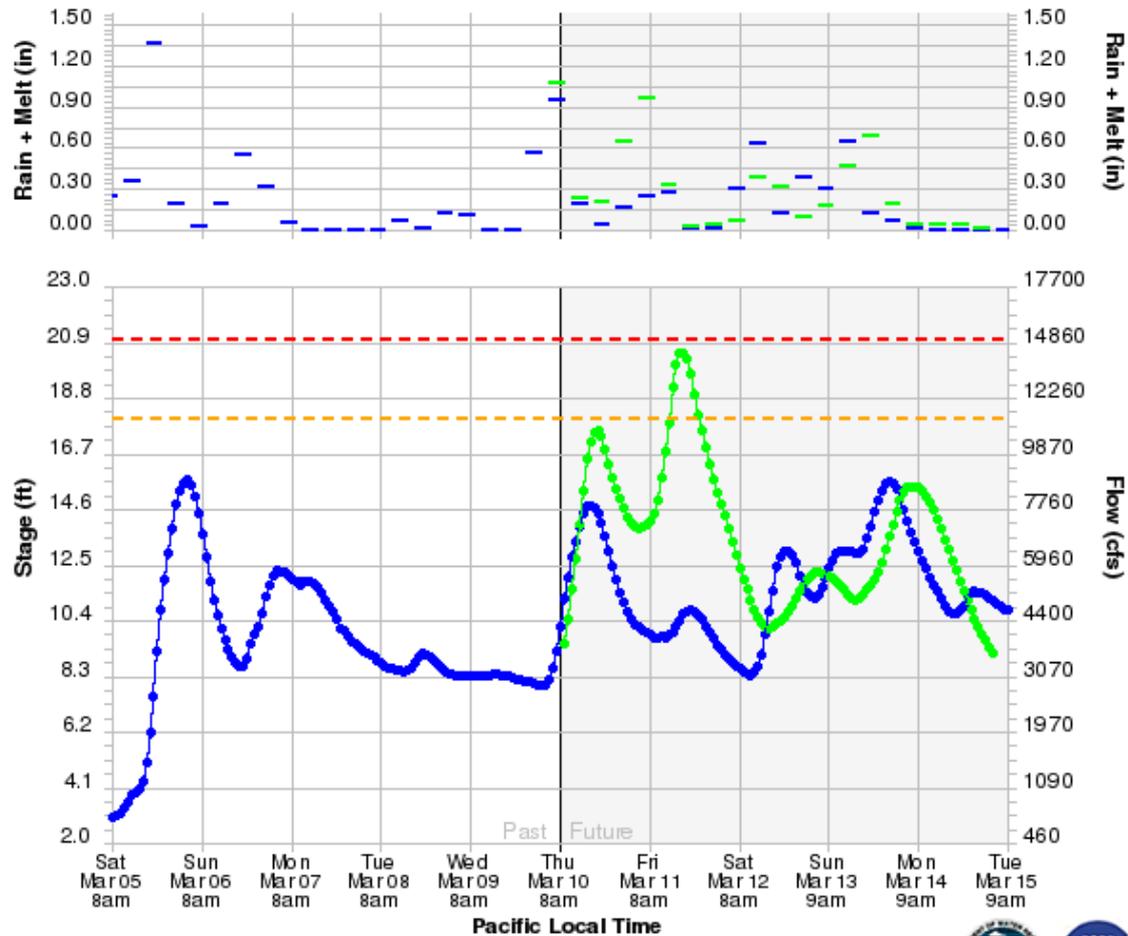
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
Wednesday 03/09/2016 18-00 UTC	Thursday 03/10/2016 18-00 UTC
Selected Date: Thursday 03/10/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 10, 2016 at 08:34 AM PST



Observed ● Forecast ● Monitor — Flood —
 FCTime: 1634Z ID: HOPC1
 Created: 03/16/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
 NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

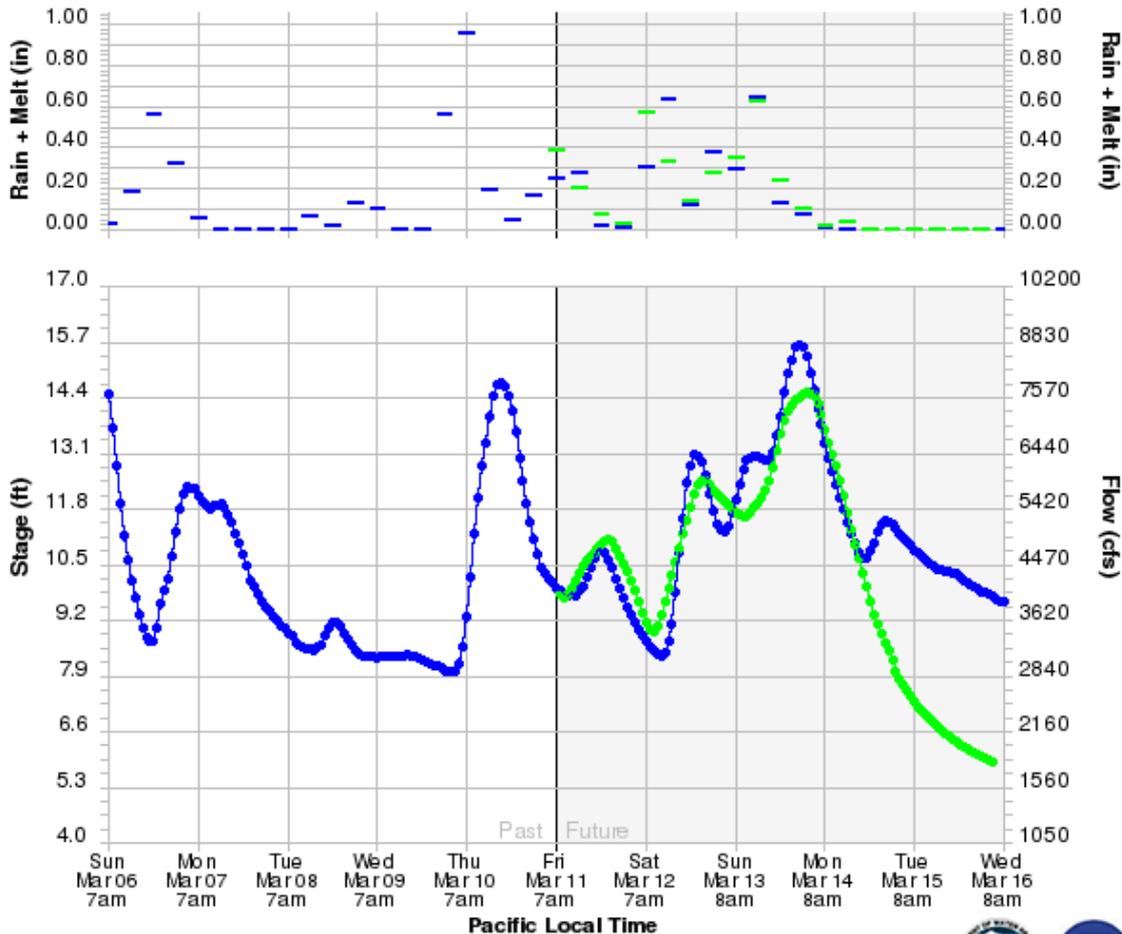
River Group: Russian Napa

Forecast Observed

Previous Forecast	Next Forecast
Friday 03/11/2016 00-06 UTC	Friday 03/11/2016 18-00 UTC
Selected Date: Friday 03/11/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 11, 2016 at 07:48 AM PST



Observed Forecast

FCTime: 1548Z ID: HOPC1

Created: 03/17/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

River Group: Russian Napa

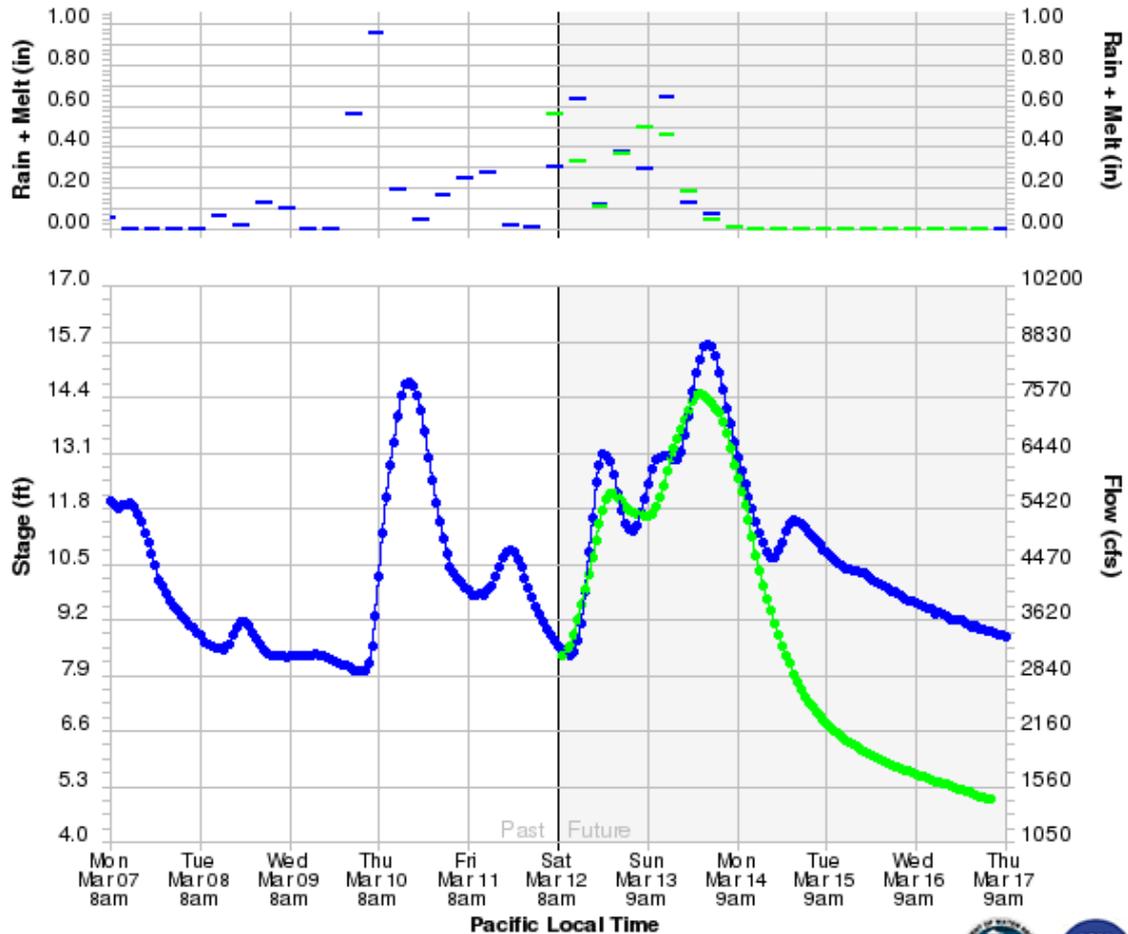
Forecast — Observed —

Previous Forecast	Next Forecast
Friday 03/11/2016 18-00 UTC	Saturday 03/12/2016 18-00 UTC

Selected Date: Saturday 03/12/2016 12-18 UTC

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 12, 2016 at 08:04 AM PST



Observed ● Forecast ●

FCTime: 1604Z ID: HOPC1

Created: 03/18/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

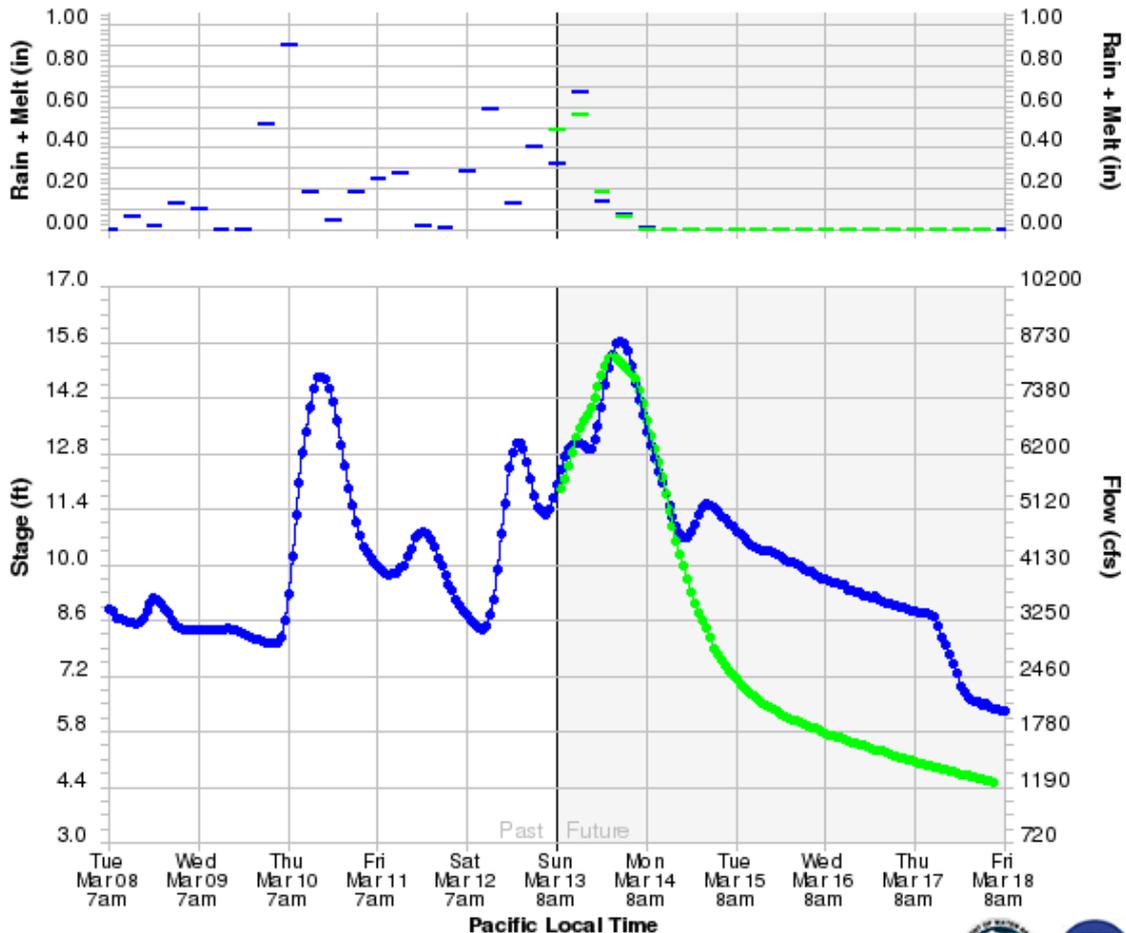
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
◀ Saturday 03/12/2016 18-00 UTC	Sunday 03/13/2016 18-00 UTC ▶
Selected Date: Sunday 03/13/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 13, 2016 at 08:26 AM PDT



Observed ● Forecast ●

FCTime: 1526Z ID: HOPC1

Created: 03/19/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

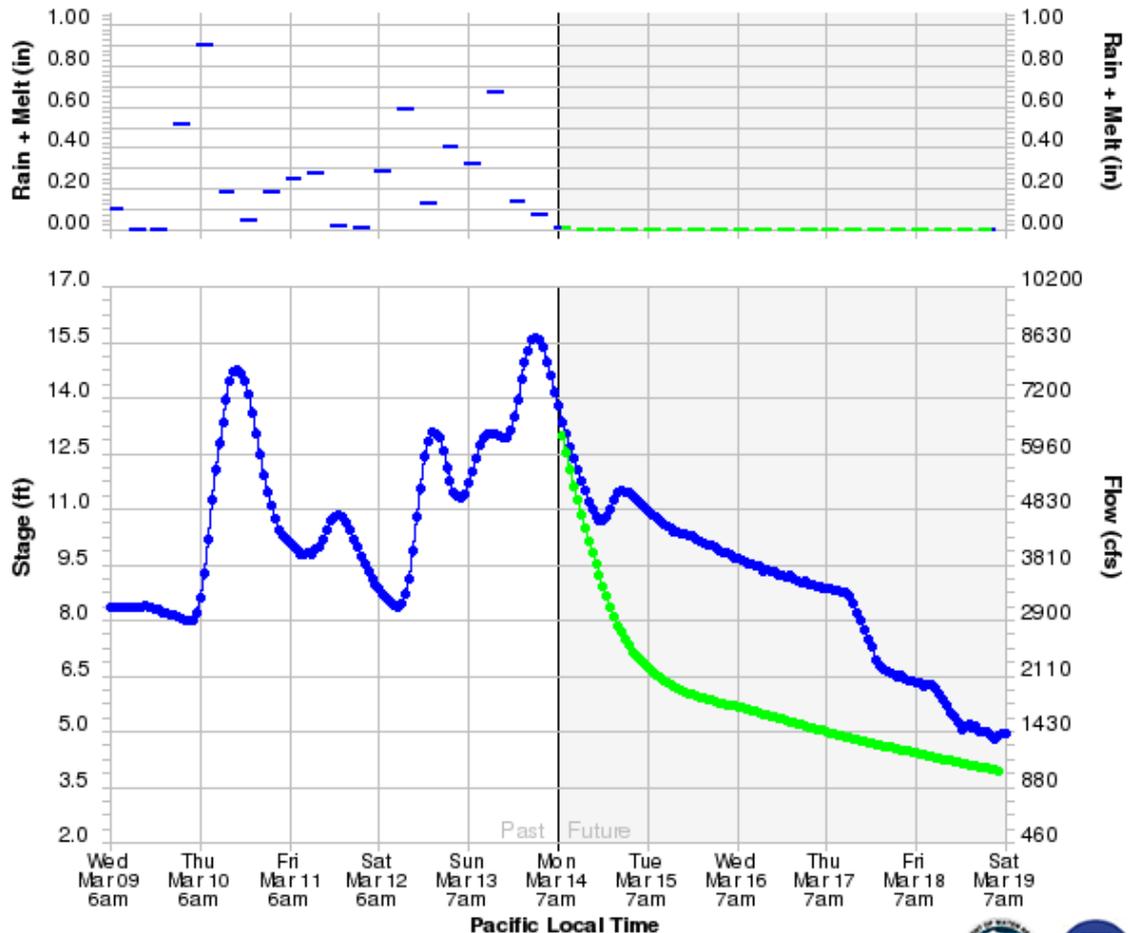
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
◀ Sunday 03/13/2016 18-00 UTC	Monday 03/14/2016 18-00 UTC ▶
Selected Date: Monday 03/14/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 14, 2016 at 07:40 AM PDT



Observed ● Forecast ●

FCTime: 1440Z ID: HOPC1

Created: 03/20/2016 at 2:00 AM PDT (Source = C)

California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

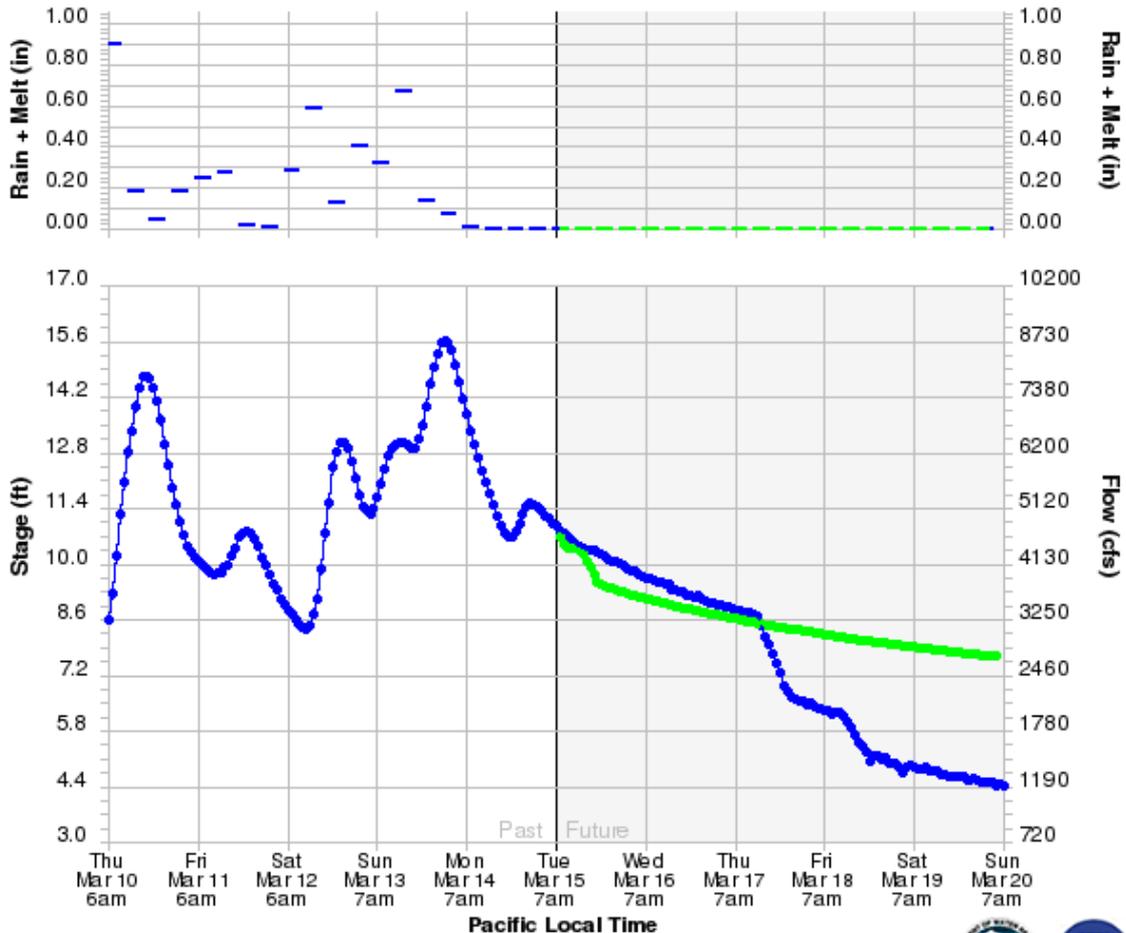
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
Monday 03/14/2016 18-00 UTC	Tuesday 03/15/2016 18-00 UTC
Selected Date: Tuesday 03/15/2016 12-18 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 15, 2016 at 07:47 AM PDT



Observed ● Forecast ●

FCTime: 1447Z ID: HOPC1

Created: 03/21/2016 at 2:00 AM PDT (Source = C) NOAA / NWS / California Nevada River Forecast Center

California Department of Water Resources





RUSSIAN RIVER - HOPLAND (HOPC1)

Latitude: 39.03° N

Longitude: 123.13° W

Elevation: 498 Feet

Location: Mendocino County in California

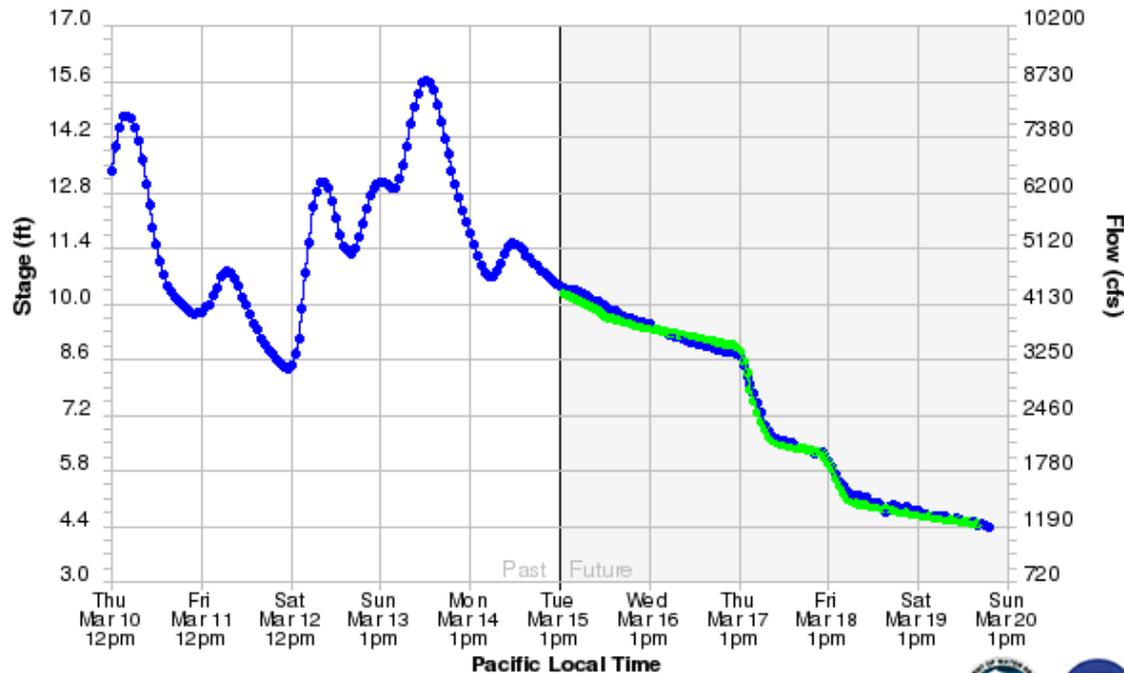
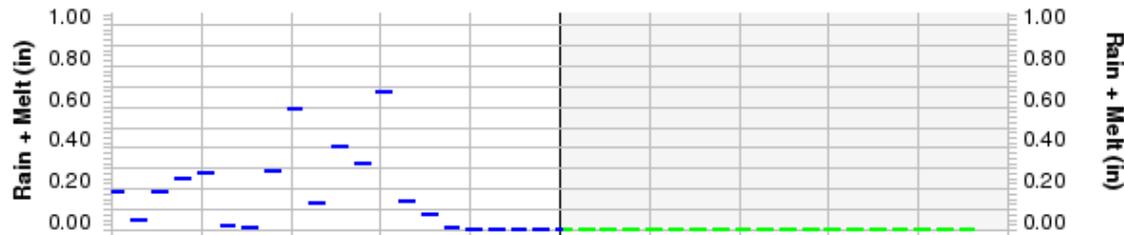
River Group: Russian Napa

Forecast — Observed —

Previous Forecast	Next Forecast
Tuesday 03/15/2016 12-18 UTC	Wednesday 03/16/2016 12-18 UTC
Selected Date: Tuesday 03/15/2016 18-00 UTC	

HOPC1 - RUSSIAN - HOPLAND, NR (MS: 18.0 / FS: 21.0)

Forecast Issuance: March 15, 2016 at 01:49 PM PDT



Observed ● Forecast —

FCTime: 2049Z ID: HOPC1

Created: 03/21/2016 at 2:00 AM PDT (Source = C)

NOAA / NWS / California Nevada River Forecast Center





Thank you