

## Appendix G

This appendix contains plots of simulated level-2<sup>1</sup> 30-day running average streamflows at 12 locations and water levels at five reservoirs as a function of exceedance quantile. Three plots are presented for each model output location representing simulation results for 20-year periods centered on, and reflecting development characteristics for, 2035, 2055, and 2075. Separate lines are plotted for each simulation based on the indicated combination of Coupled Model Intercomparison Project - Phase 3 (CMIP3) data set and greenhouse-gas emission scenario as described in the following tables. A dashed line is also drawn for results for the simulation based on a historical reference period extending from 1991 to 2010.

The following tables list the identifiers or designations shown on the plots that are associated with the CMIP3 data sets, emission scenarios, and sites.

| CMIP3 Identifier | Originating group(s)   | Country |
|------------------|--|---------|
| BCCR-BCM2        | Bjerknes Centre for Climate Research   | Norway  |
| GISS-ER          | NASA / Goddard Institute for Space Studies   | USA     |
| MIROC3.2         | Center for Climate System Research (The University of Tokyo) National Institute for Environmental Studies and Frontier Research Center for Global Change | Japan   |
| NCAR- PCM        | National Center for Atmospheric Research   | USA     |

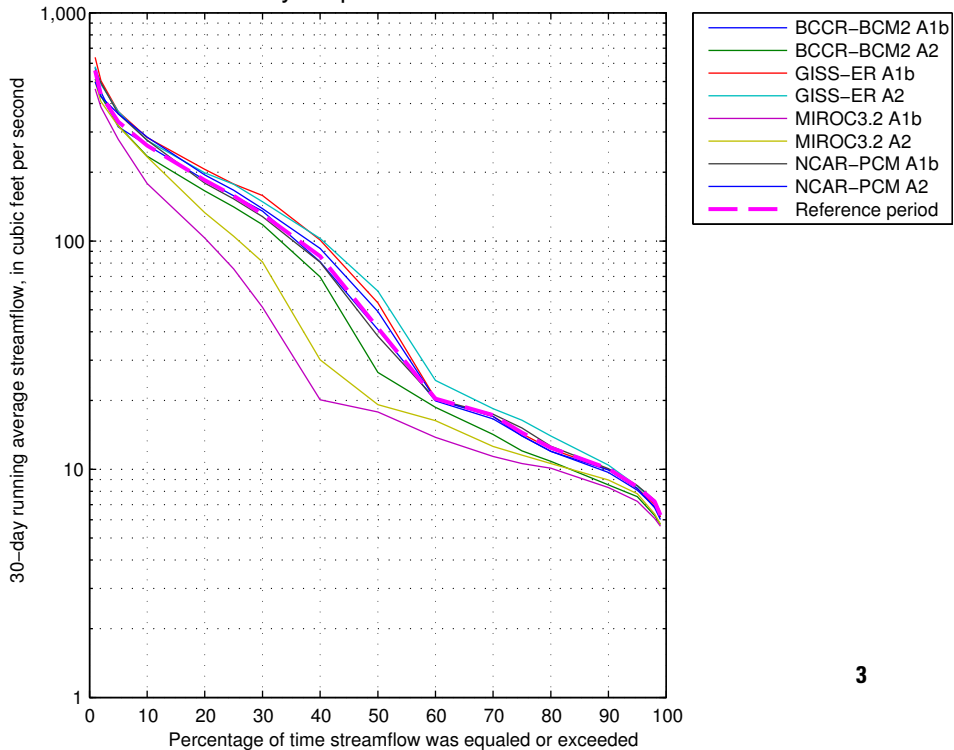
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<sup>1</sup> Level 2 simulations account for development-driven changes in land cover and water use in addition to 21st-century changes in climate and reservoir operations.

| Special Report on Emissions Scenario Designation | Description   |
|--|---|
| A2   | <p>The A2 scenario represents a divided world that is characterized by:</p> <ul style="list-style-type: none"> <li>• A world of independently operating, self-reliant nations.</li> <li>• Continuously increasing population.</li> <li>• Regionally oriented economic development.</li> </ul>   |
| A1b  | <p>The A1b scenario represents a more integrated world that is characterized by:</p> <ul style="list-style-type: none"> <li>• Rapid economic growth.</li> <li>• A global population that reaches almost 9 billion in 2050 and then gradually declines.</li> <li>• The quick spread of new and efficient technologies.</li> <li>• A convergent world - income and way of life converge between regions. Extensive social and cultural interactions worldwide.</li> <li>• A balanced emphasis on all energy sources.</li> </ul> |

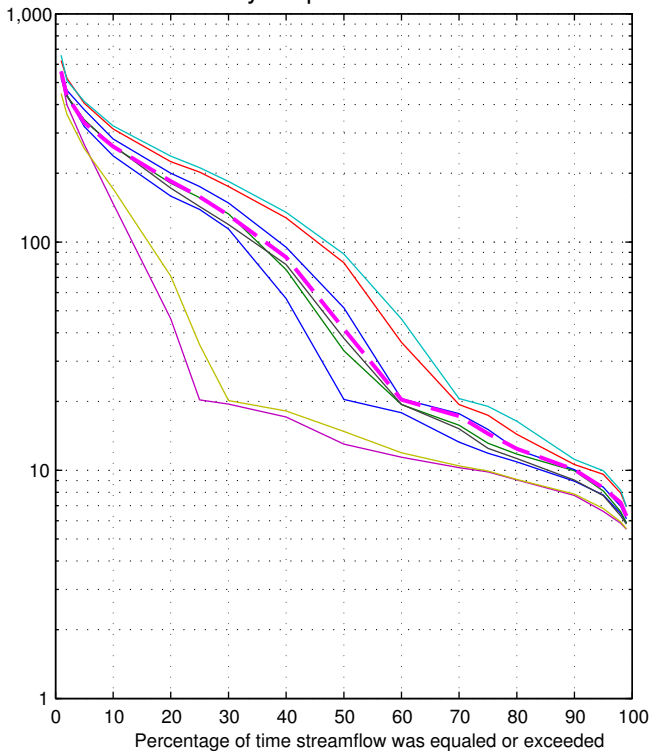
| Site ID | Description                                     | Latitude    | Longitude   |
|---------|---|-------------|-------------|
| AFRI    | Alum Creek at Africa, OH                        | 40° 10' 56" | 82° 57' 41" |
| ALUM    | Alum Creek Reservoir, OH                        | 40° 11' 11" | 82° 57' 59" |
| CBUS    | Scioto River at Columbus, OH                    | 39° 54' 34" | 83° 00' 32" |
| CCOL    | Big Walnut Creek at Central College, OH         | 40° 06' 12" | 82° 53' 02" |
| CIRC    | Scioto River at Circleville, OH                 | 39° 36' 05" | 82° 57' 18" |
| CLAR    | Olentangy River at Claridon, OH                 | 40° 34' 59" | 82° 59' 22" |
| DELA    | Olentangy River near Delaware, OH               | 40° 21' 18" | 83° 04' 05" |
| DELL    | Delaware Lake, OH                               | 40° 21' 31" | 83° 04' 09" |
| GRIG    | Griggs Reservoir, OH                            | 40° 00' 58" | 83° 05' 38" |
| HOOV    | Hoover Reservoir, OH                            | 40° 06' 30" | 82° 52' 53" |
| LSCI    | Little Scioto River at mouth, OH                | 40° 31' 21" | 83° 12' 20" |
| MILL    | Mill Creek near Bellepoint, OH                  | 40° 14' 55" | 83° 10' 26" |
| OLEN    | Olentangy River at mouth, OH                    | 39° 57' 54" | 83° 01' 01" |
| OLOC    | Olentangy River near Olentangy Caverns, OH      | 40° 11' 55" | 83° 03' 09" |
| OSHY    | O'Shaughnessy Reservoir, OH                     | 40° 09' 14" | 83° 07' 32" |
| PROS    | Scioto River near Prospect, OH                  | 40° 25' 10" | 83° 11' 50" |
| SROR    | Scioto River at confluence with Olentangy River | 39° 57' 54" | 83° 01' 01" |

# AFRI 20-year period centered on 2035



# AFRI 20-year period centered on 2055

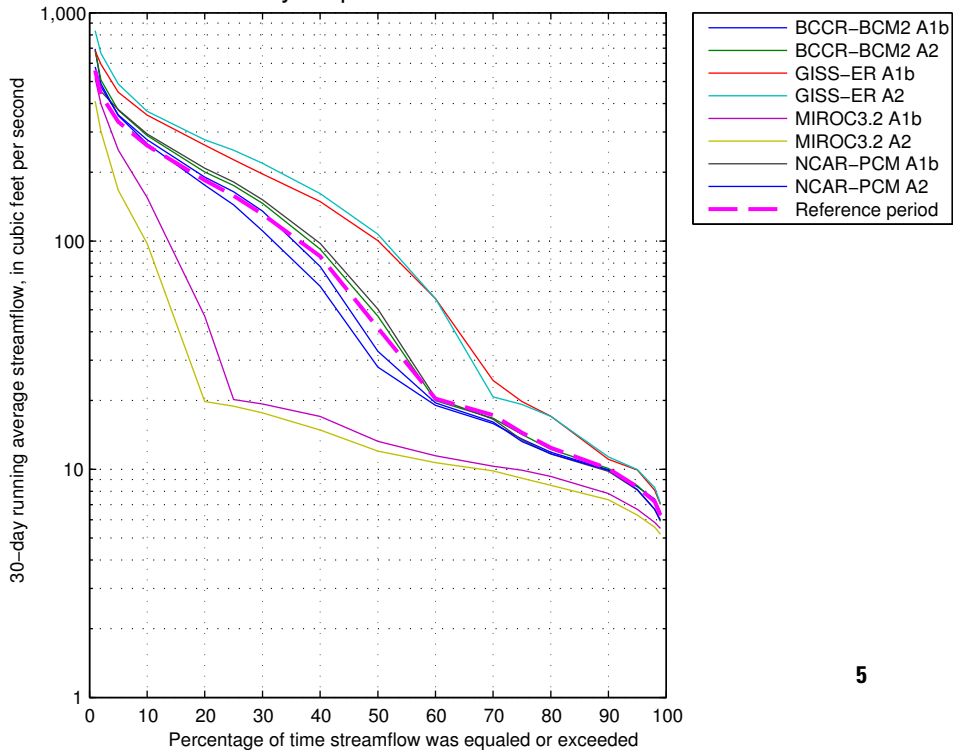
30-day running average streamflow, in cubic feet per second



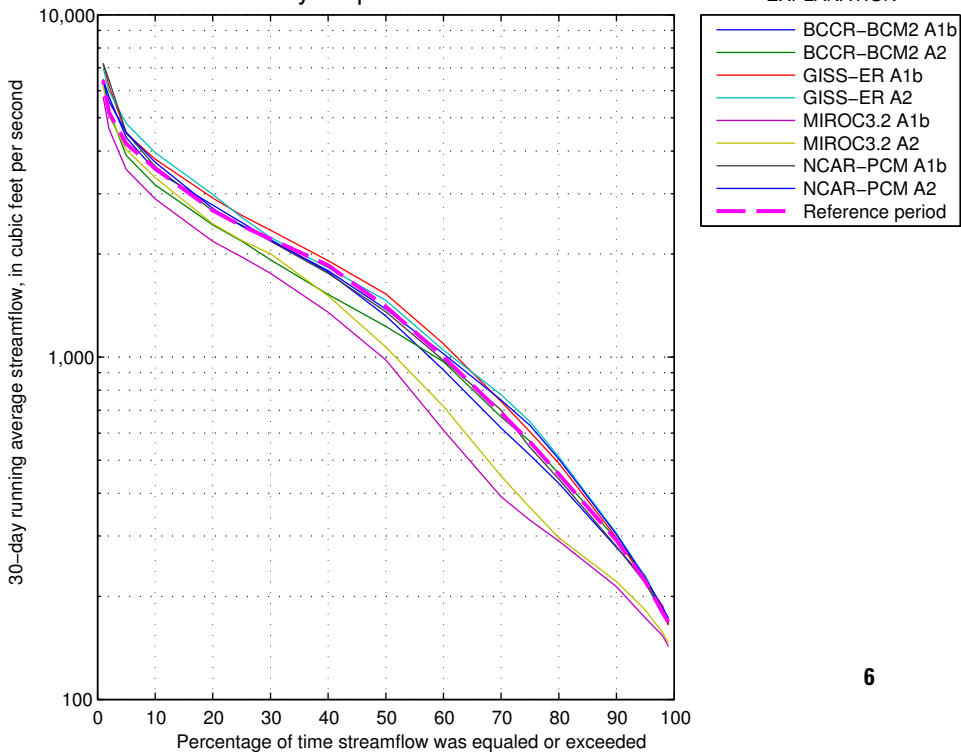
EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# AFRI 20-year period centered on 2075

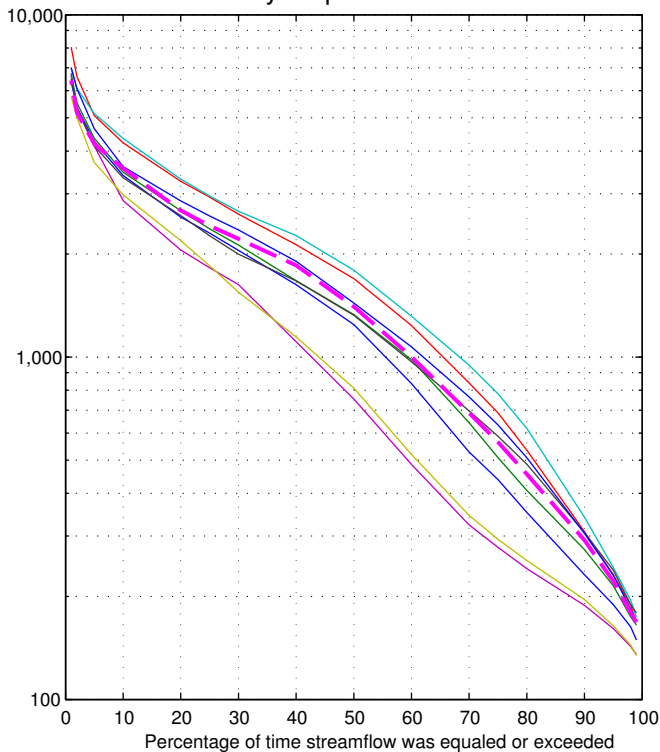


# CBUS 20-year period centered on 2035



# CBUS 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

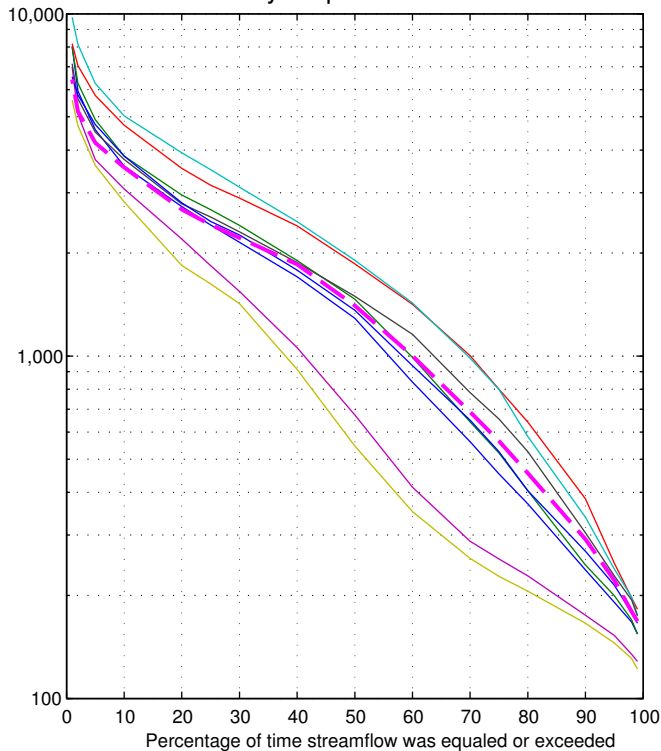


## EXPLANATION

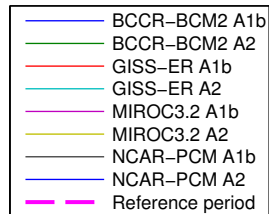
- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# CBUS 20-year period centered on 2075

30-day running average streamflow, in cubic feet per second

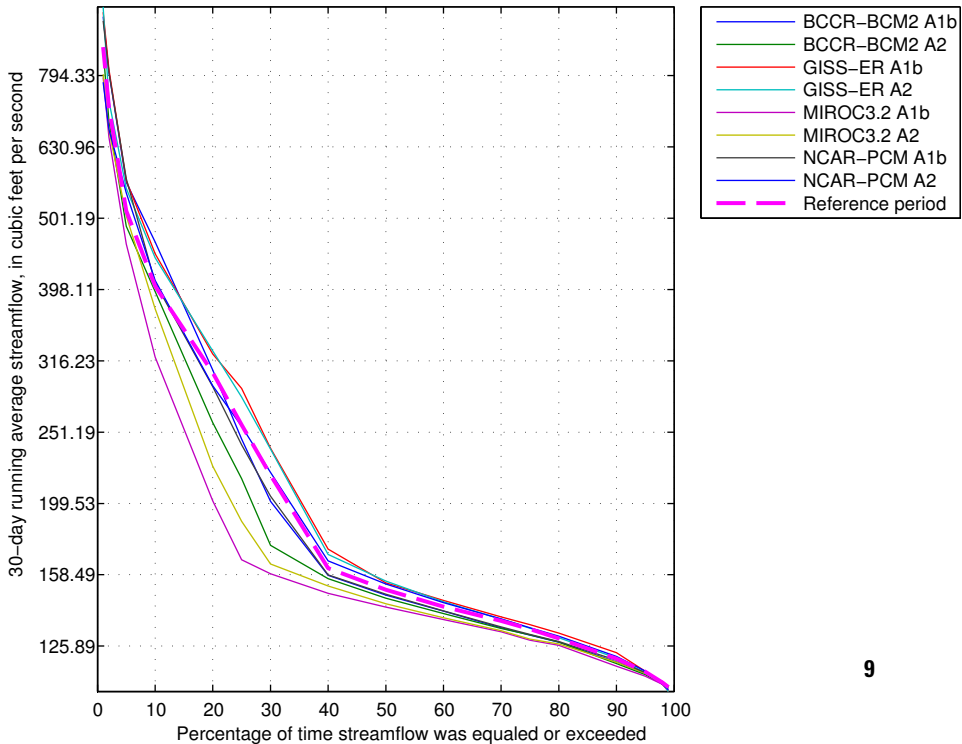


EXPLANATION



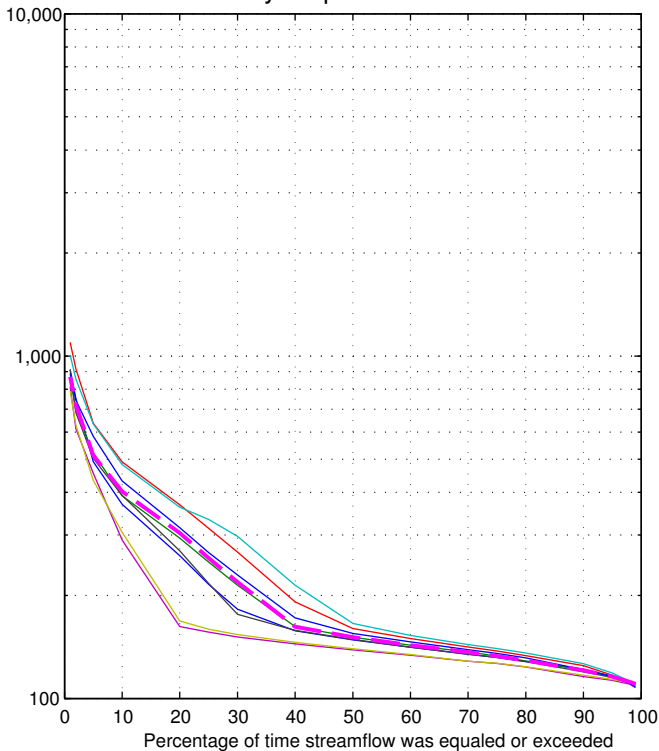


# CCOL 20-year period centered on 2035



# CCOL 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

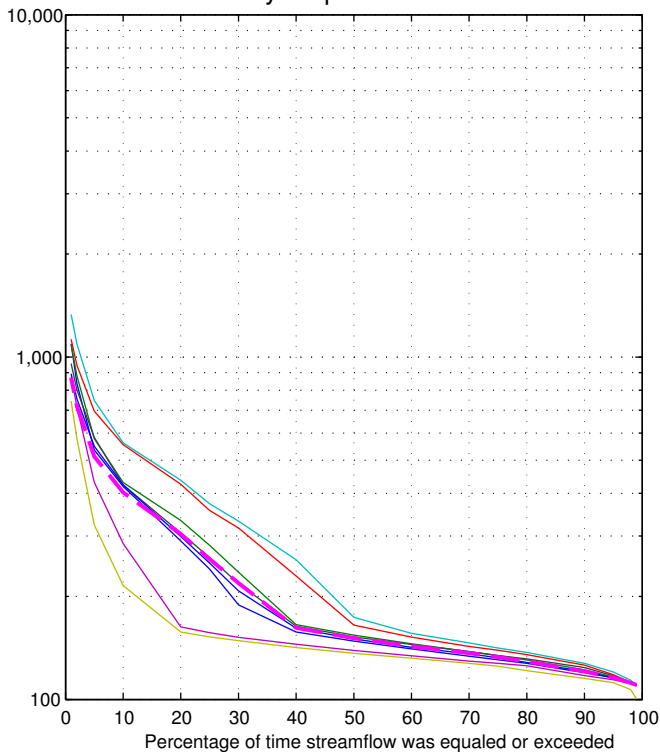


EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# CCOL 20-year period centered on 2075

30-day running average streamflow, in cubic feet per second

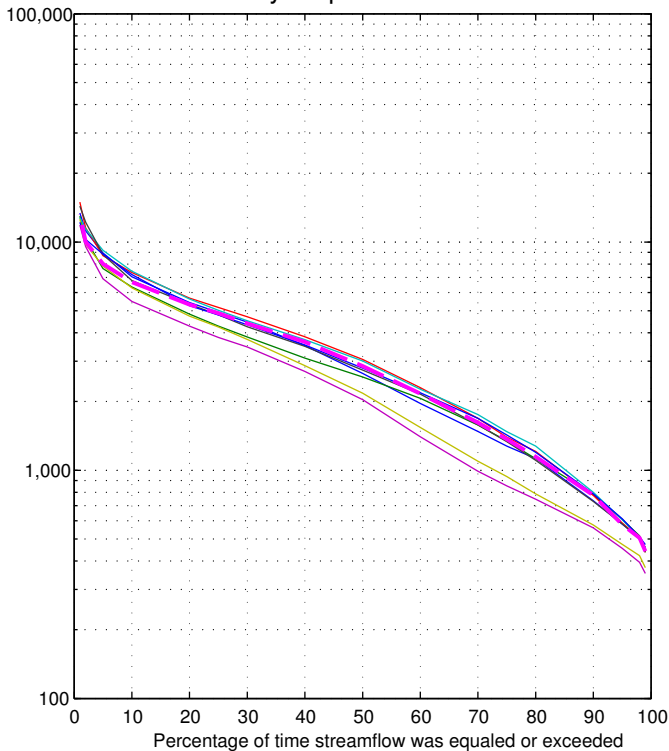


EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# CIRC 20-year period centered on 2035

30-day running average streamflow, in cubic feet per second

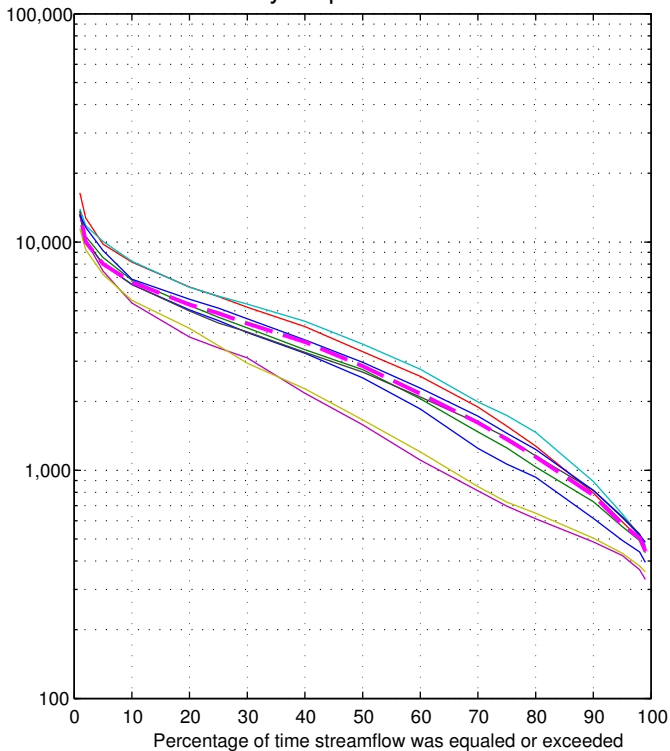


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# CIRC 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

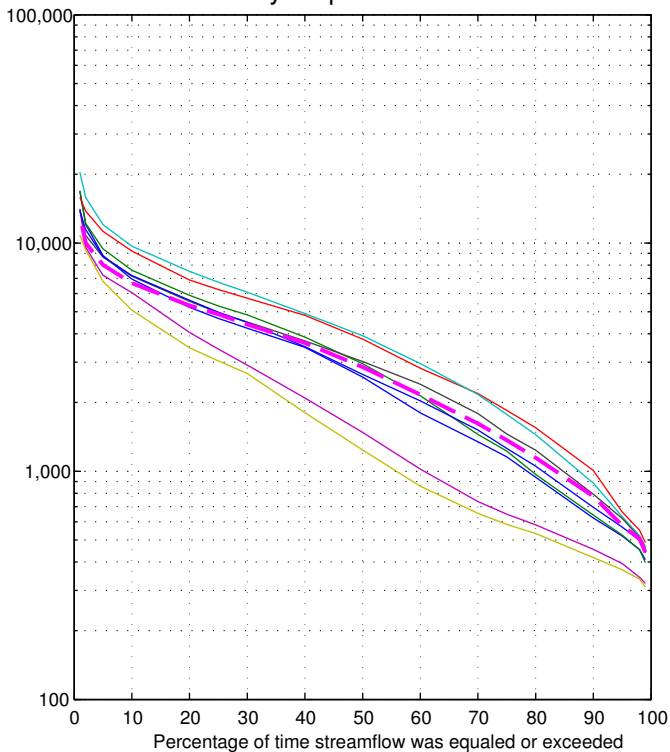


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# CIRC 20-year period centered on 2075

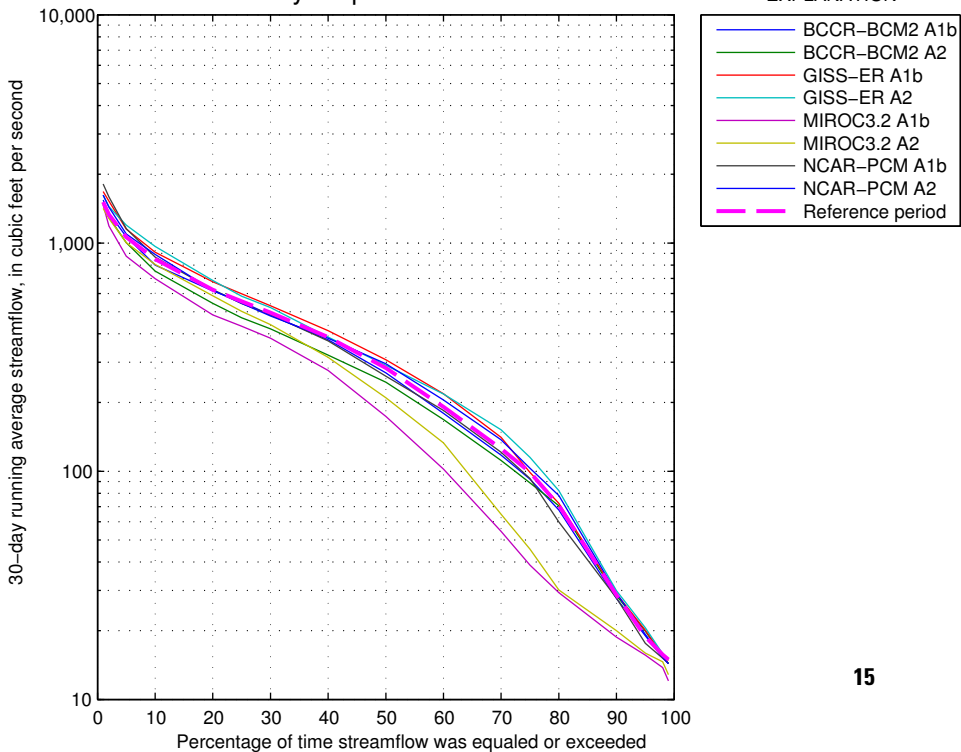
30-day running average streamflow, in cubic feet per second



## EXPLANATION

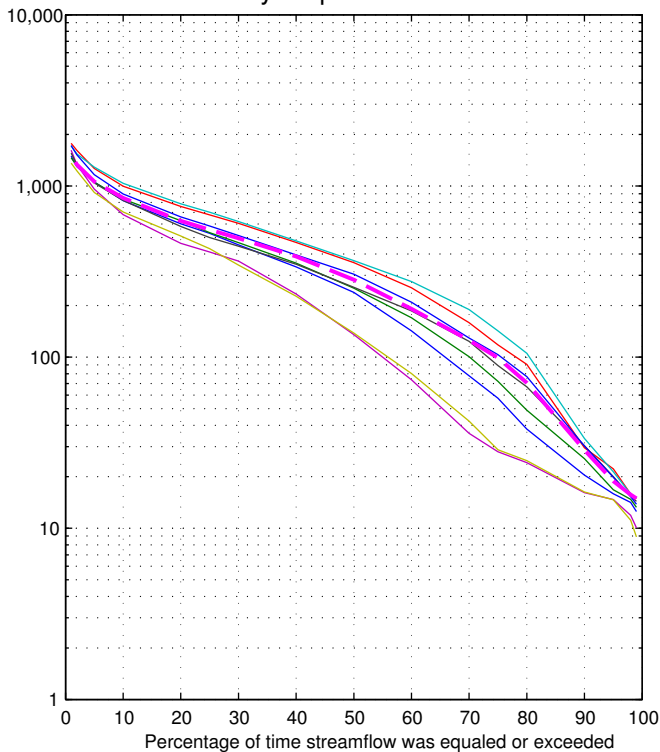
- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# DELA 20-year period centered on 2035



# DELA 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second



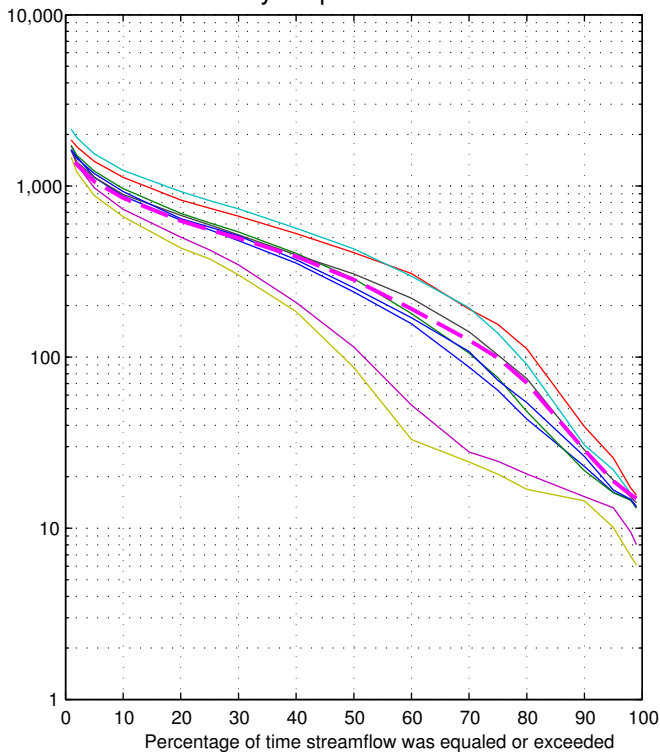
## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period



# DELA 20-year period centered on 2075

30-day running average streamflow, in cubic feet per second

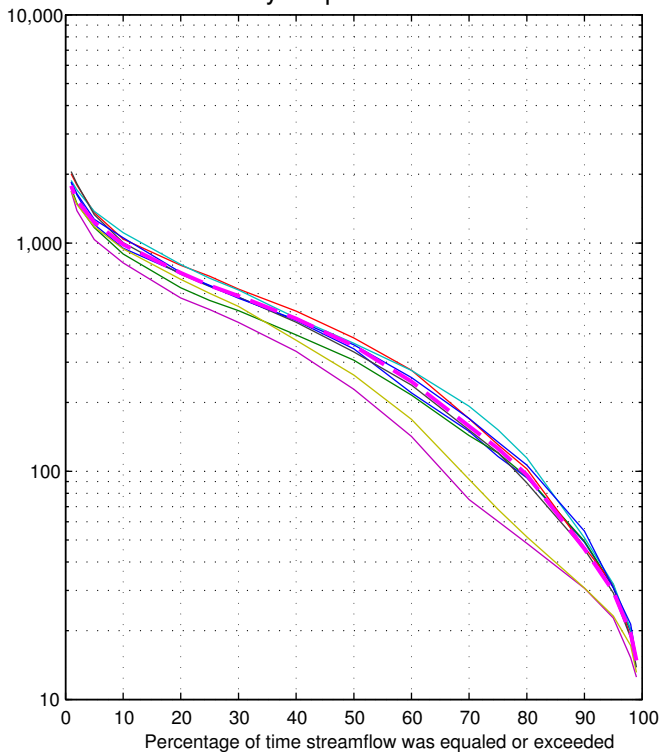


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# OLOC 20-year period centered on 2035

30-day running average streamflow, in cubic feet per second

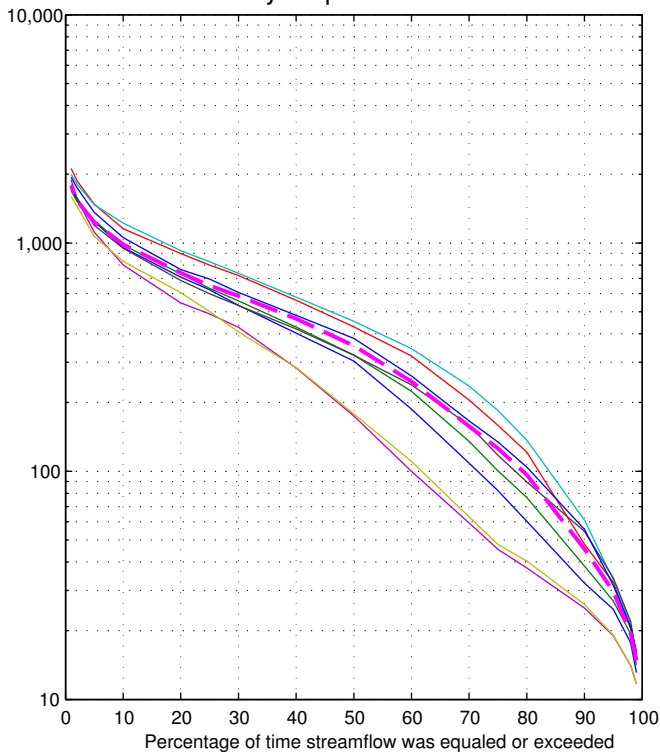


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# OLOC 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

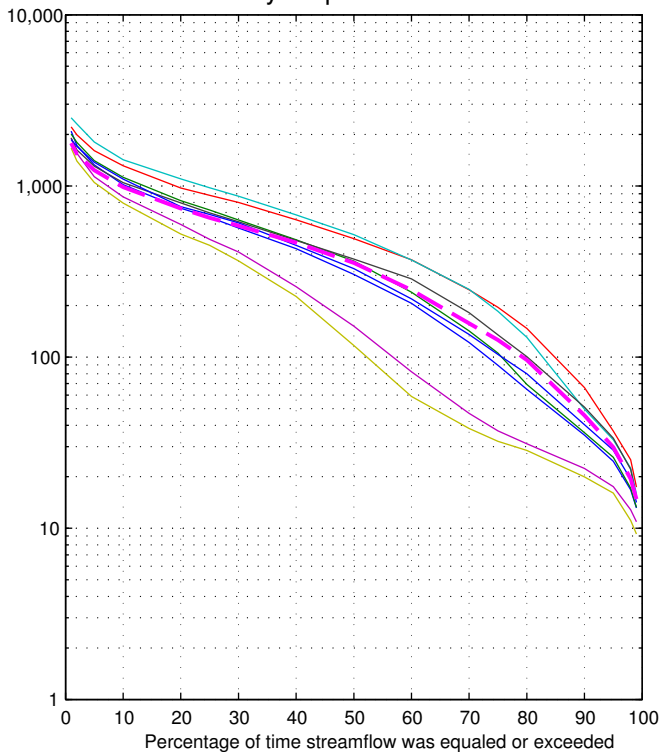


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# OLOC 20-year period centered on 2075

30-day running average streamflow, in cubic feet per second

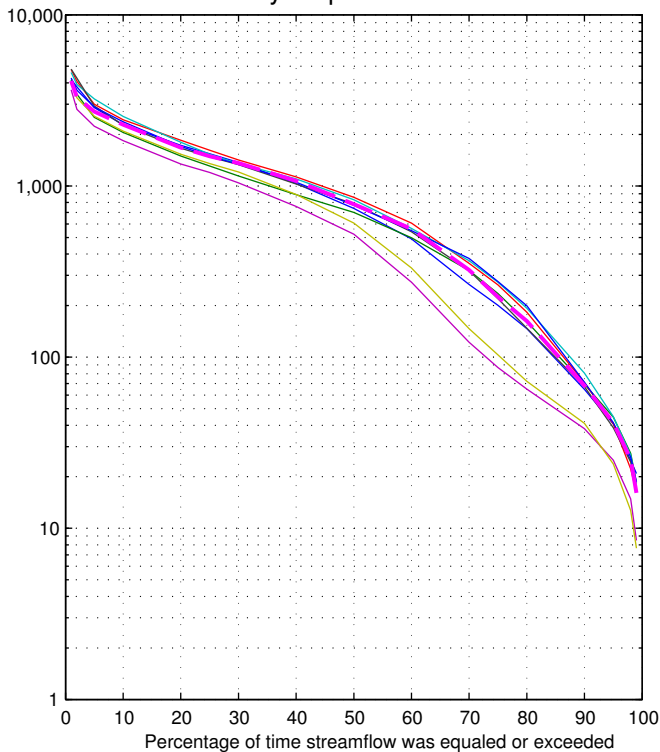


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# SROR 20-year period centered on 2035

30-day running average streamflow, in cubic feet per second

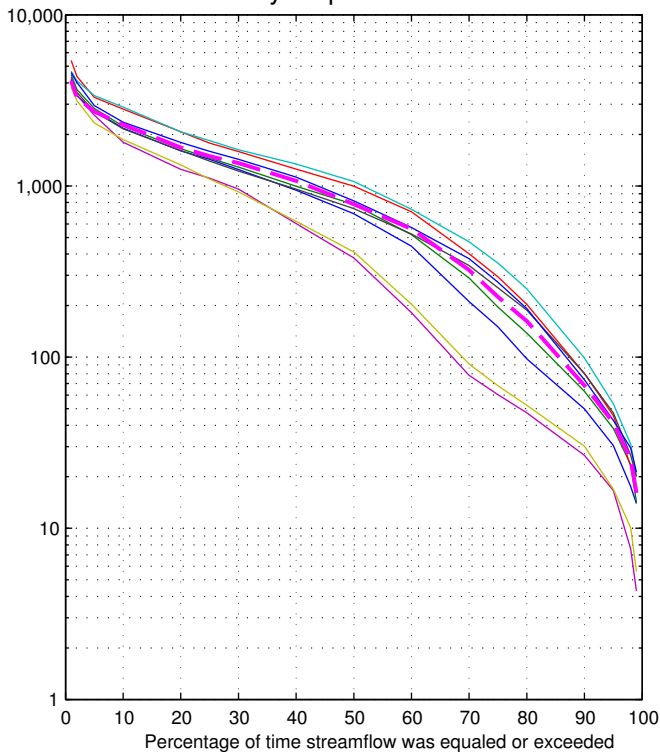


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# SROR 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

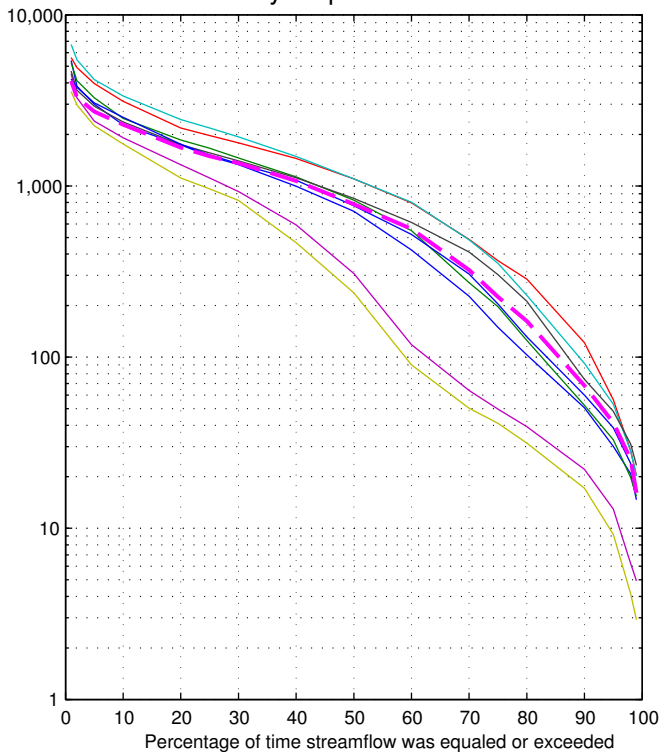


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# SROR 20-year period centered on 2075

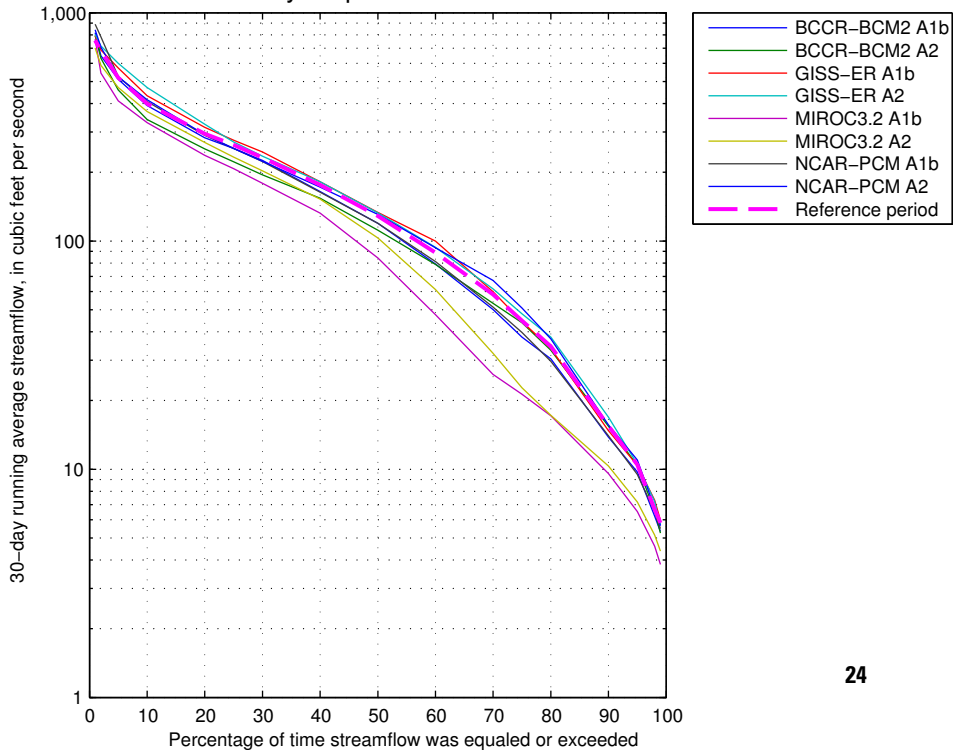
30-day running average streamflow, in cubic feet per second



## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

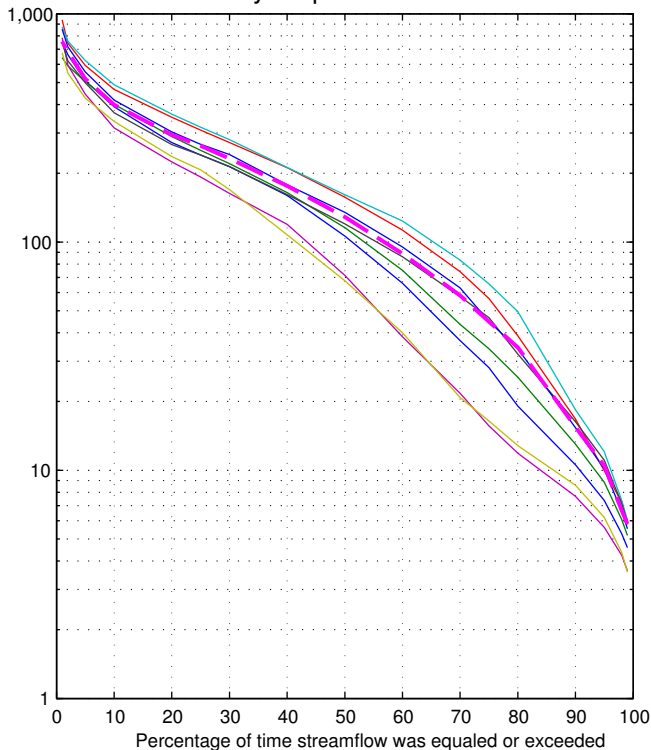
# CLAR 20-year period centered on 2035





# CLAR 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

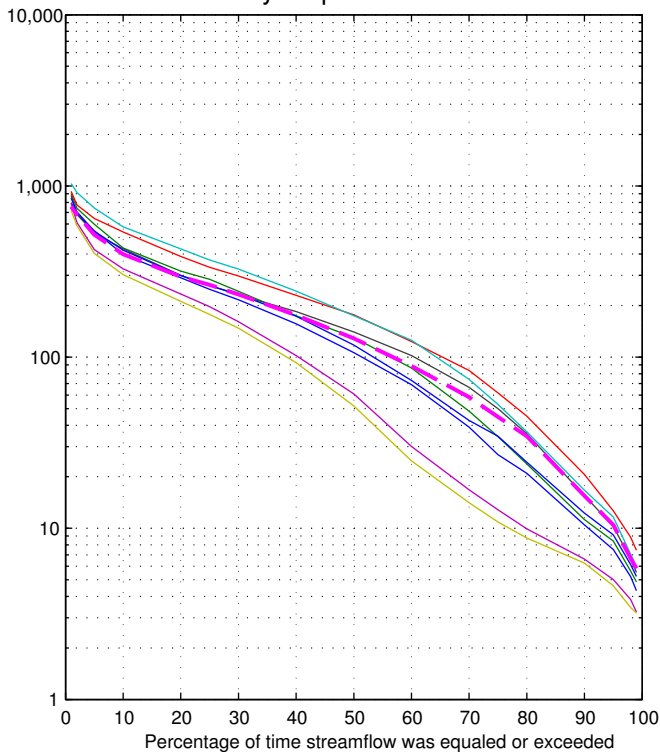


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# CLAR 20-year period centered on 2075

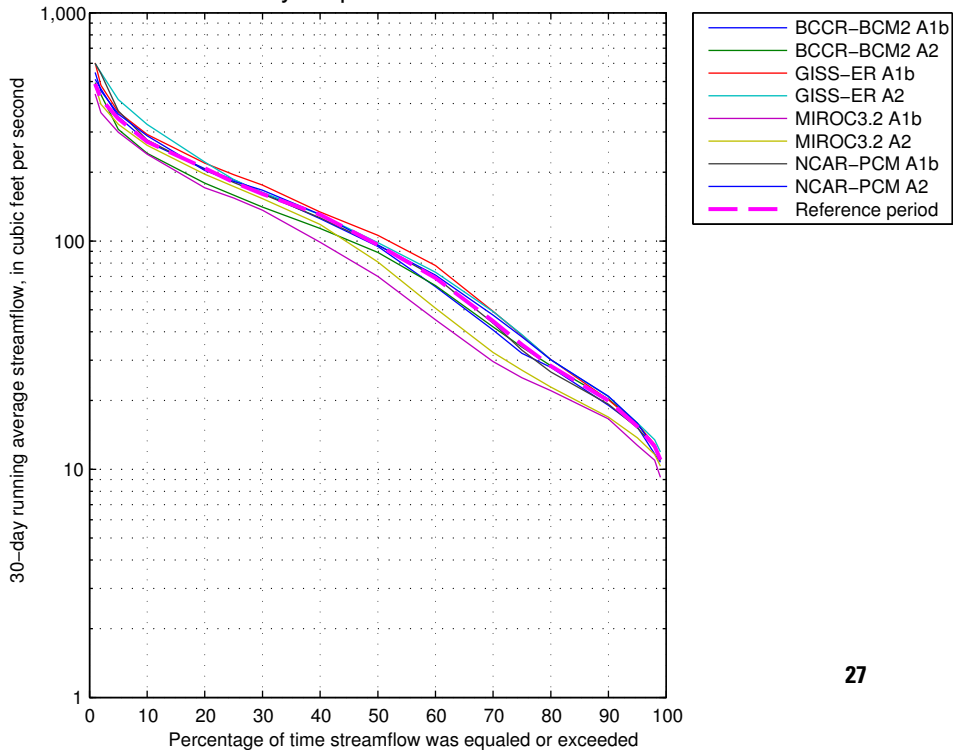
30-day running average streamflow, in cubic feet per second



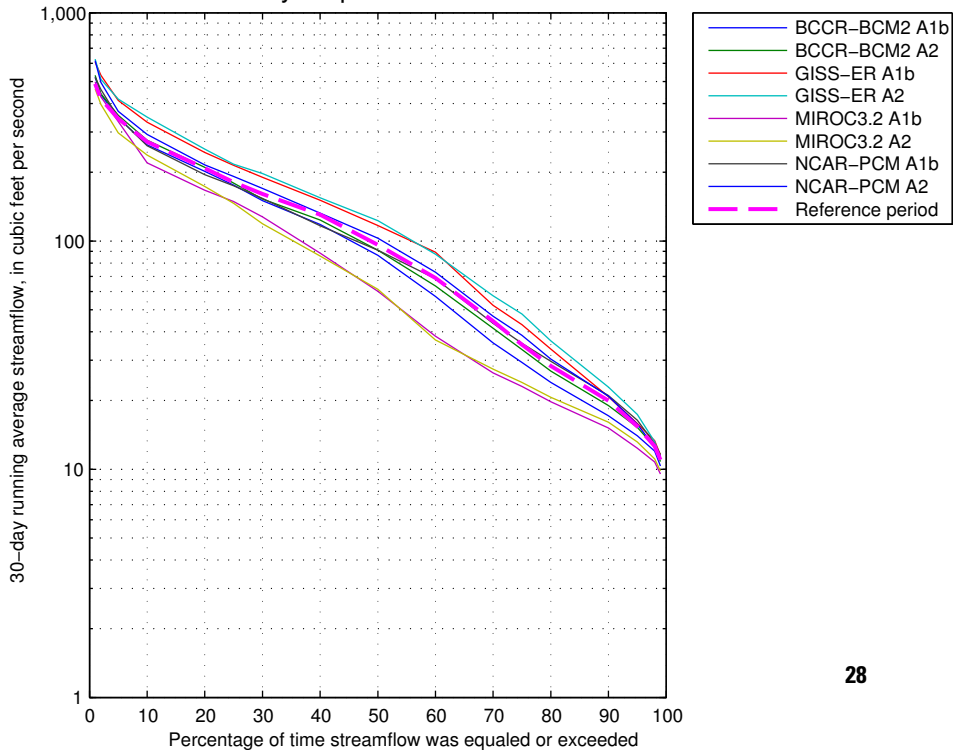
## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

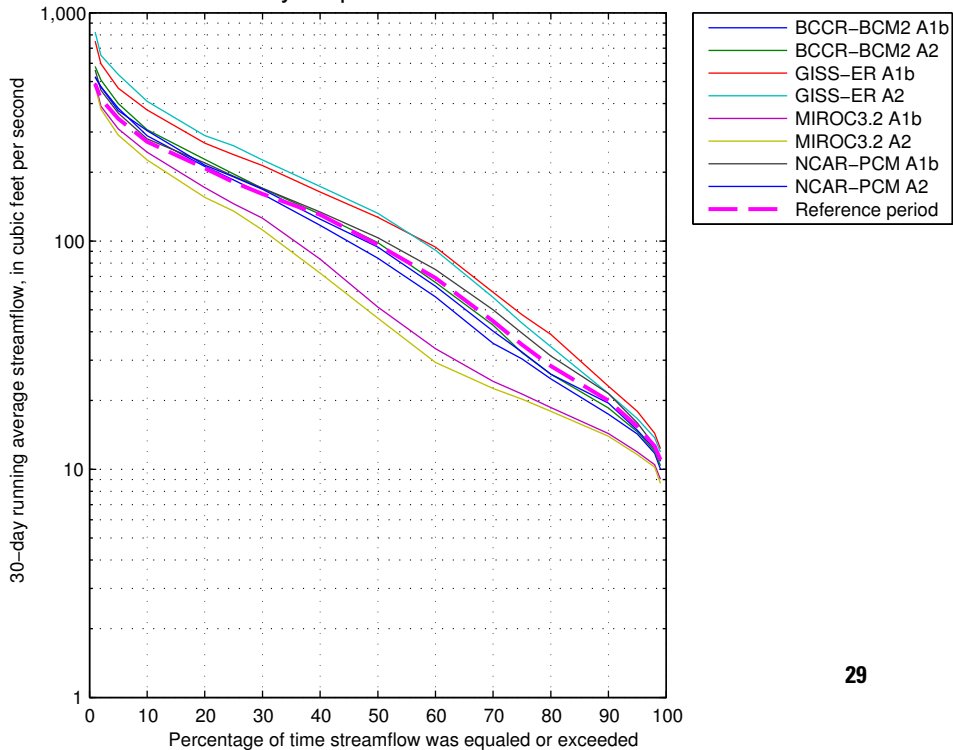
# LSCI 20-year period centered on 2035



# LSCI 20-year period centered on 2055

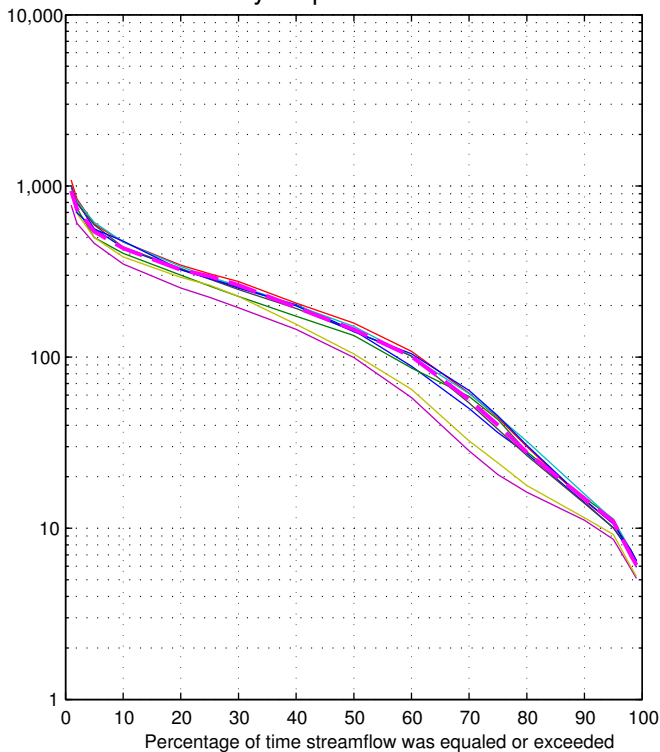


# LSCI 20-year period centered on 2075



# MILL 20-year period centered on 2035

30-day running average streamflow, in cubic feet per second

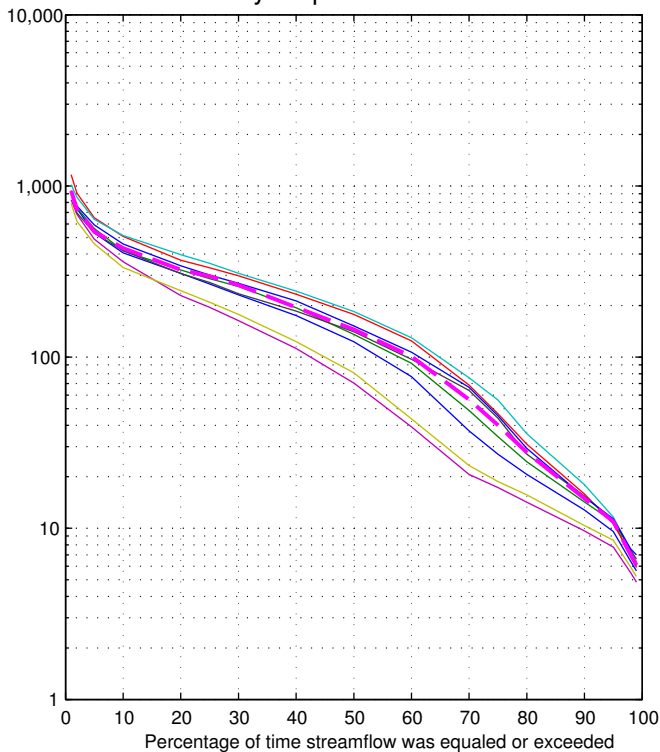


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# MILL 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

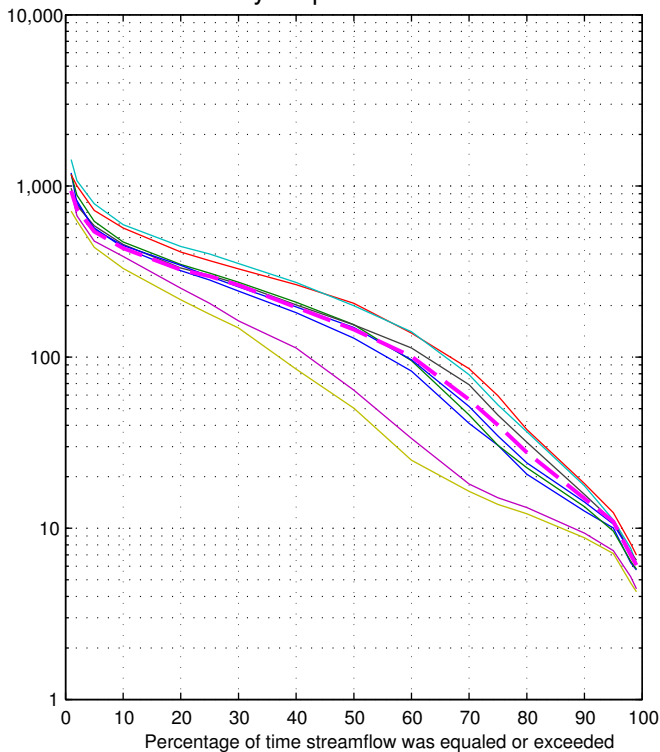


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# MILL 20-year period centered on 2075

30-day running average streamflow, in cubic feet per second

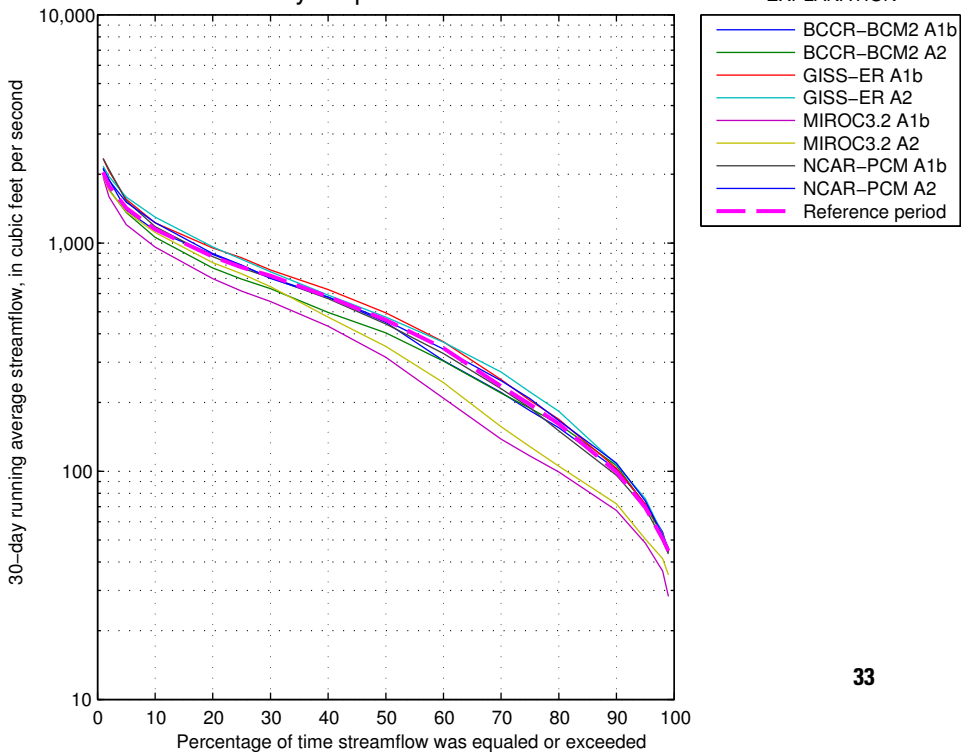


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

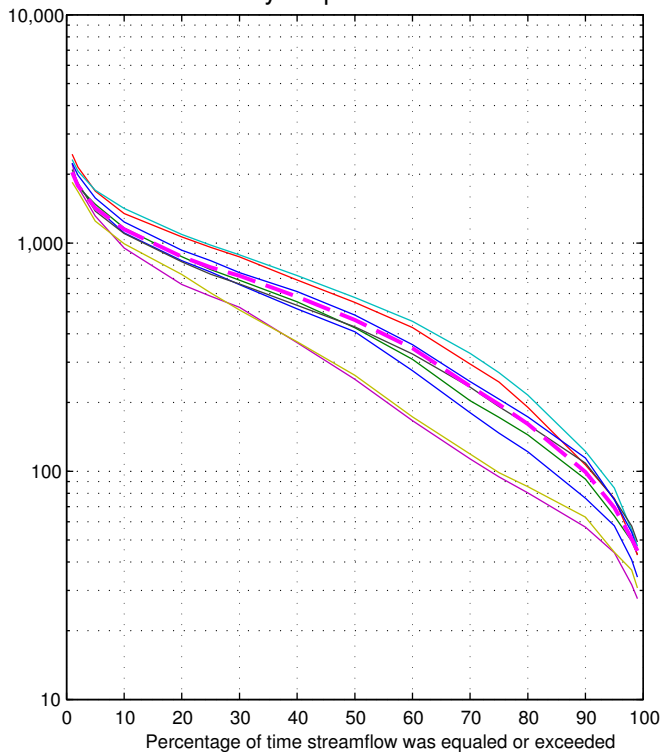


# OLEN 20-year period centered on 2035



# OLEN 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

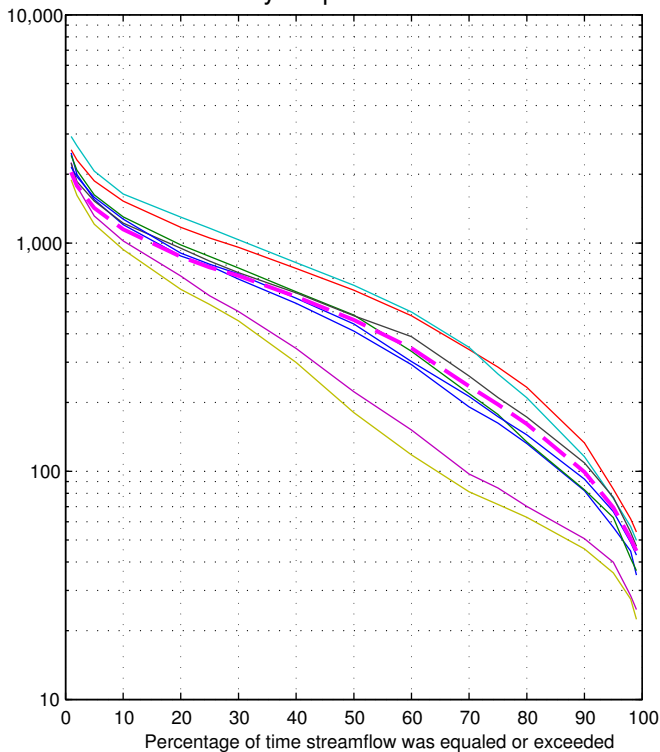


## EXPLANATION

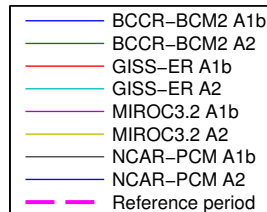
- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# OLEN 20-year period centered on 2075

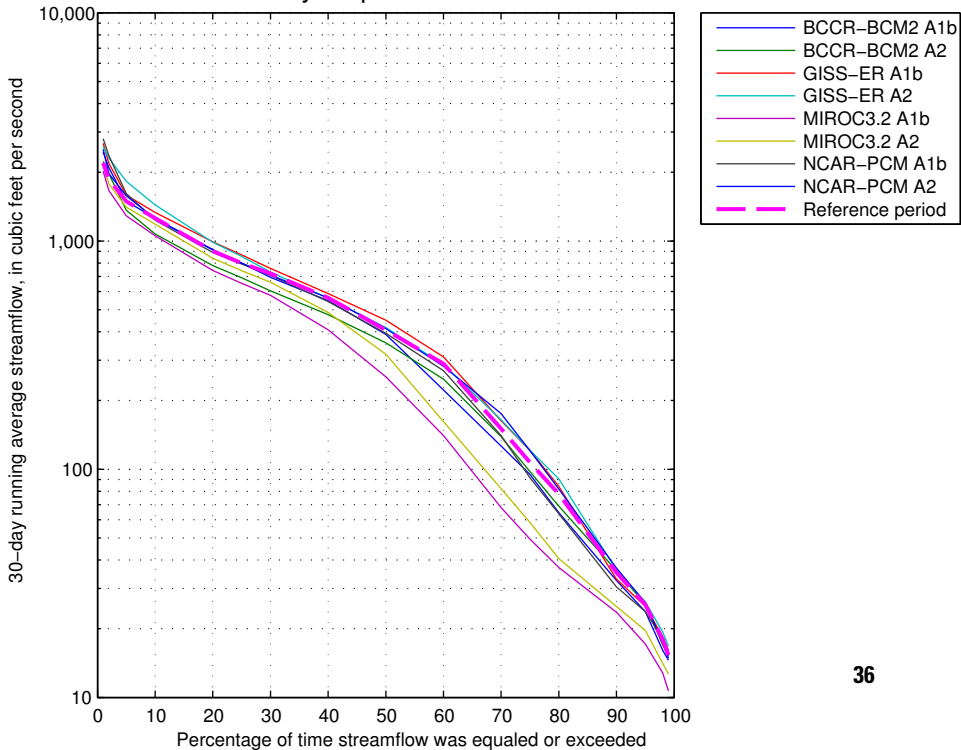
30-day running average streamflow, in cubic feet per second



EXPLANATION

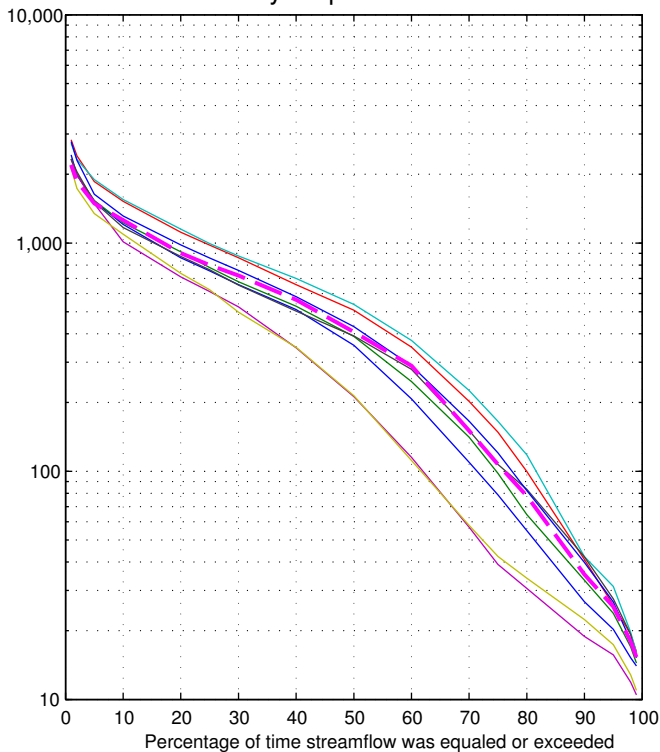


# PROS 20-year period centered on 2035



# PROS 20-year period centered on 2055

30-day running average streamflow, in cubic feet per second

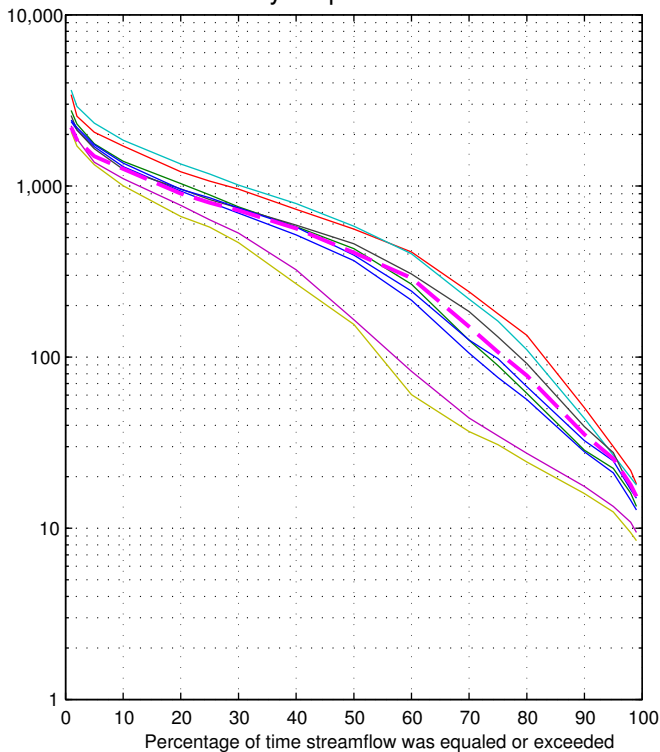


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# PROS 20-year period centered on 2075

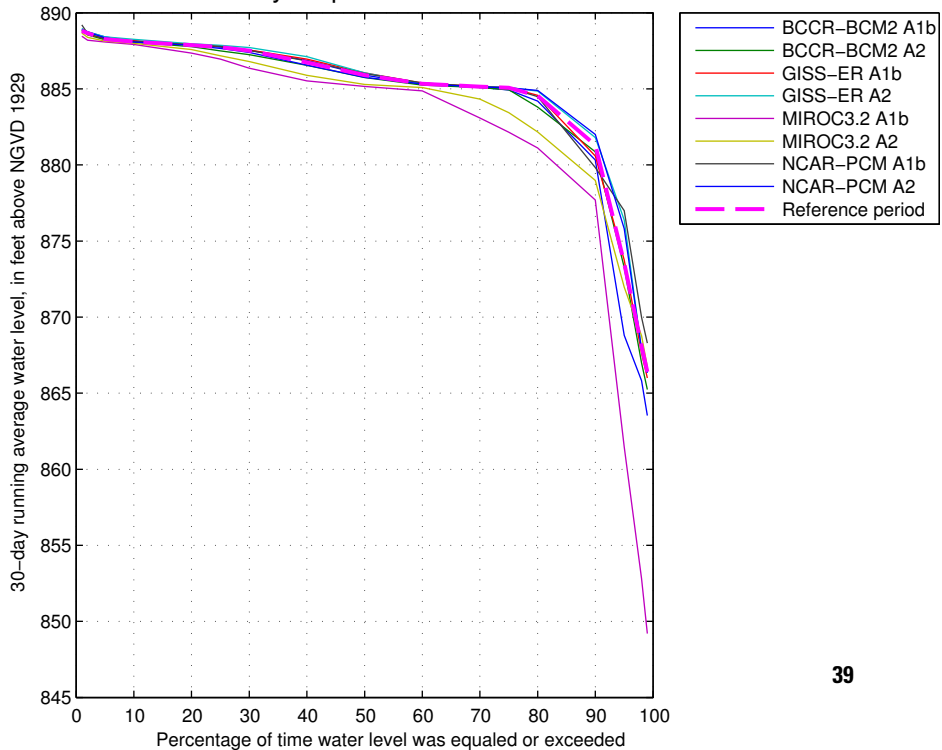
30-day running average streamflow, in cubic feet per second



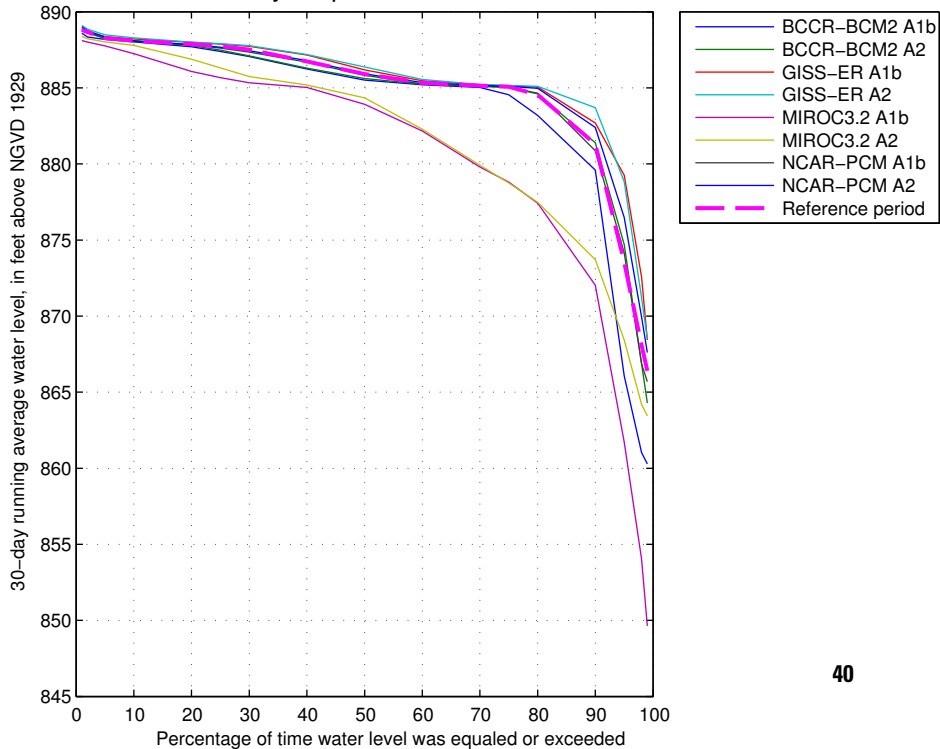
## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- - - Reference period

# ALUM 20-year period centered on 2035



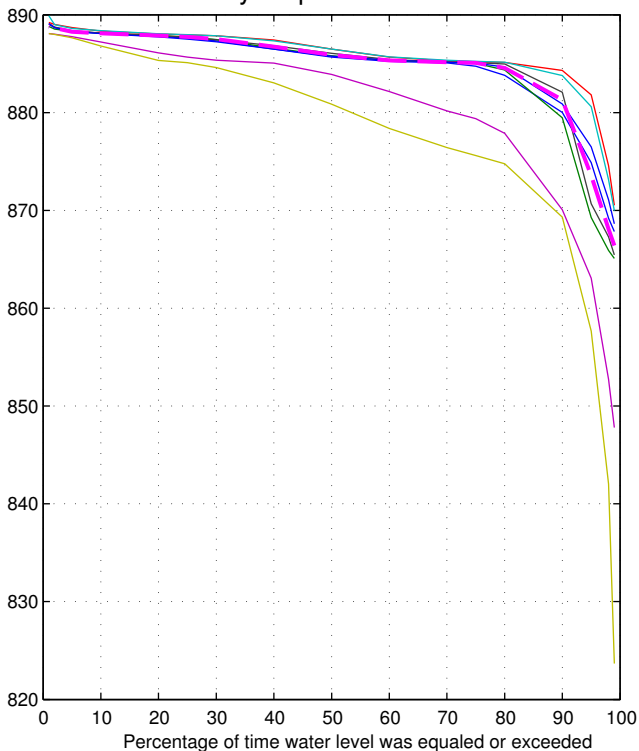
# ALUM 20-year period centered on 2055





# ALUM 20-year period centered on 2075

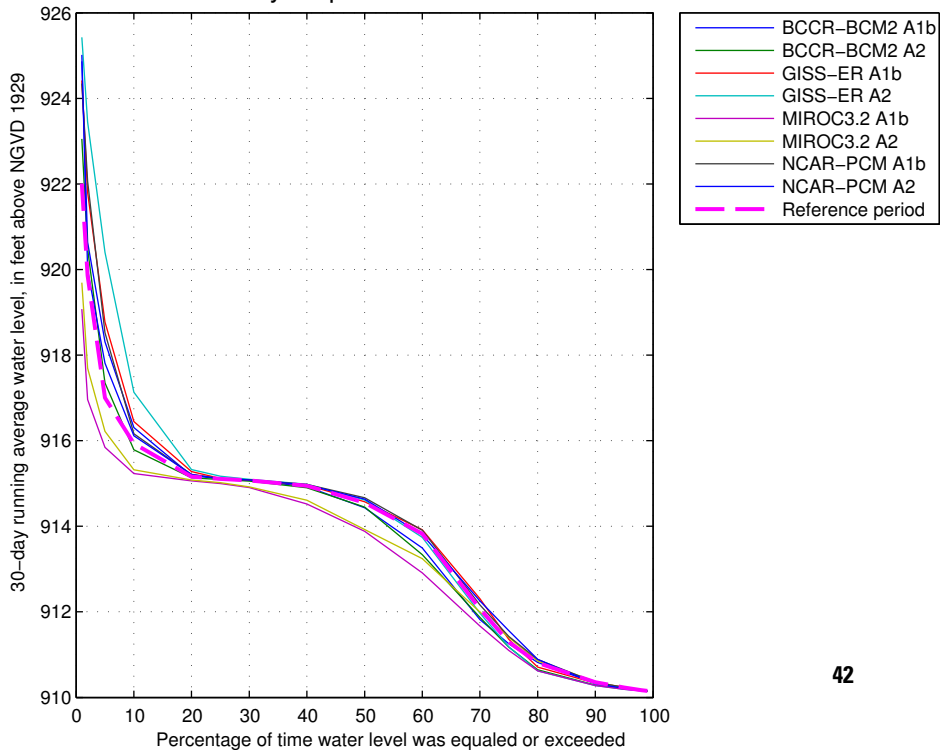
30-day running average water level, in feet above NGVD 1929



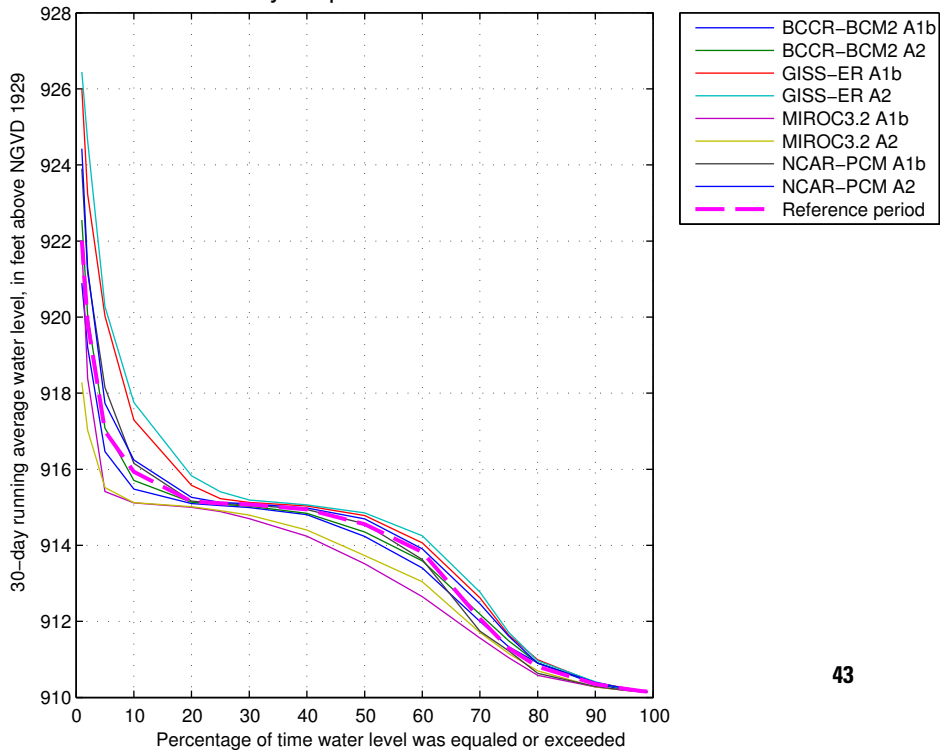
## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# DELL 20-year period centered on 2035

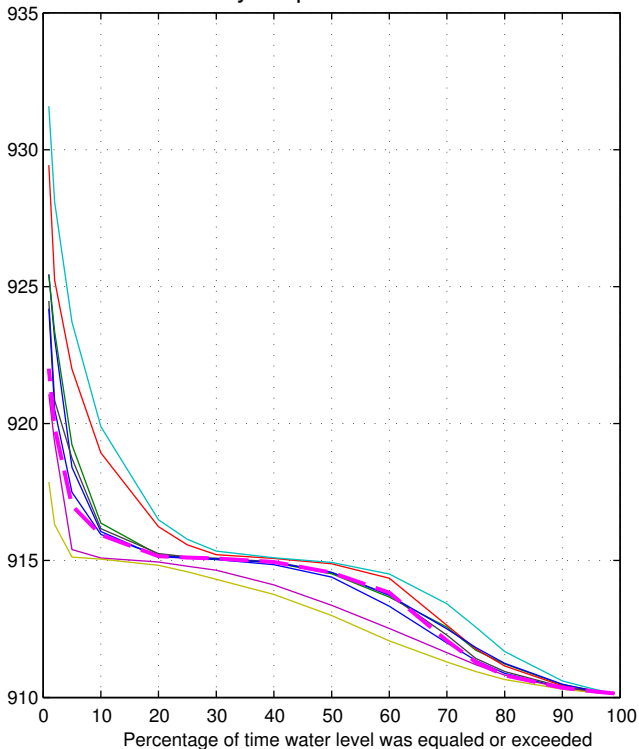


# DELL 20-year period centered on 2055



# DELL 20-year period centered on 2075

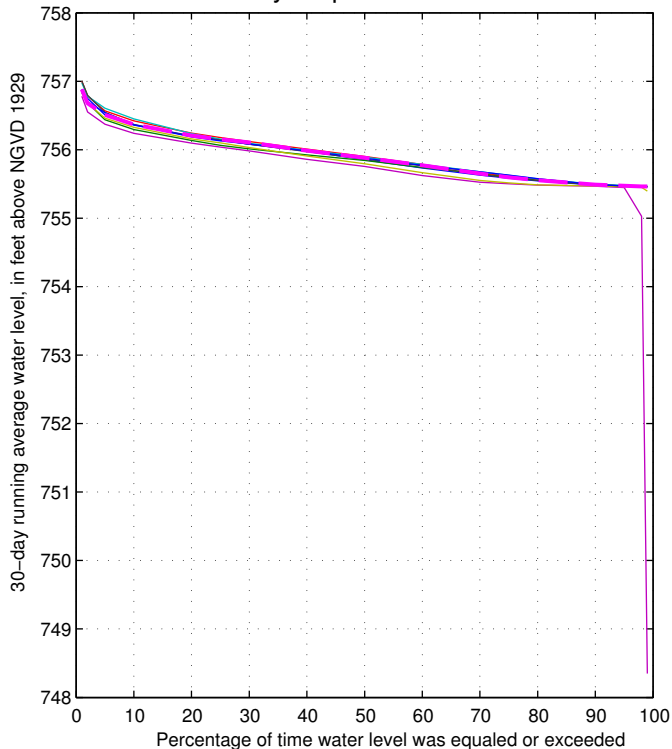
30-day running average water level, in feet above NGVD 1929



EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# GRIG 20-year period centered on 2035

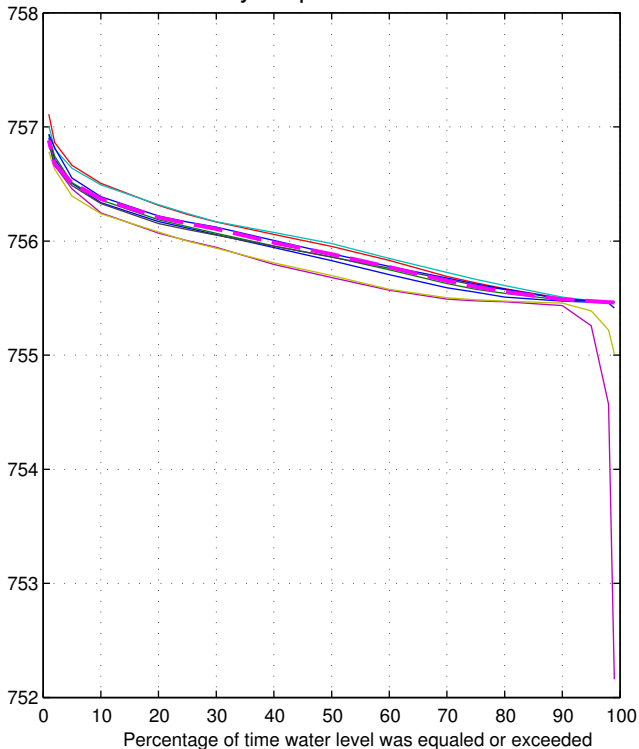


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# GRIG 20-year period centered on 2055

30-day running average water level, in feet above NGVD 1929

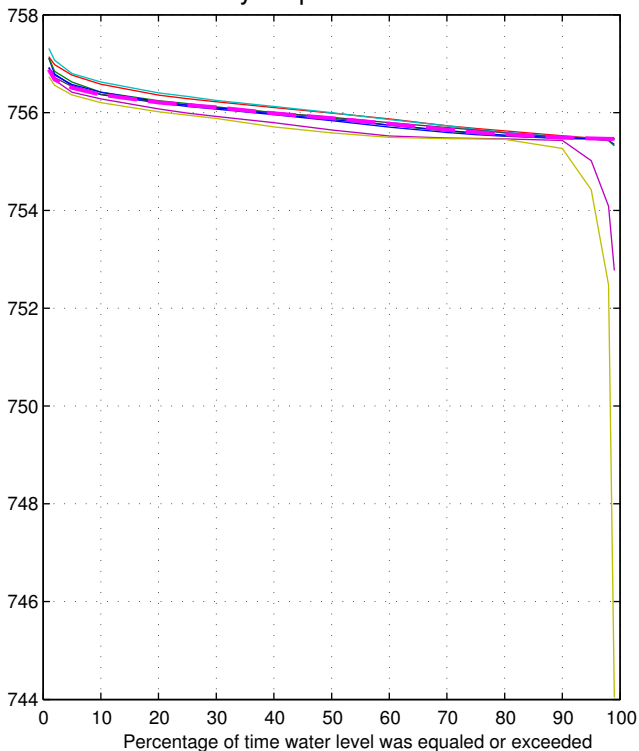


EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# GRIG 20-year period centered on 2075

30-day running average water level, in feet above NGVD 1929

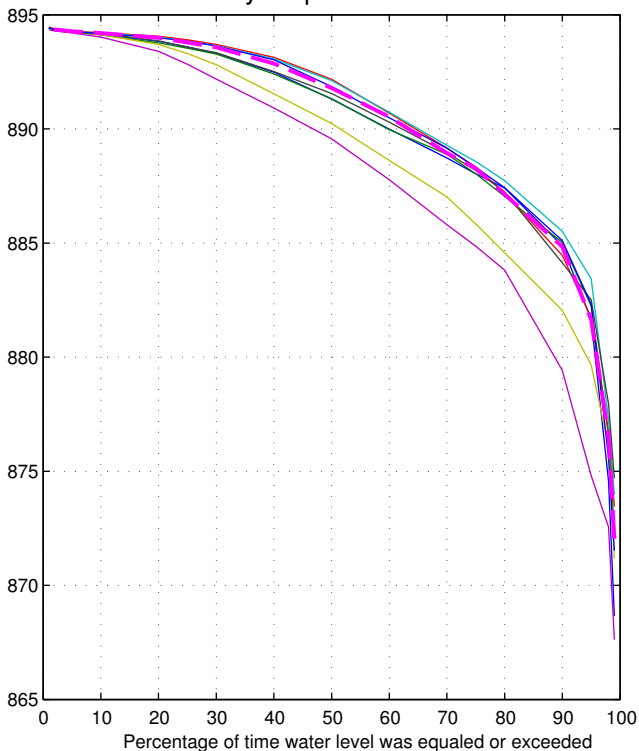


## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# HOOV 20-year period centered on 2035

30-day running average water level, in feet above NGVD 1929



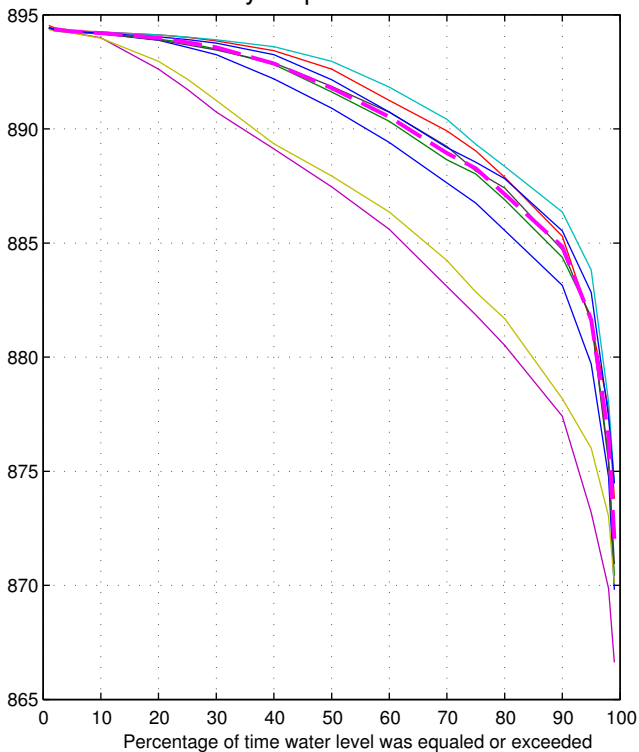
EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period



# HOOV 20-year period centered on 2055

30-day running average water level, in feet above NGVD 1929

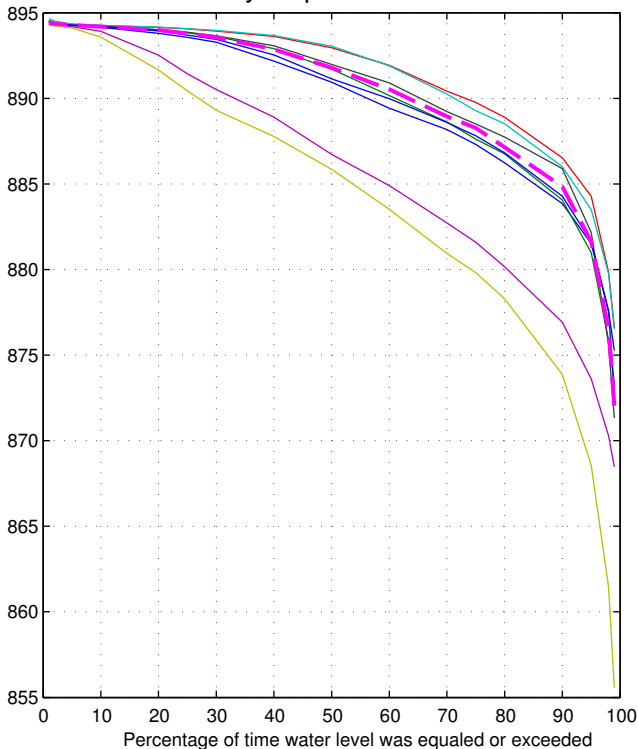


EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# HOOV 20-year period centered on 2075

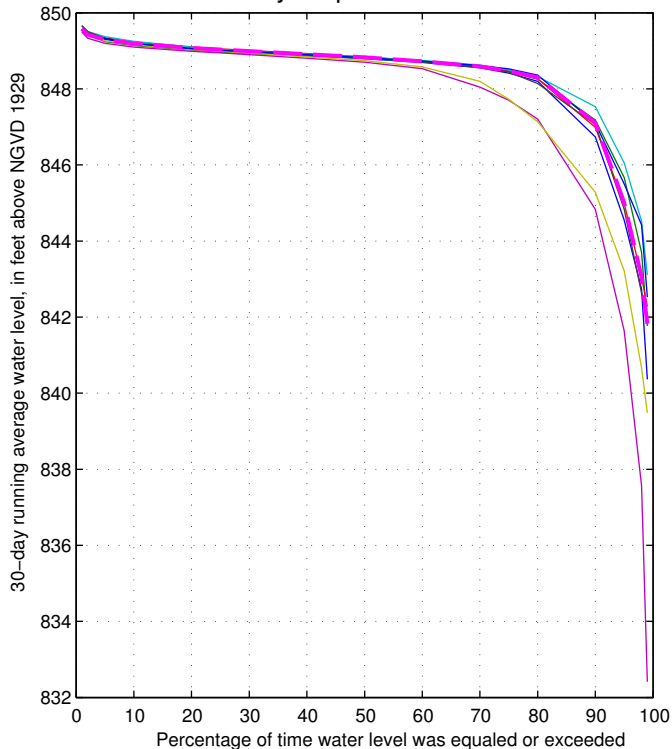
30-day running average water level, in feet above NGVD 1929



EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# OSHY 20-year period centered on 2035

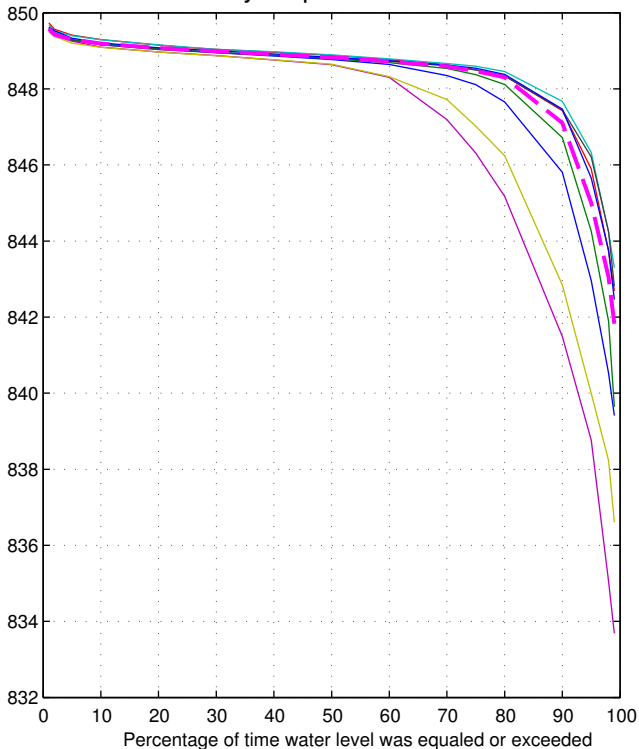


## EXPLANATION

|   |                  |
|---|------------------|
| — | BCCR-BCM2 A1b    |
| — | BCCR-BCM2 A2     |
| — | GISS-ER A1b      |
| — | GISS-ER A2       |
| — | MIROC3.2 A1b     |
| — | MIROC3.2 A2      |
| — | NCAR-PCM A1b     |
| — | NCAR-PCM A2      |
| — | Reference period |

# OSHY 20-year period centered on 2055

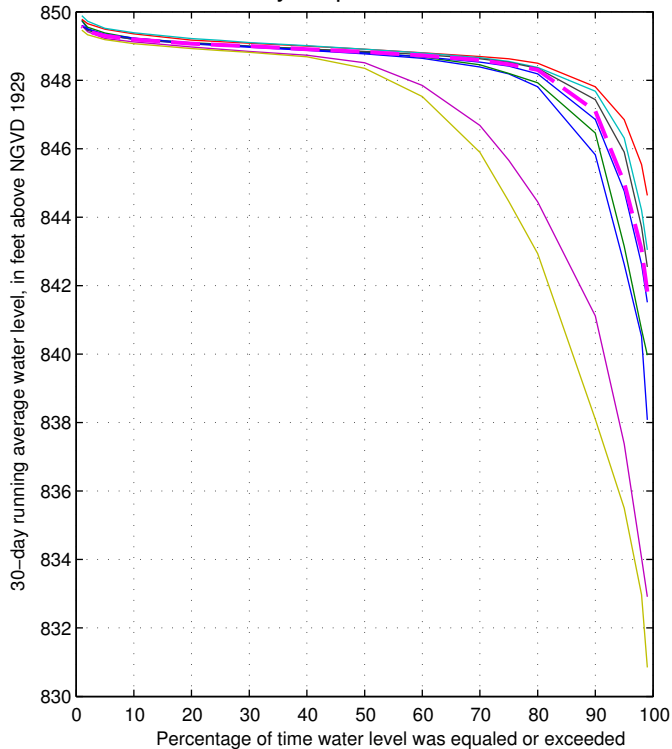
30-day running average water level, in feet above NGVD 1929



EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period

# OSHY 20-year period centered on 2075



## EXPLANATION

- BCCR-BCM2 A1b
- BCCR-BCM2 A2
- GISS-ER A1b
- GISS-ER A2
- MIROC3.2 A1b
- MIROC3.2 A2
- NCAR-PCM A1b
- NCAR-PCM A2
- Reference period