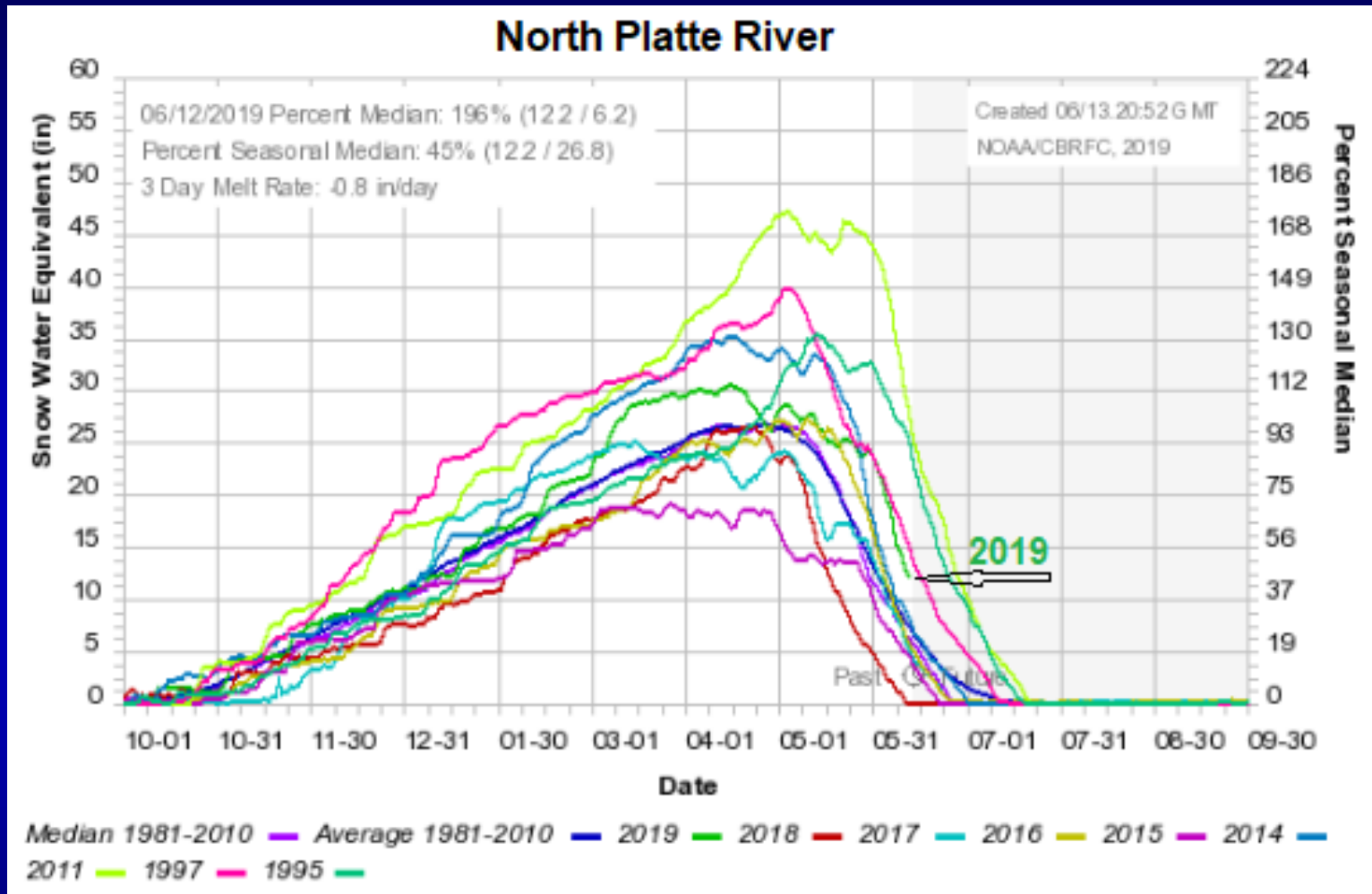# Mountain Snowpack & Snowmelt
North Central & Northeast Colorado
June 13th, 2019

- Although mountain snowpack remains well above normal, it is melting more quickly. It was estimated that on June 13th the north central Colorado basin snowpack had fallen to 33% -37% of the normal seasonal peak snowpack. This compares to 61% - 70% a week ago.

- The trend has been 2 to 3 warm days causing the snowpack to start to "ripen". This is followed by cooler temperatures. This cycle is causing a very slow snowpack meltout.
  - What is ripening? It occurs when absorbed energy melts the snow, but the meltwater is retained in pore spaces in the snowpack. Finally, the snowpack cannot retain any more liquid. It is said to be "ripe", and subsequently melts. This process is more efficient when temperatures remain above freezing at night.

- Combined reservoir storage was 67% of capacity in the Colorado River basin and 81% of capacity in the South Platte basin on June 1st-. From the NRCS Colorado Snow Supervisor: "Reservoir storage remains generally low in anticipation of rising streamflows. (Near to) below normal reservoir levels will help in absorbing above normal streamflows,"
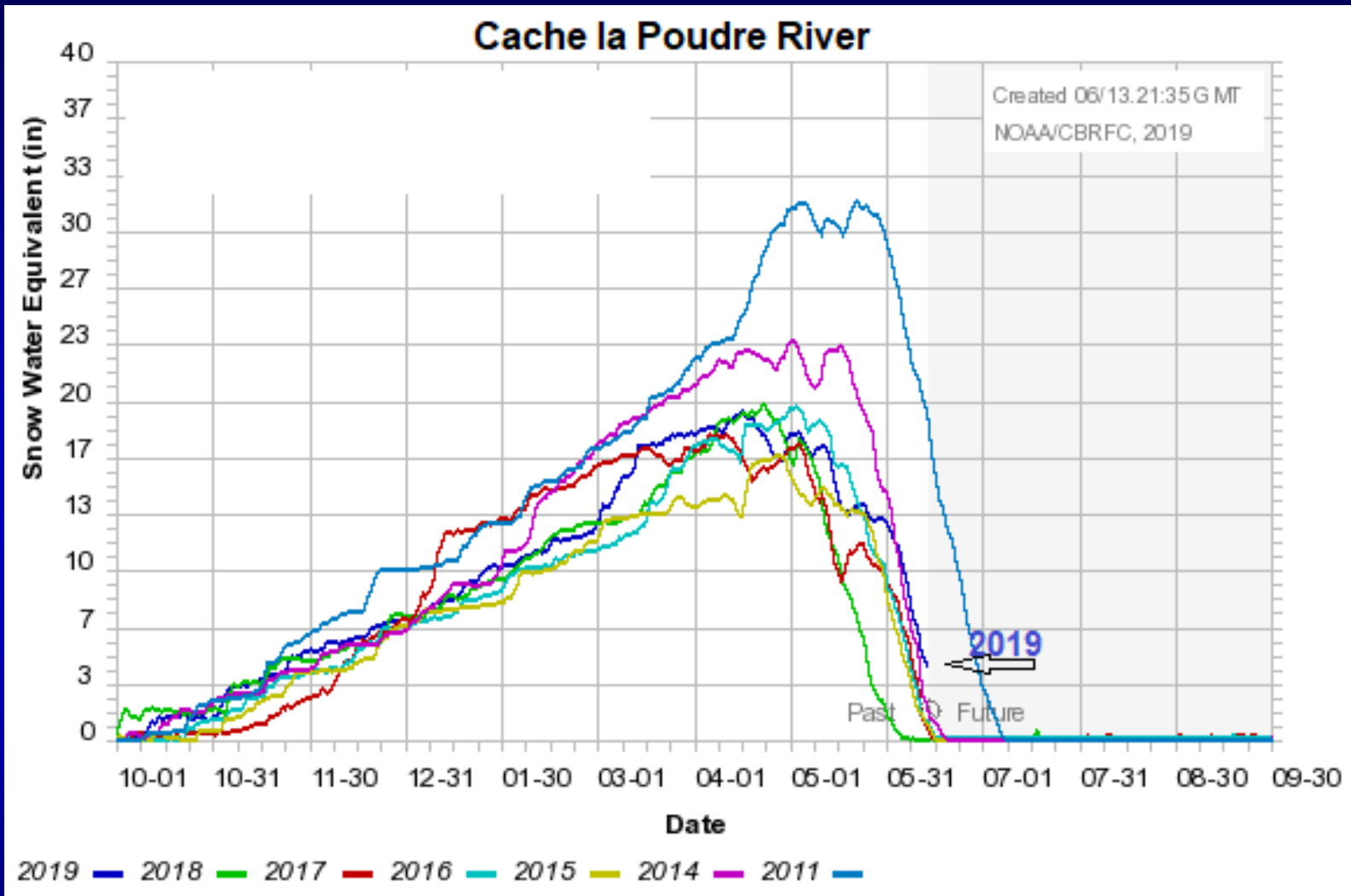
- Streamflows due to snowmelt runoff are expected to peak in the next 7 to 10 days. Little or no flood issues are expected in north central and northeast Colorado due to snowmelt runoff alone. However, snowmelt runoff will likely continue well into July
  - It should be noted that an extended period of heavy rainfall falling on top of the snowpack, and/or on top of swollen streams from snowmelt runoff, and/or very warm temperatures will increase the likelihood of flooding.
- Climate outlooks call for a tilt toward below normal temperatures and near to above normal precipitation the latter part of June.
- Snowpack sub-basin timeseries graphs are shown on the following slides. Depending on the elevation of the NRCS SNOTEL sites in each watershed, SWE on the graphs can vary significantly. Numerous SNOTEL sites are below 10,000 feet MSL; whereas most of the remaining snowpack is above 10,000 feet.
- Time series graphs show how the current water year (October thru September – bottom horizontal axis) compares with previous years by plotting the current basin average SWE (inches of water in the snowpack on vertical axis) against past years.

# East of the Continental Divide
North Platte River basin

North Platte River

06/12/2019 Percent Median: 196% (12.2 / 6.2)
Percent Seasonal Median: 45% (12.2 / 26.8)
3 Day Melt Rate: -0.8 in/day

Created 06/13.20:52 GMT
NOAA/CBRFC, 2019

2019

Past / Future

Median 1981-2010 — Average 1981-2010 — 2019 — 2018 — 2017 — 2016 — 2015 — 2014 —
2011 — 1997 — 1995 —

SNOTEL SWE was 19.3" a week ago.

Cache la Poudre River basin timeseries snowpack graph
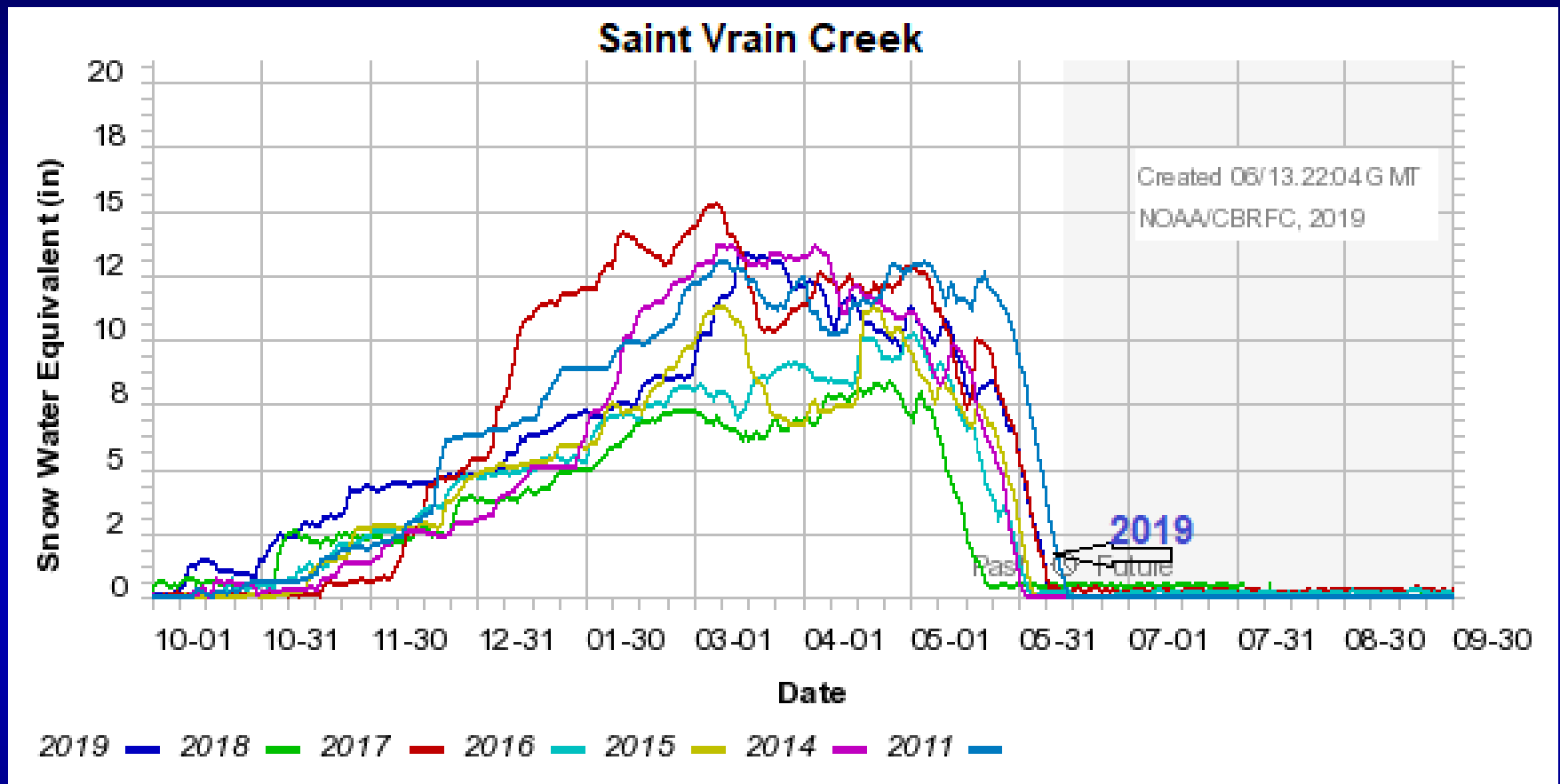

SNOTEL SWE was over 12" a week ago.

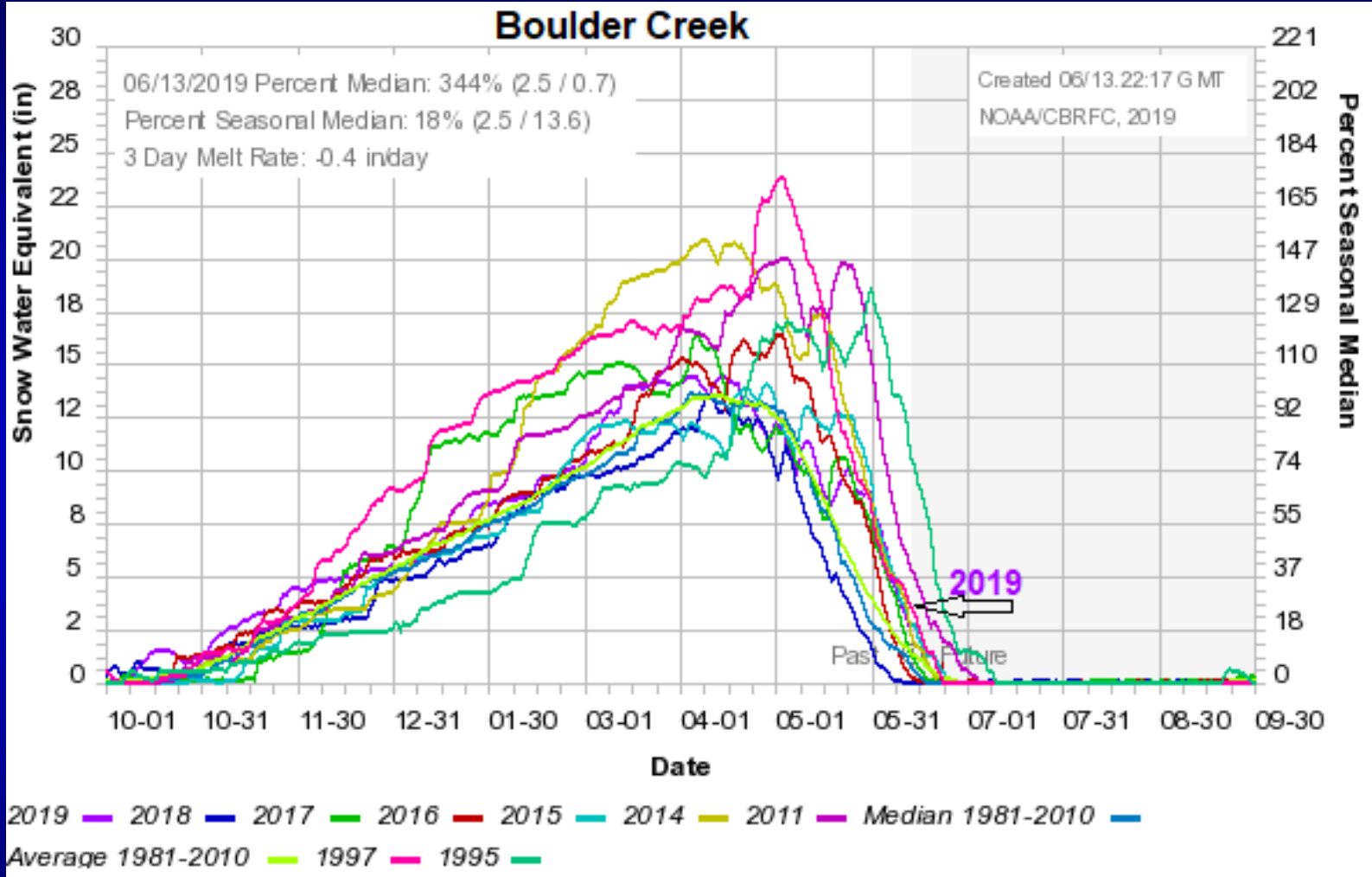# Big Thompson River watershed timeseries snowpack graph
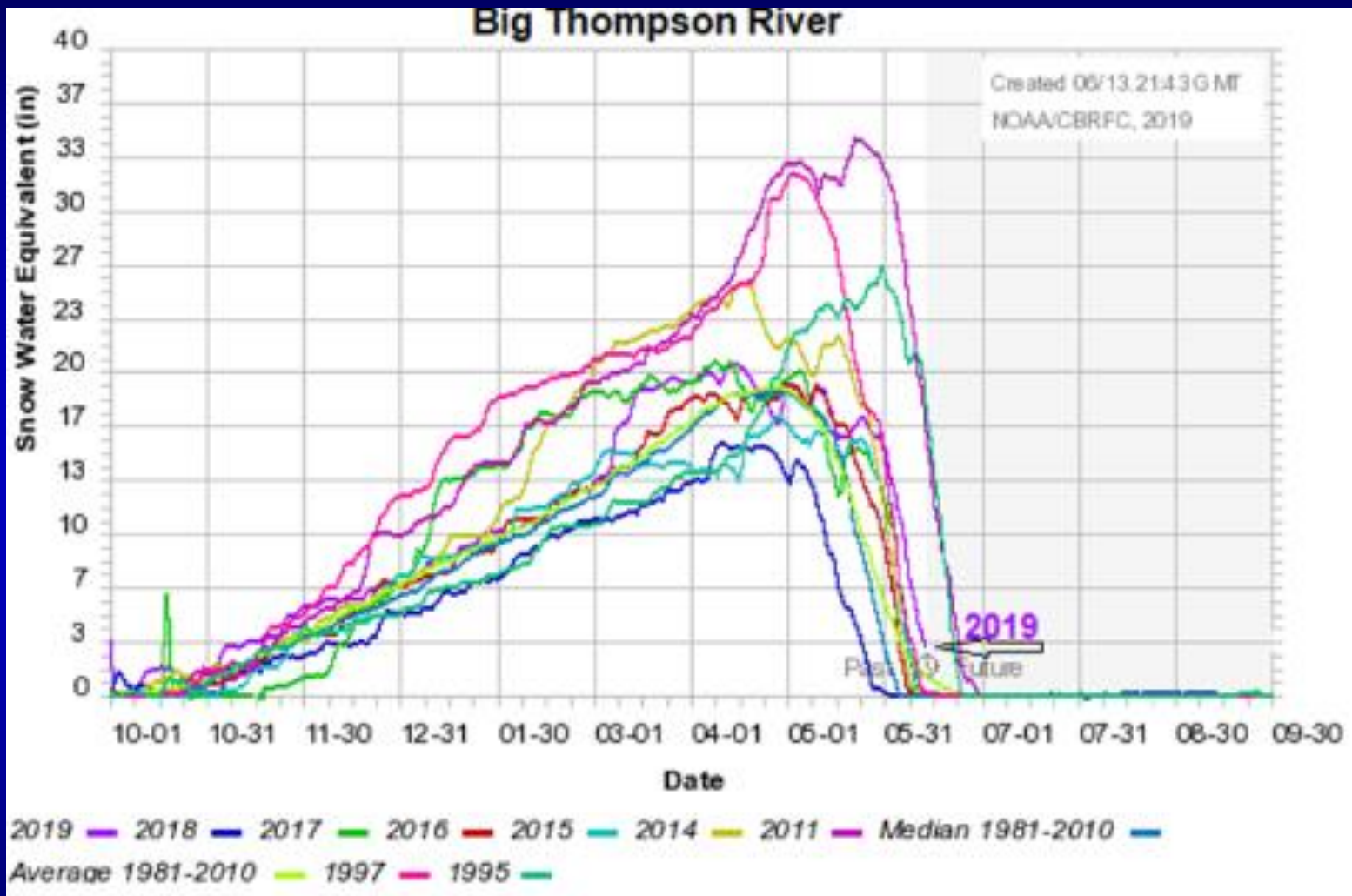
SNOTEL SWE was over 10" a week ago.

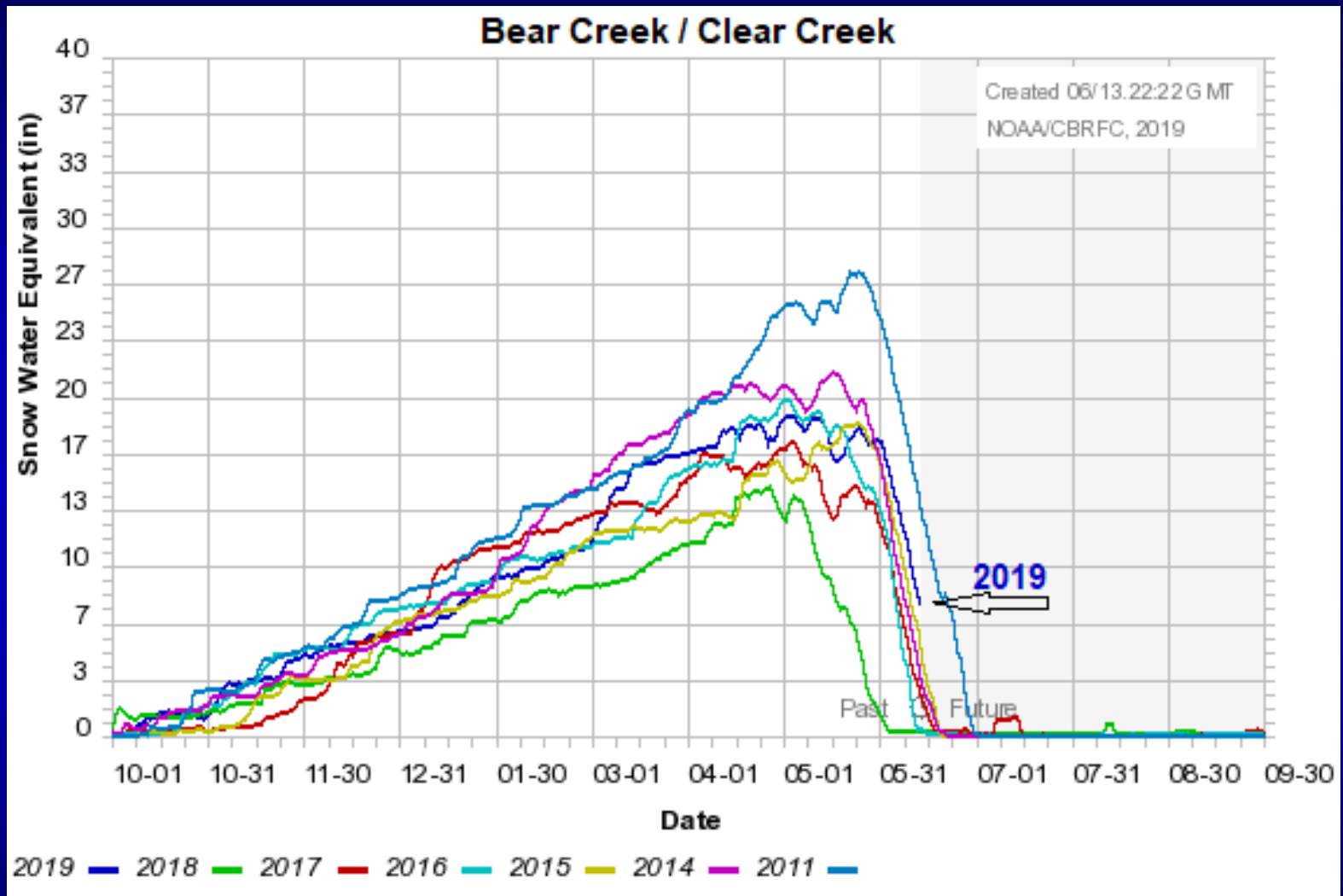# Saint Vrain Creek watershed timeseries snowpack graph

Boulder Creek watershed timeseries snowpack graph

Boulder Creek

06/13/2019 Percent Median: 344% (2.5 / 0.7)

Percent Seasonal Median: 18% (2.5 / 13.6)

3 Day Melt Rate: -0.4 in/day

Created 06/13.22:17 GMT

NOAA/CBRFC, 2019

2019

Past | Future

Legend: 2019 — 2018 — 2017 — 2016 — 2015 — 2014 — 2011 — Median 1981-2010 — Average 1981-2010 — 1997 — 1995 —

SNOTEL SWE was 5.8" a week ago.

Bear & Clear Creek timeseries snowpack graph

SNOTEL SWE was over 13" a week ago.
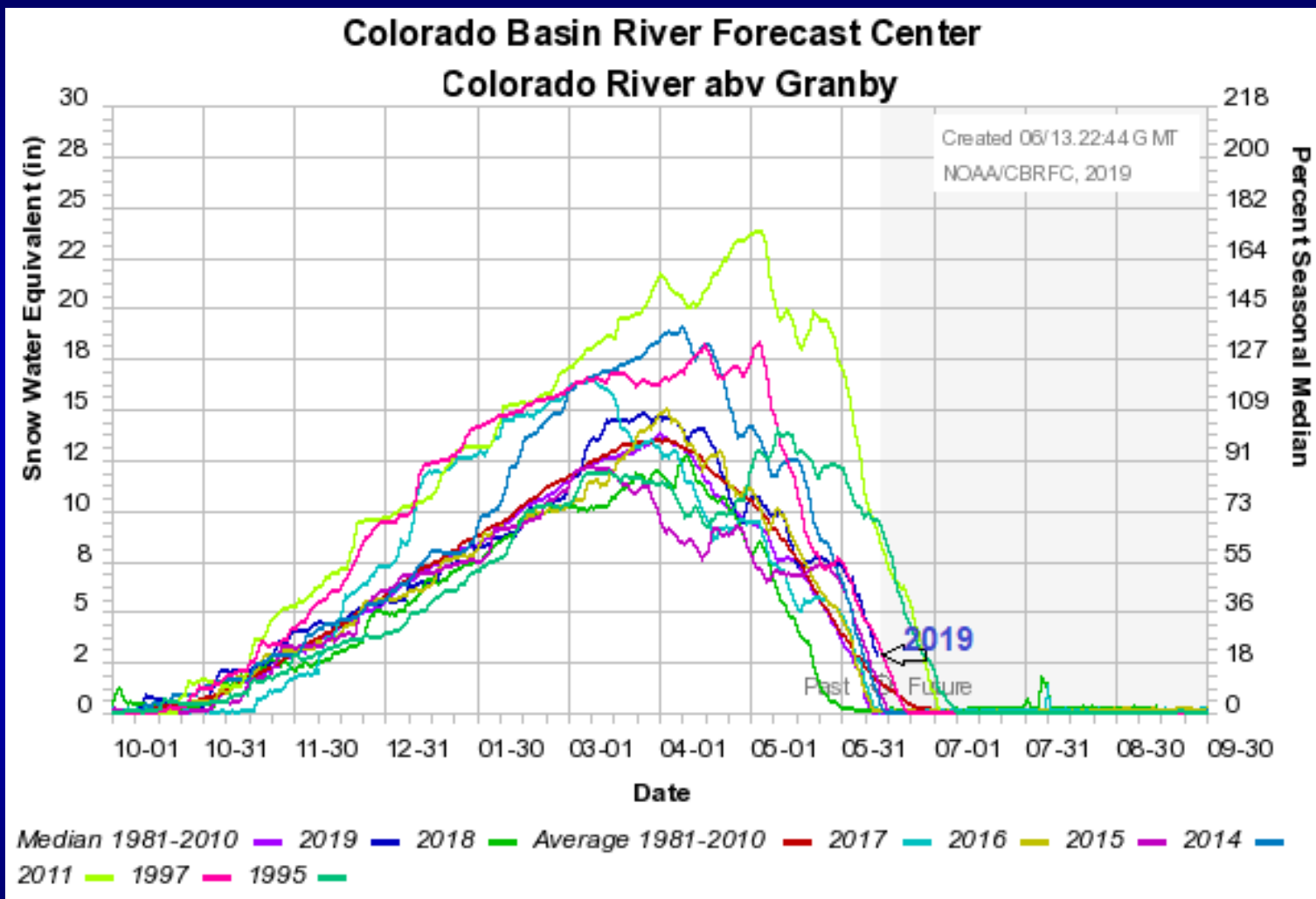
South Platte River headwaters timeseries graph

South Platte River headwaters in Park County
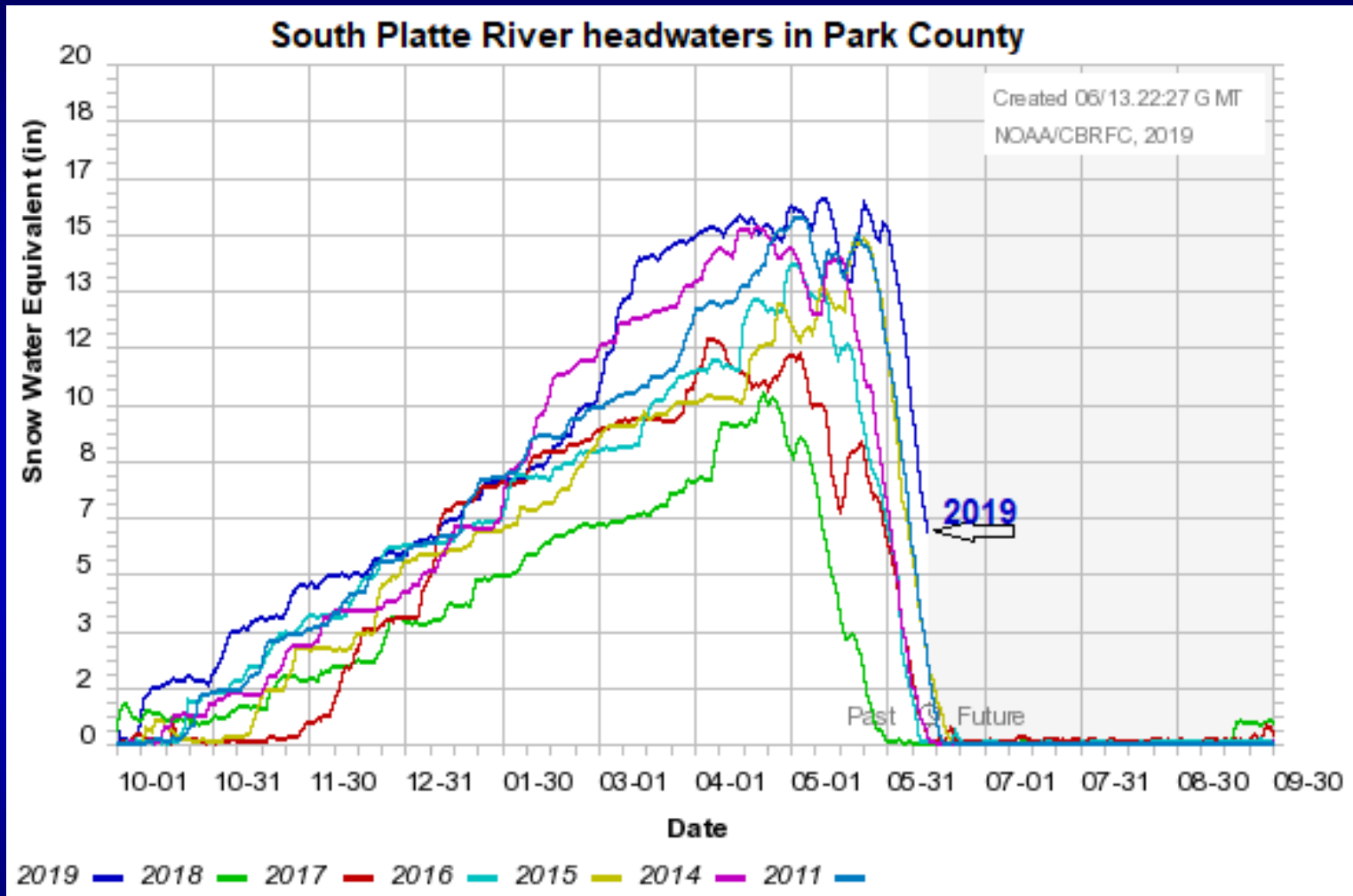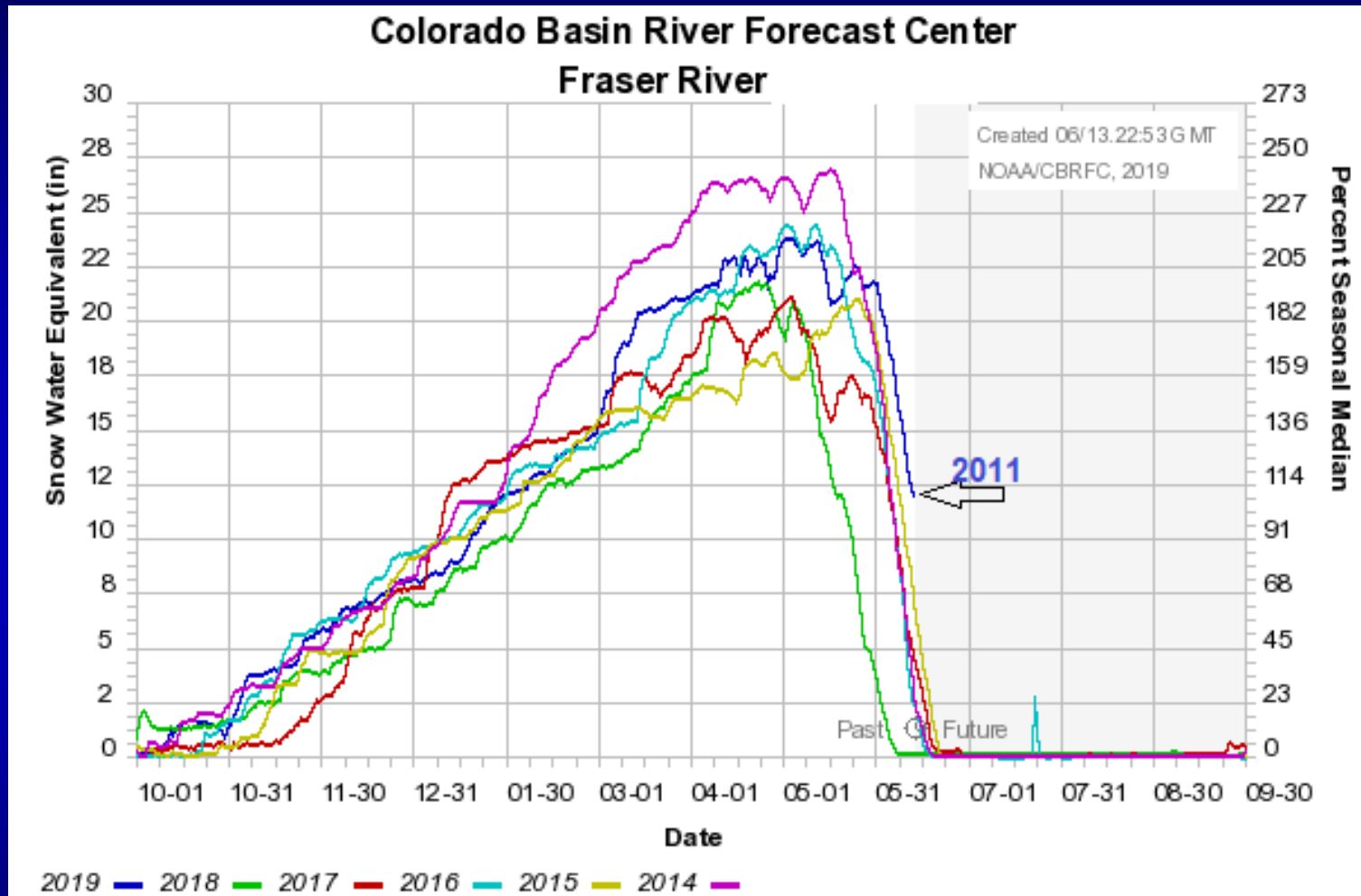
SNOTEL SWE was over 13" a week ago.

West of the Continental Divide
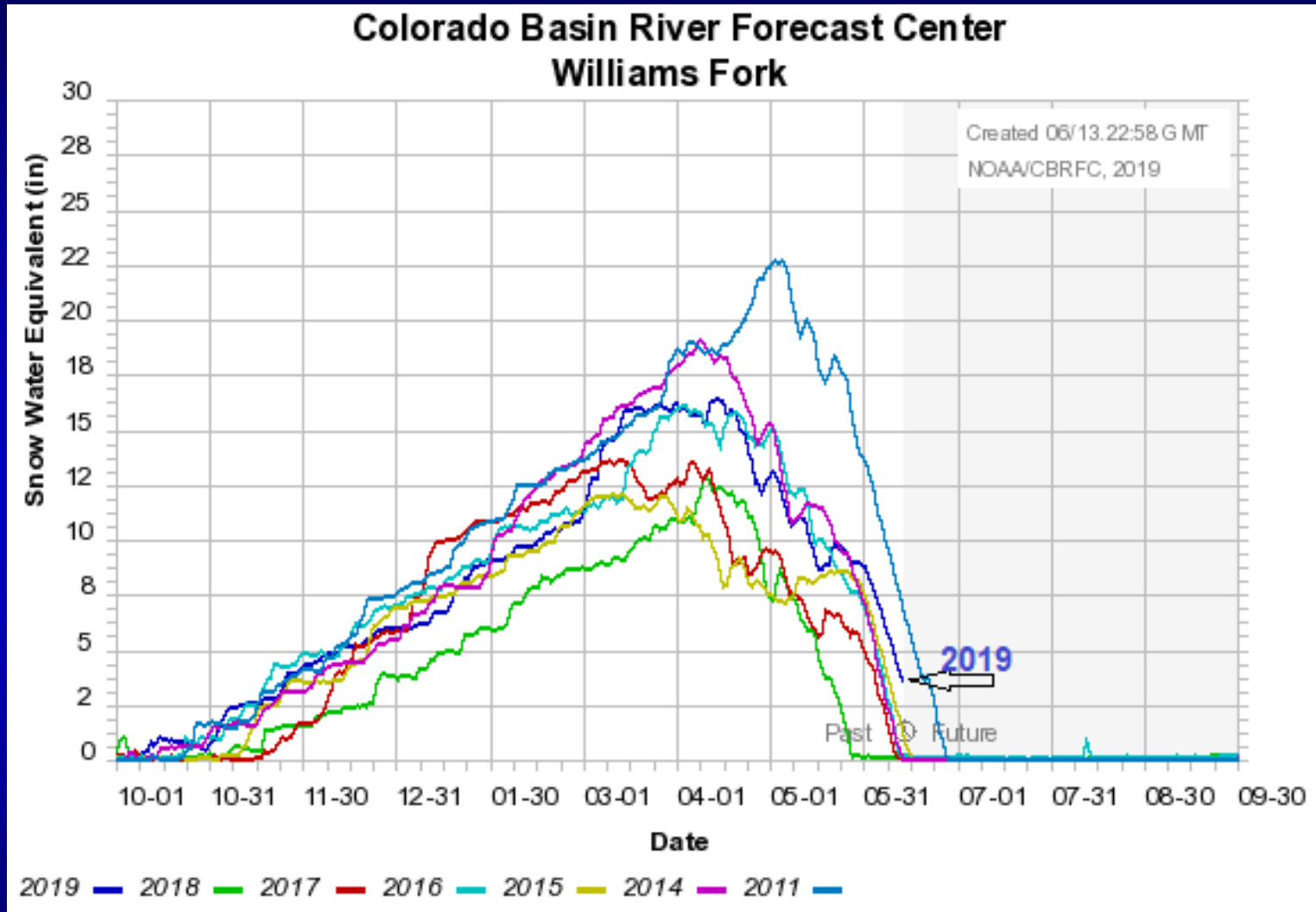## Colorado River above Granby watershed timeseries graph

SNOTEL SWE was over 6" a week ago.
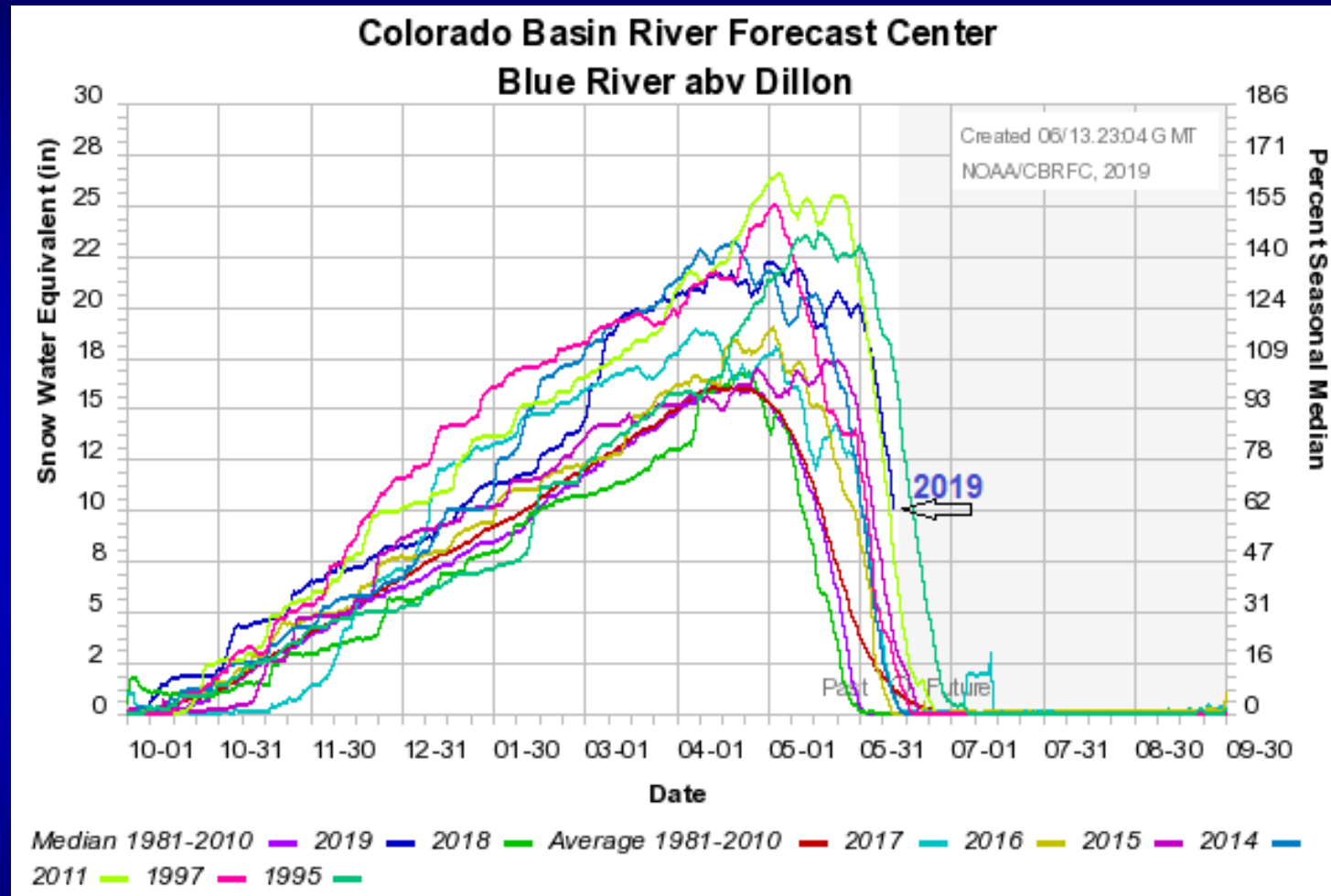
Fraser River basin timeseries graph

Colorado Basin River Forecast Center
Fraser River

SNOTEL SWE was over 18" a week ago.

Williams Fork basin timeseries graph

SNOTEL SWE was over 7" a week ago.

Blue River basin timeseries graph

SNOTEL SWE was ~18" a week ago.