

NOAA's Colorado Basin River Forecast Center

CBRFC

Update on 2017 Operations

Brenda Alcorn
Senior Hydrologist

CRFS March 23, 2017



- Update on calibration extension
 - Impact of adding 2011-2015 to ESP traces
- Products and services
 - What do you need from us?

CALIBRATION EXTENSION RESULTS: IMPACT ON 2017 APRIL-JULY ESP



2016 Calibration Results

4

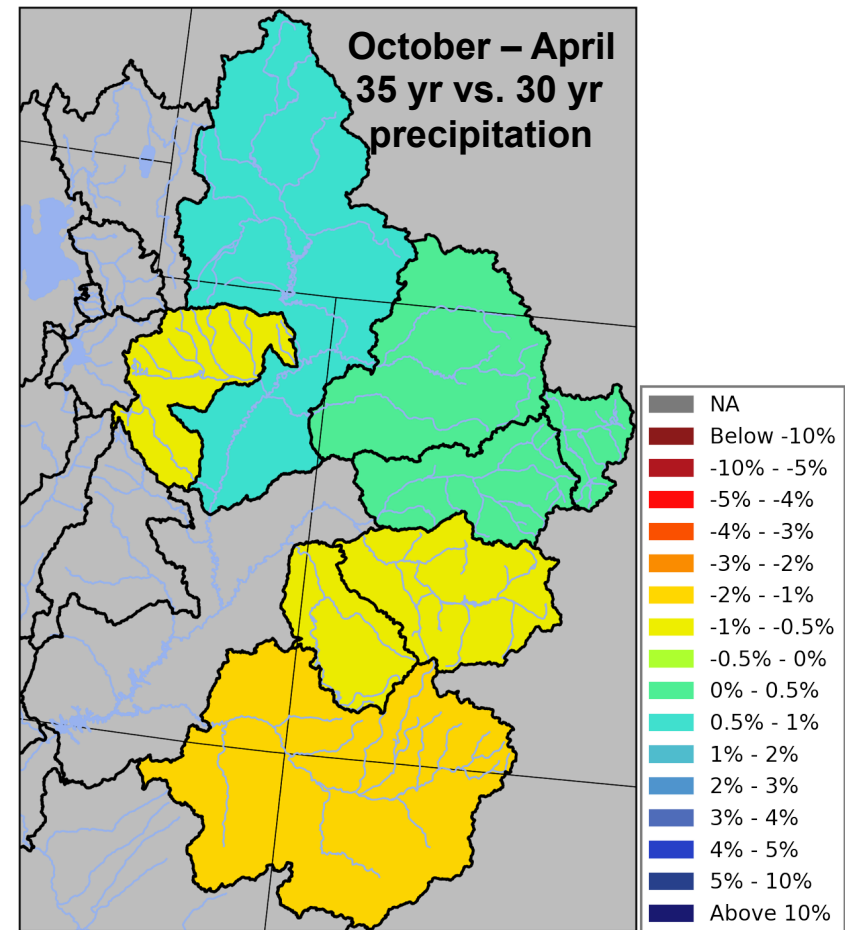
- Analysis of 30 year vs. 35 year record:
 - Observed Precipitation
 - San Juan, Gunnison, Dolores, Duchesne
 - Drier October – April (especially January – April)
 - Little change May – September overall
 - » variable month to month
 - Upper Green, Yampa, Upper Colorado mainstem
 - Little difference between 30 and 35 year averages
 - Observed April-July Unregulated Flow
 - Similar to winter precipitation results



1981-2015 Precipitation

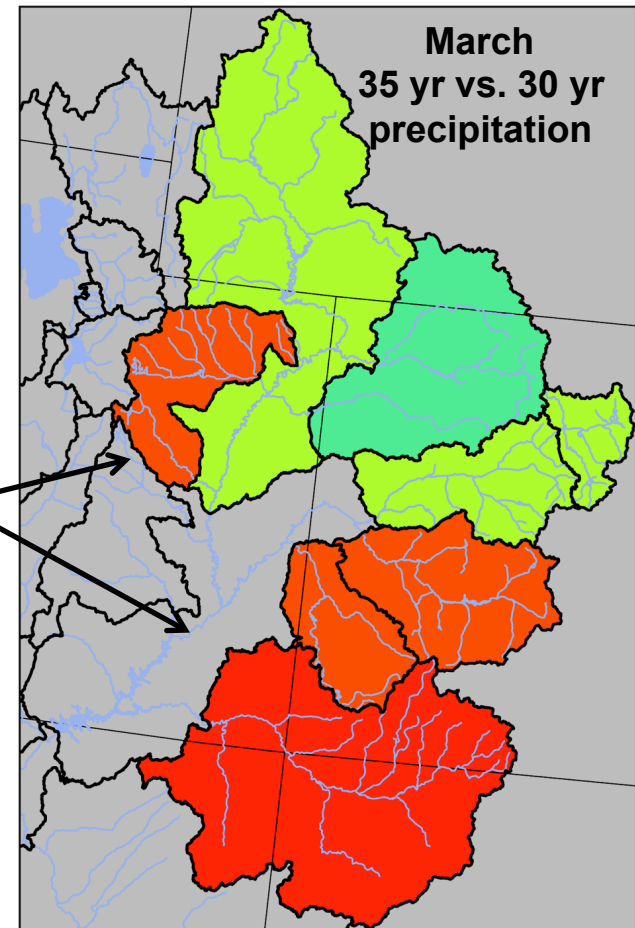
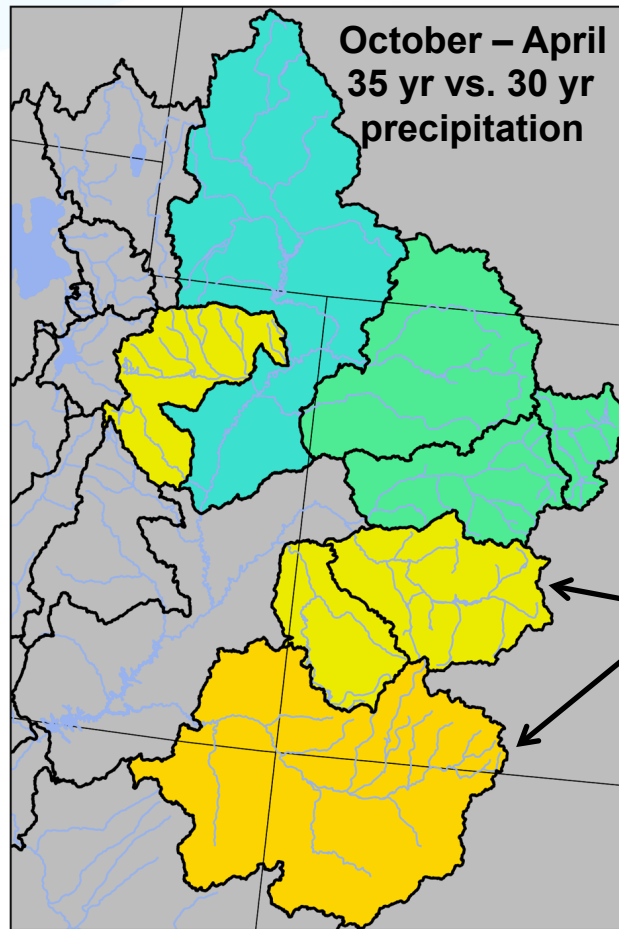
5

- Simple ratio of 35 year average to 30 year average
 - > 0 = 35 year wetter than 30 year
 - < 0 = 35 year drier than 30 year
- Used groups of SNOTEL sites within each basin
 - no station weighting
 - had to have 35 years of record
 - Gunnison and Dolores treated as one area
 - Colorado mainstem treated as one area



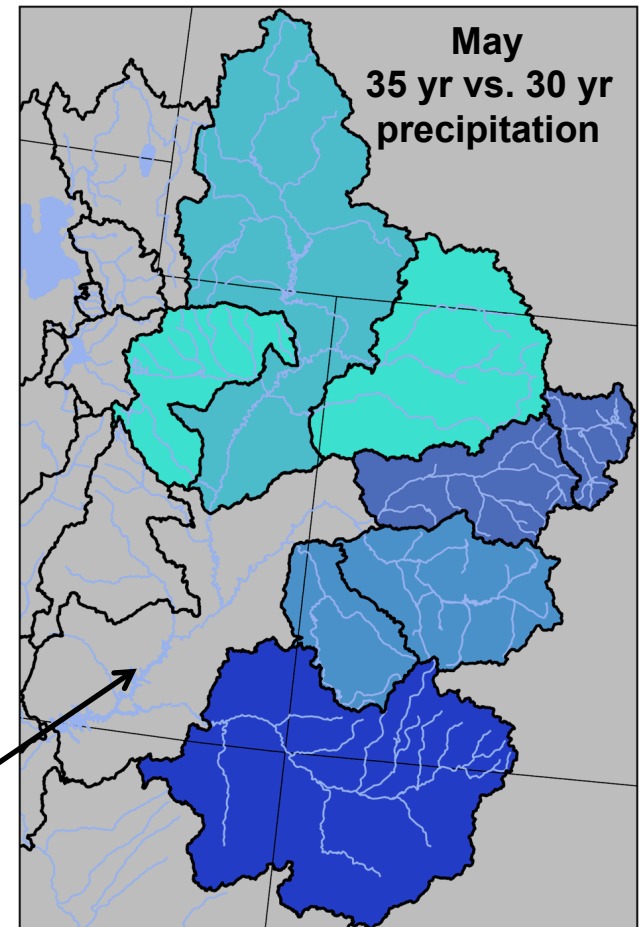
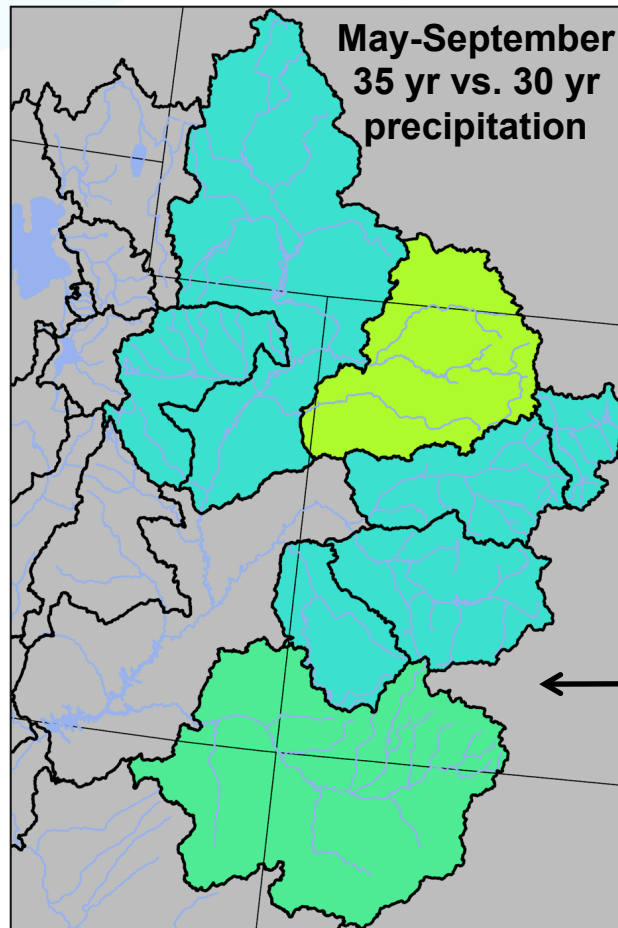
1981-2015 Precipitation

6



1981-2015 Precipitation

7



2016 Calibration Results

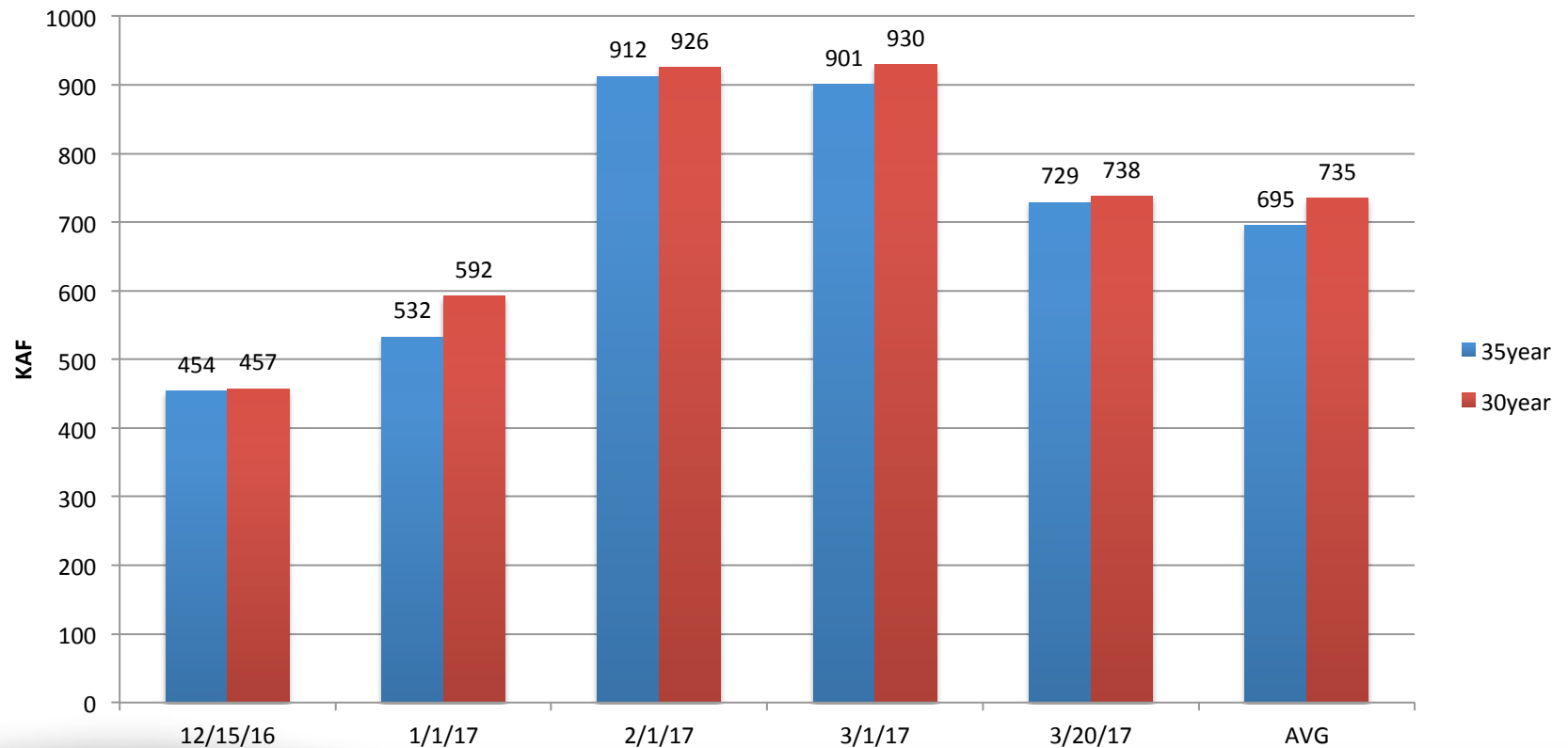
8

- Analysis of 30 year vs. 35 year ESP:
 - Expected results
 - San Juan, Gunnison, Dolores, Duchesne
 - Lower ESP April-July volumes (especially January – April)
 - Upper Green, Yampa, Upper Colorado mainstem
 - Little change
 - Observed results for 2017 so far

2017 APRIL-JULY ESP VOLUMES

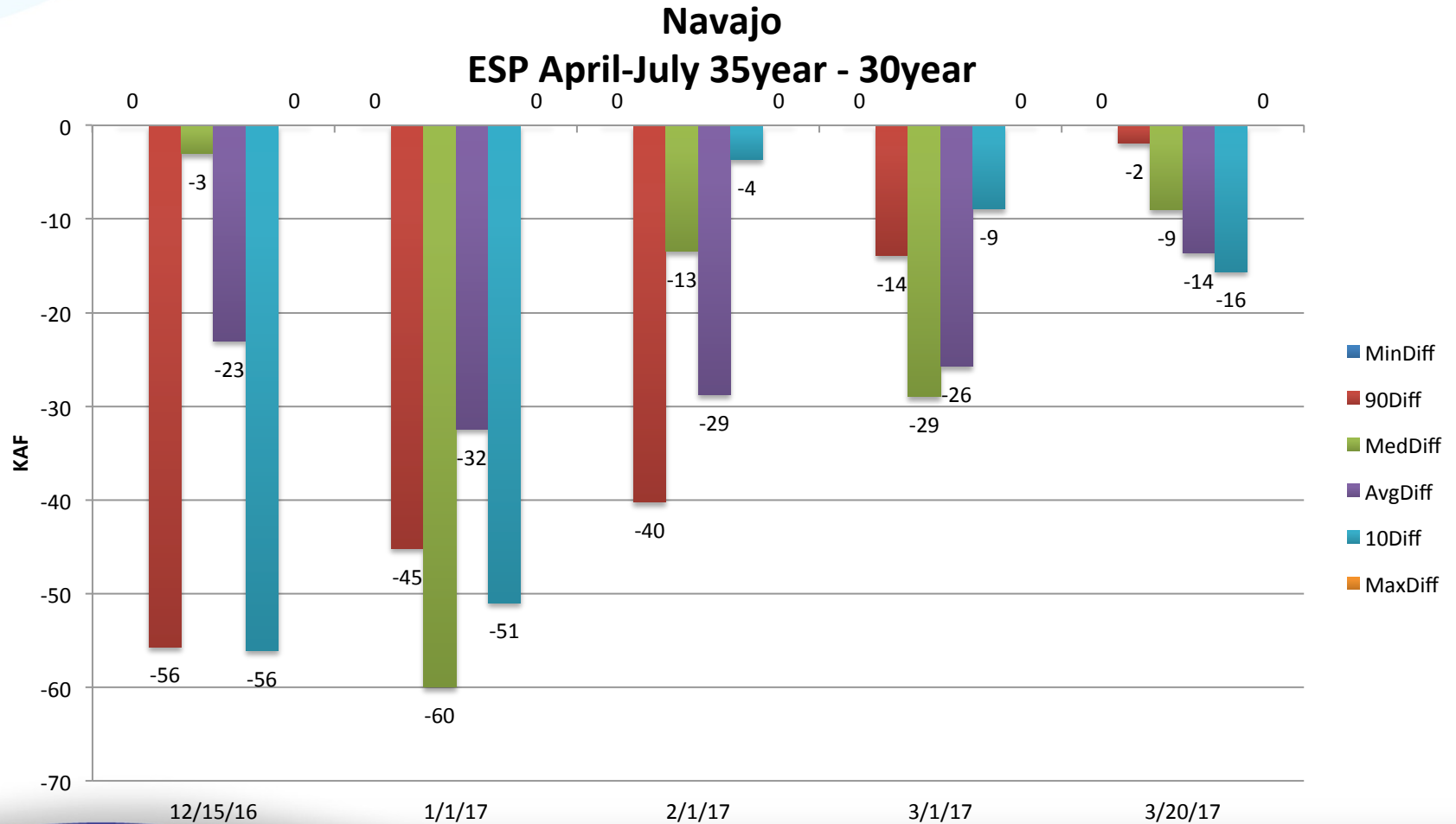
9

Navajo
ESP April-July Volume



ESP DIFFERENCES

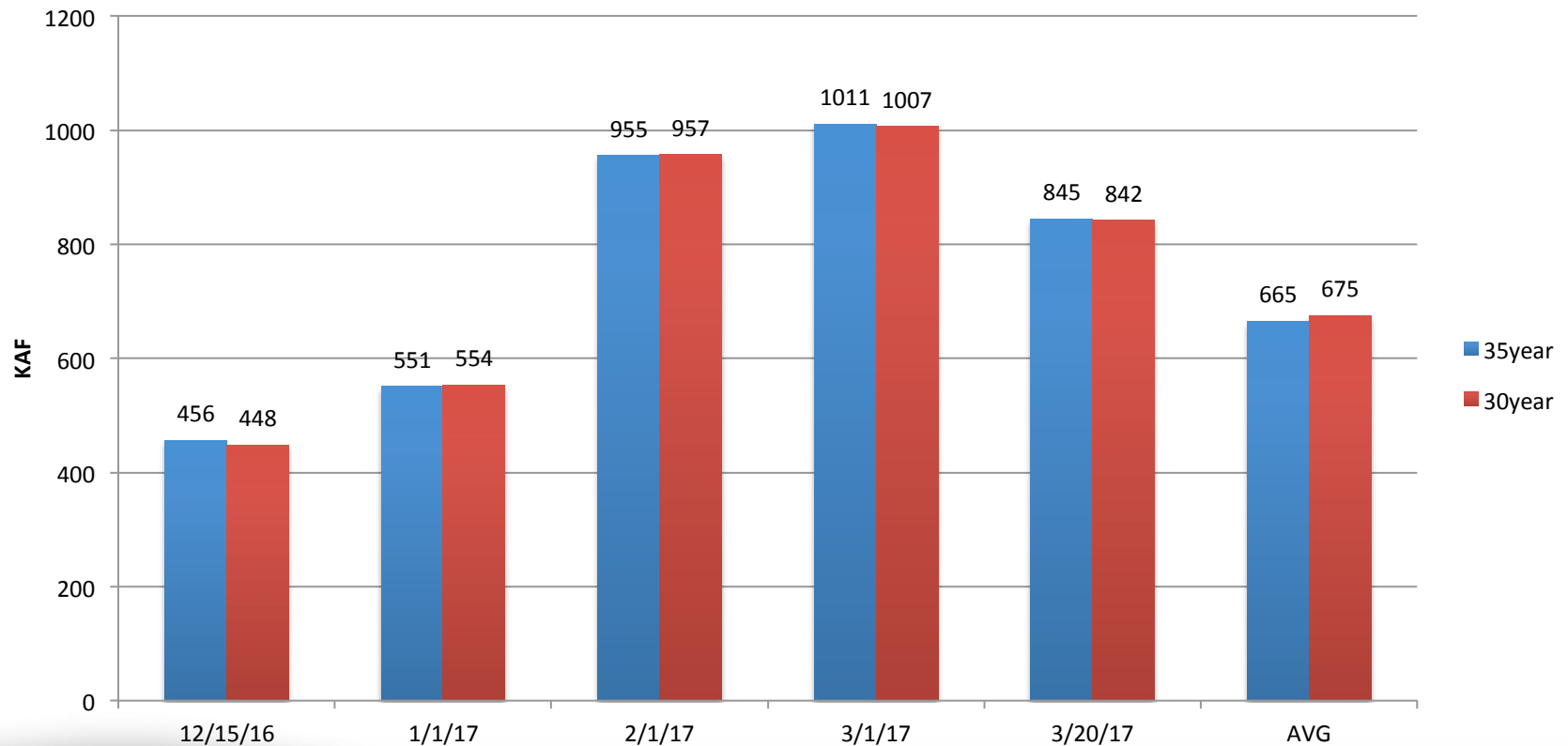
10



2017 APRIL-JULY ESP VOLUMES

11

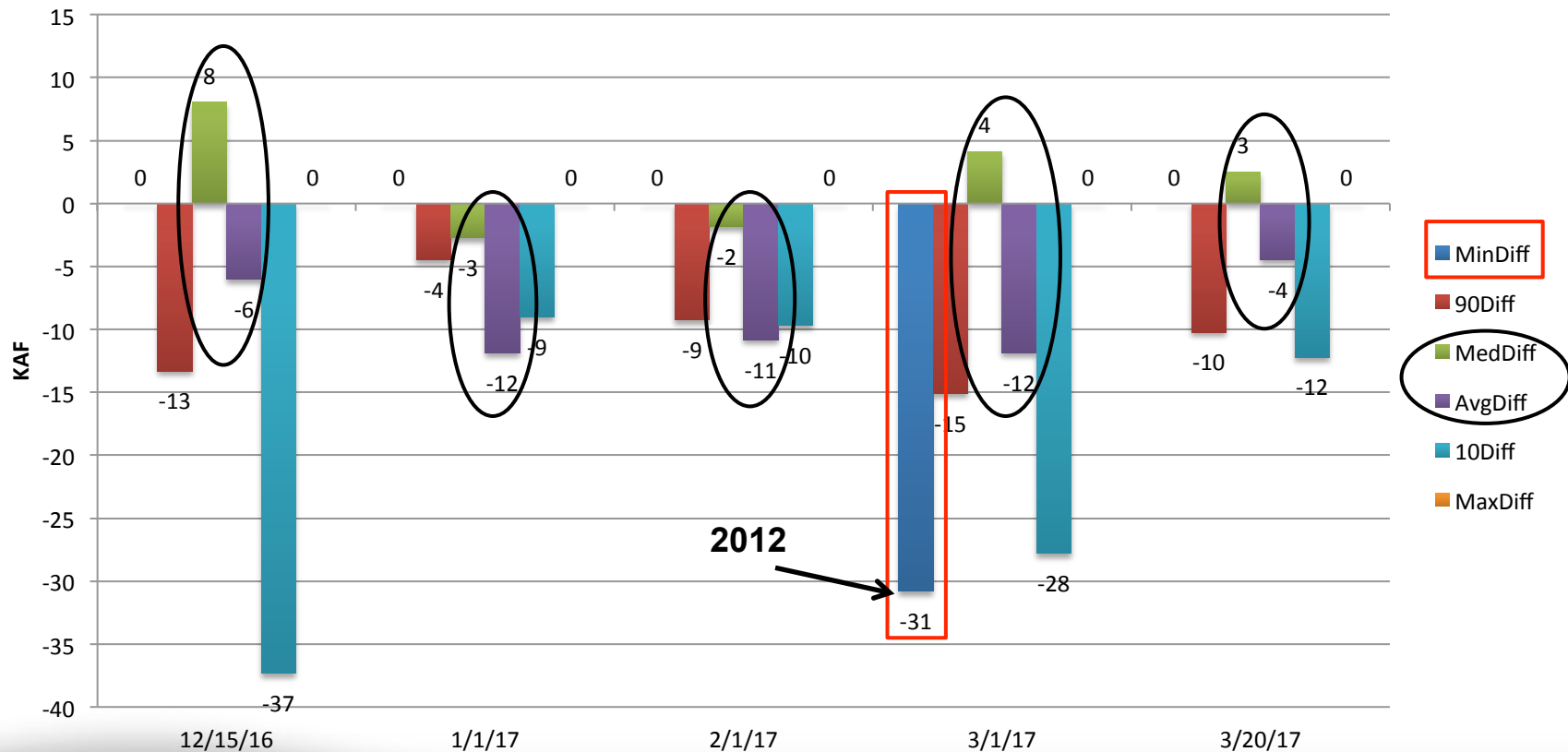
Blue Mesa ESP April-July Volume



ESP DIFFERENCES

12

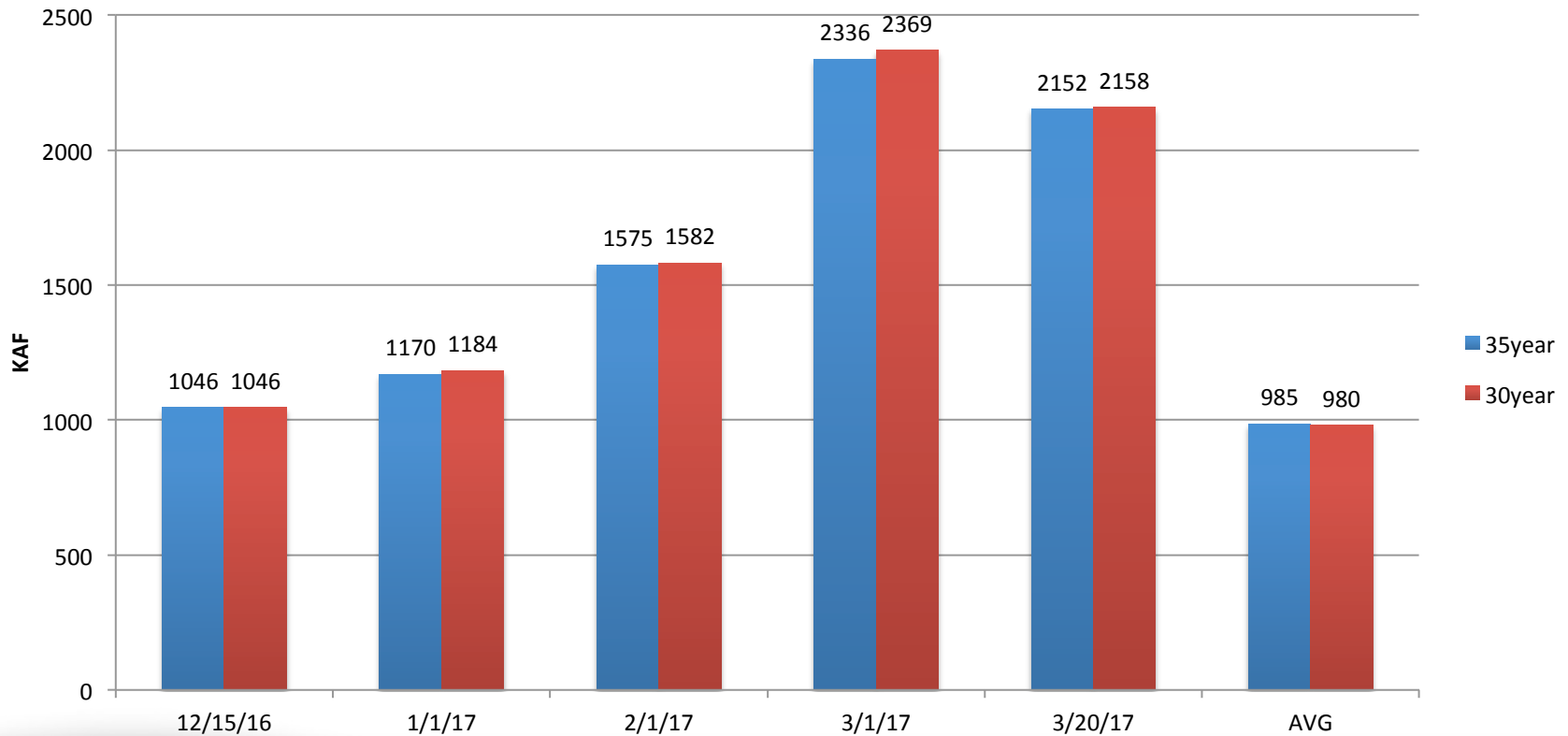
Blue Mesa
ESP April-July 35year - 30year



2017 APRIL-JULY ESP VOLUMES

13

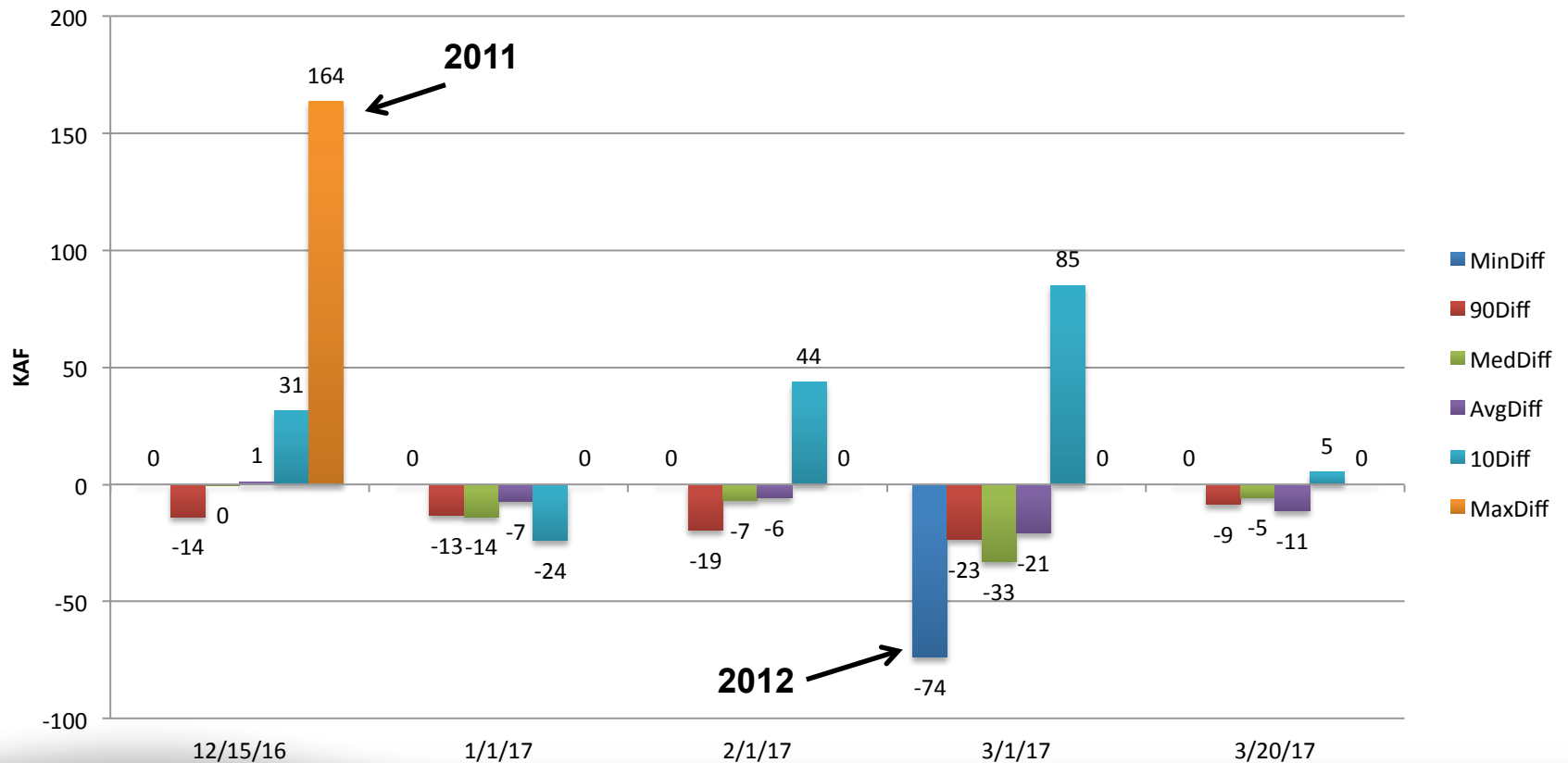
Flaming Gorge
ESP April-July Volume



ESP DIFFERENCES

14

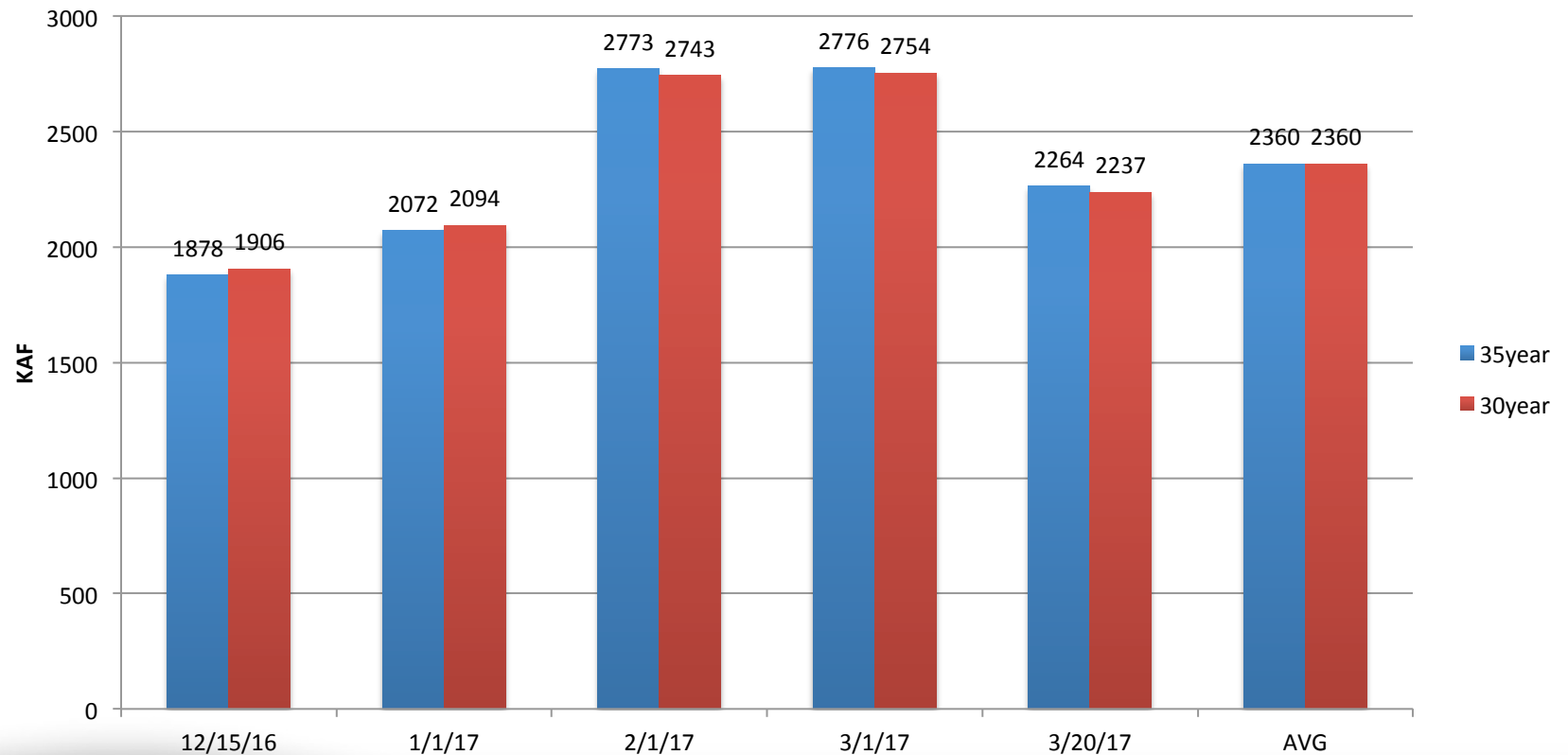
Flaming Gorge
ESP April-July 35year - 30year



2017 APRIL-JULY ESP VOLUMES

15

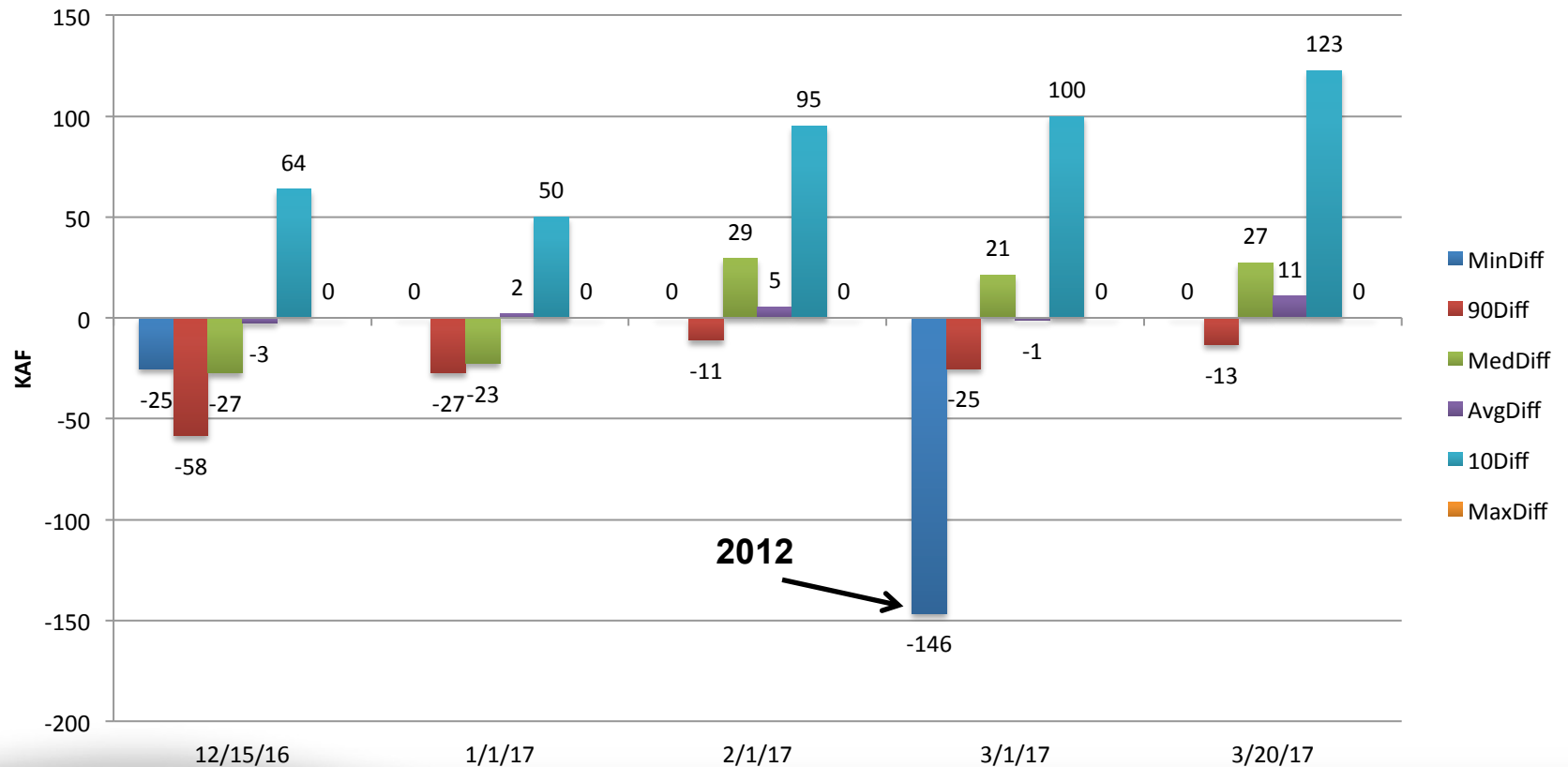
Colorado-Cameo
ESP April-July Volume



ESP DIFFERENCES

16

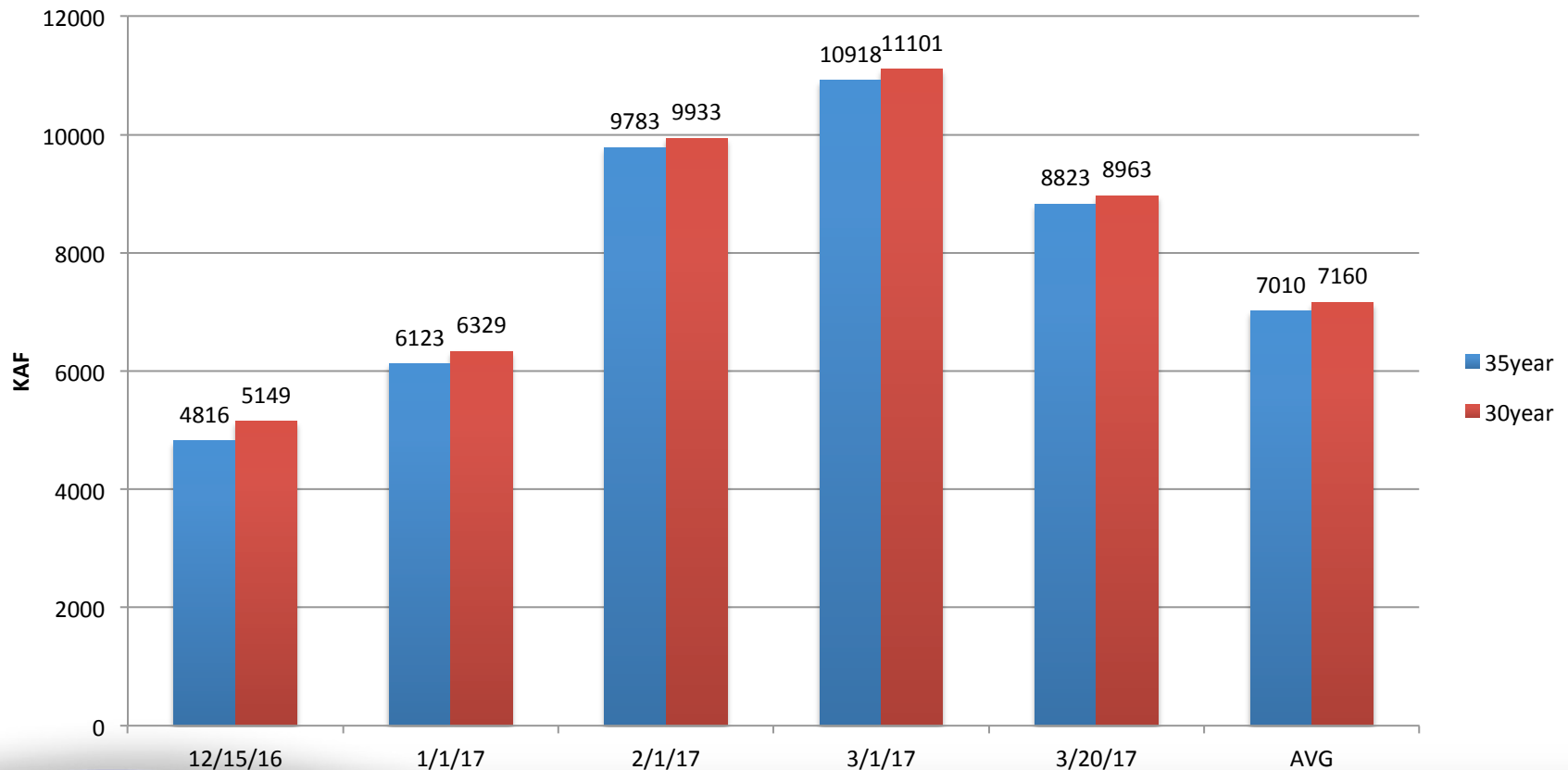
Colorado-Cameo
ESP April-July 35year - 30year



2017 APRIL-JULY ESP VOLUMES

17

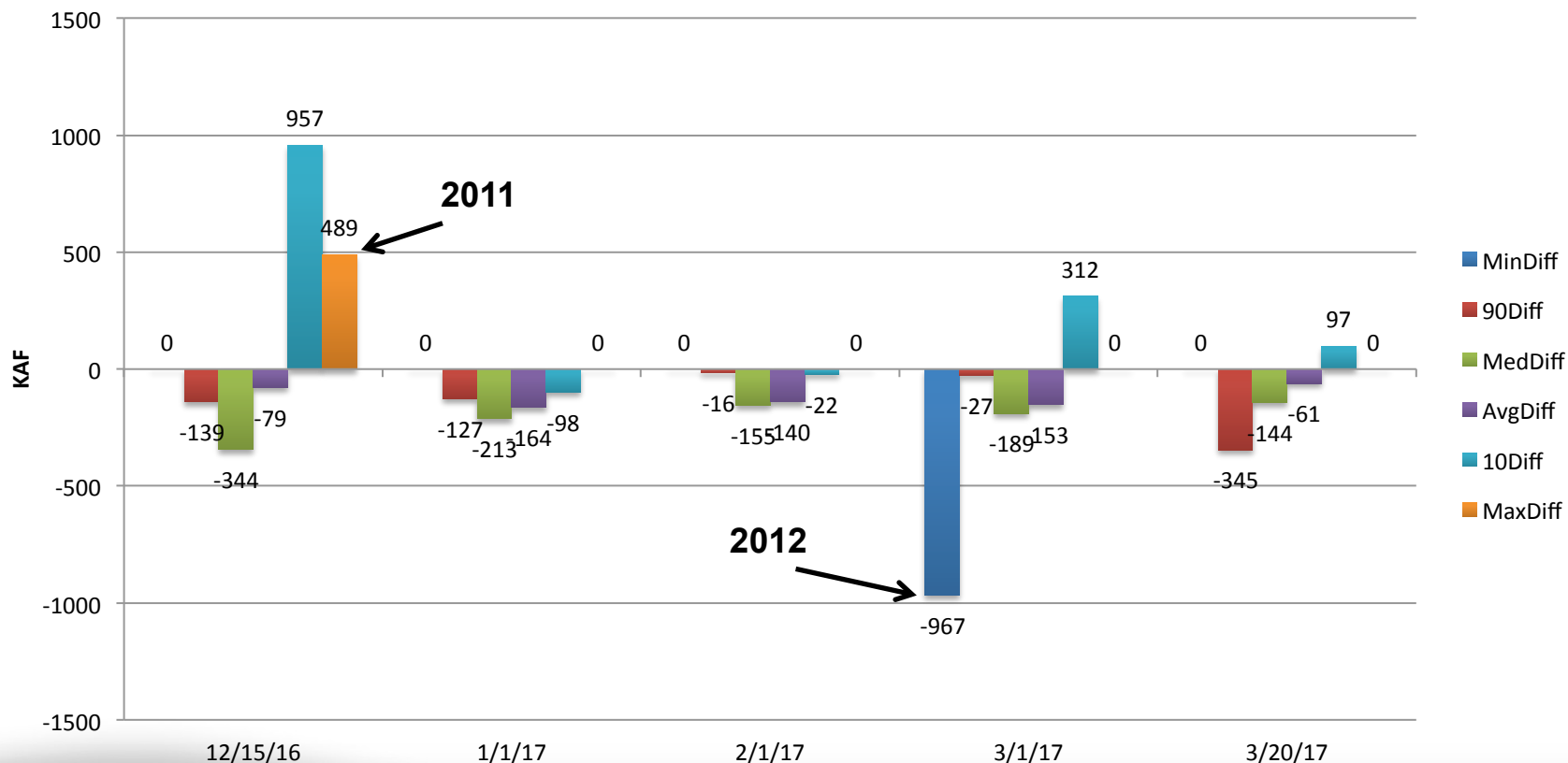
Lake Powell ESP April-July Volume



ESP DIFFERENCES

18

Lake Powell ESP April-July 35year - 30year



PRODUCTS AND SERVICES: WHAT DO YOU NEED FROM US?



Standard Products

20

- 10 day forecast hydrographs
 - produced daily
 - hourly timestep
- Seasonal forecast volumes
 - produced twice monthly
 - current month through July 50% volumes
 - April – July totals with 10%/90% at first of month
- Water year forecast volumes
 - produced first of month
 - monthly volumes through end of water year
 - 5 year MTOM ESP traces
- Peak flow outlooks
 - produced twice monthly March 1 – May 1



Special Products

21

- 10 day deterministic / daily ESP flow combo
- Peak flow forecast updates as requested

