

CBRFC Operations Update Water Year 2019

CRFS March 28, 2019

CBRFC Operations Update

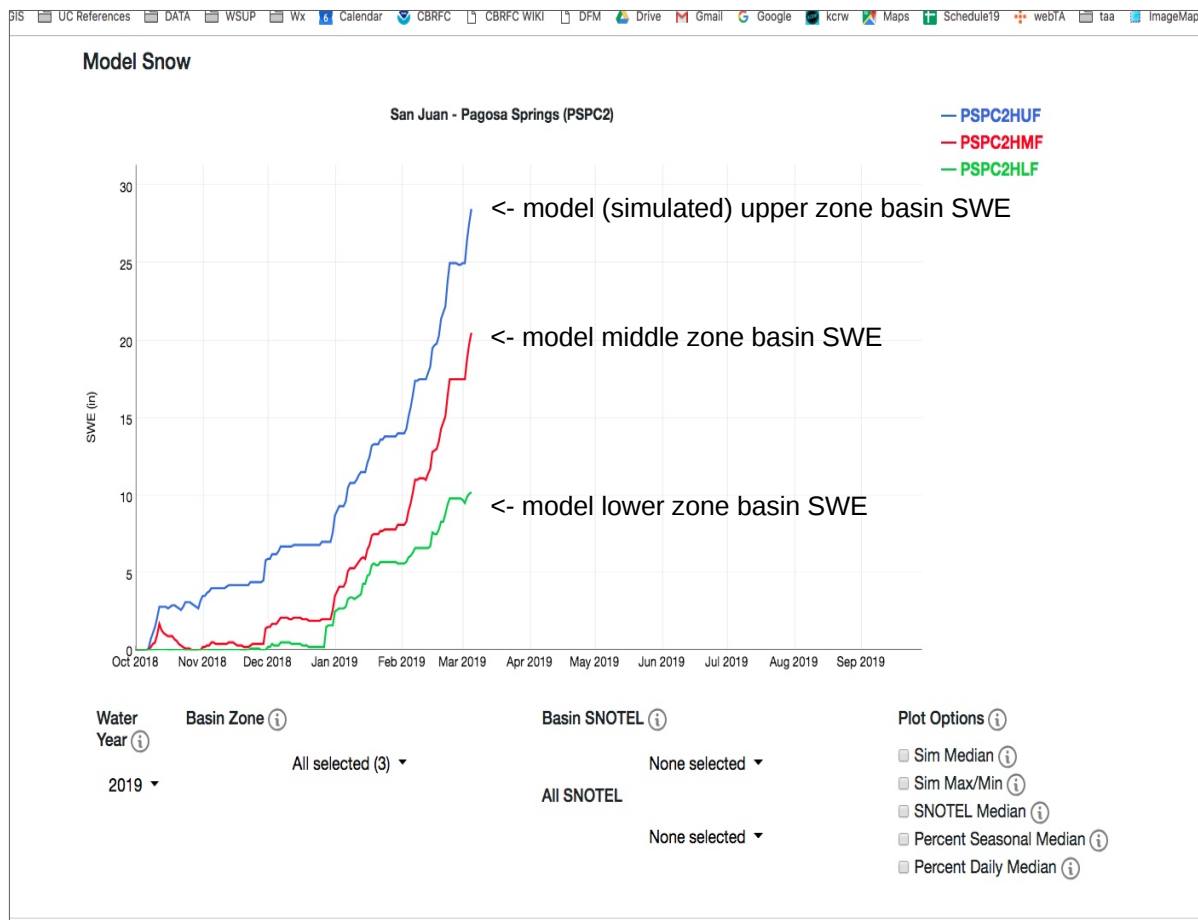
- Special Forecasts reminder
- CBRFC Model SWE plot review
- Peak Flow/Flood Potential updates
- Model calibration updates

Special Forecasts

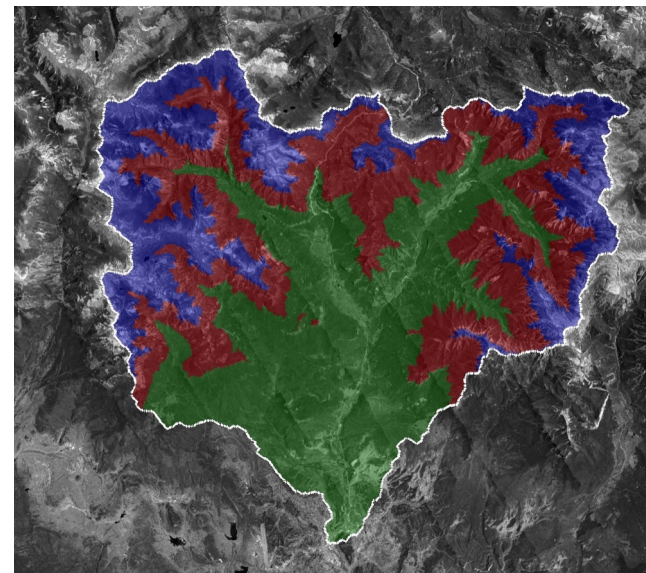
- 15 Day Extended Forecasts
- Peak Flow Forecasts
- Weekly Peak Flow Exceedance Plots

CBRFC Model Snow

Primary Goal: supplement/add transparency to streamflow forecast products



PSPC2 Basin Zone Map



Basin Zone Elevation Ranges (ft)

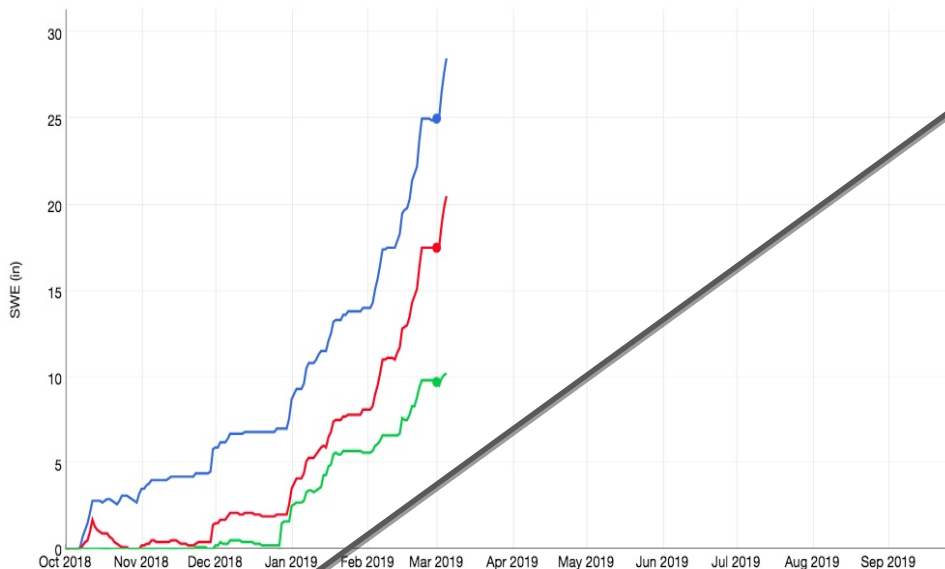
PSPC2HUF: 11,000 – 12,644
PSPC2HMF: 9,500 – 11,000
PSPC2HLF: 7,198 – 9,500

CBRFC Model Snow

GIS UC References DATA WSUP Wx Calendar CBRFC CBRFC WIKI DFM Drive Gmail Google kcrw Maps Schedule19 webTA taa ImageMap

Model Snow

San Juan - Pagosa Springs (PSPC2)



PSPC2HUF:

PSPC2 = NWS ID

H = headwater basin; L = local basin

U = basin upper elevation zone; L / M / O

F = 6-hr model timestep; H = 1-hr (lower basin)

NRCS SNOTEL stations that best represent basin; determined/weighted during hydrologic model calibration process

Water Year

2019

Basin Zone

All selected (3)

- ☒ PSPC2HUF (11000-12644 ft)
- ☒ PSPC2HMF (9500-11000 ft)
- ☒ PSPC2HLF (7198-9500 ft)

Basin SNOTEL

None selected

All SNOTEL

None selected

Plot Options

- ☐ Sim Median
- ☐ Sim Max/Min
- ☐ SNOTEL Median
- ☐ Percent Seasonal Median
- ☐ Percent Daily Median

The simulated snow water equivalent (SWE) daily median value during the 1981-2010 model calibration period.

basin zone elevation ranges

CBRFC Model Snow

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Model Snow

San Juan - Pagosa Springs (PSPC2)

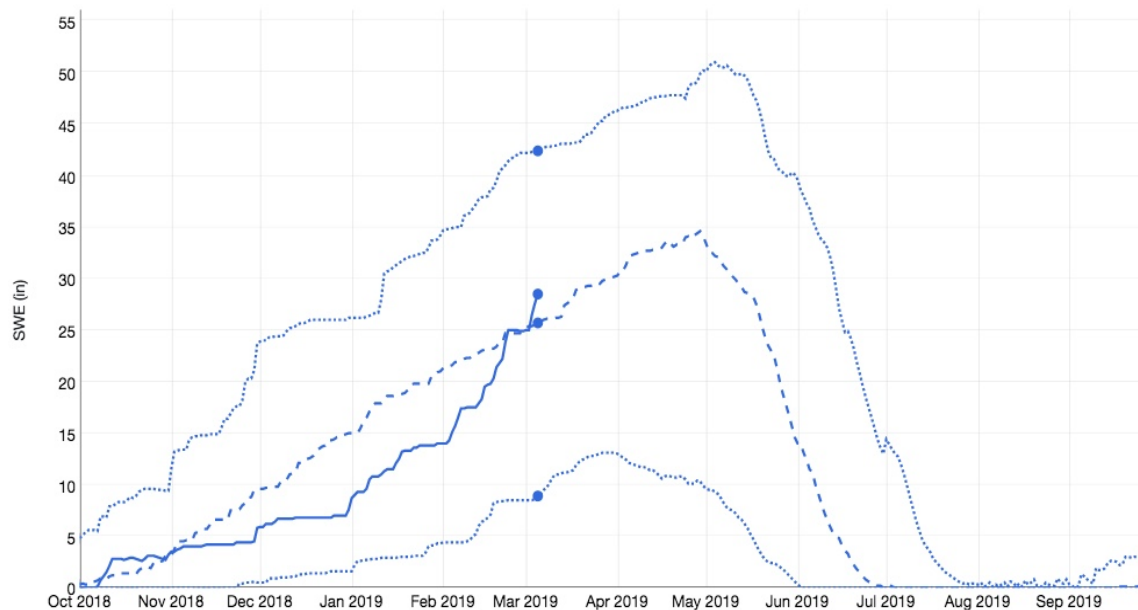
2019/03/05:

PSPC2HUF: 28.5

PSPC2HUF Median: 25.7

PSPC2HUF Max: 42.4

PSPC2HUF Min: 8.9



Water Year ⓘ

2019 ▼

Basin Zone ⓘ

PSPC2HUF (11000-12644 ft) ▼

Basin SNOTEL ⓘ

None selected ▼

All SNOTEL

None selected ▼

Plot Options ⓘ

- ☒ Sim Median ⓘ
- ☒ Sim Max/Min ⓘ
- ☐ SNOTEL Median ⓘ
- ☐ Percent Seasonal Median ⓘ
- ☐ Percent Daily Median ⓘ

CBRFC Model Snow

GIS UC References DATA WSUP Wx 6 Calendar CBRFC CBRFC WIKI DFM Drive Gmail Google kcrw Maps Schedule19 webTA taa ImageMap

Model Snow

San Juan - Pagosa Springs (PSPC2)

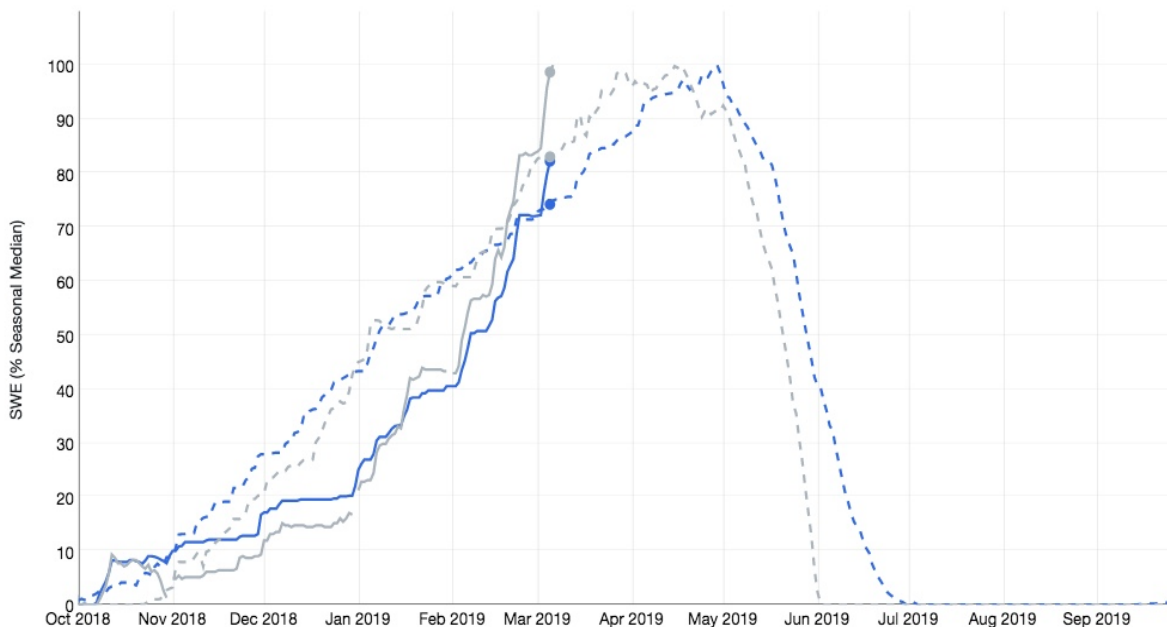
2019/03/05:

PSPC2HUF: 82.2

PSPC2HUF Median: 74.2

USJC2: 98.7

USJC2 Median: 83



Water
Year ⓘ

2019 ▼

Basin Zone ⓘ

PSPC2HUF (11000-12644 ft) ▼

Basin SNOTEL ⓘ

USJC2 Upper San Juan (10200 ft) ▼

All SNOTEL

None selected ▼

Plot Options ⓘ

☒ Sim Median ⓘ

☐ Sim Max/Min ⓘ

☒ SNOTEL Median ⓘ

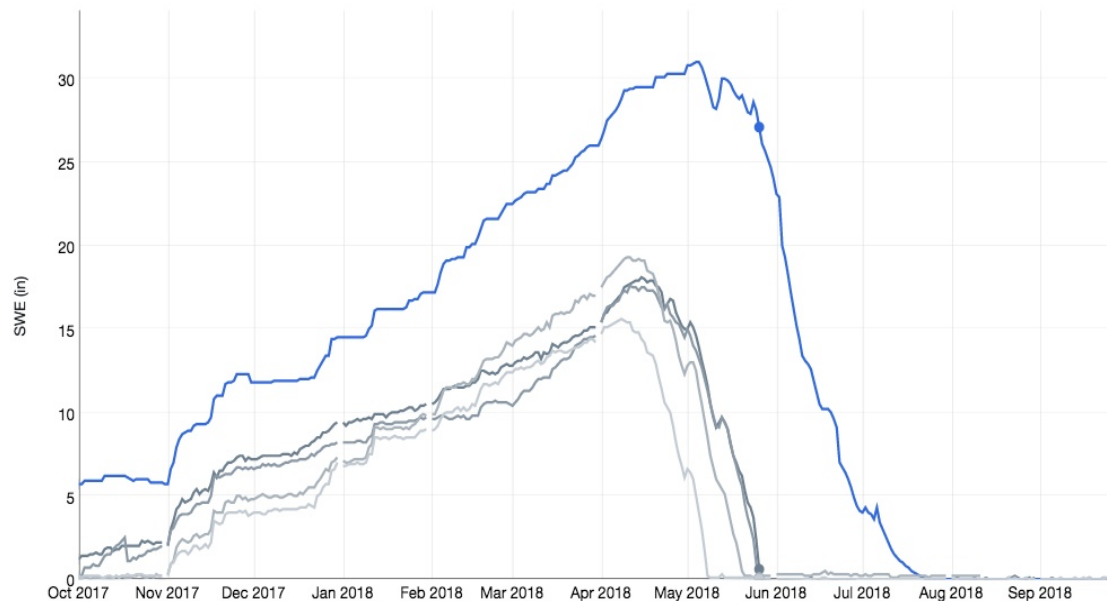
☒ Percent Seasonal Median ⓘ

☐ Percent Daily Median ⓘ

CBRFC Model Snow

Model Snow

Green - Daniel, Nr, Warren Bridge, At (WBRW4)



2018/05/26:
WBRW4HUF: 27.1
LTWW4: 0.6
GRVW4: 0.1
LOPW4: 0.1
KNDW4: 0

Water Year ⓘ

2018 ▼

Basin Zone ⓘ

WBRW4HUF (10000-12962 ft) ▼

Basin SNOTEL ⓘ

All selected (4) ▼

- ☒ LTWW4 Little Warm (9370 ft)
- ☒ GRVW4 Gros Ventre Summit (8750 ft)
- ☒ LOPW4 Loomis Park (8240 ft)
- ☒ KNDW4 Kendall Rs (7740 ft)

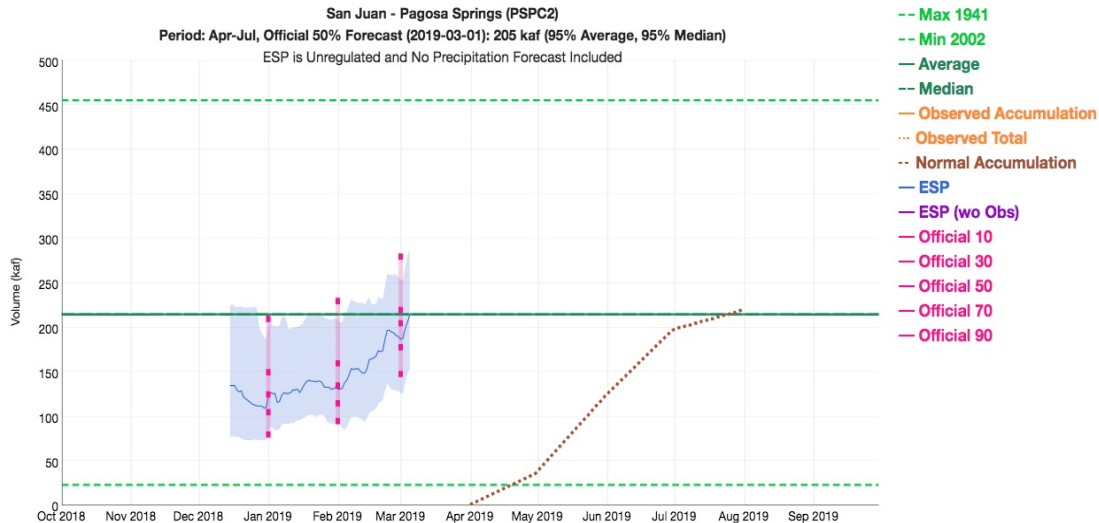
Plot Options ⓘ

- ☐ Sim Median ⓘ
- ☐ Sim Max/Min ⓘ
- ☐ SNOTEL Median ⓘ
- ☐ Percent Seasonal Median ⓘ
- ☐ Percent Daily Median ⓘ

CBRFC Model Snow

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Water Supply Forecast



Model Snow Future Development

- + Plot capabilities
- Tabular component
- Spatial component
- Stakeholder/user recommendations

Water Year

2019
2018
2017
2016
2015
2014
2013
2012
2011
2010

Plot Options

- ☐ QPF
- ☒ ESP
- ☒ Official Forecasts
- ☒ Average
- ☒ Median
- ☒ Observations
- ☒ Max/Min
- ☐ Probability Traces
- ☐ Unapproved

Plot Help

Hover for values.
Click and drag to zoom.
Double click to zoom out.
Shift-click and drag to pan.

[Product Description](#)
[ESP Model Description](#)

Data

[Graph Data](#)
[Forecasts](#)
[Observations](#)
[Historical Volumes](#)
[Verification](#)
[Old Graph](#)
[Snow](#)

Link to model SWE

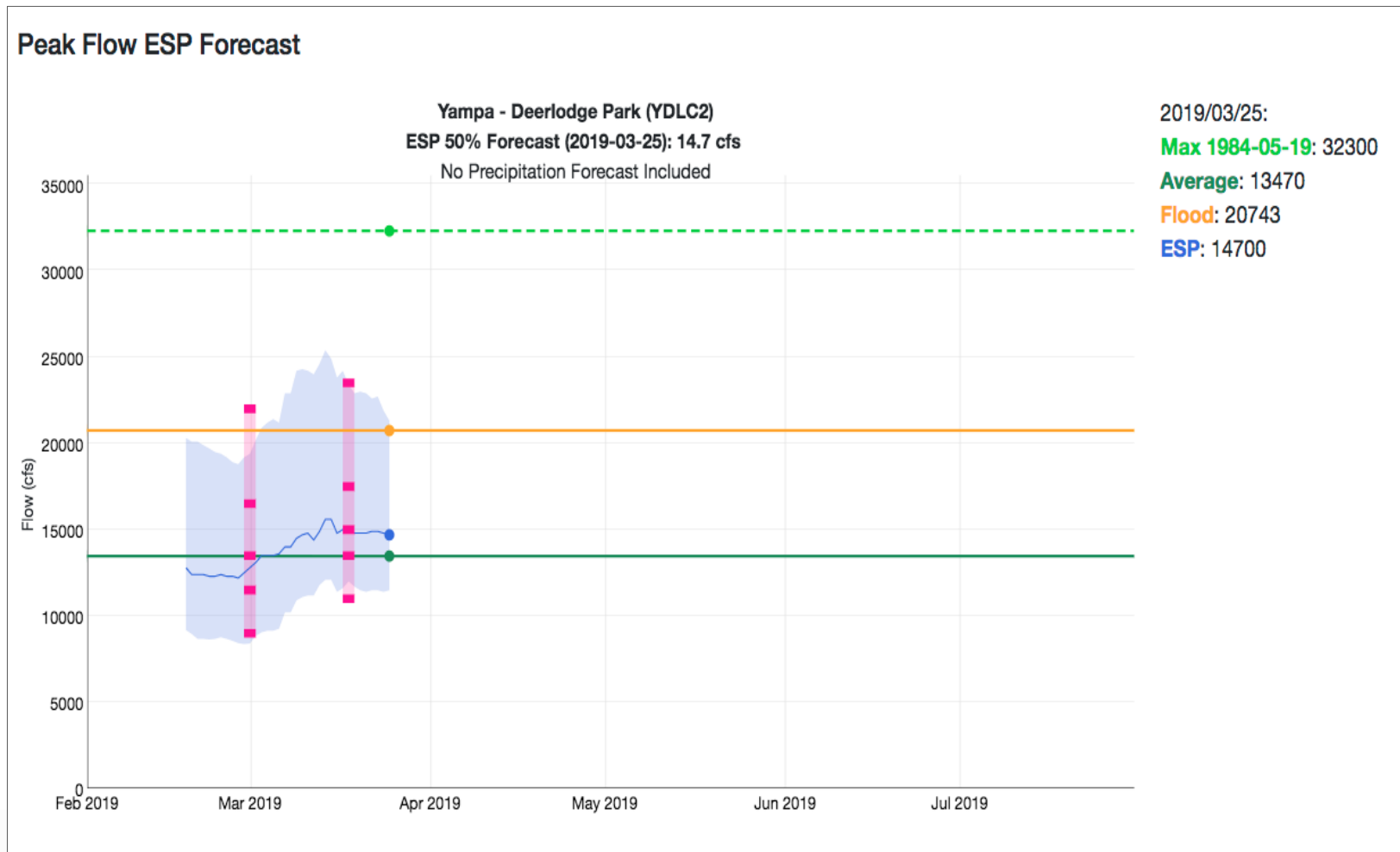
https://www.cbrfc.noaa.gov/dbdata/station/snowmodel/snowmodel_dg.html?id=PSPC2

* Model SWE available for all CBRFC hydrologic model basins

Peak Flow/Flood Potential Updates

New Peak Flow Evolution Plot

- Updated daily
- Work in progress
- Not available externally ...yet



Peak Flow/Flood Potential Updates

Percentile Ranking of Peak Flows

- Additional piece of information regarding flooding potential
- Not all locations have a defined flood stage
- Provides historical context
- Will eventually be available on the webpage

FORECAST PEAK RANKING INFO:

EAST RIVER - ALMONT				ANIMAS RIVER - DURANGO			
3/26/2019	FLOW (CFS)	RANK/#YEARS	PERCENTILE	3/26/2019	FLOW (CFS)	RANK/#YEARS	PERCENTILE
ESP 90	1869	42/97	43	ESP 90	4159	48/109	44
ESP 75	2174	55/97	56	ESP 75	4742	66/109	60
ESP 50	2338	59/97	60	ESP 50	5447	77/109	70
ESP 25	2782	80/97	82	ESP 25	5974	84/109	77
ESP 10	3255	89/97	92	ESP 10	6489	88/109	81
BANKFULL	2446	65/97	67	BANKFULL	7554	101/109	93
FLOOD	3156	88/97	91	FLOOD	10406	108/109	99

Calibration

Completed

- Great Basin/Sevier River 5 year extension
- Lower basin recalibration mostly complete

In Progress

- Virgin River recalibration
- Uncompahgre diversion data
 - Incorporated new diversion data below Ridgway Dam
 - Replaced calibrated irrigation losses with Colorado DWR gages
 - Return flow still unknown/calibrated

Staff and Basin Assignments

Ashley Nielson - Green River Basin and Lake Powell

Greg Smith - San Juan, Gunnison and Dolores

Cody Moser – Upper Colorado Mainstem

Zach Finch - Lower Colorado Basin

Tracy Cox - Lower Colorado Basin

Patrick Kormos - Bear and Weber

Brent Bernard - Six Creeks, Provo, Sevier

Brenda Alcorn – Support and Backup