APPENDIX C

HEC-5 MODEL SIMULATION FIGURES

IOP Consultation Modeling

Concept 5 (IOP) and Concept 6 (RIOP)
Comparison

May 2008

Comparisons

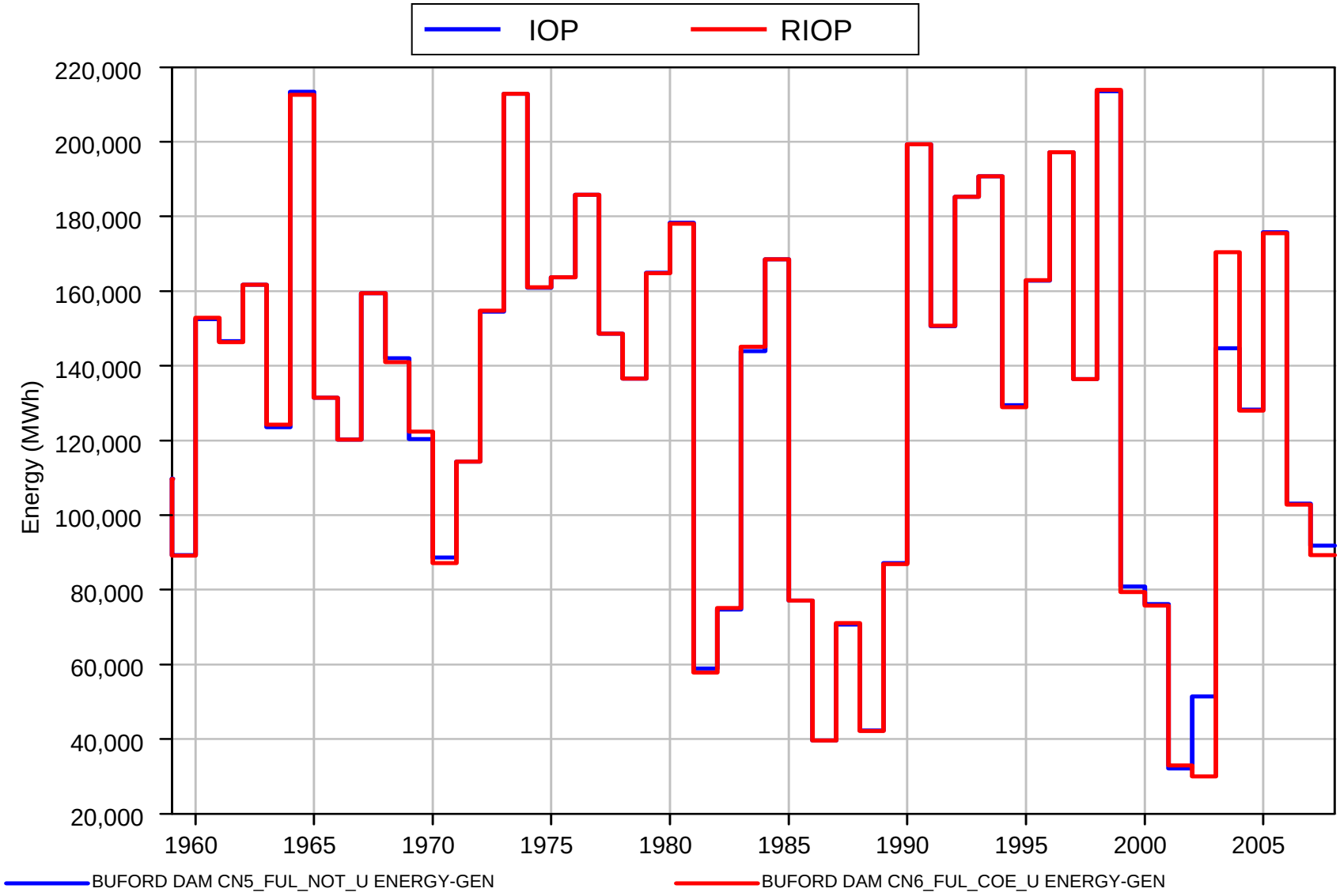
Concept 5 -IOP (Current Interim Operations Plan)

Concept 6 - RIOP (Revised Interim Operations Plan)

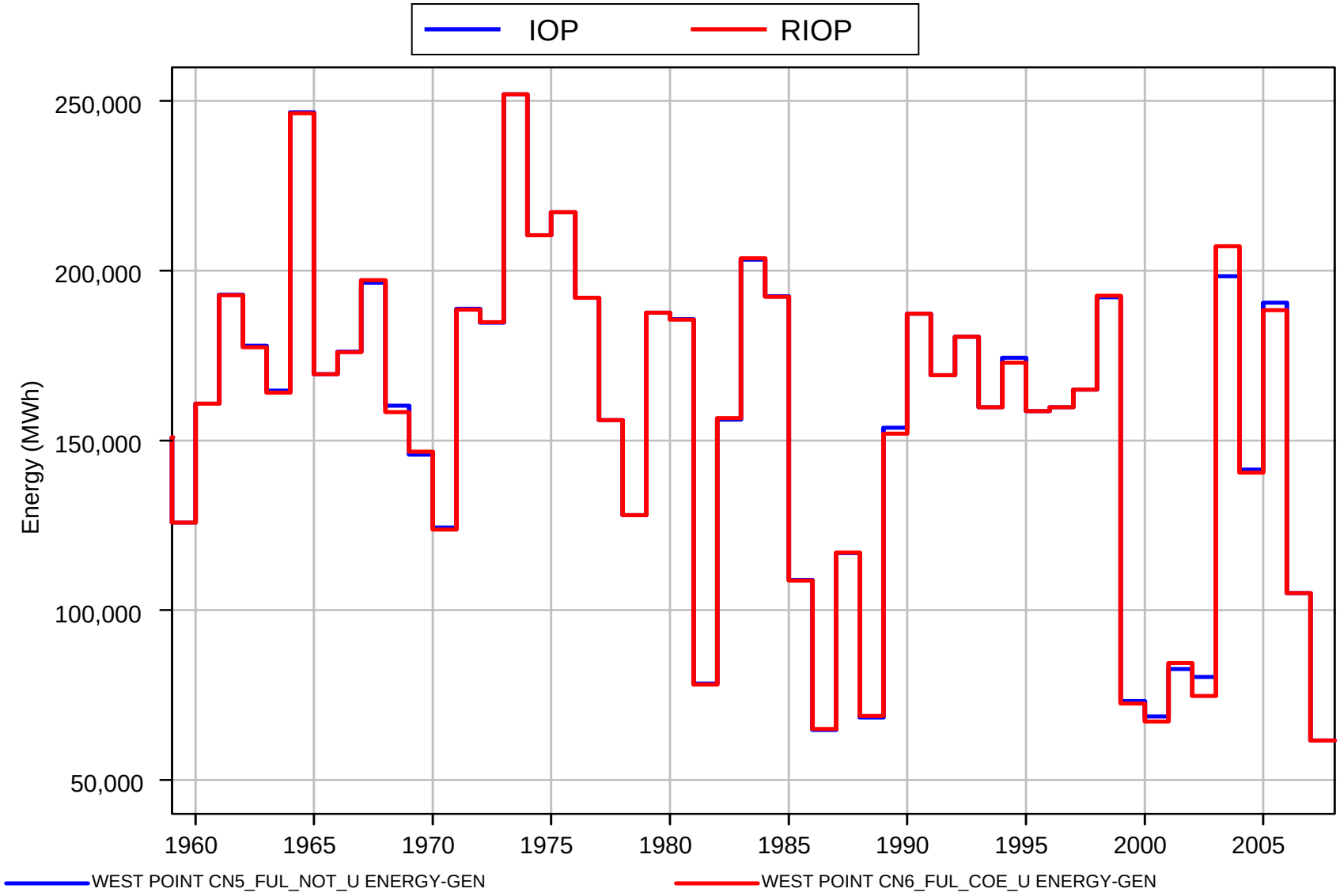
- Generation
  - Total Annual
  - Average Monthly Total
- Reservoir Elevations
  - Range
  - Maximum, Average, Minimum
  - Duration
- Flow Duration
  - Annual: Atlanta, Columbus, George Andrews, Chattahoochee
  - Monthly: Chattahoochee

Annual Generation

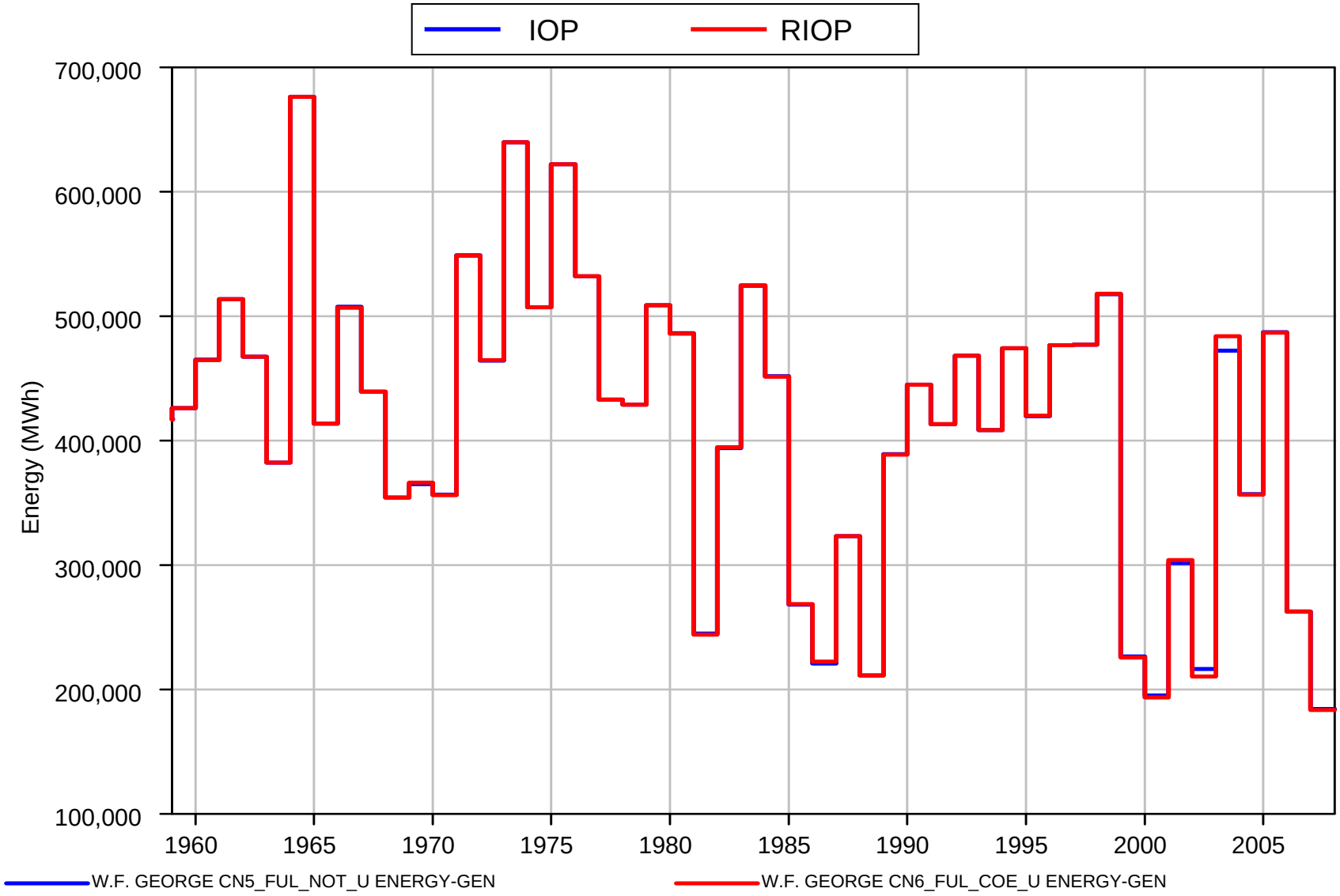
Buford Annual Generation



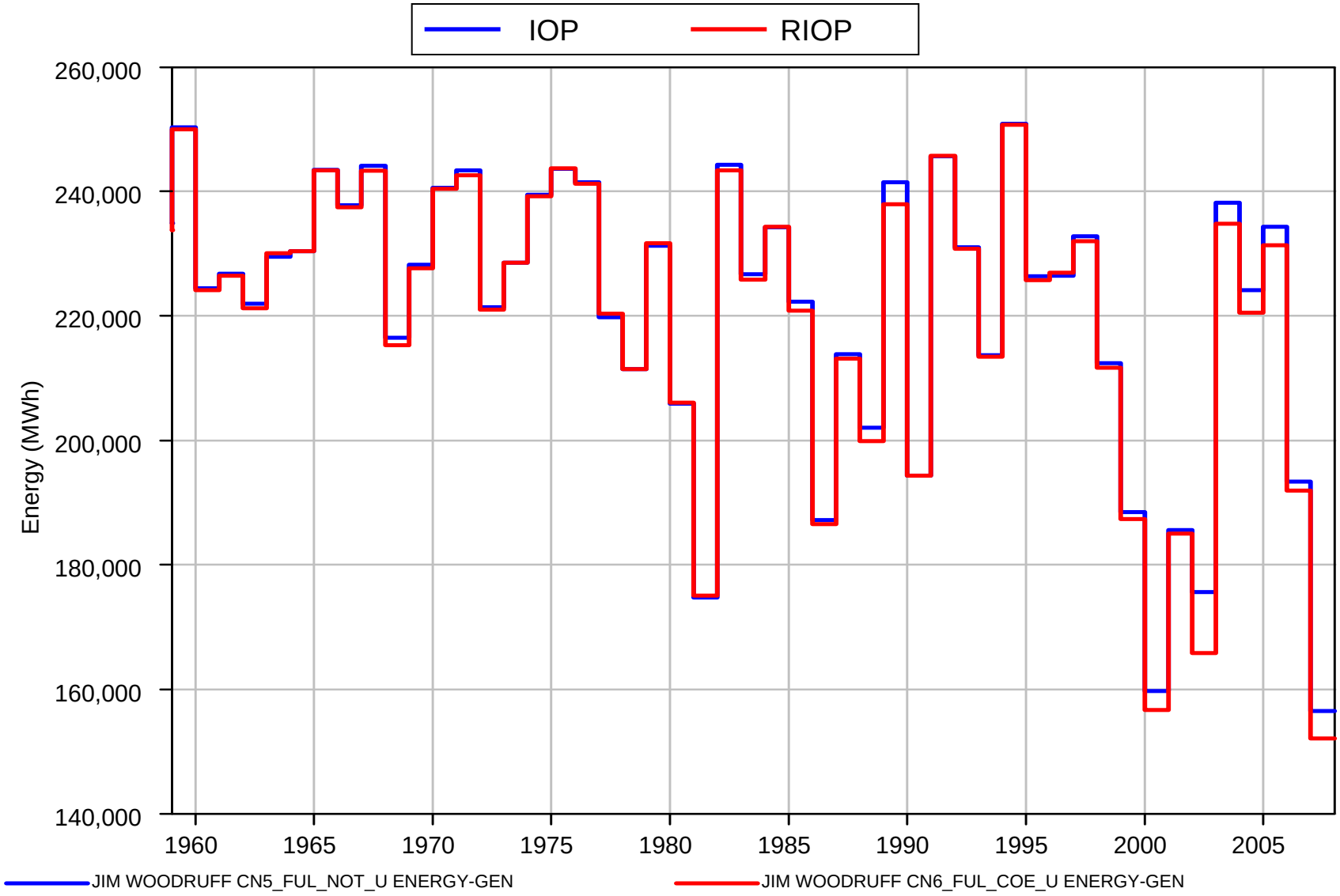
West Point Annual Generation



WF George Annual Generation

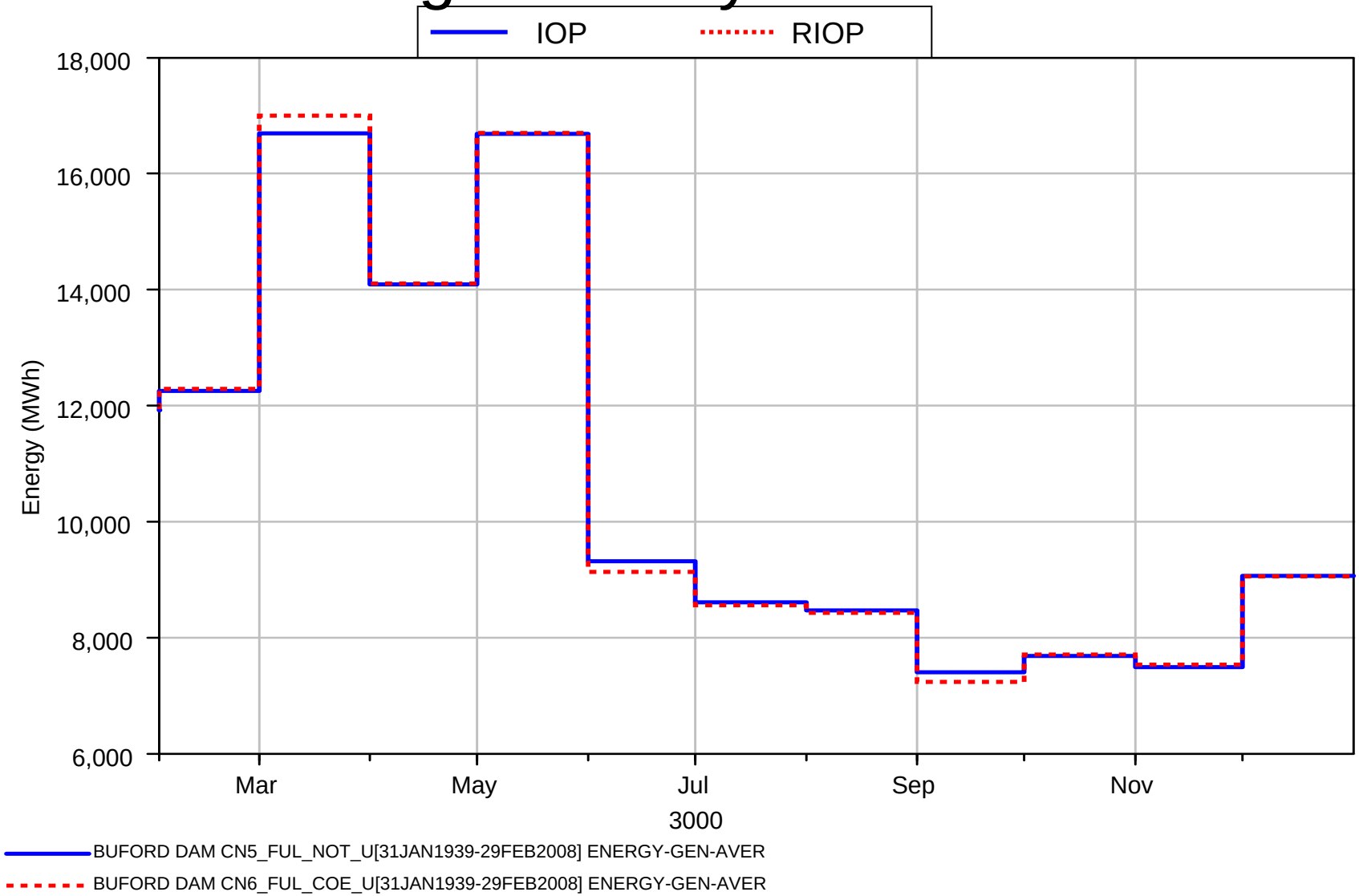


Jim Woodruff Annual Generation

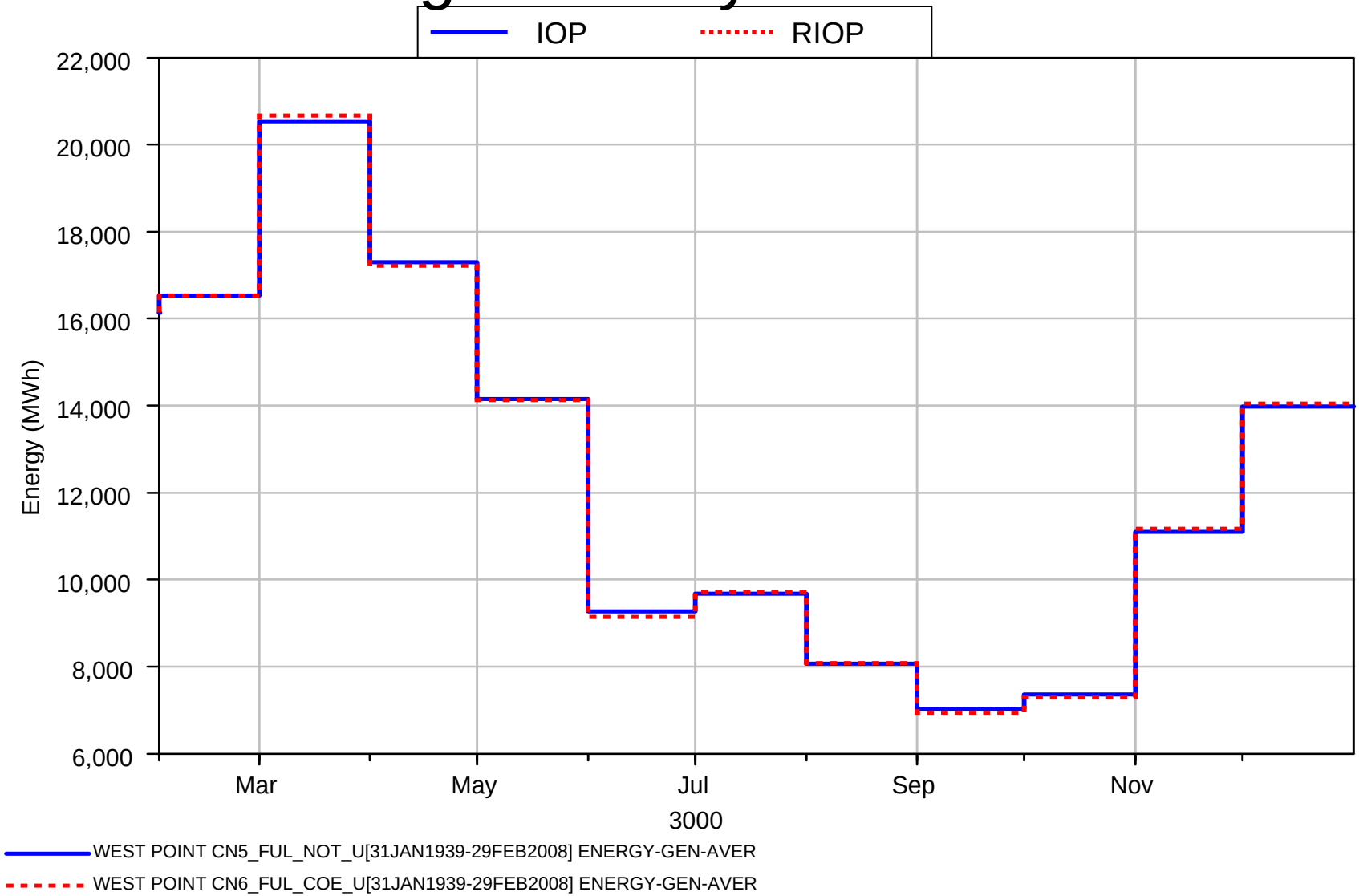


Monthly Generation

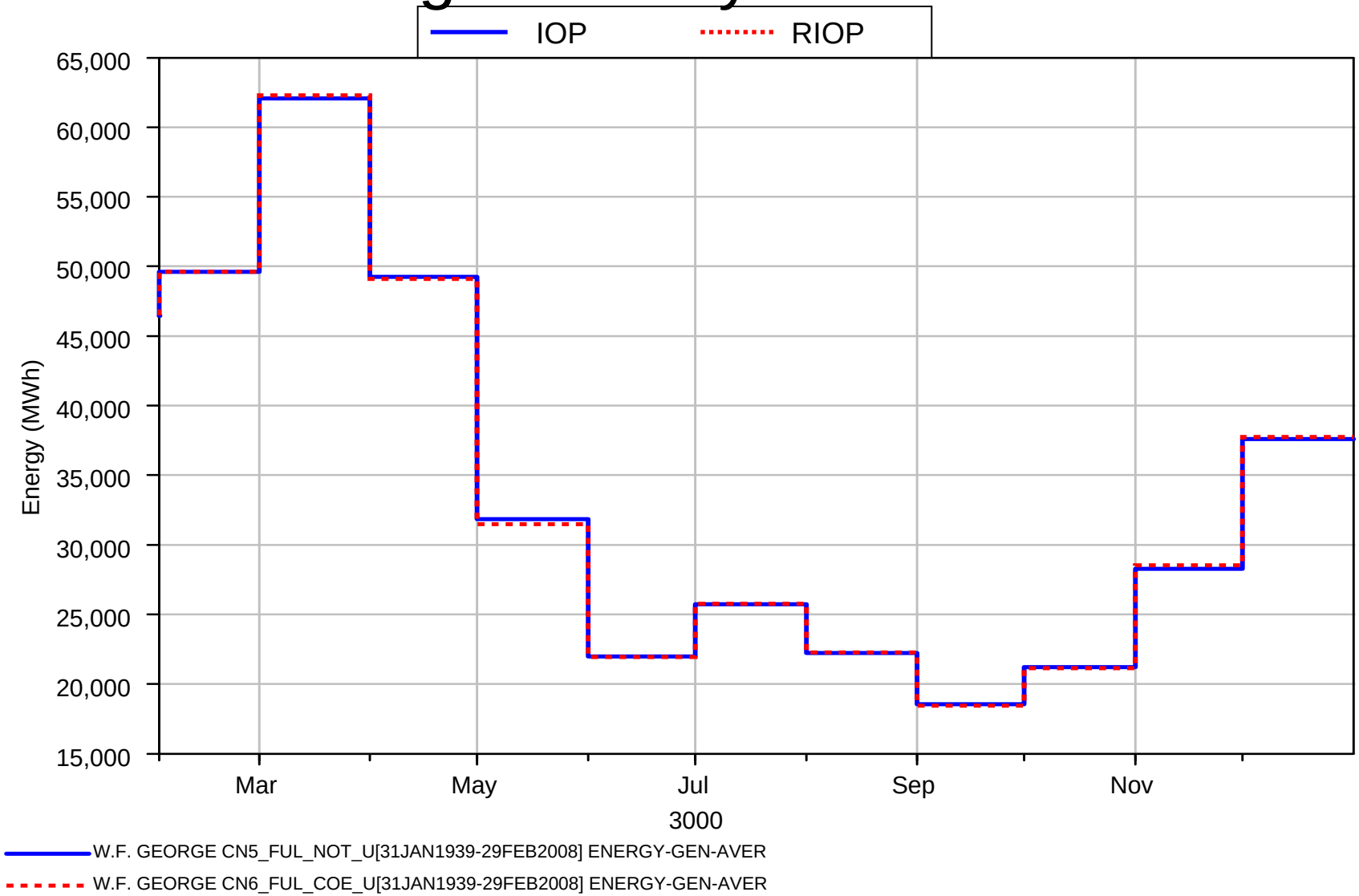
Buford
Average Monthly Generation



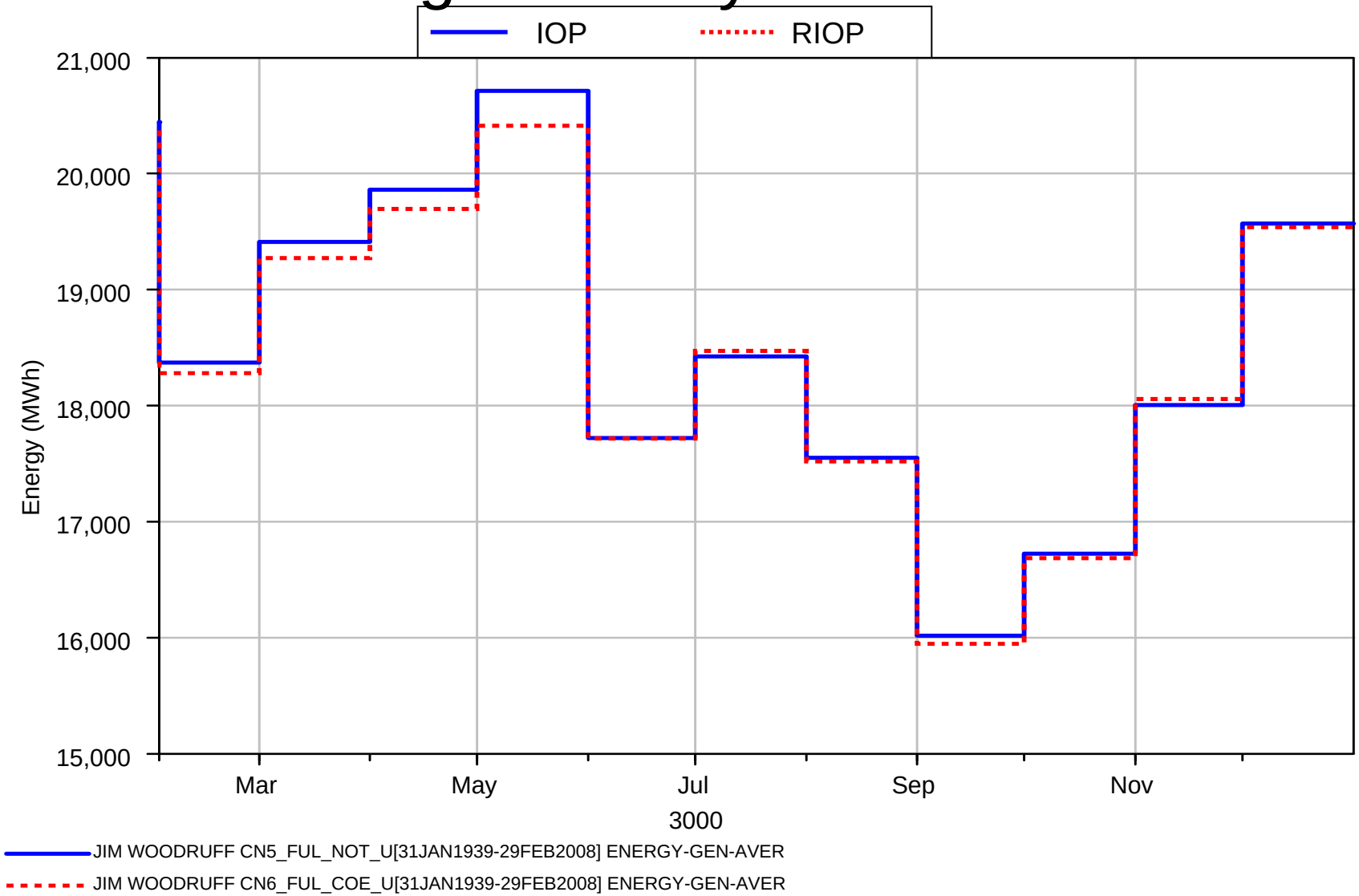
West Point
Average Monthly Generation



WF George
Average Monthly Generation

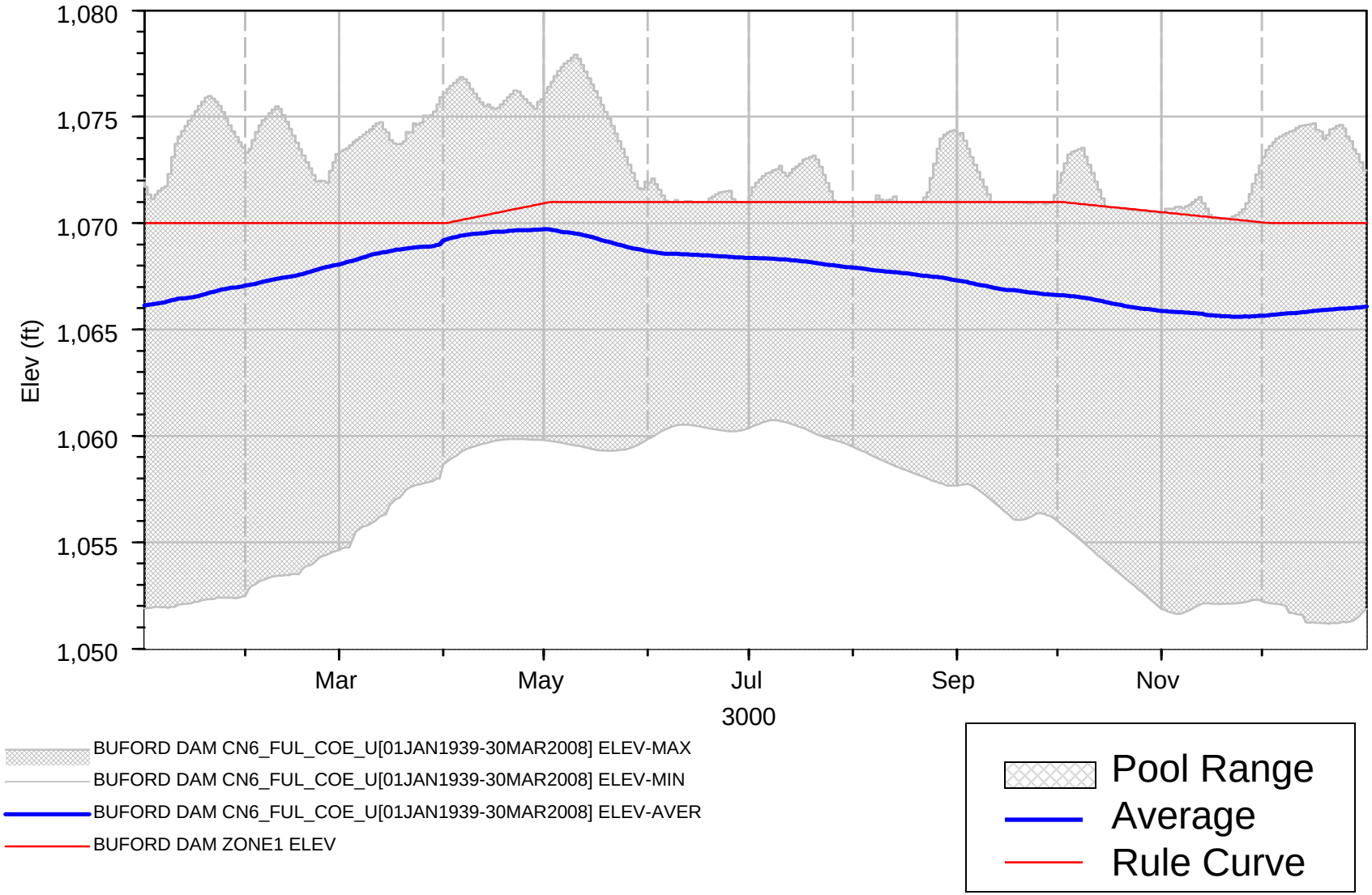


Jim Woodruff
Average Monthly Generation

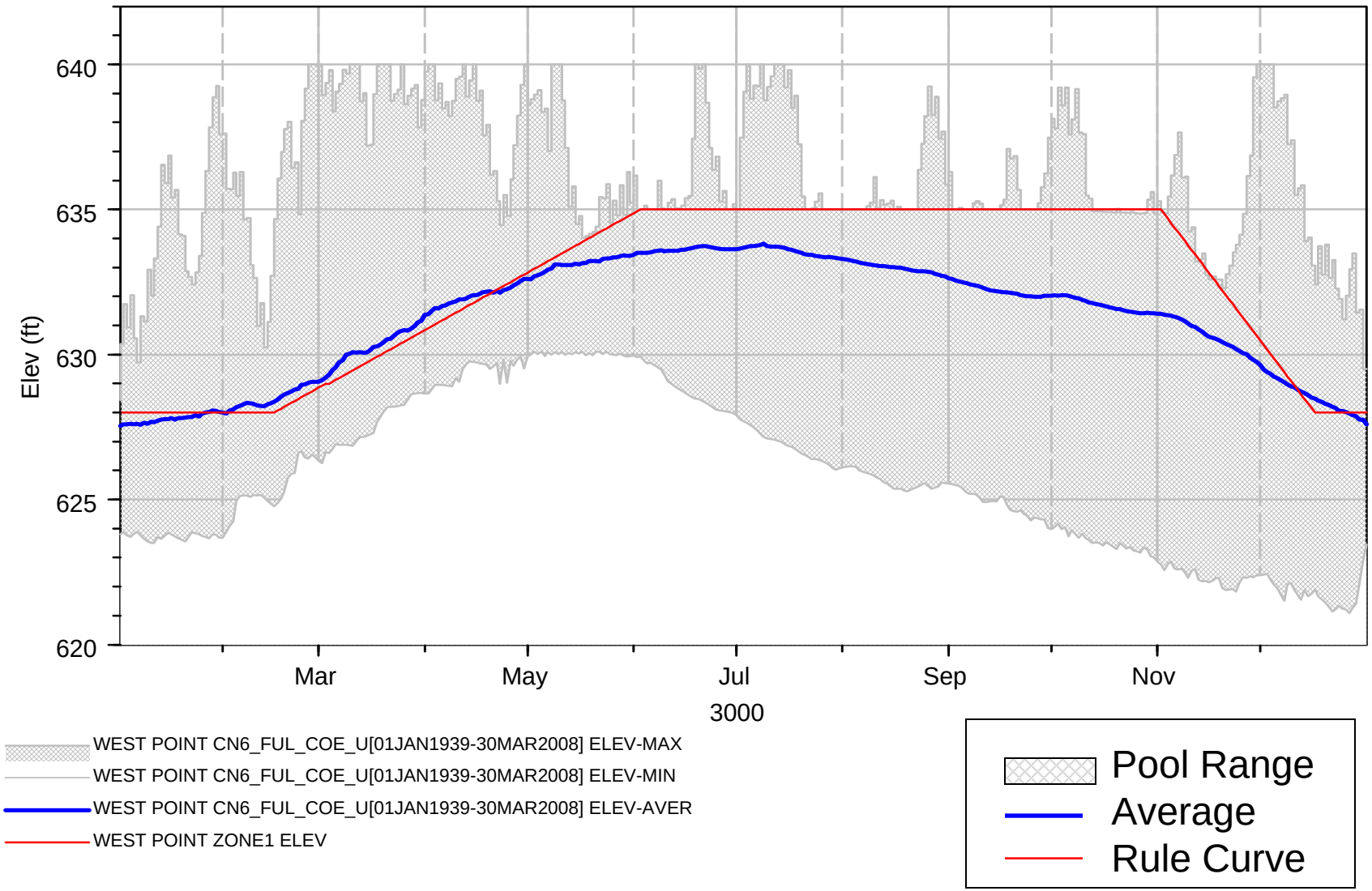


Pool Elevation Range

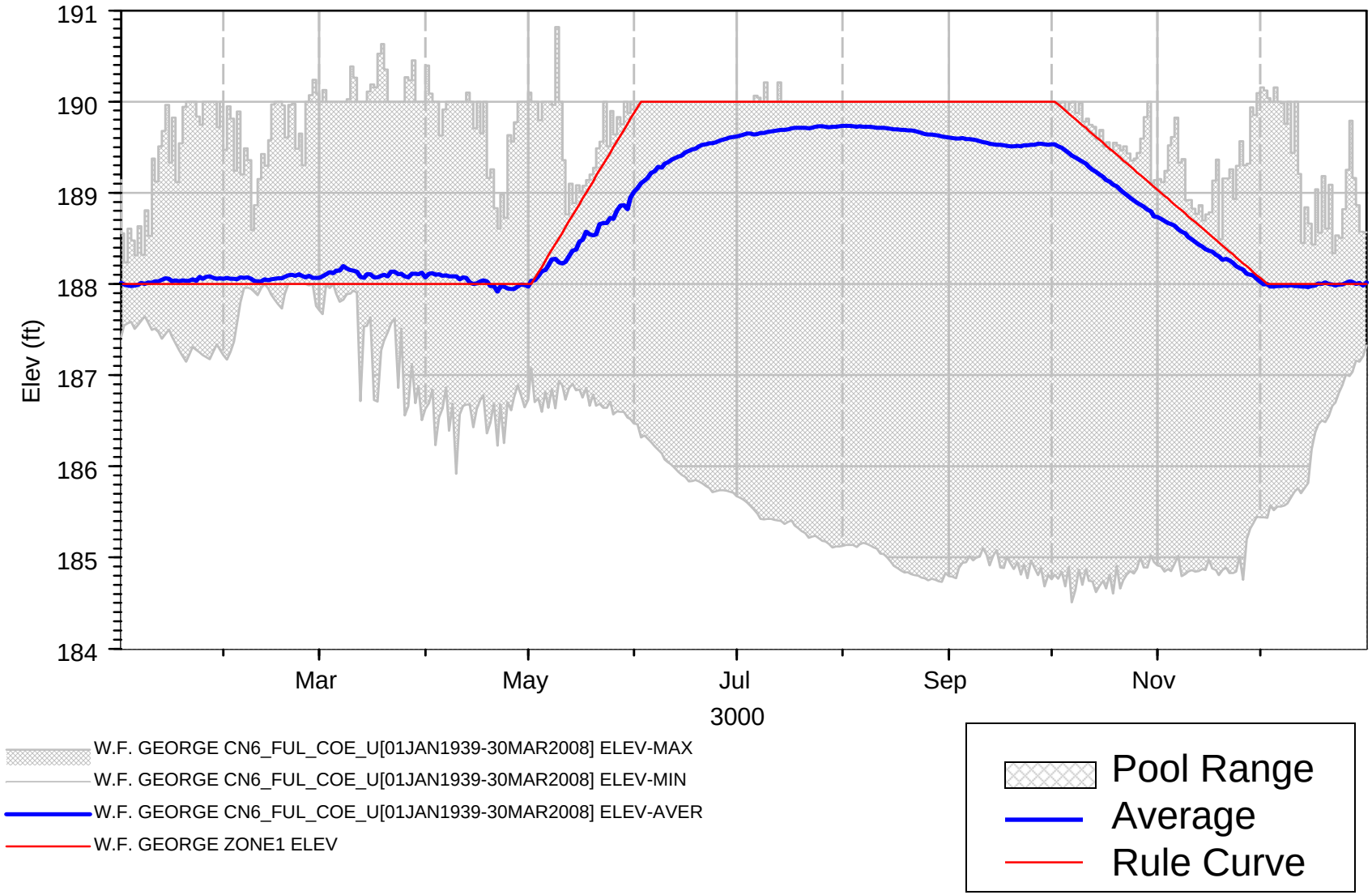
Lake Lanier
Revised IOP



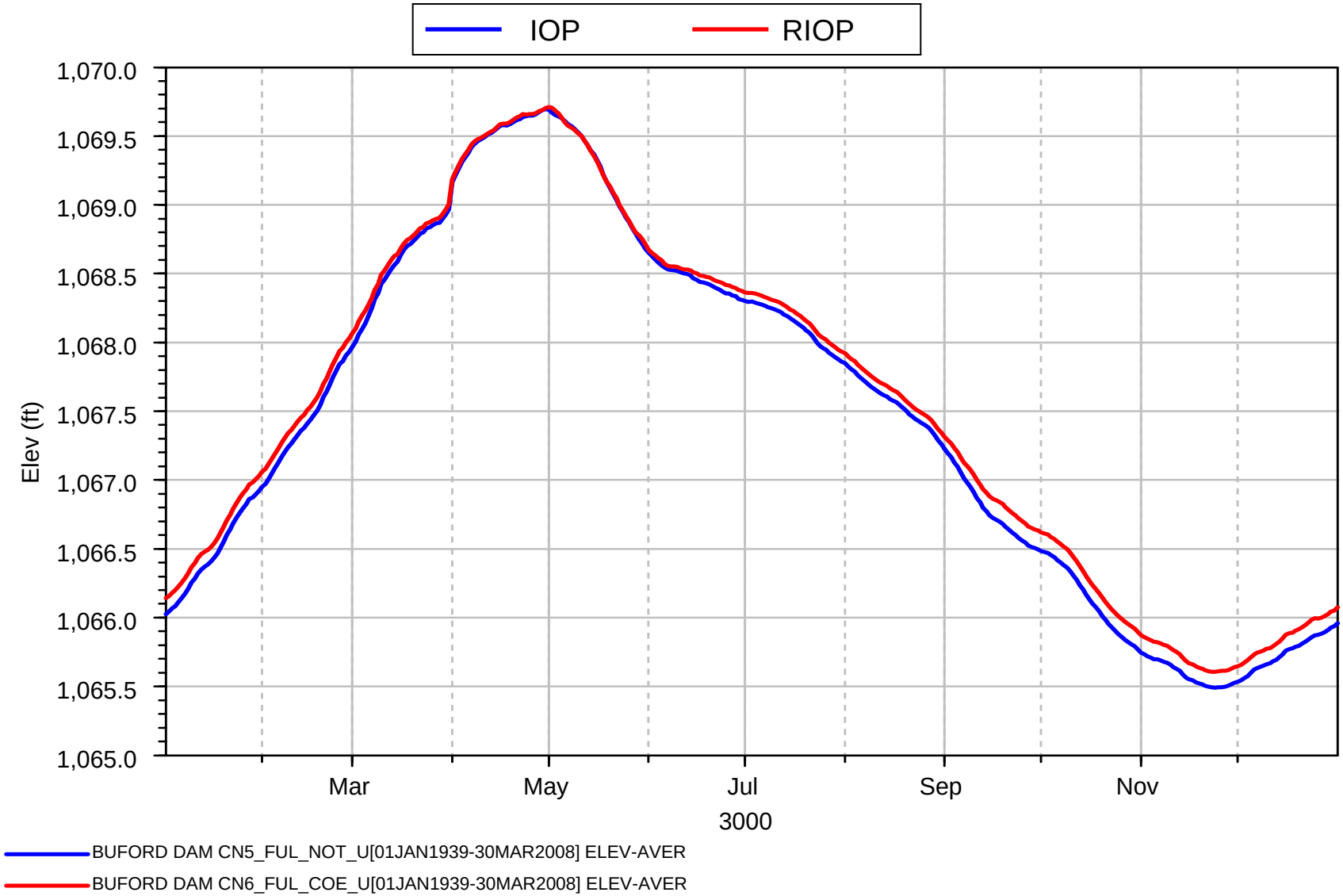
West Point Lake
Revised IOP



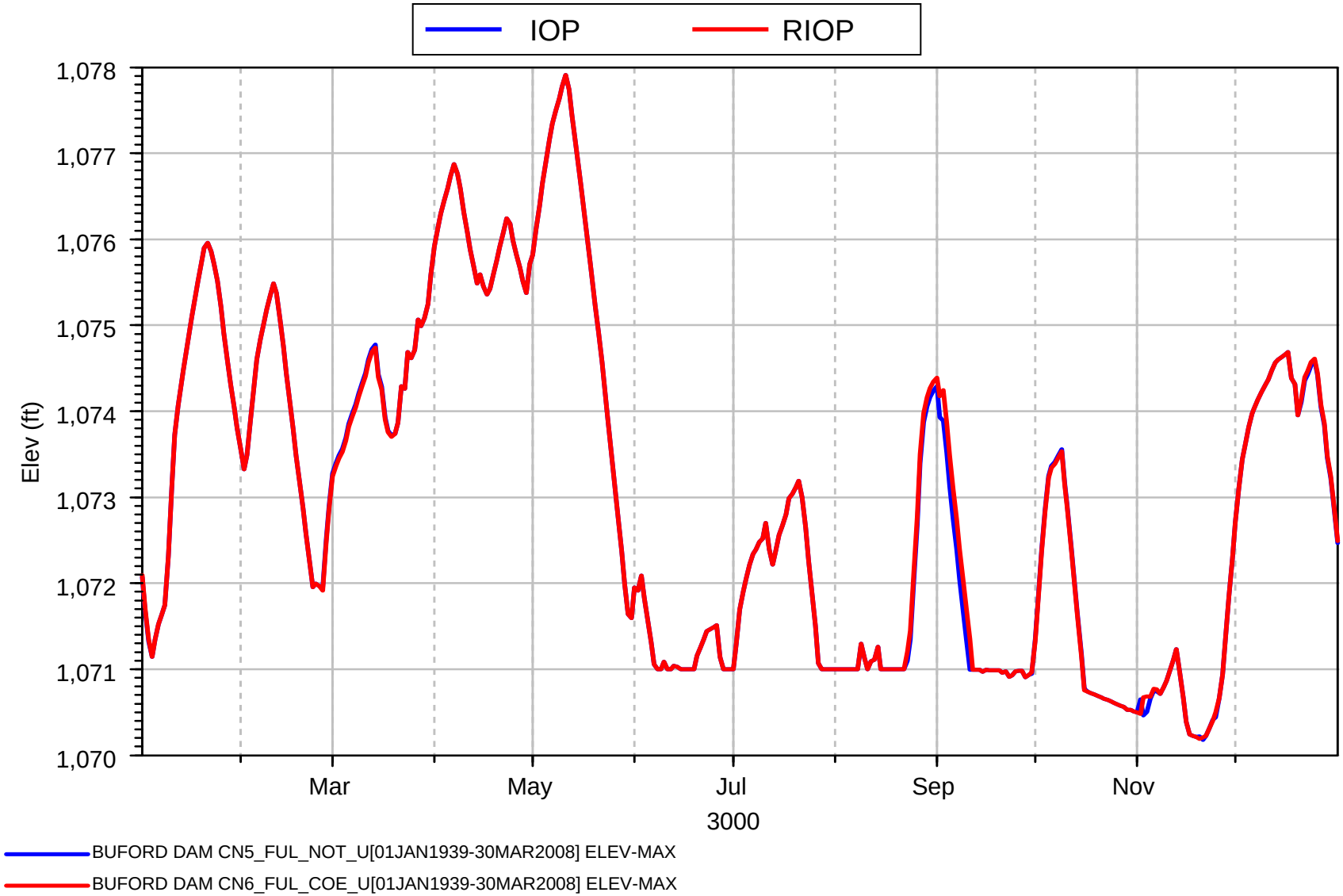
WF George Lake
Revised IOP



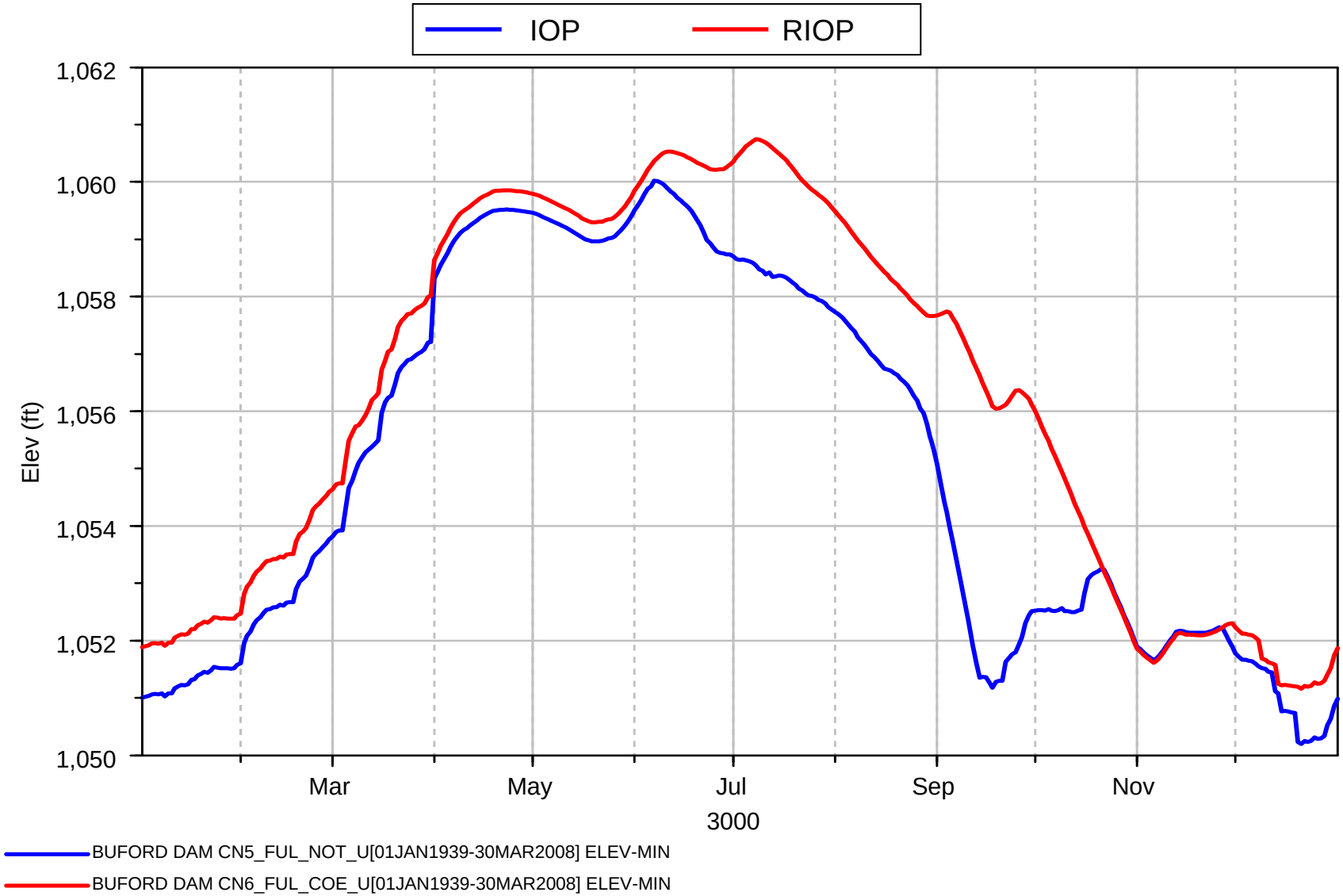
Buford - Average Elevation



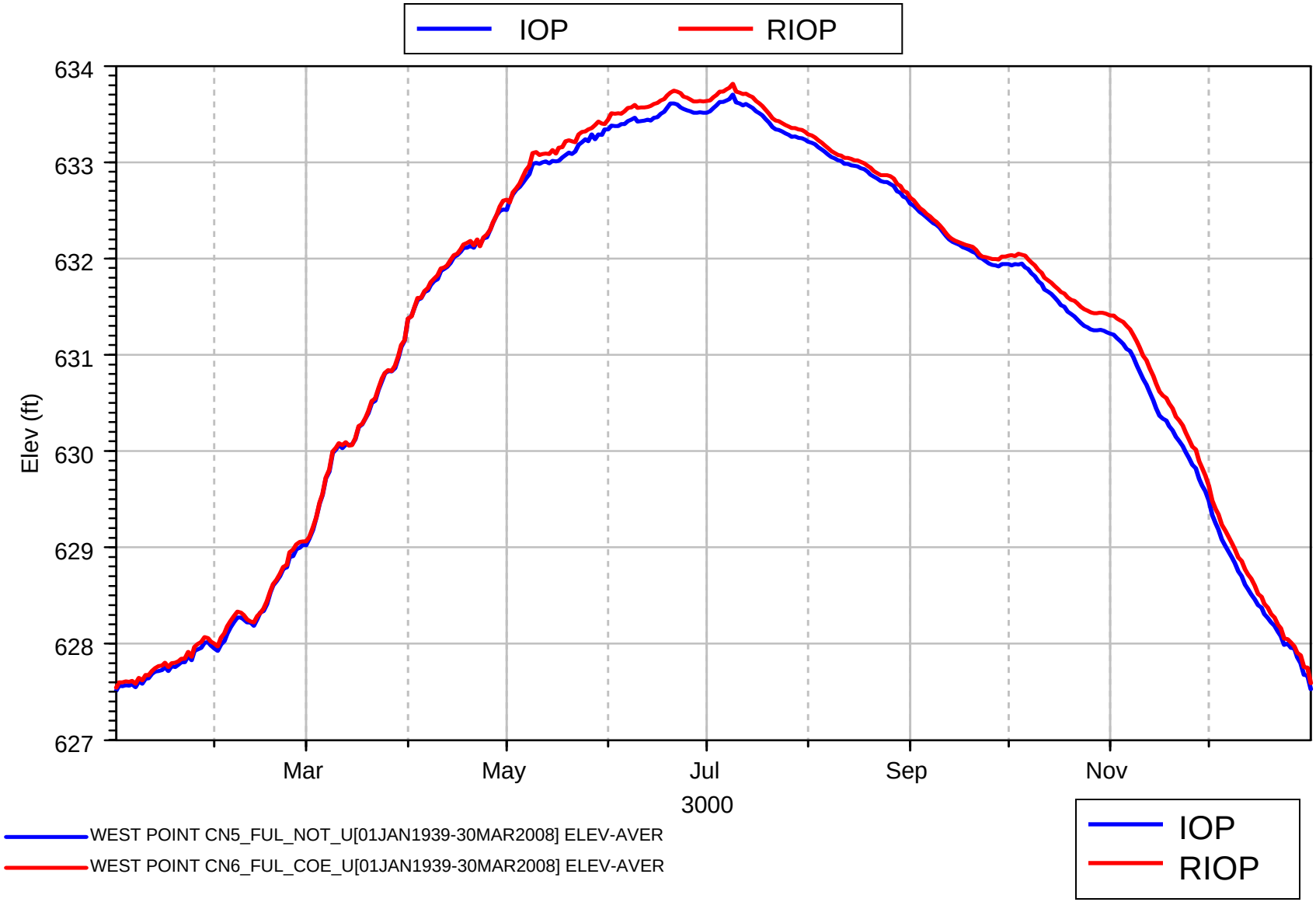
Buford – Maximum Elevation



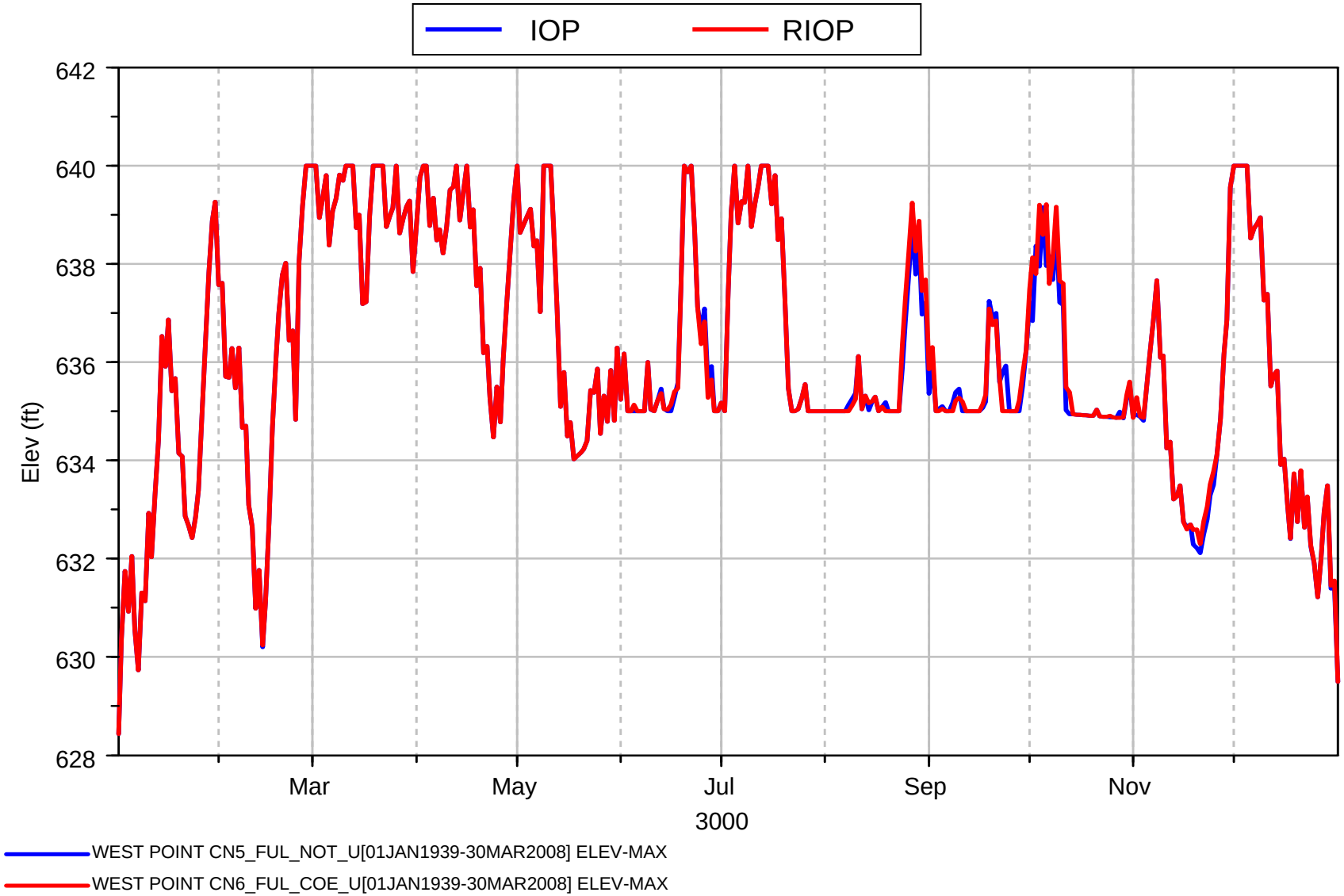
Buford - Minimum Elevation



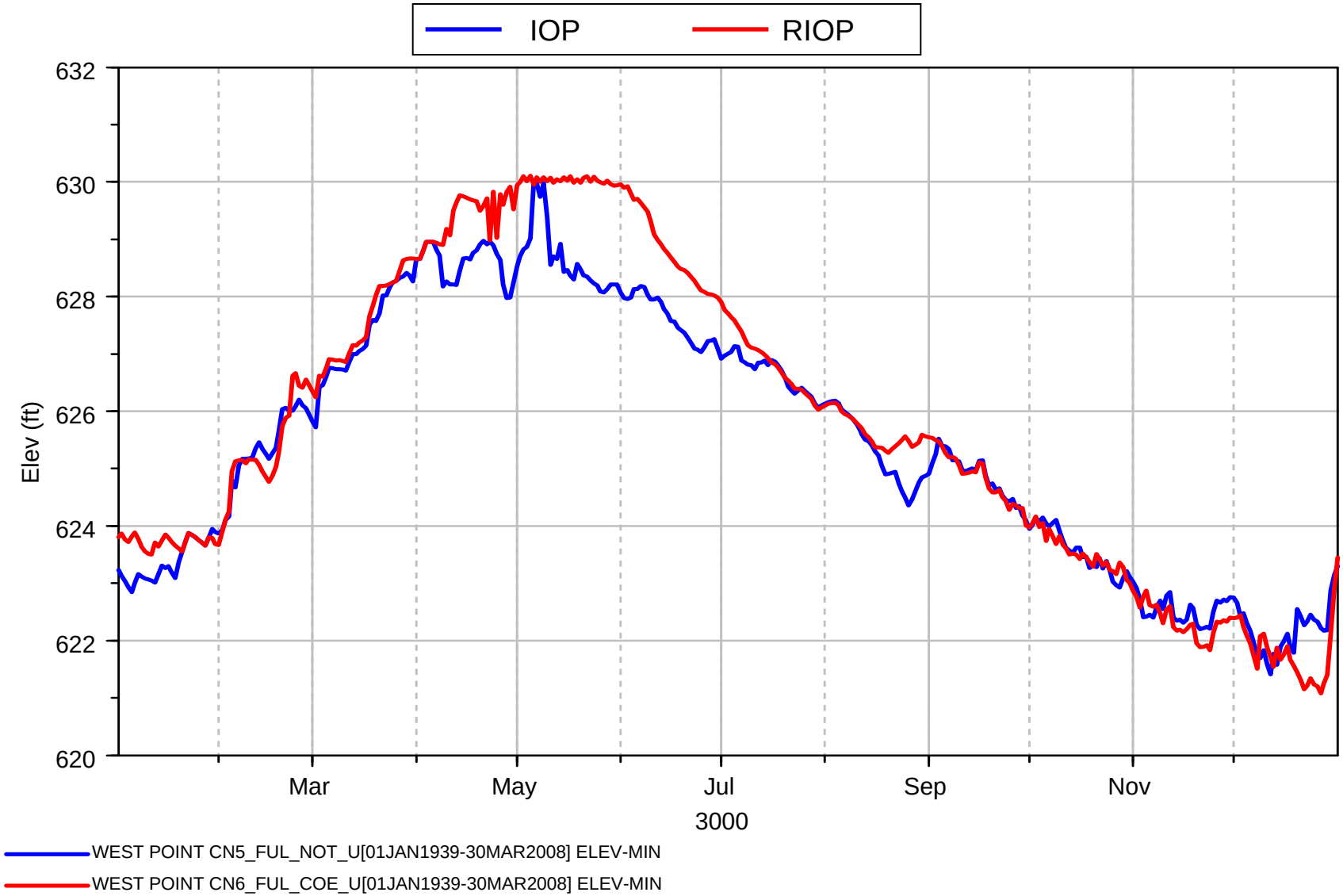
West Point – Average Elevation



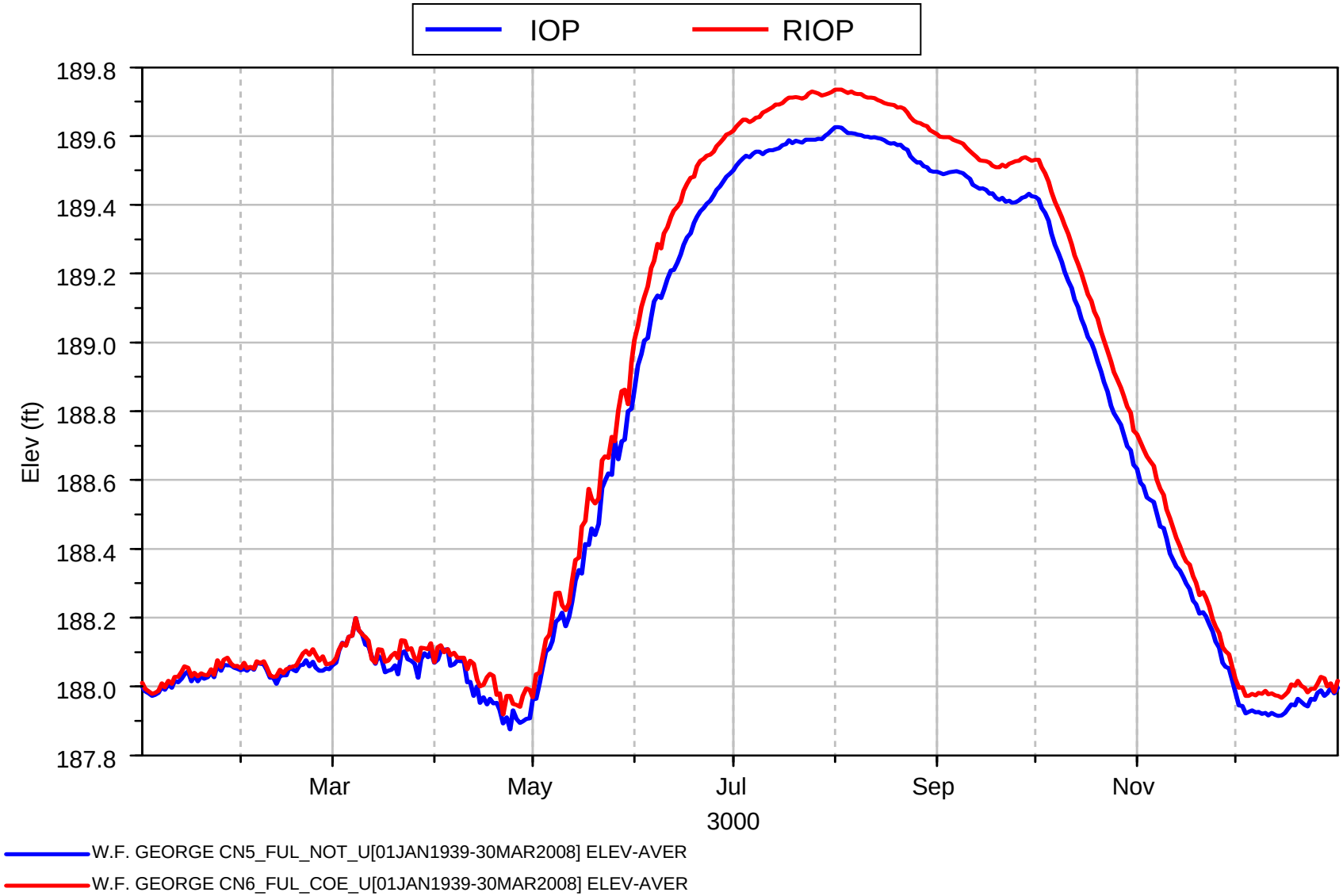
West Point – Maximum Elevation



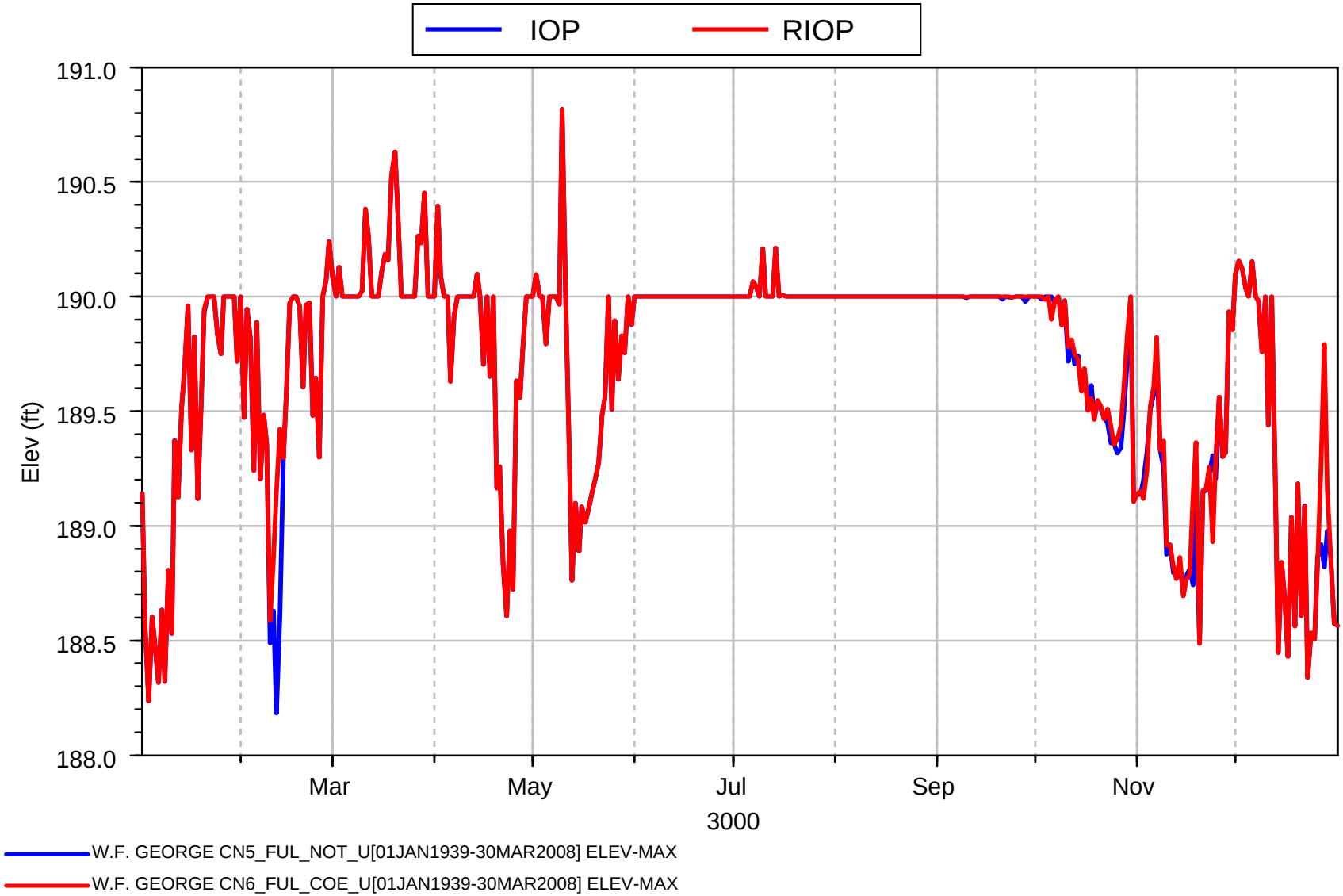
West Point - Minimum Elevation



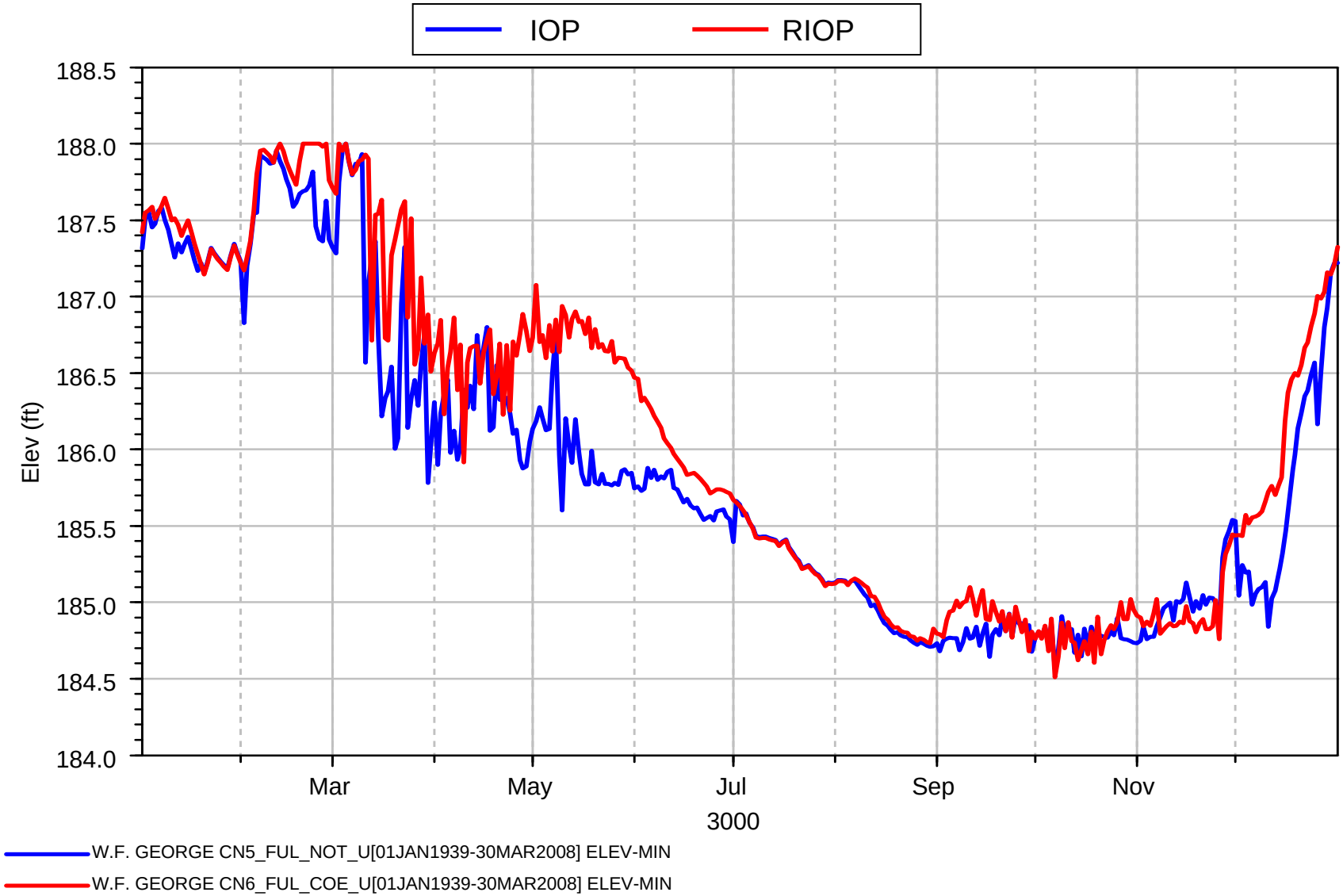
WF George – Average Elevation



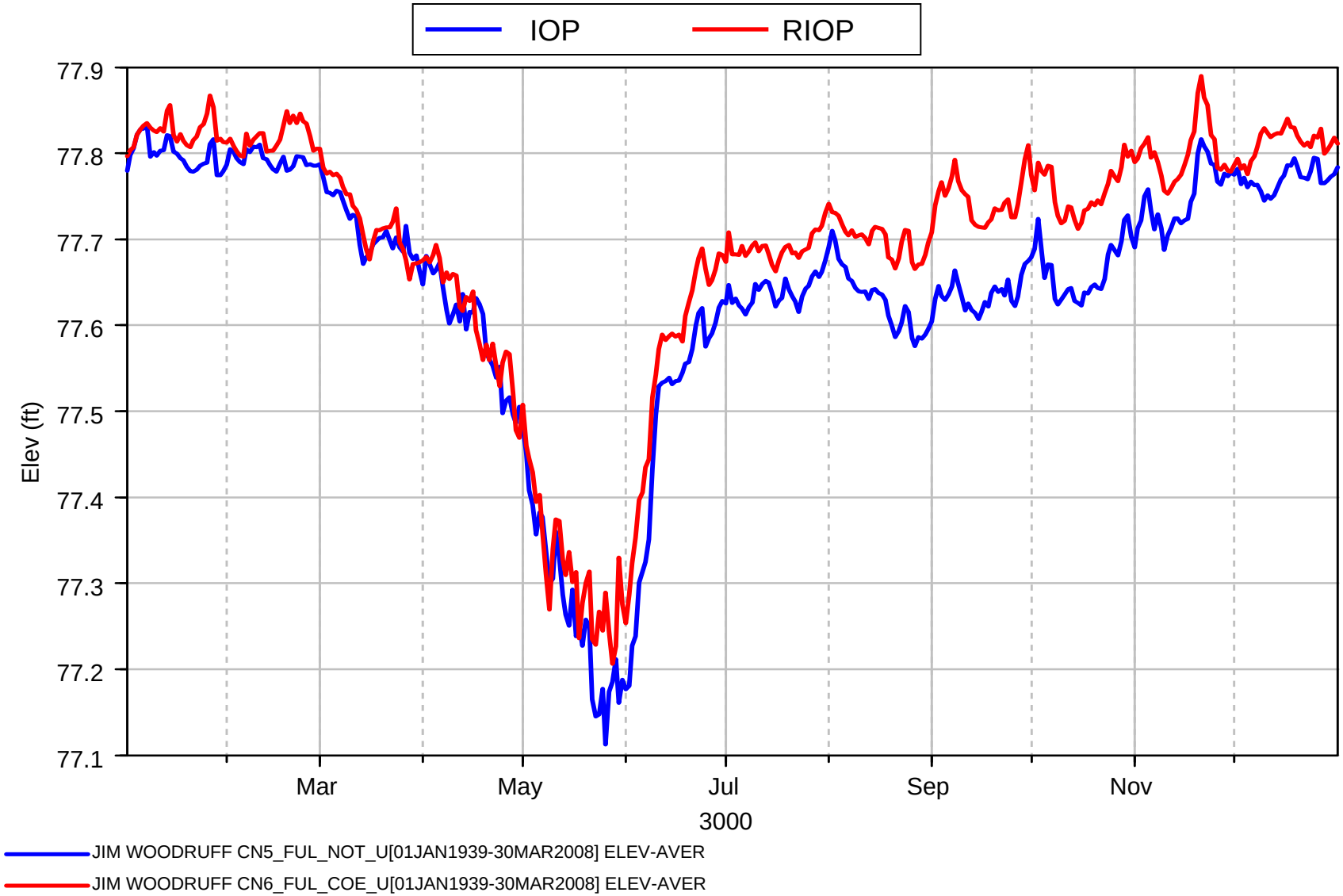
WF George – Maximum Elevation



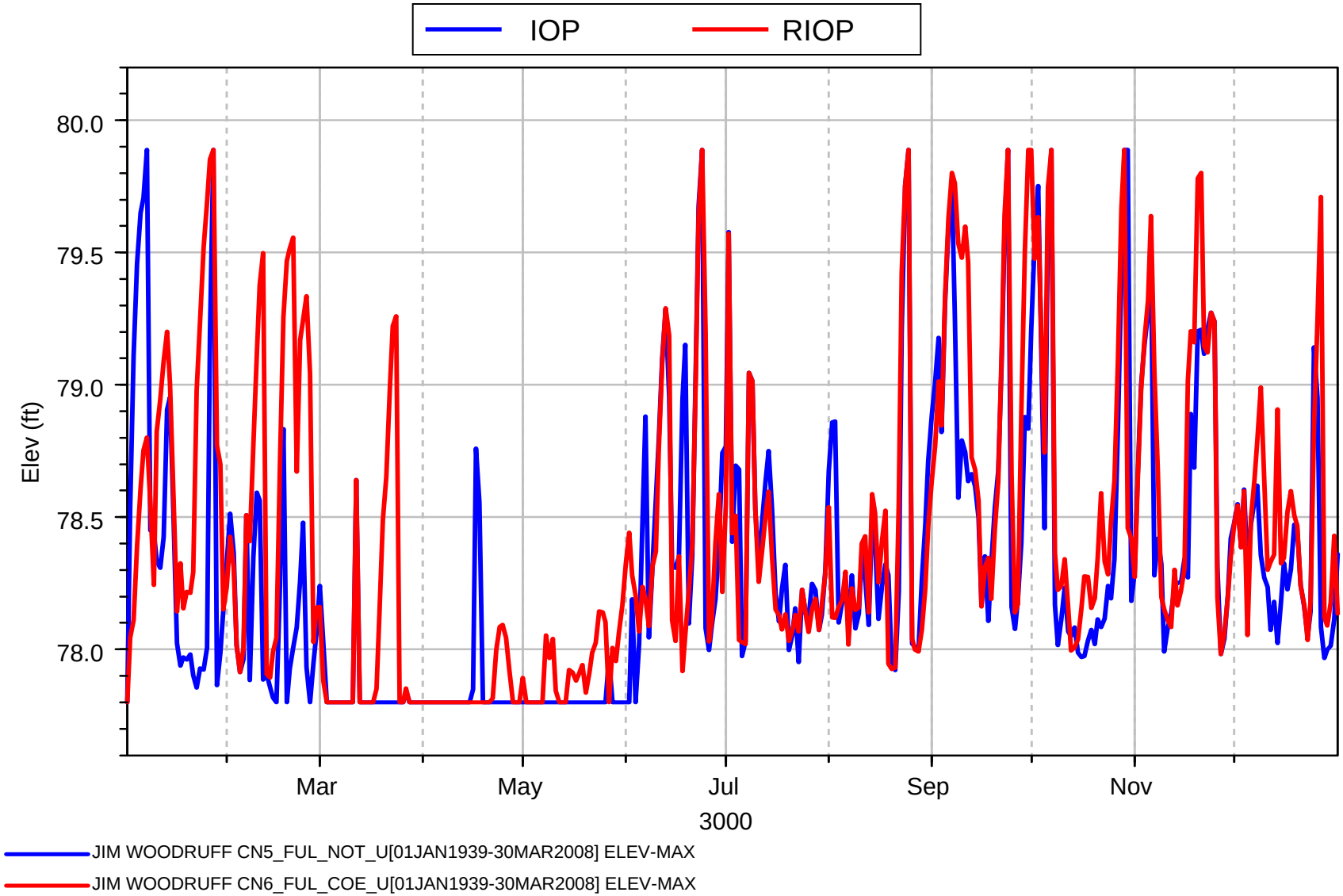
WF George – Minimum Elevation



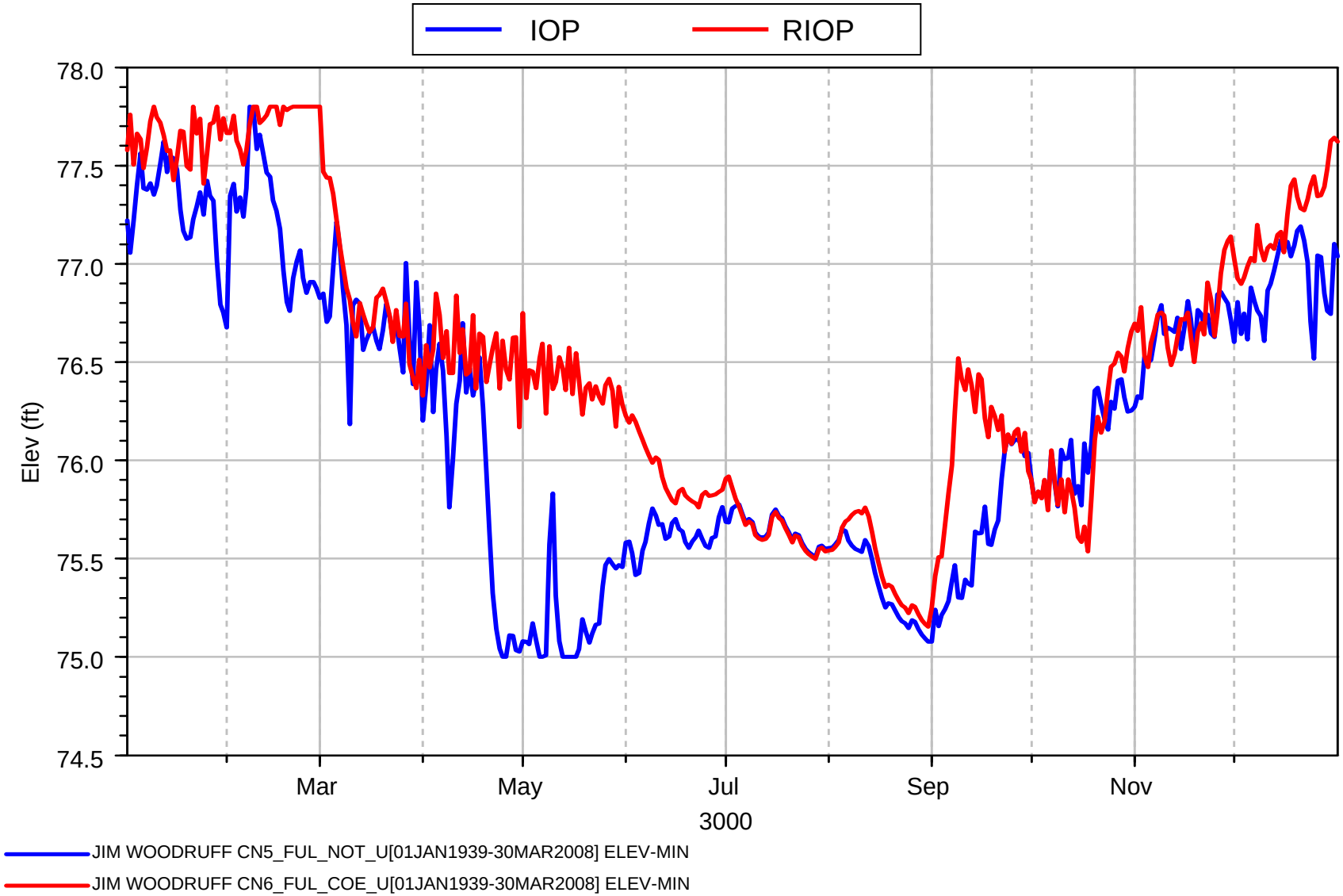
Jim Woodruff – Average Elevation



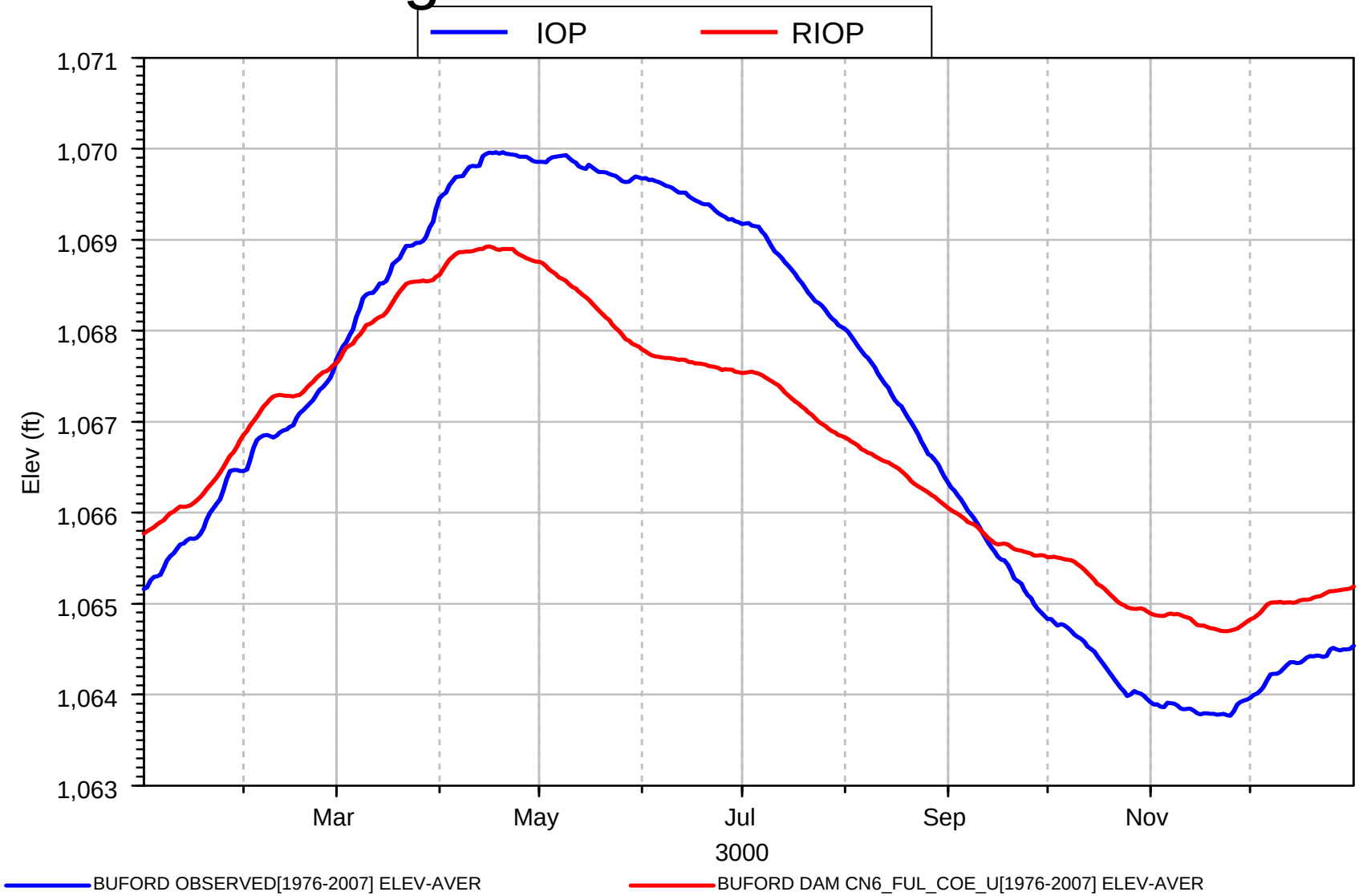
Jim Woodruff – Maximum Elevation



Jim Woodruff – Minimum Elevation

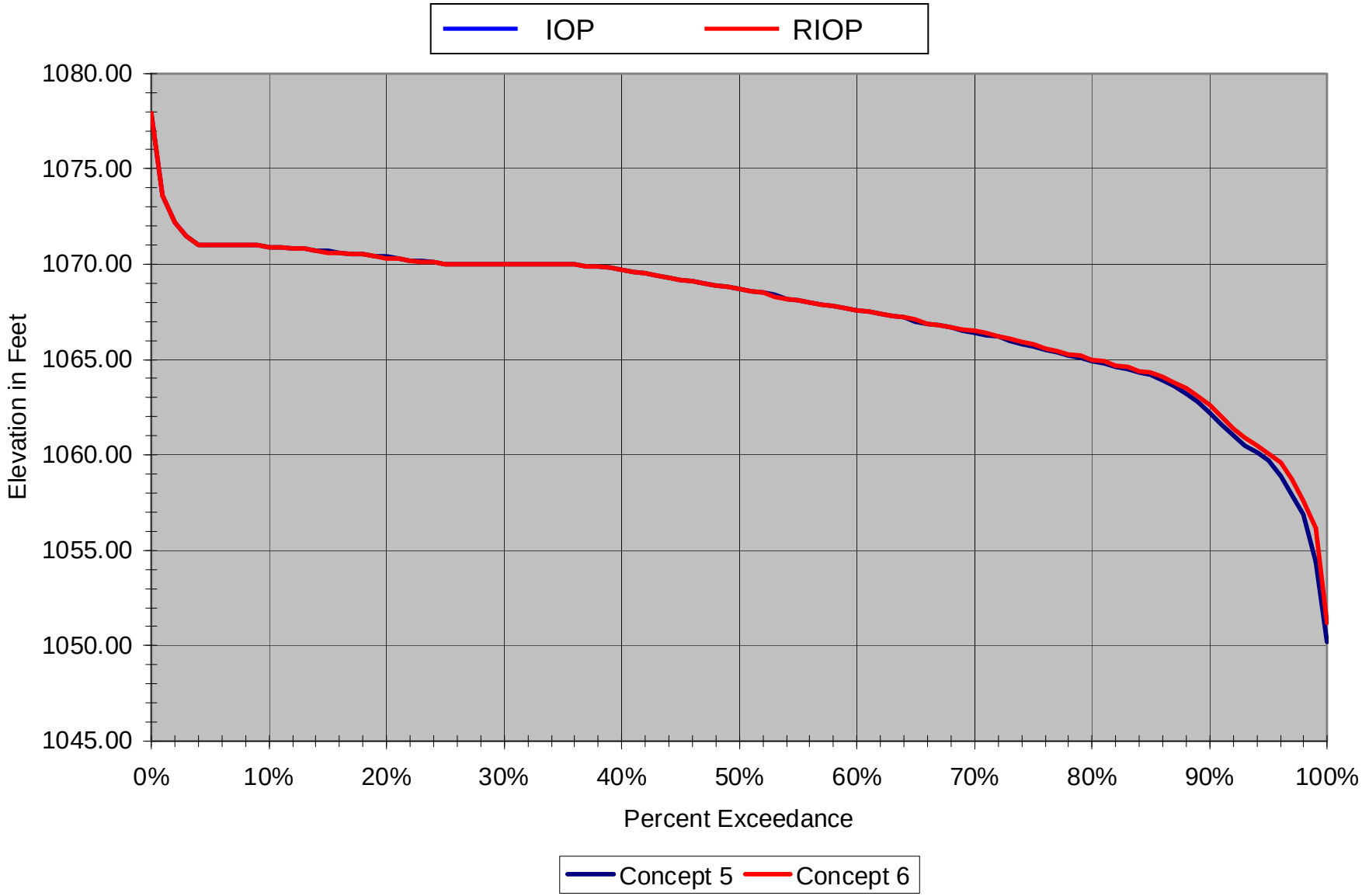


Buford
Average Elevation 1976-2007

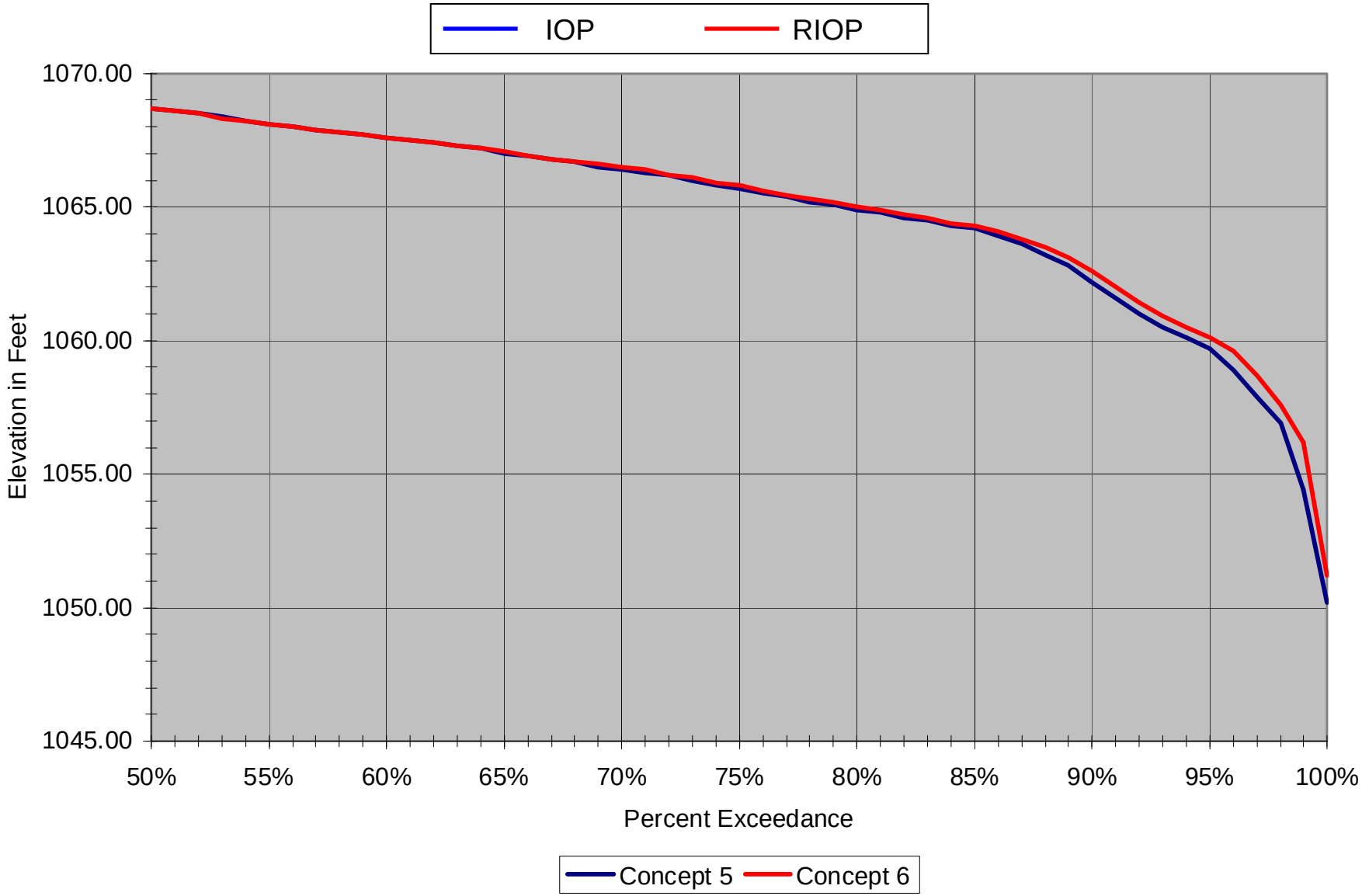


Pool Elevation Duration

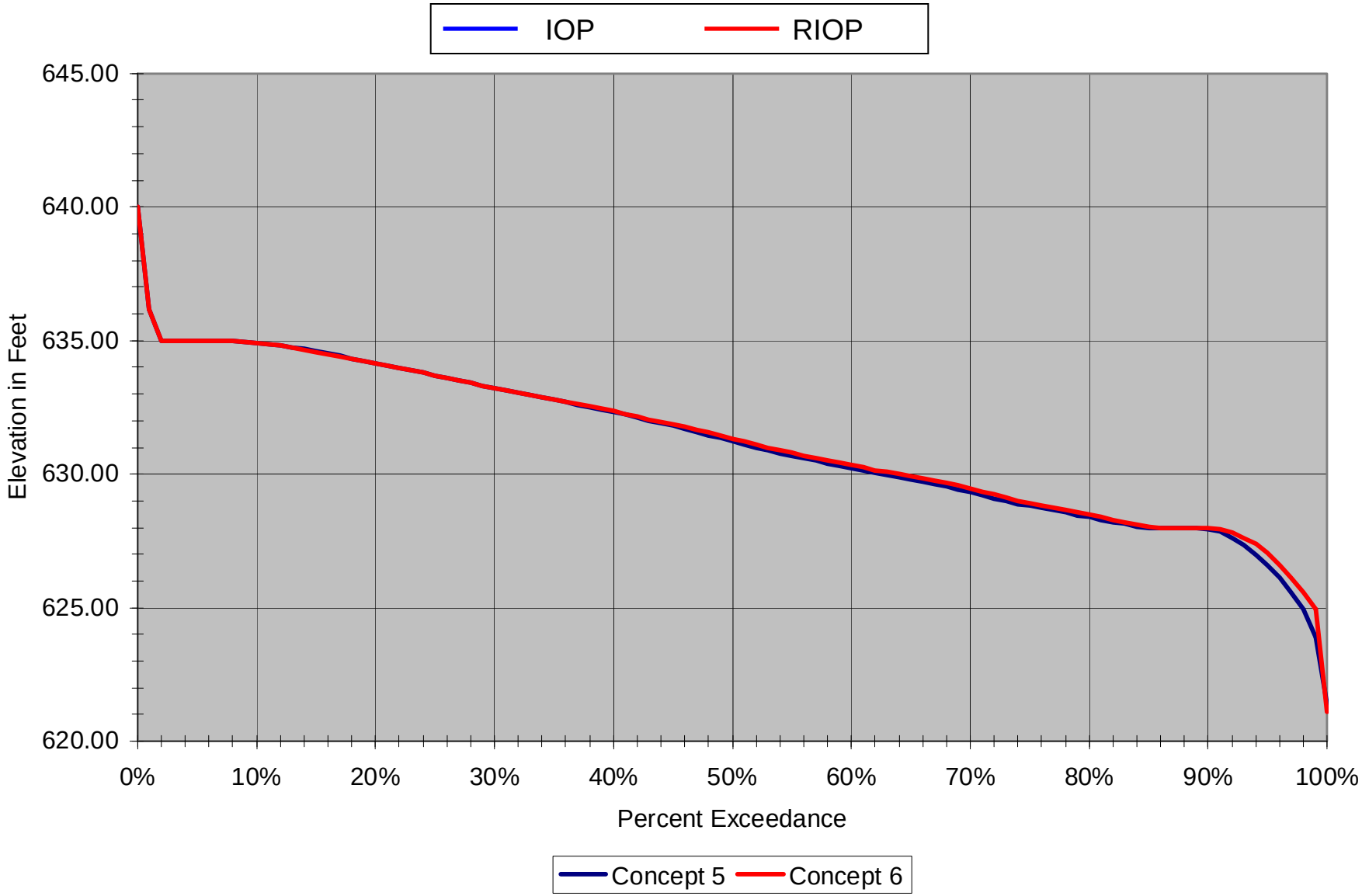
Buford Pool Duration



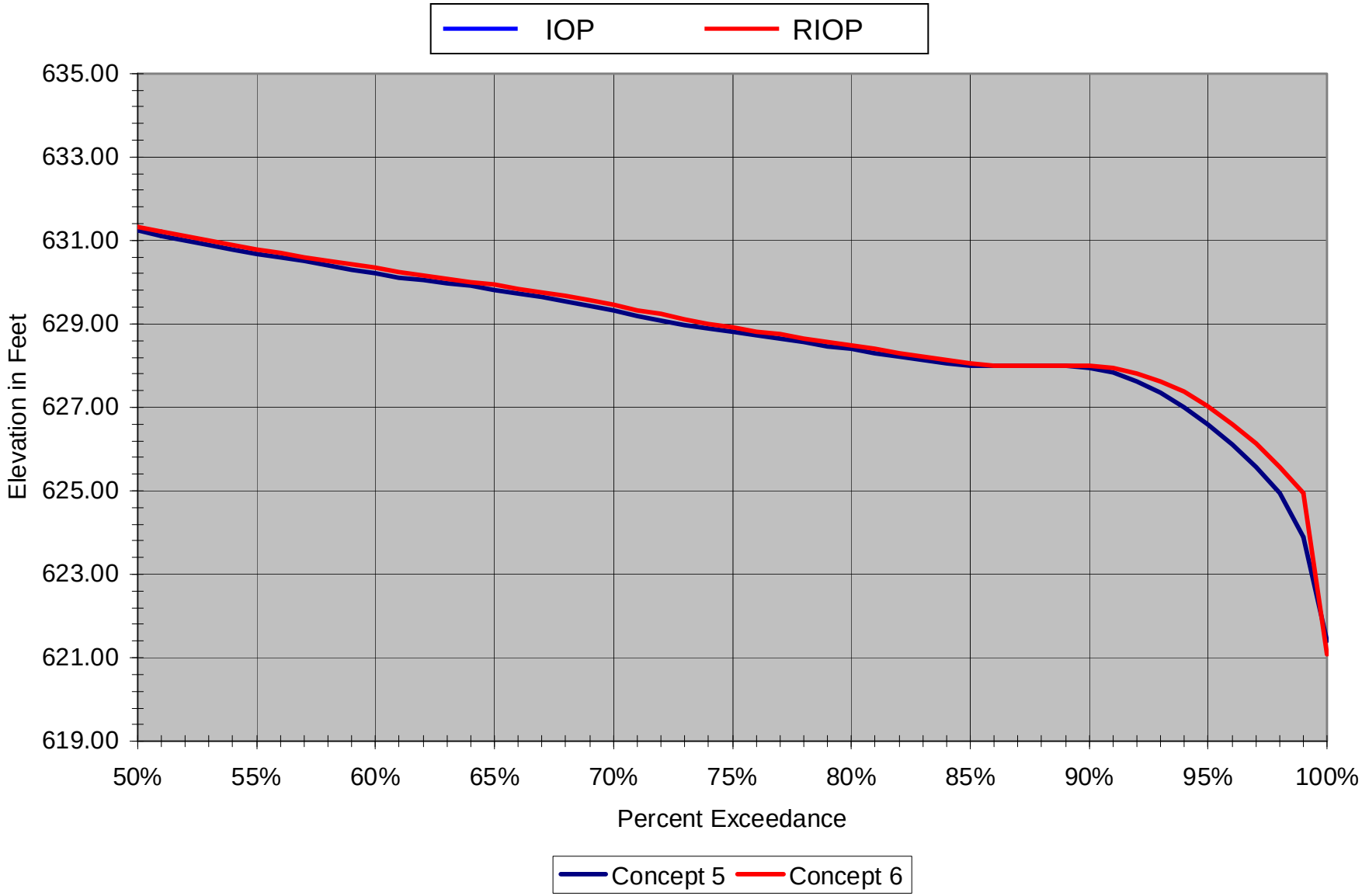
Buford Pool Duration



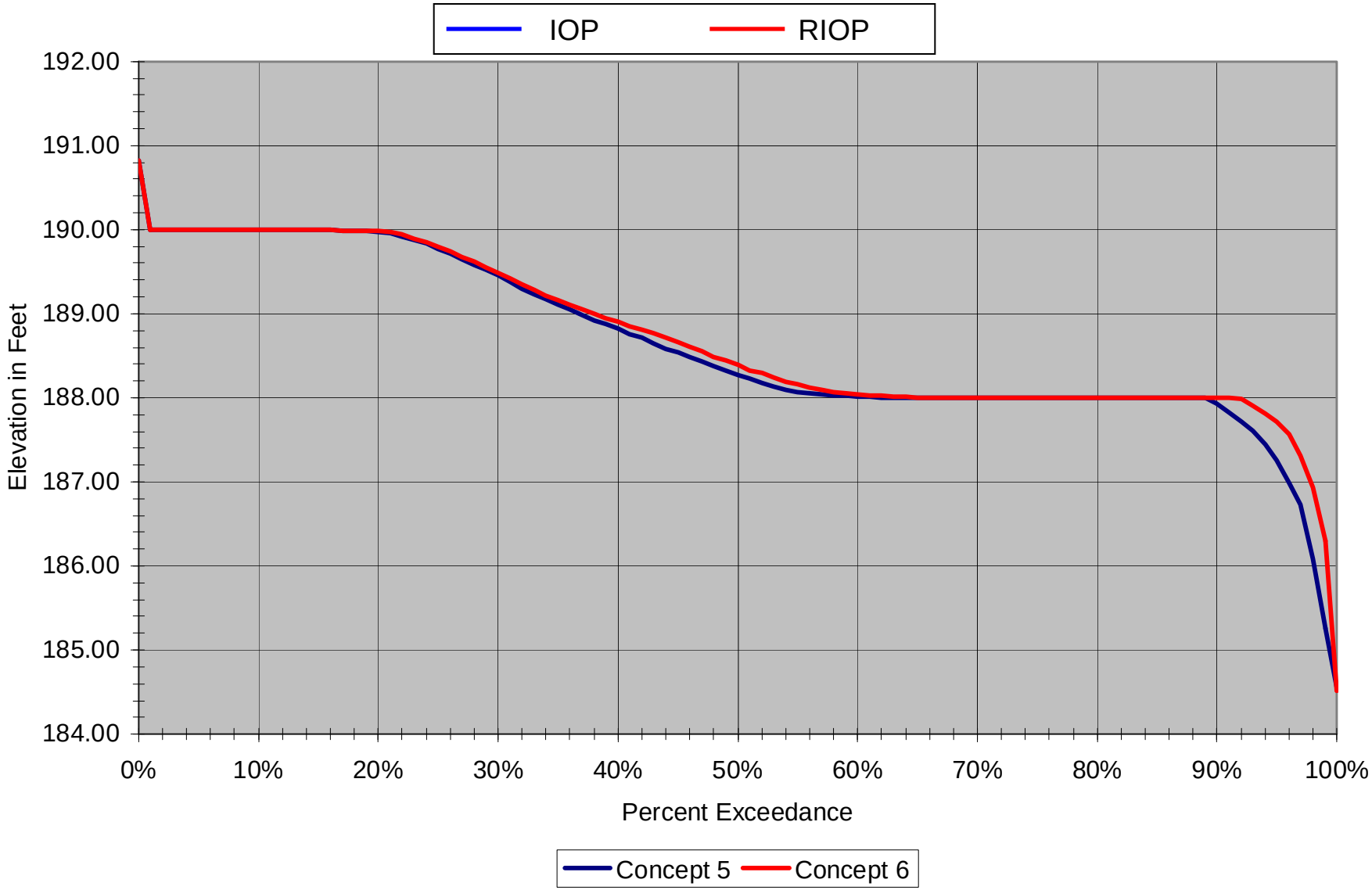
West Point Pool Duration



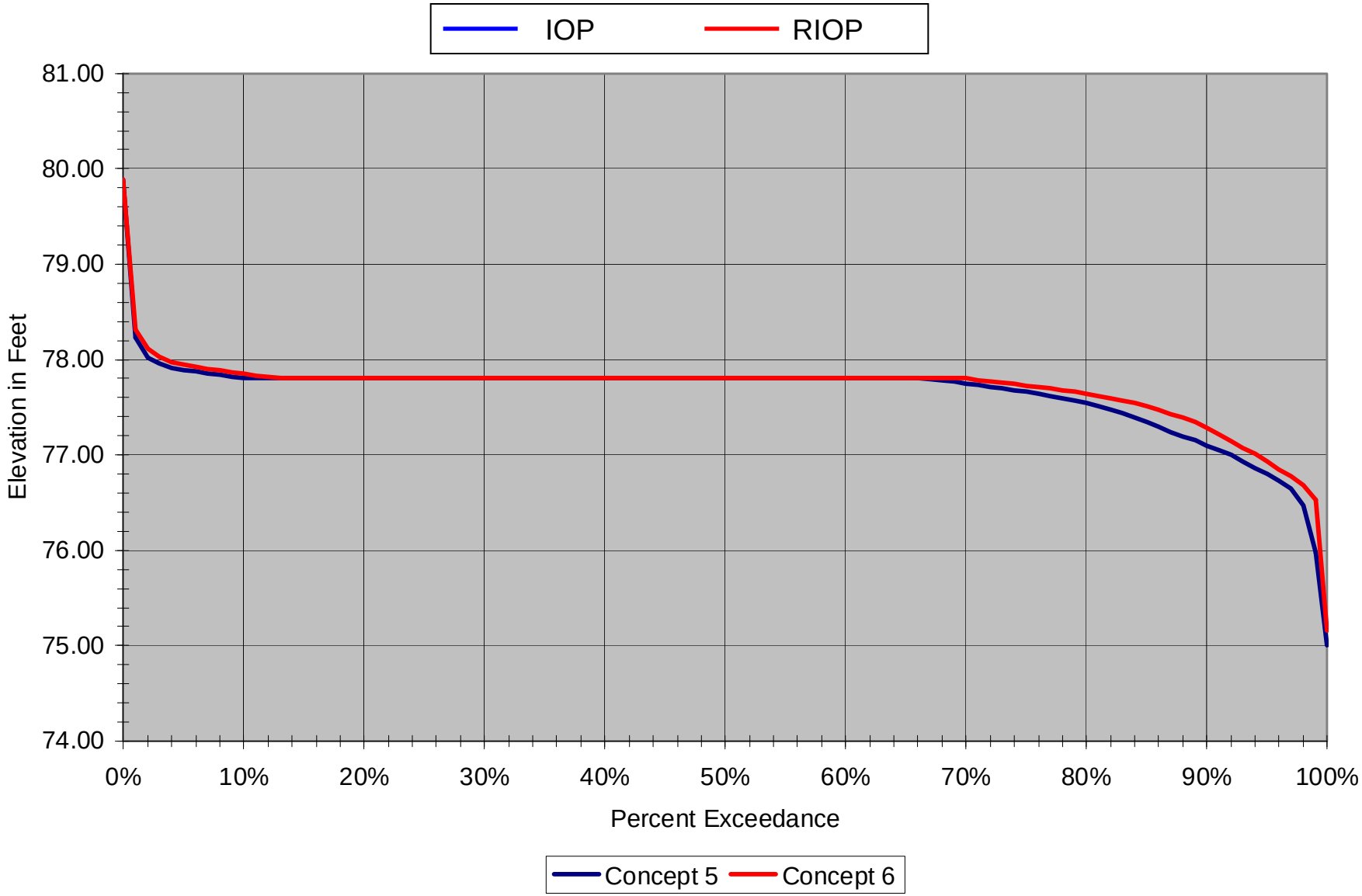
West Point Pool Duration



WF George Pool Duration

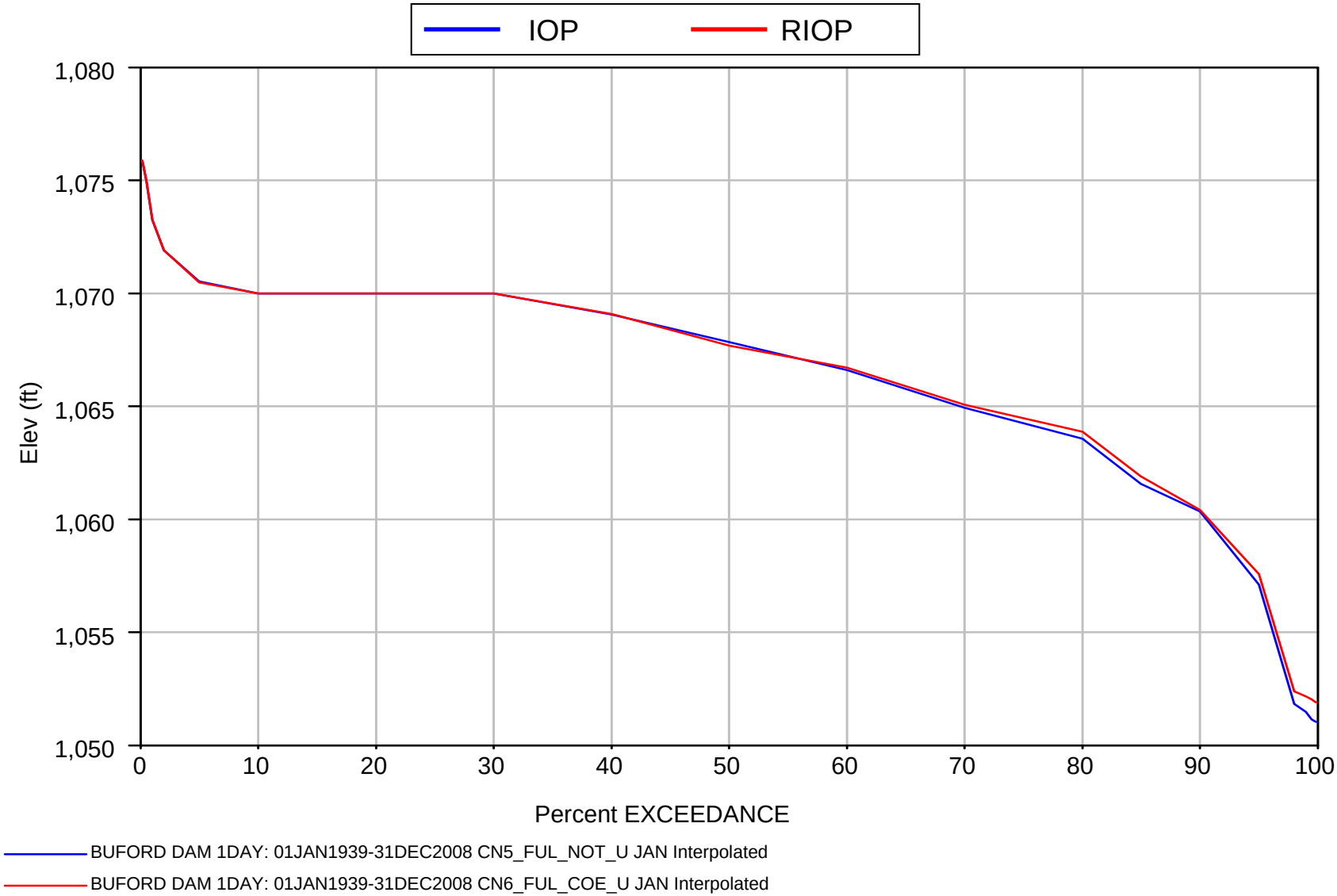


Jim Woodruff Pool Duration

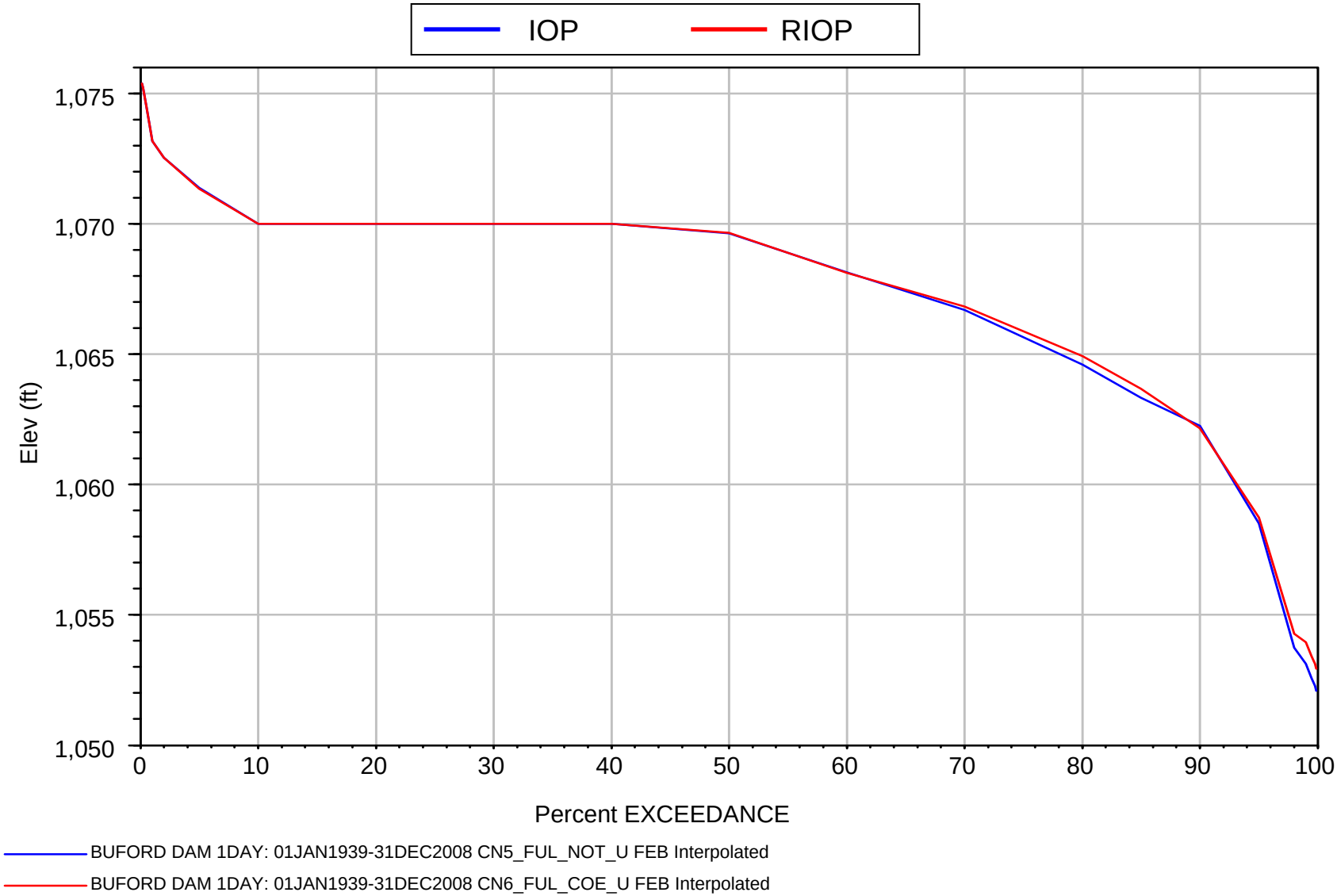


Buford Pool Monthly Duration

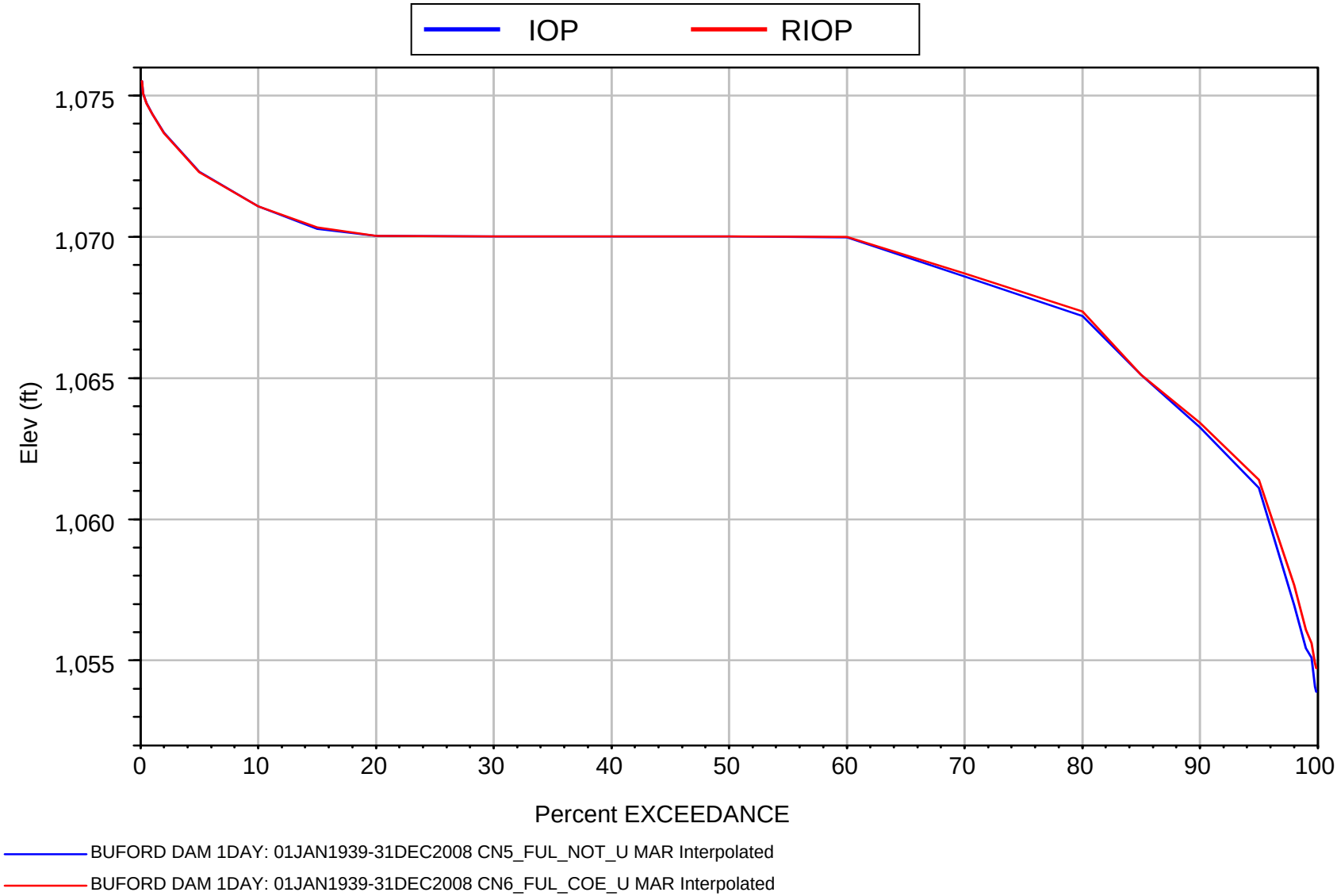
Buford Pool Monthly Duration - January



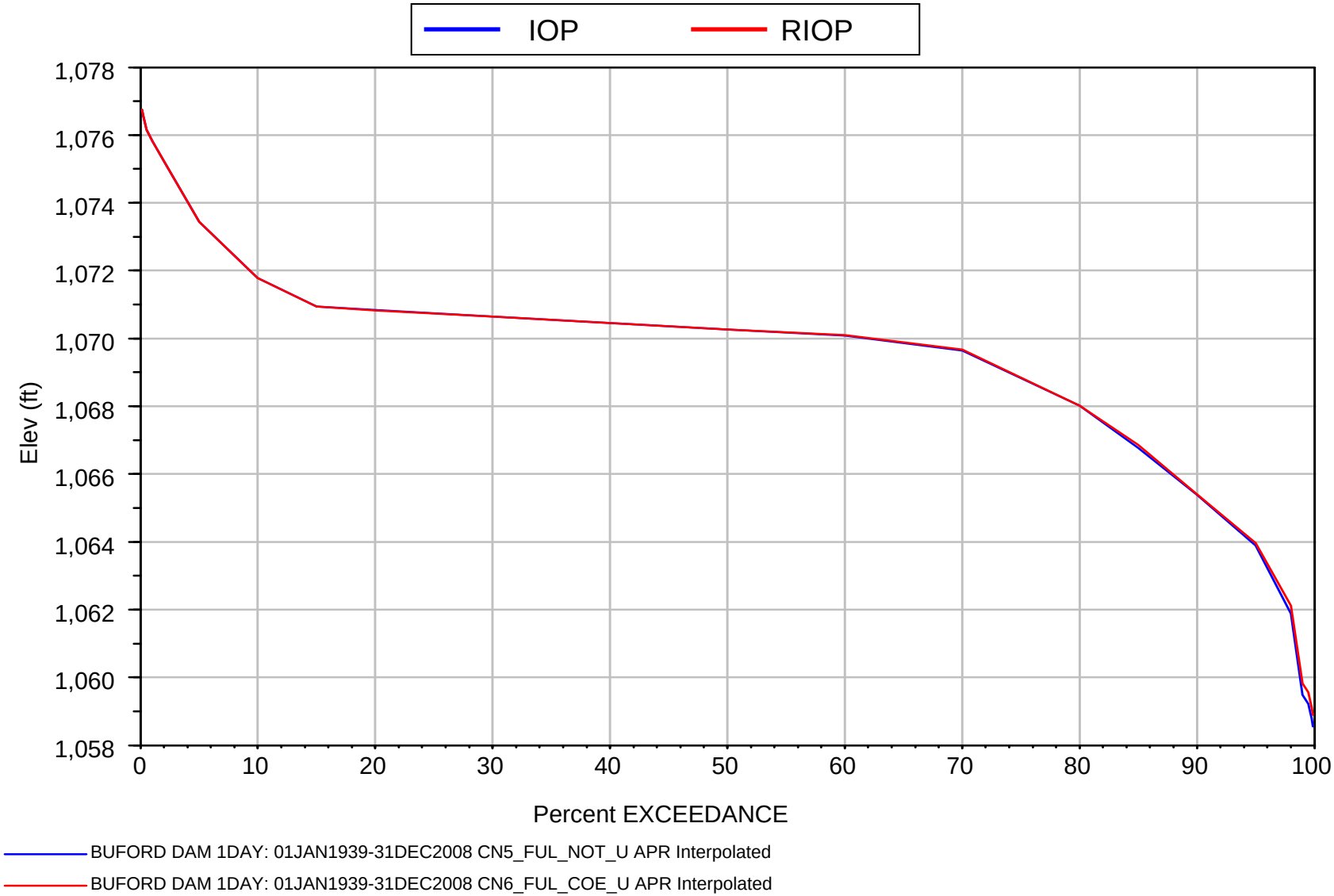
Buford Pool Monthly Duration - February



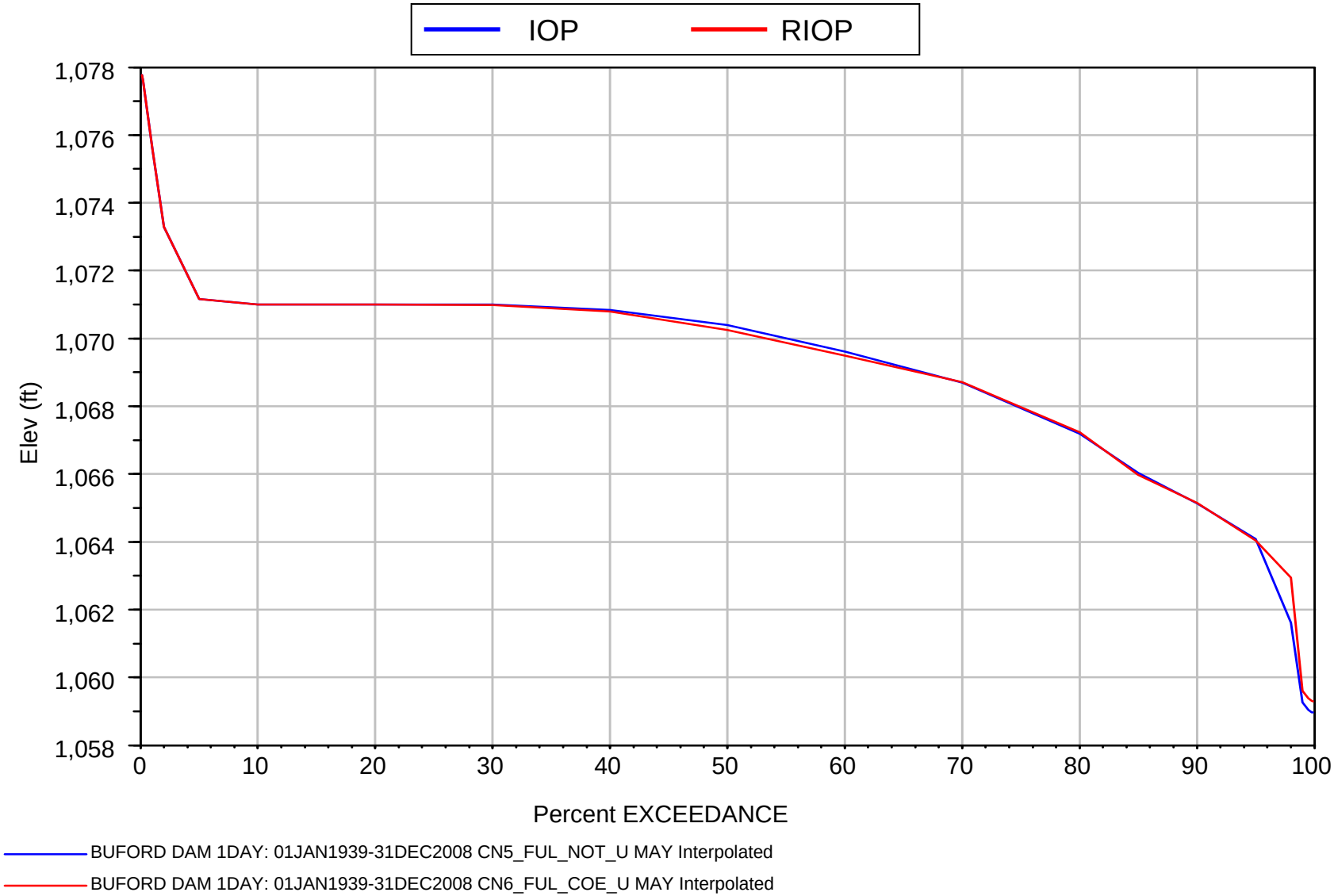
Buford Pool Monthly Duration - March



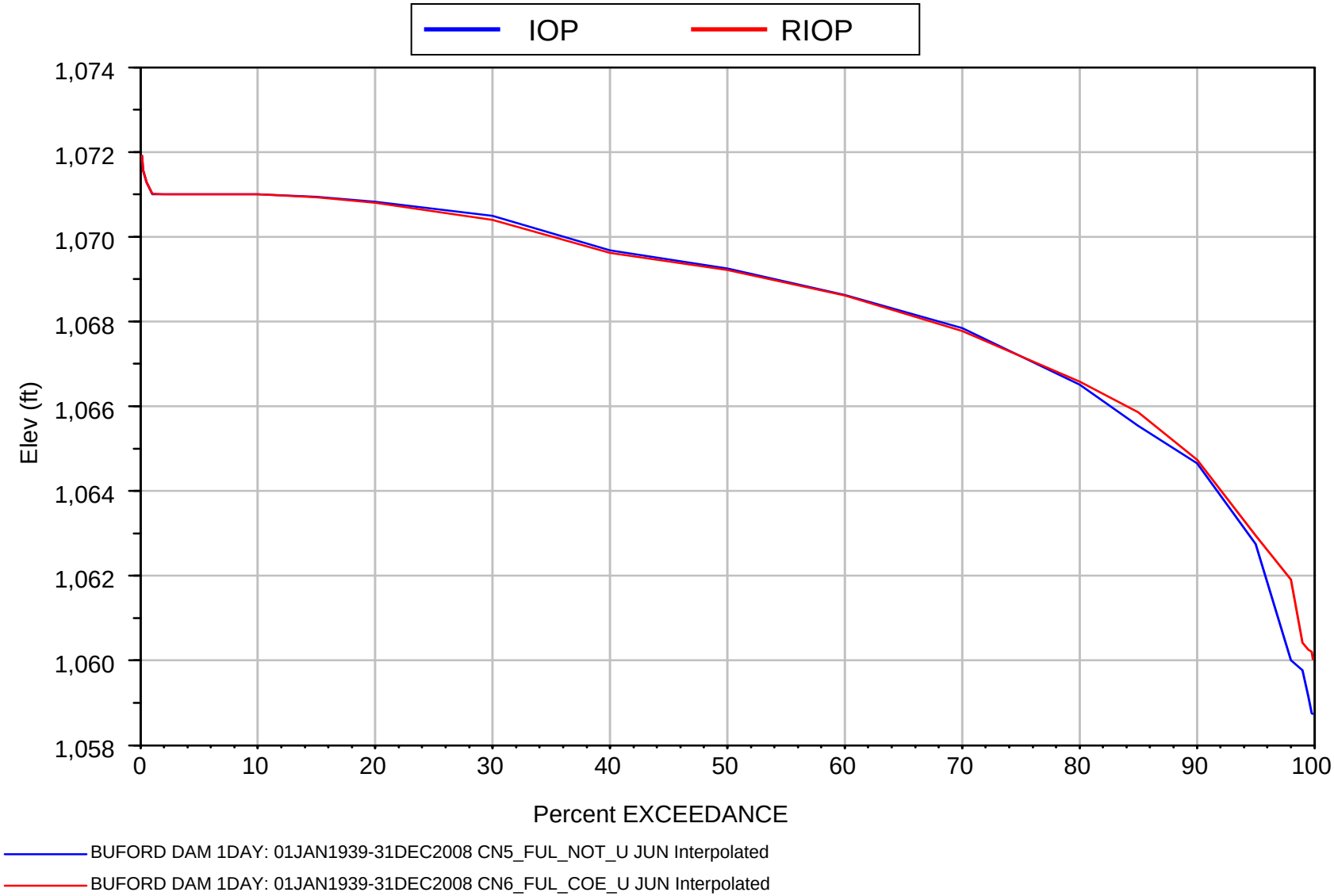
Buford Pool Monthly Duration - April



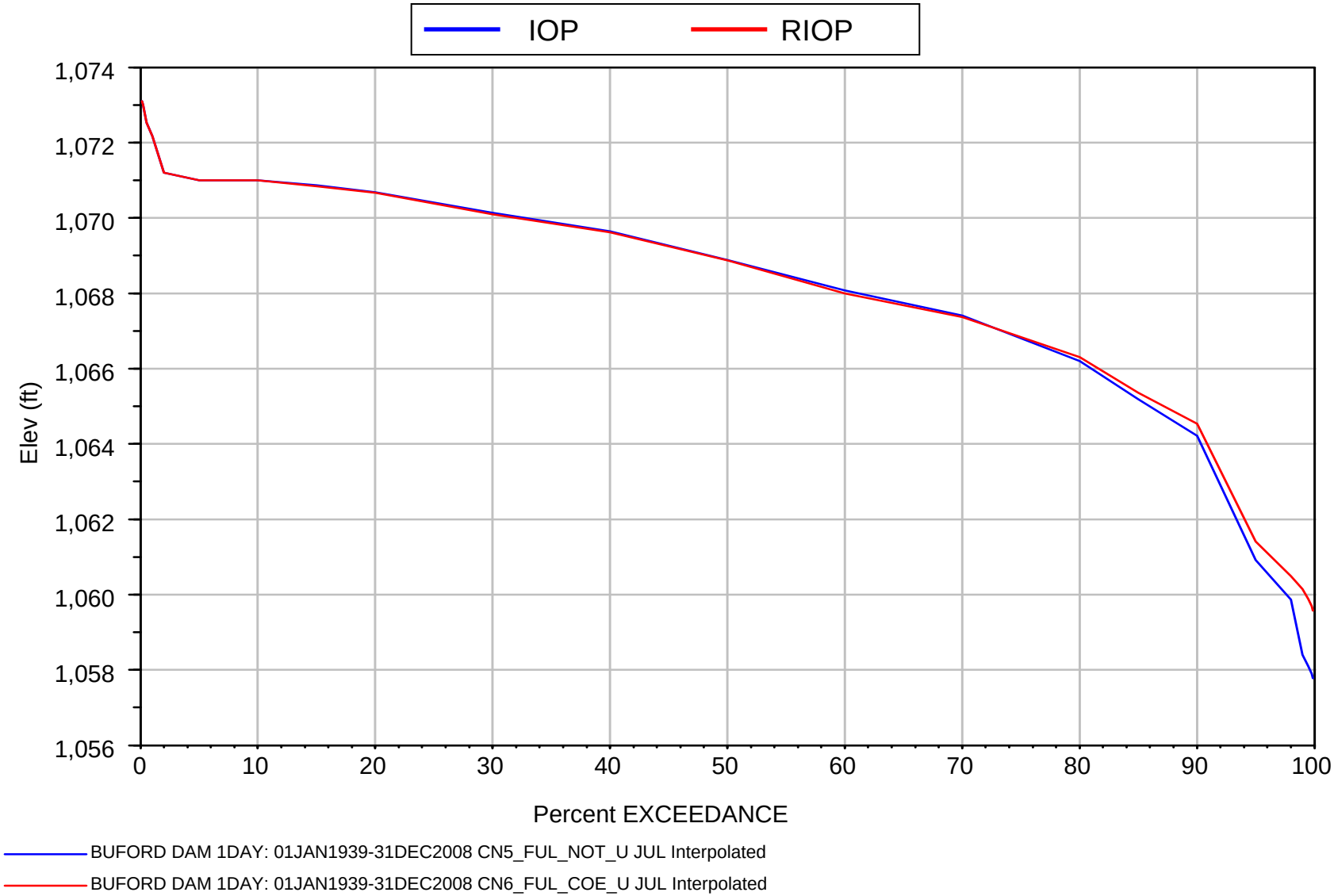
Buford Pool Monthly Duration - May



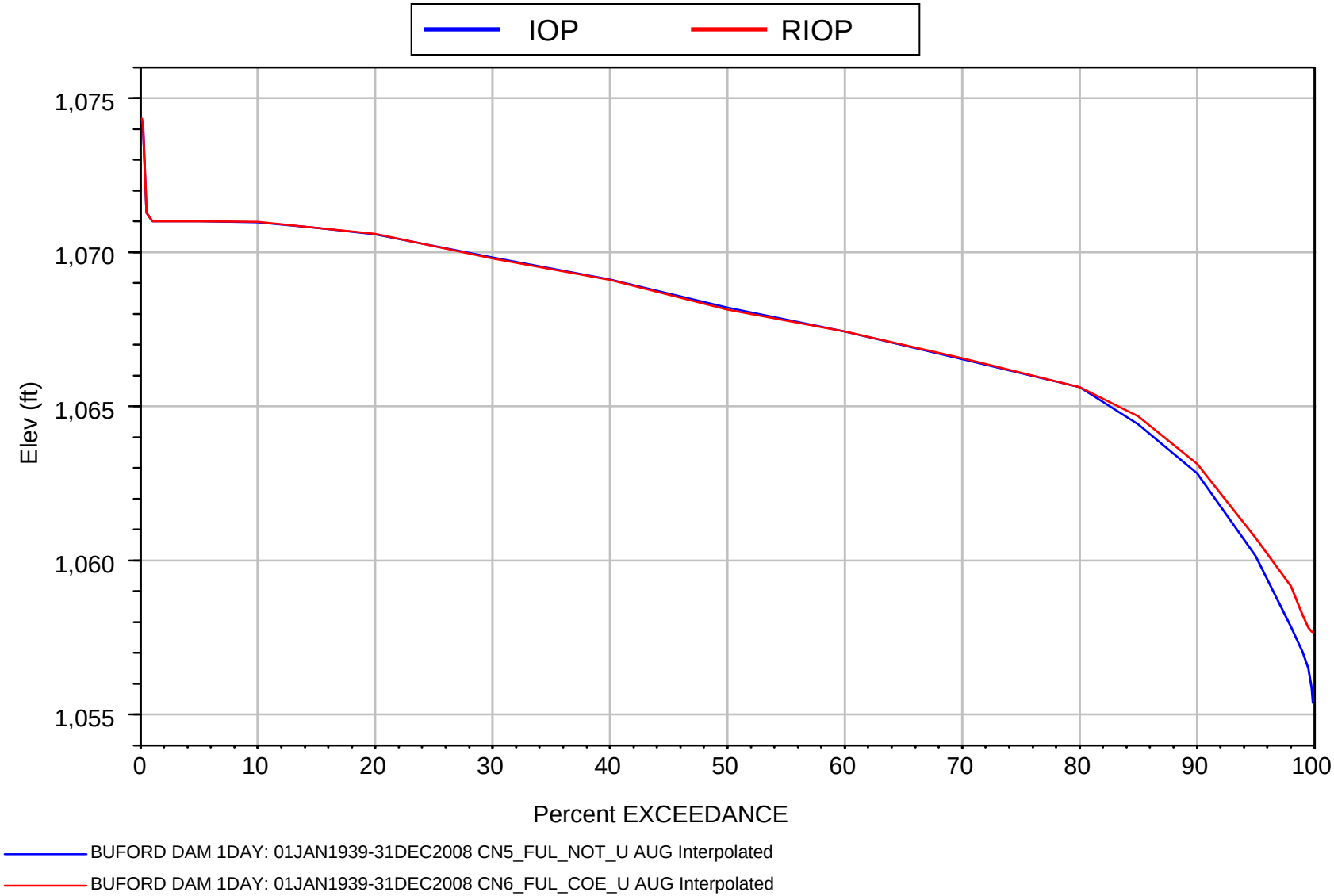
Buford Pool Monthly Duration - June



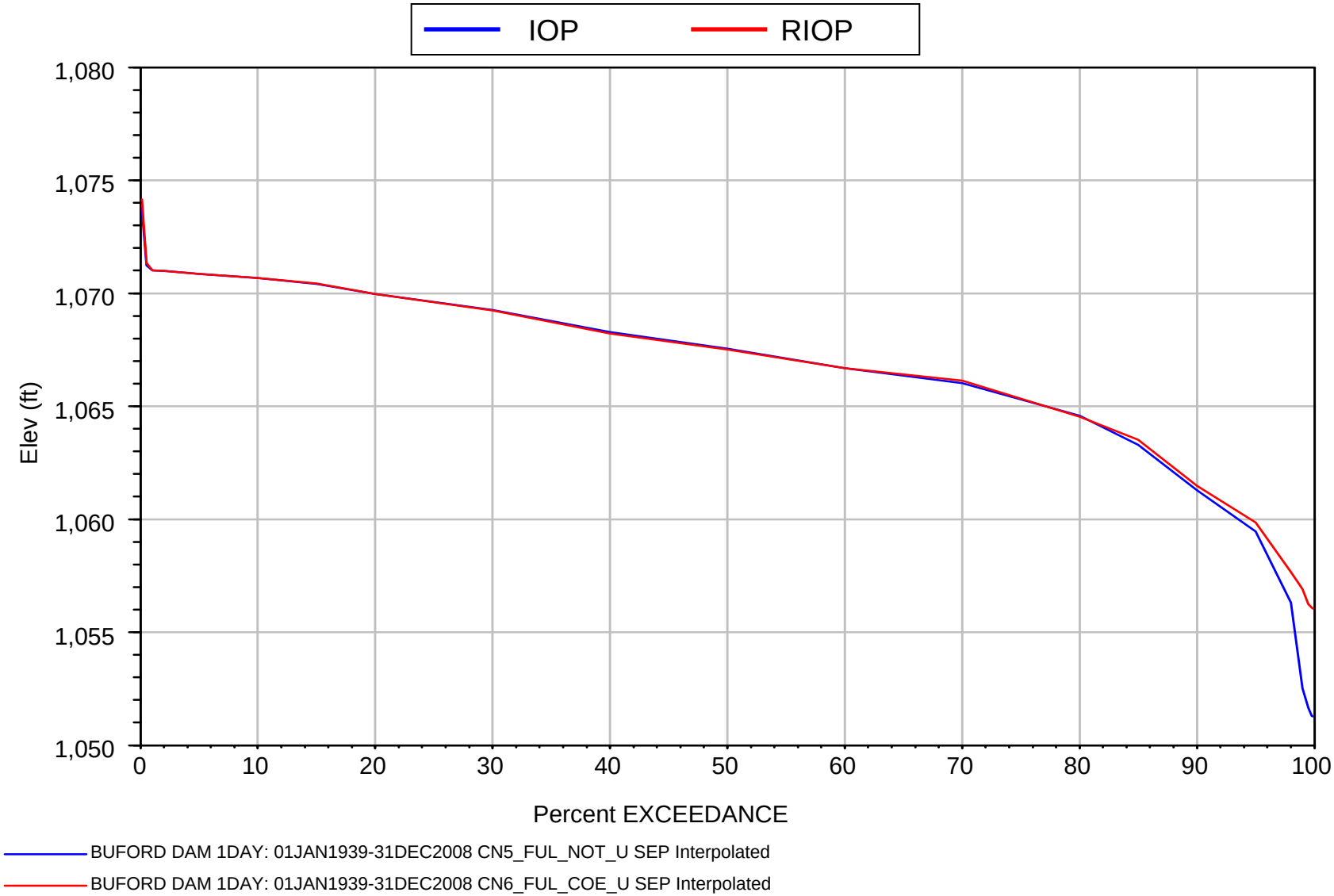
Buford Pool Monthly Duration - July



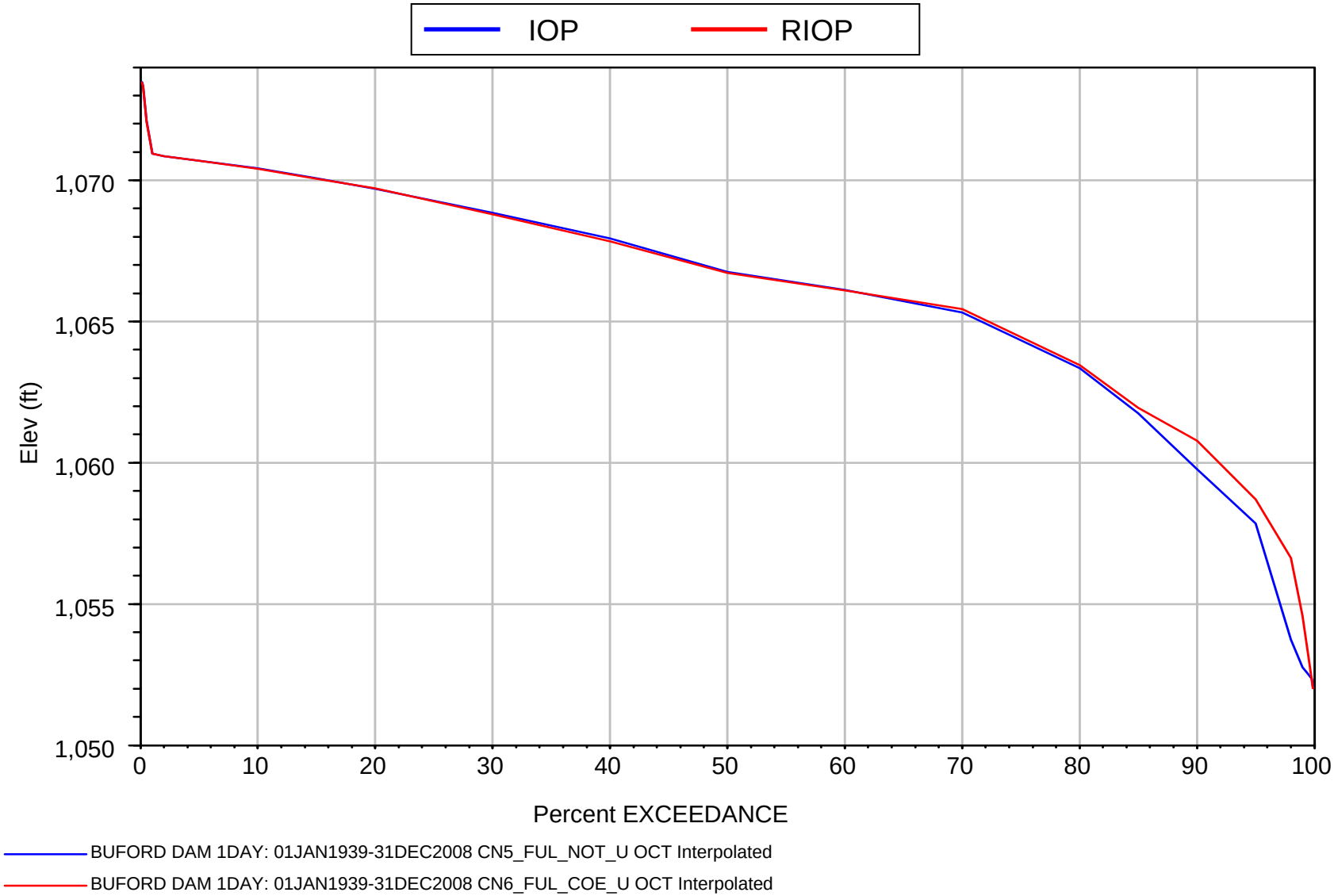
Buford Pool Monthly Duration - August



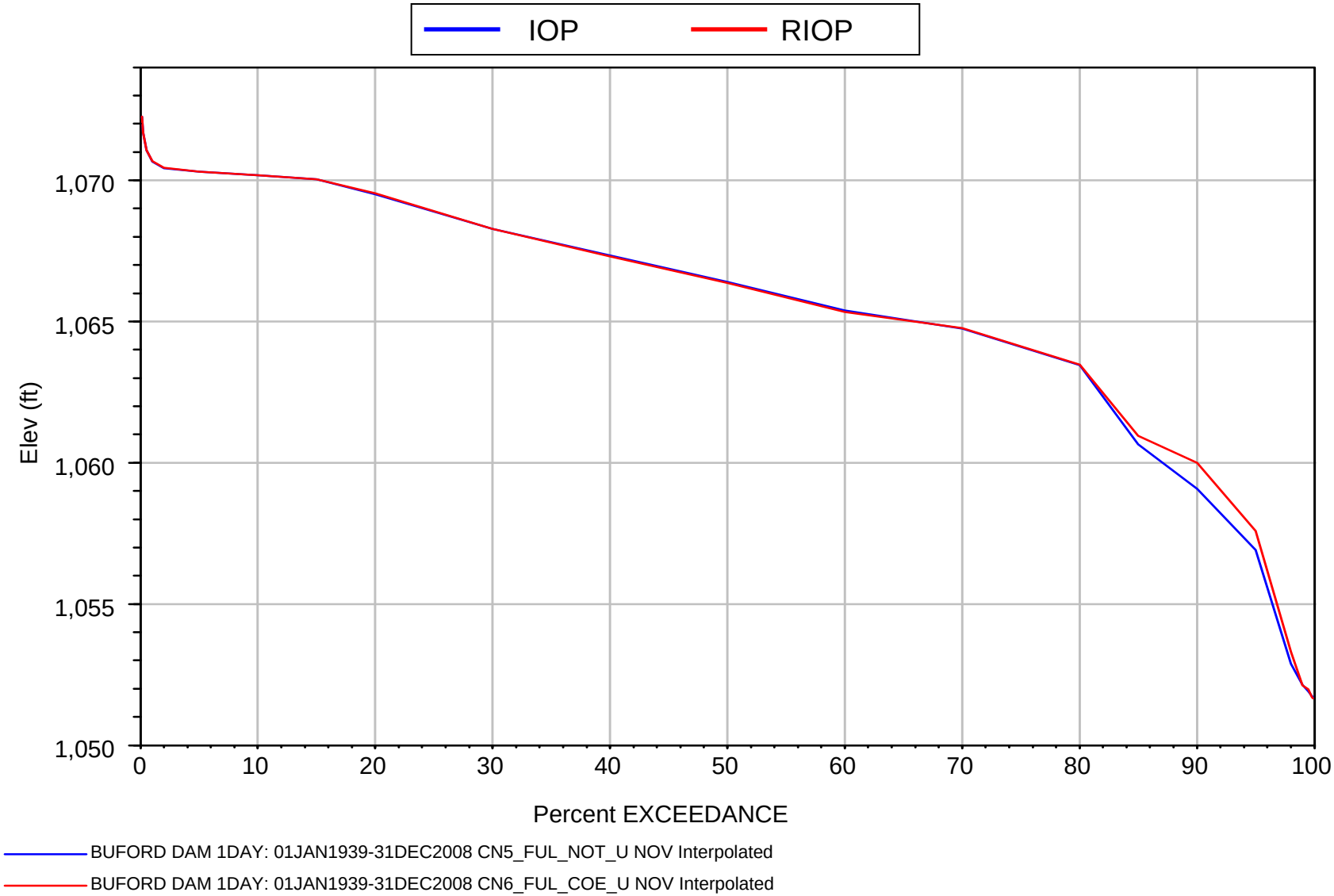
Buford Pool Monthly Duration - September



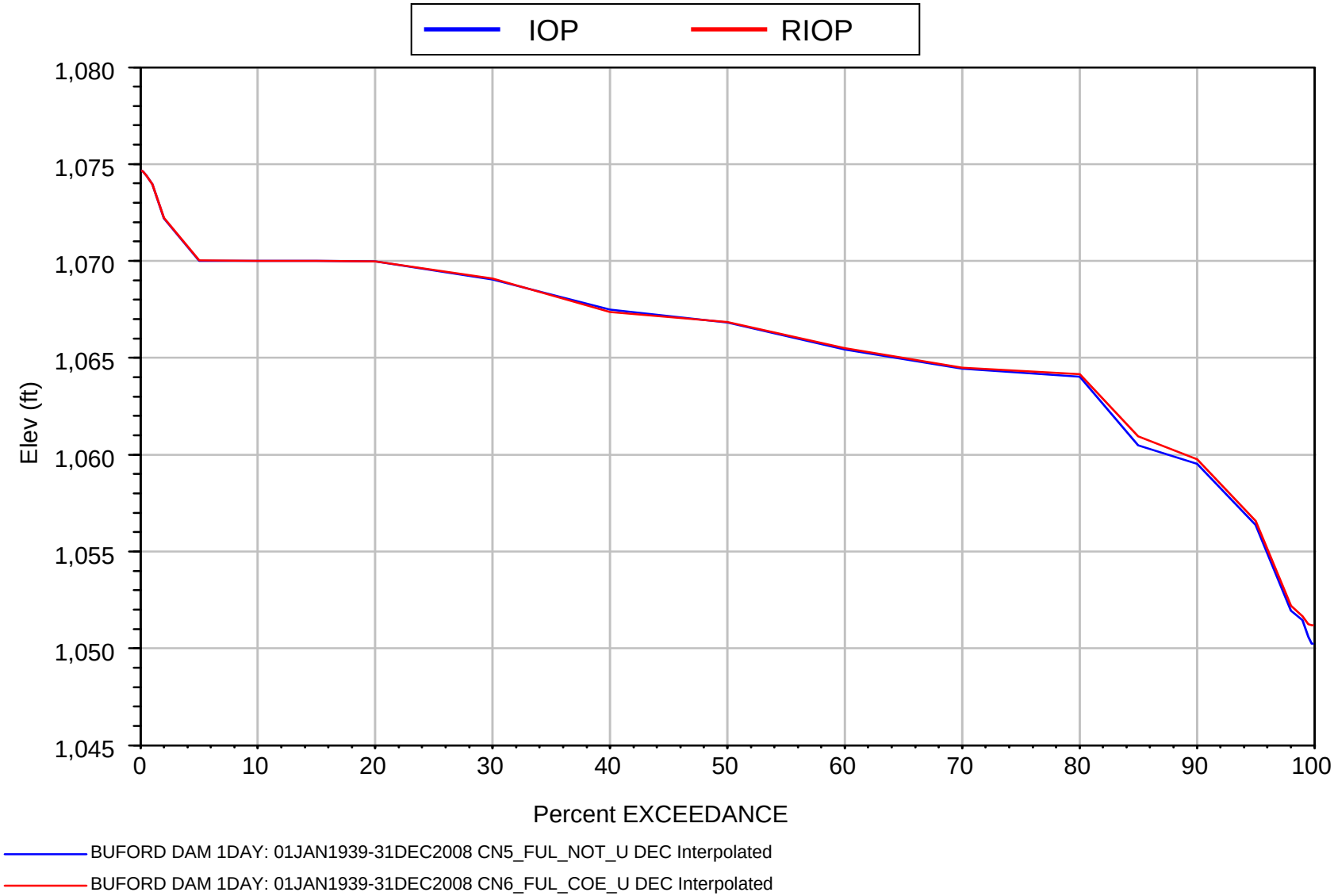
Buford Pool Monthly Duration - October



Buford Pool Monthly Duration - November

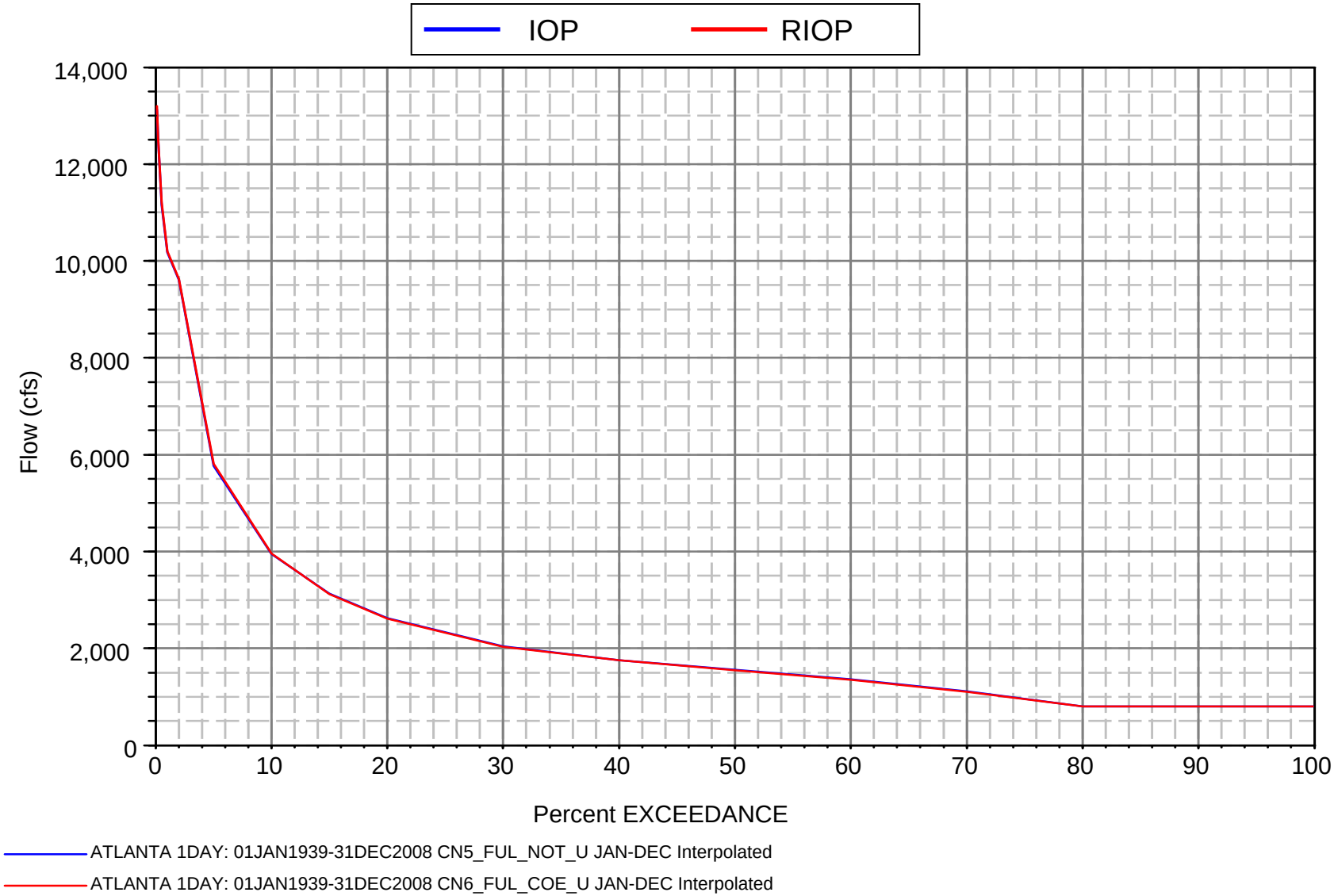


Buford Pool Monthly Duration - December

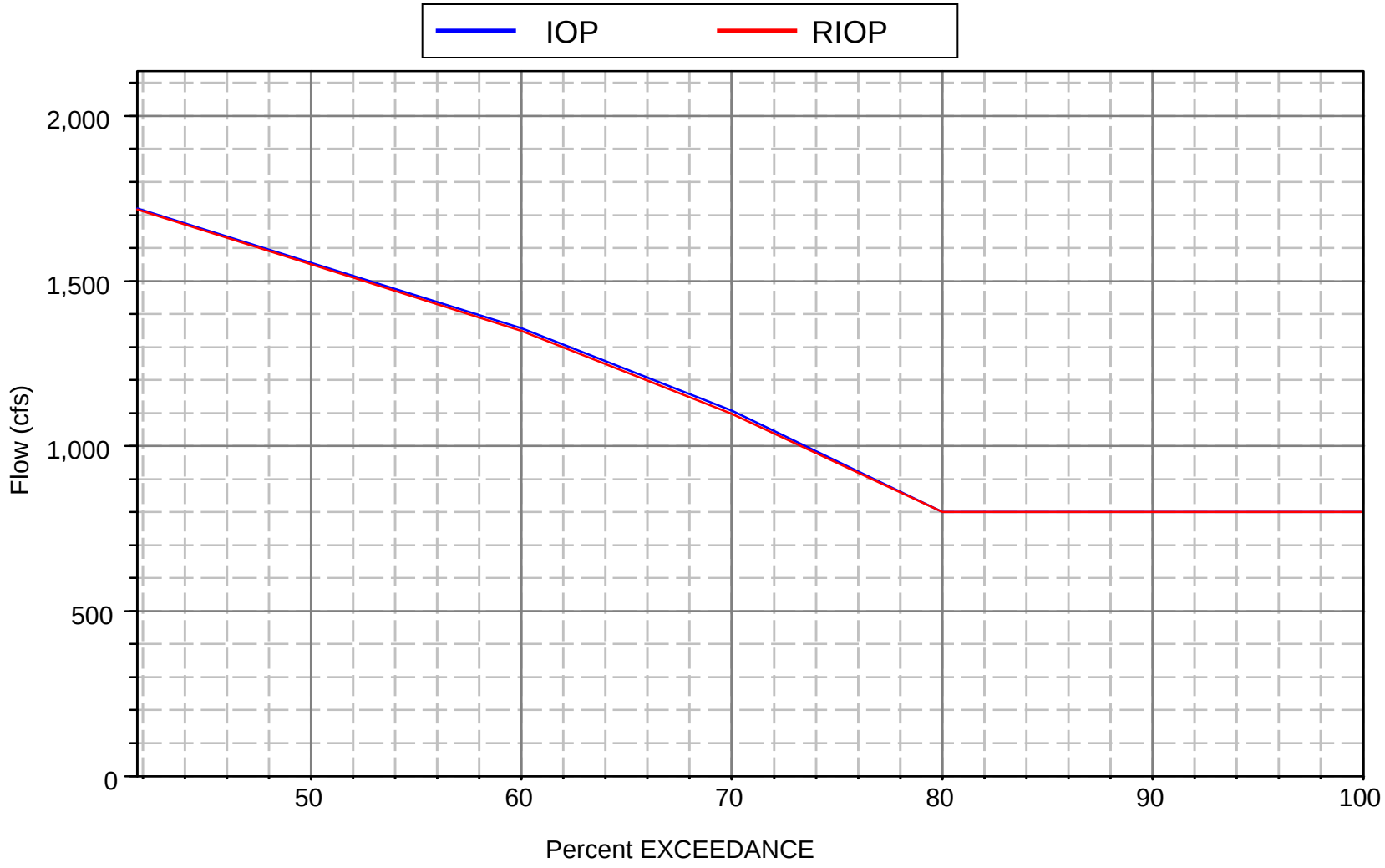


Flow Durations

Atlanta Annual Flow Duration



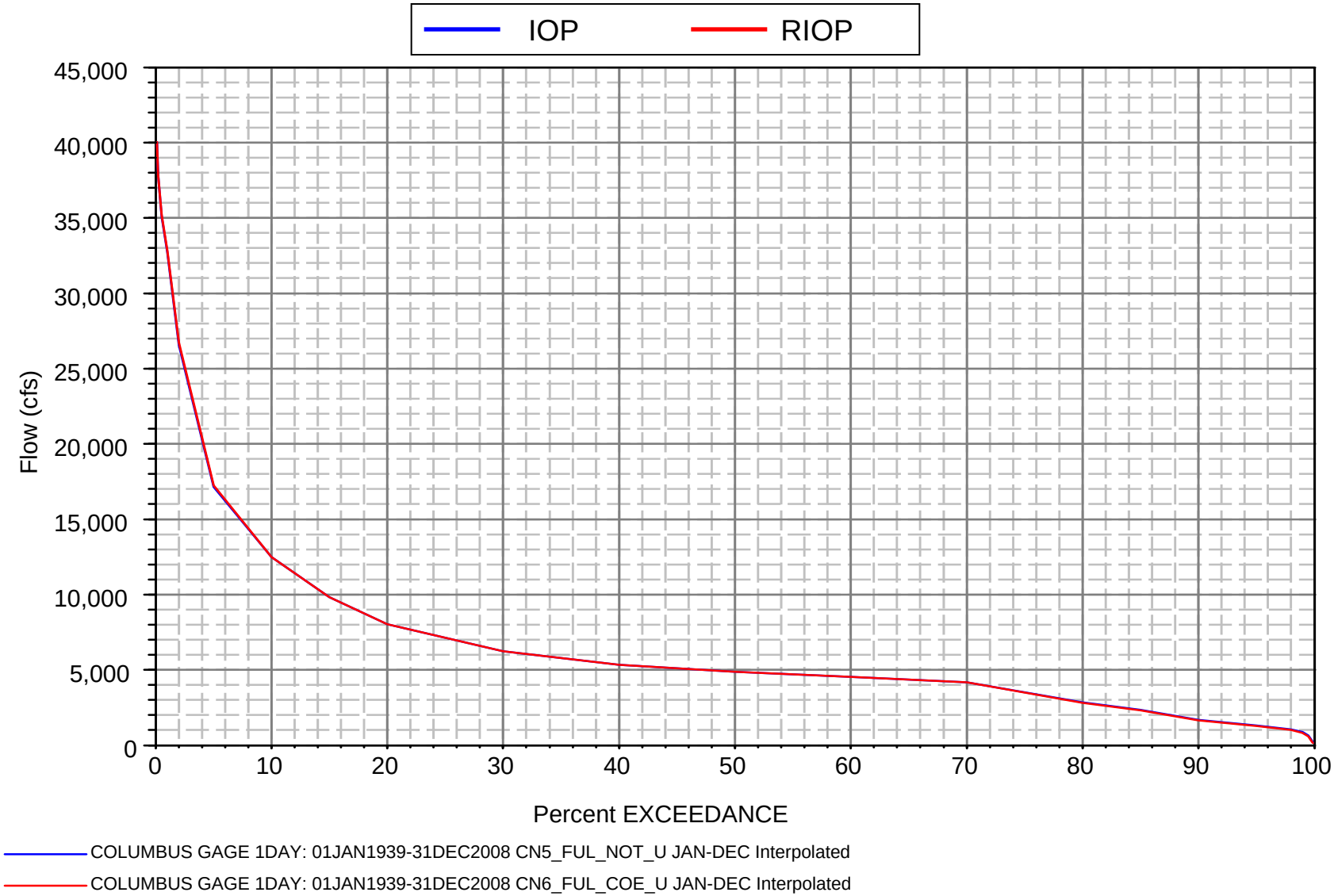
Atlanta Annual Flow Duration



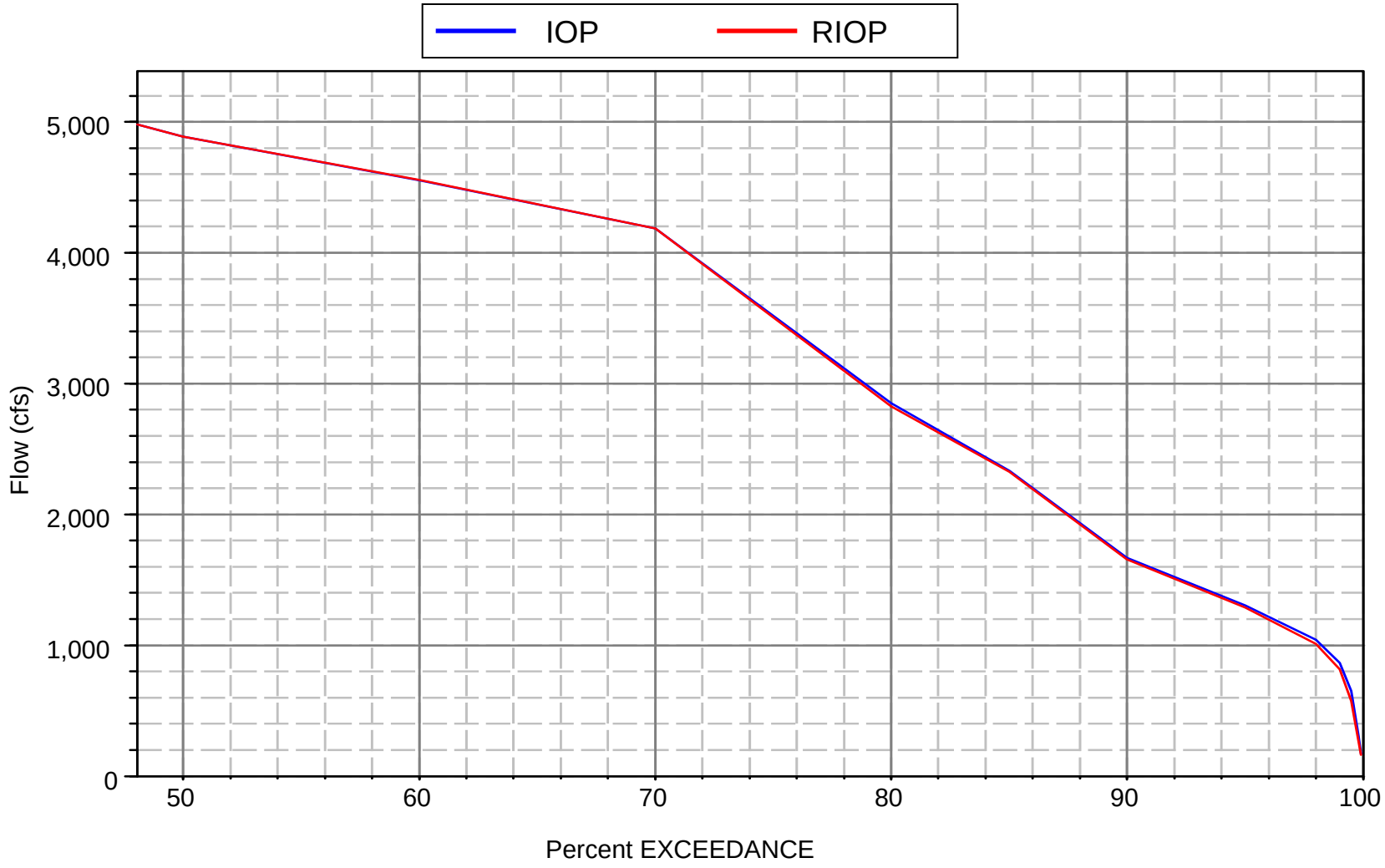
ATLANTA 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U JAN-DEC Interpolated

ATLANTA 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U JAN-DEC Interpolated

Columbus Annual Flow Duration



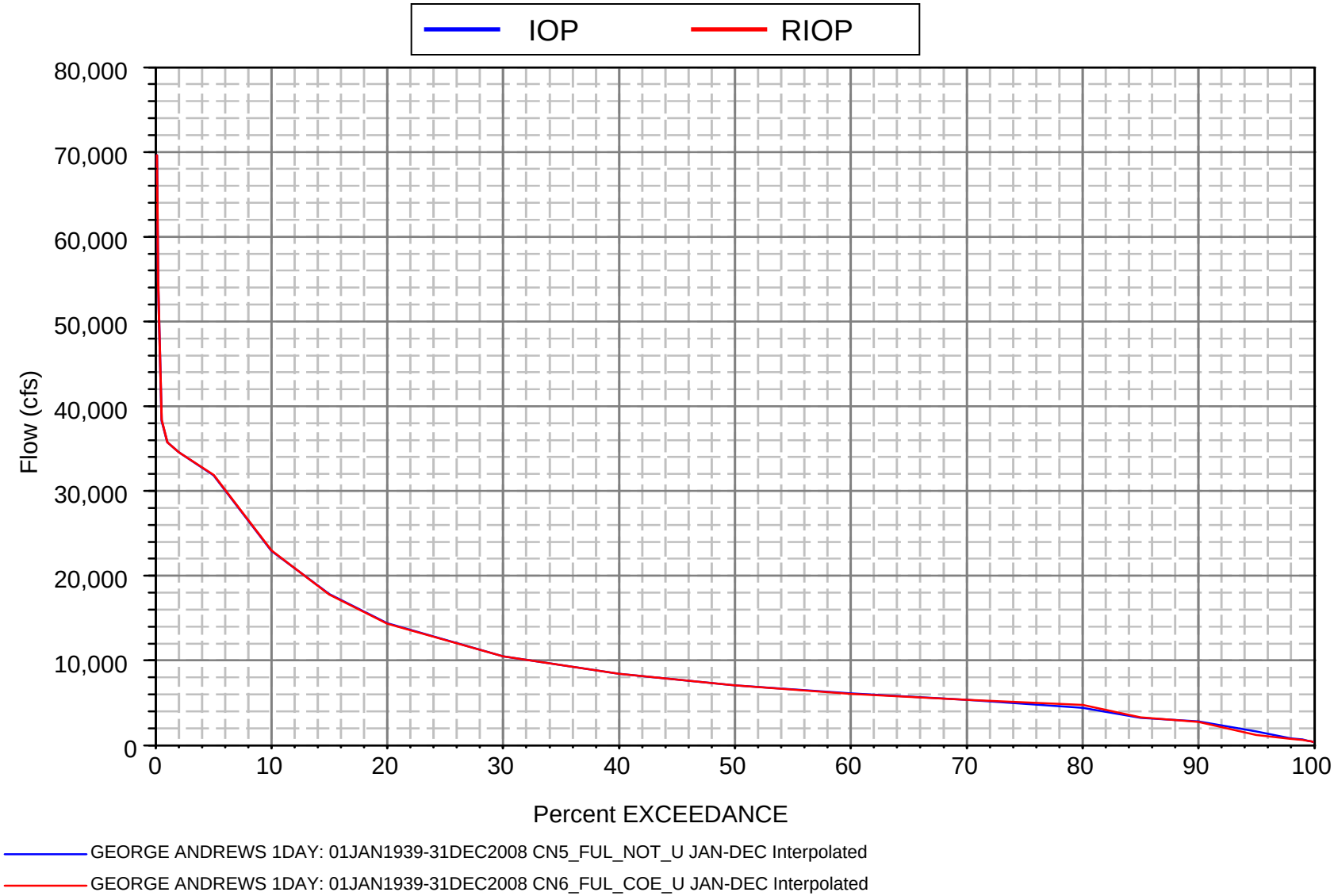
Columbus Annual Flow Duration



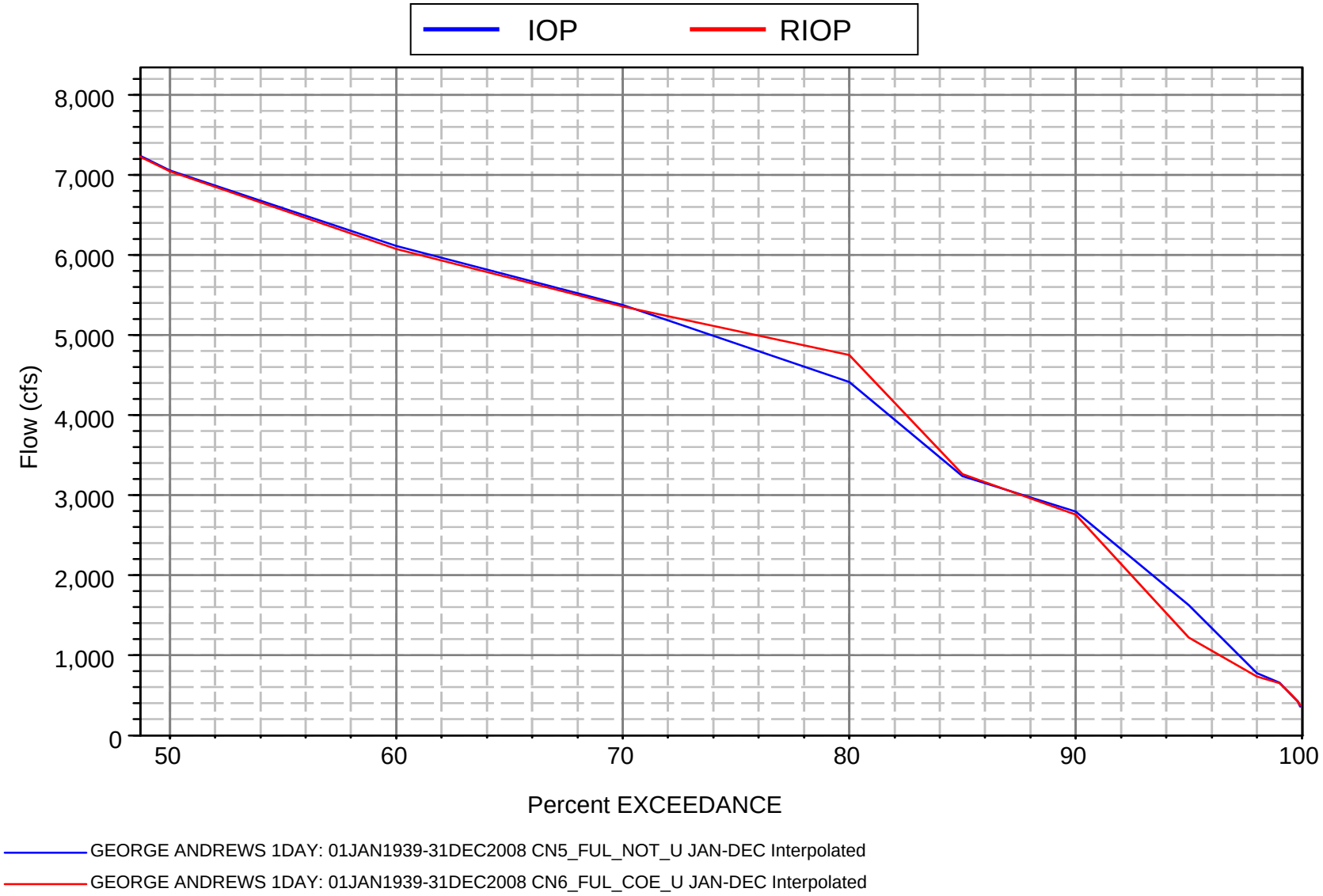
COLUMBUS GAGE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U JAN-DEC Interpolated

COLUMBUS GAGE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U JAN-DEC Interpolated

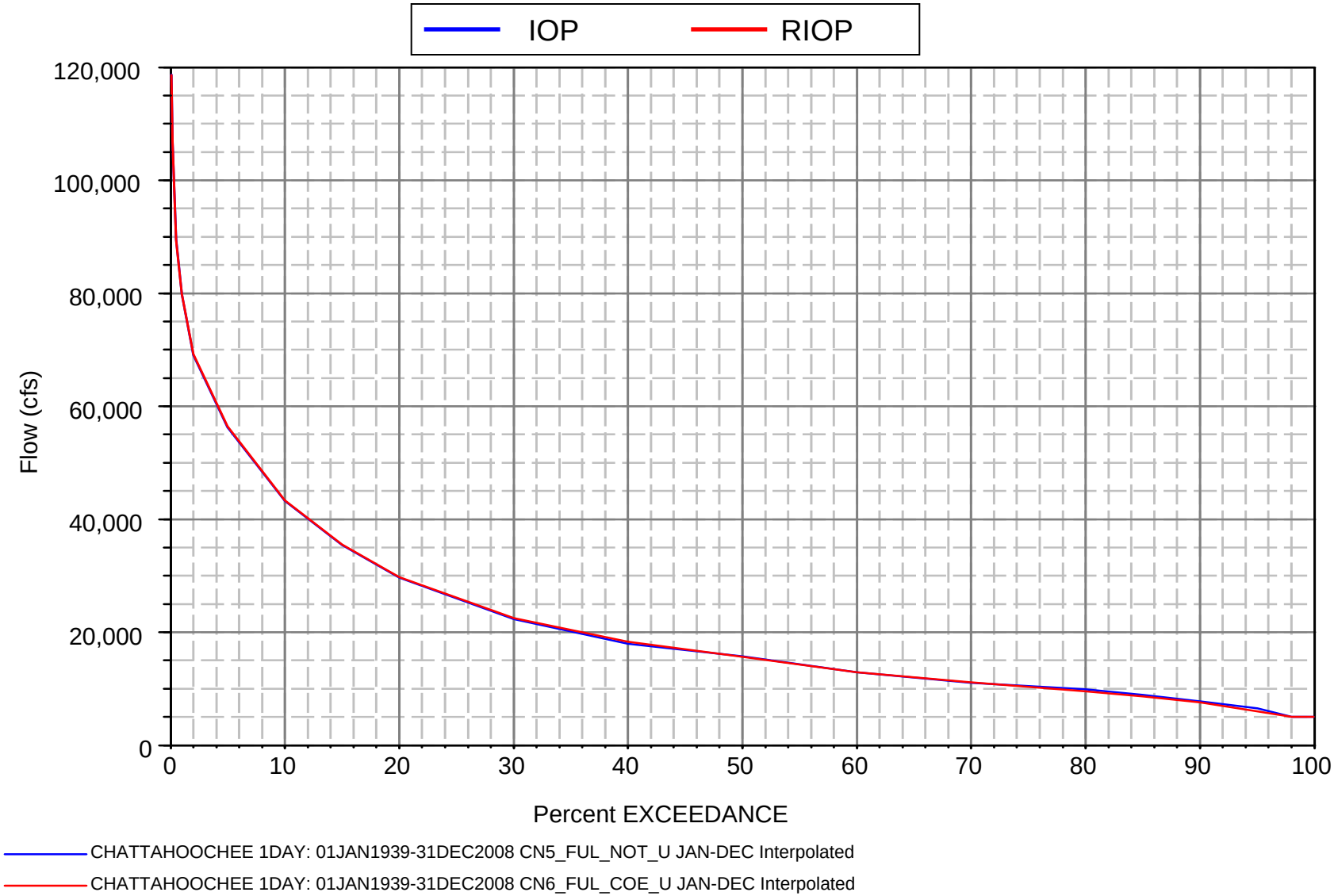
George Andrews Annual Flow Duration



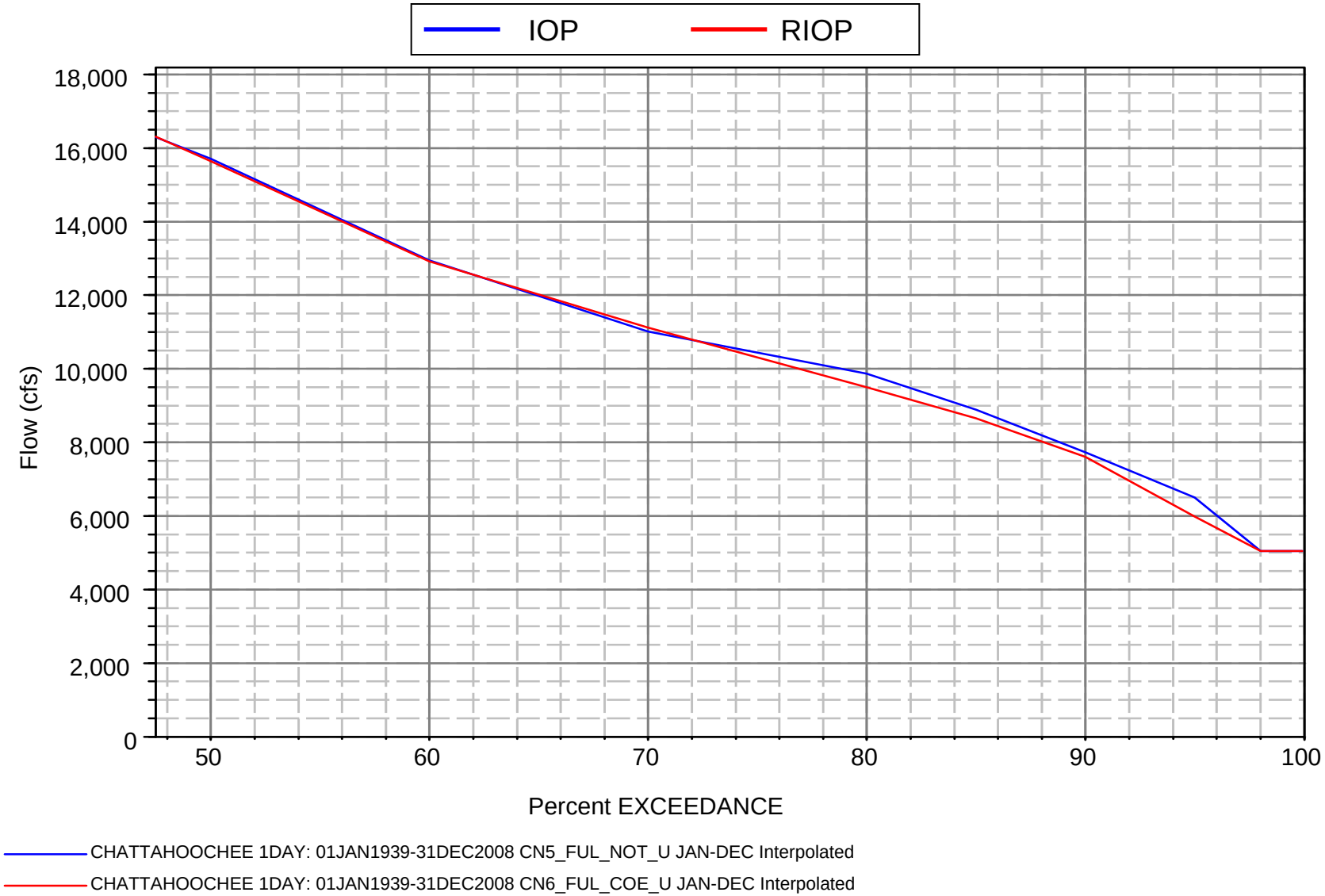
George Andrews Annual Flow Duration



Chattahoochee Annual Flow Duration



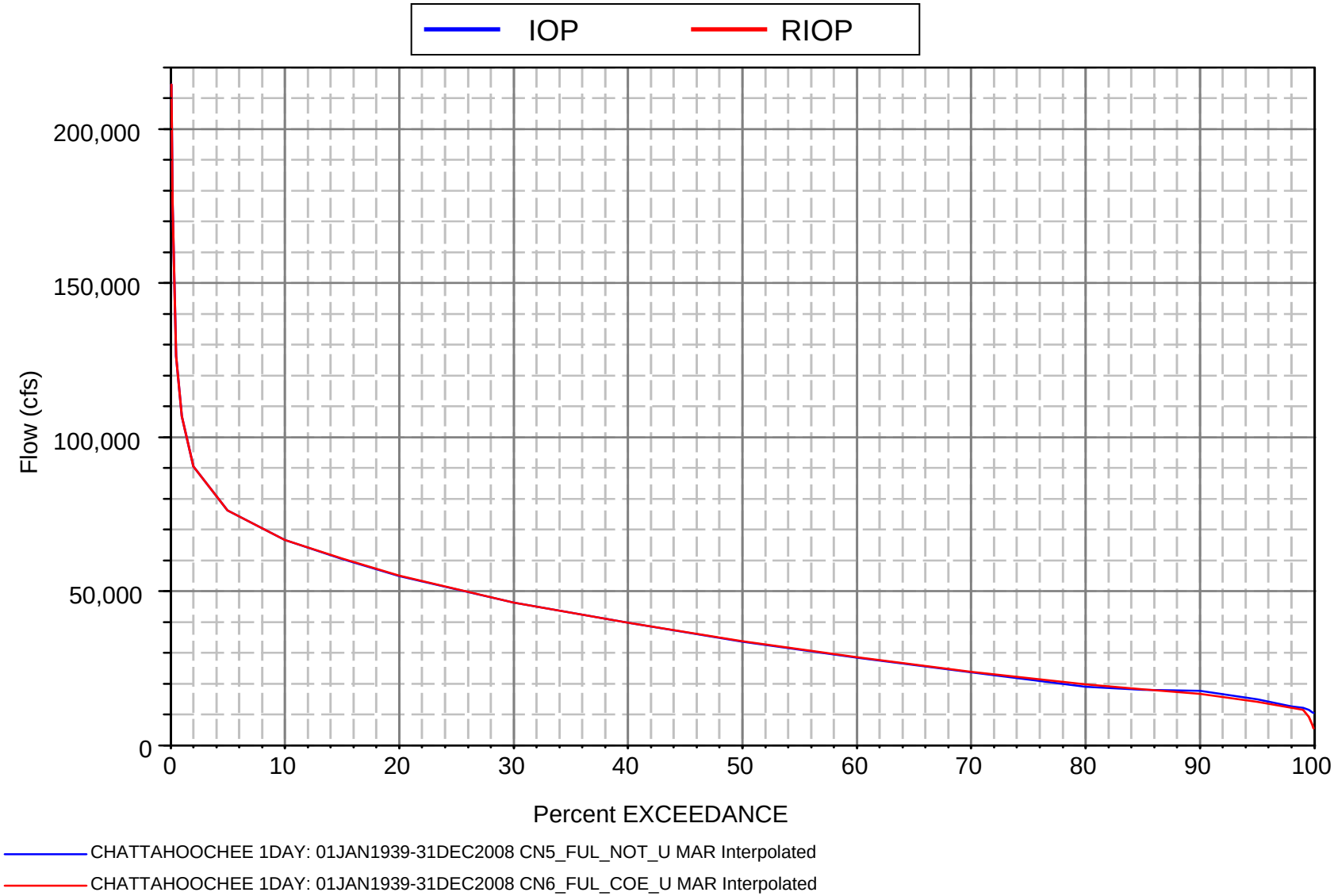
Chattahoochee Annual Flow Duration



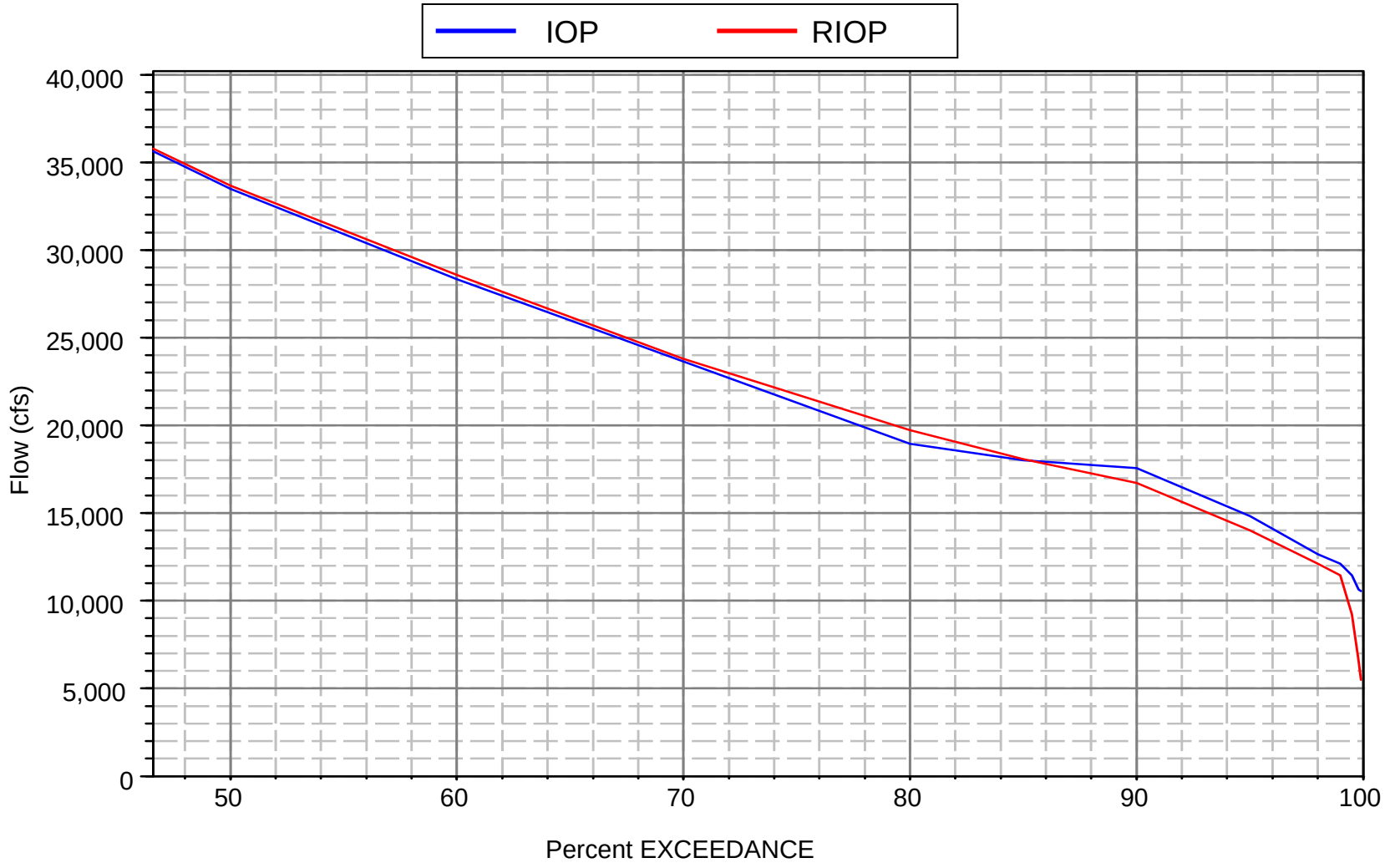
Chattahoochee Monthly Flow Duration

- The following slides compare the monthly flow duration for the current IOP and the Revised IOP
- The major difference occurs during the extreme low flow events (15 Percentile).
- Under the Revised IOP, flows are reduced during the spawning months March-May as the composite storage transitions from zone 2 to zone 3
- The minimum flow requirement is not the driver of the system, because the 90th percentile flow is greater than the required flow.
- During the dry months Sep – Nov the Revised IOP is less than the IOP because of the drought plan. (for example the 90th percentile is 6500 under the IOP but 5000 under the Revised IOP.

Monthly Flow Duration - March



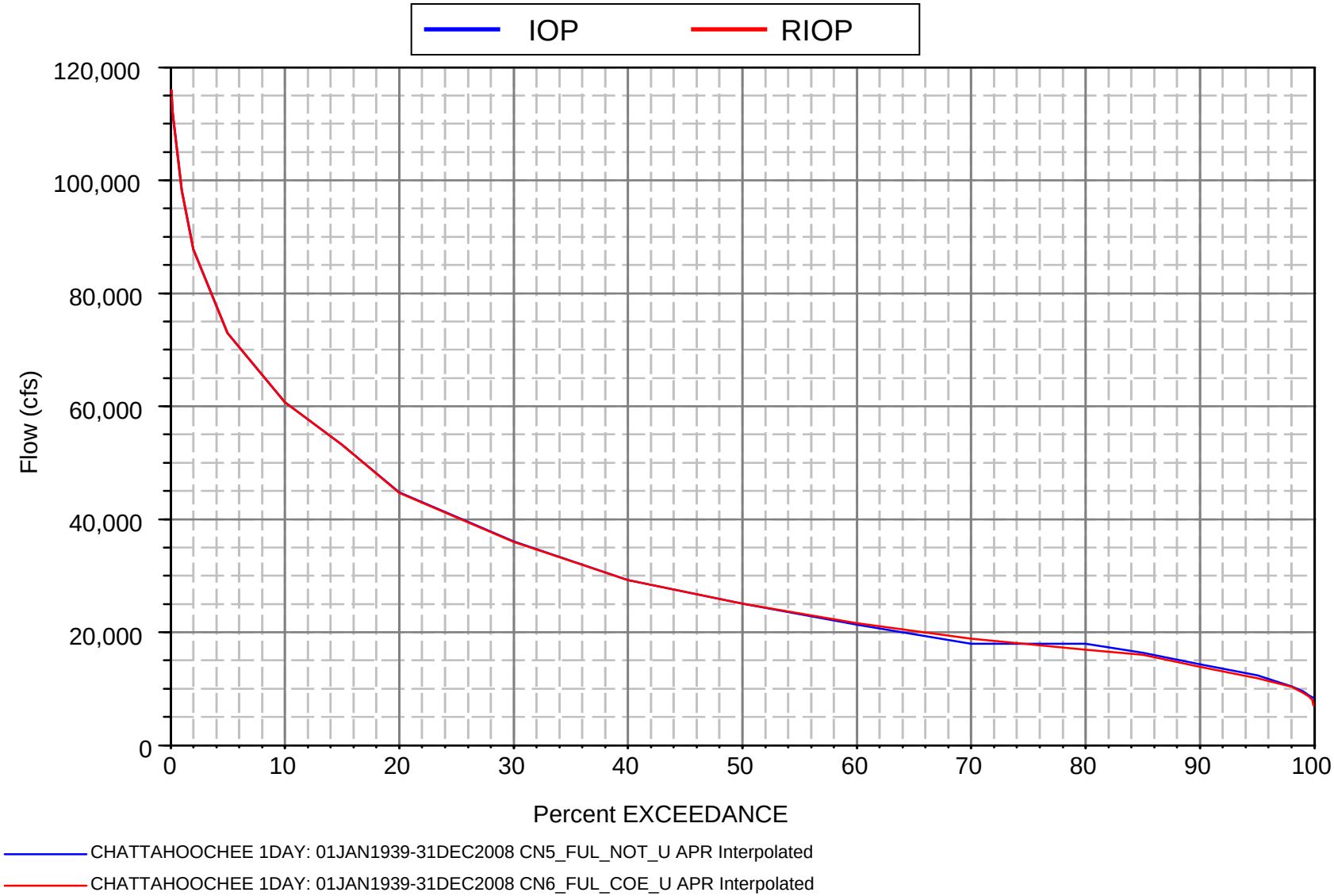
Monthly Flow Duration - March



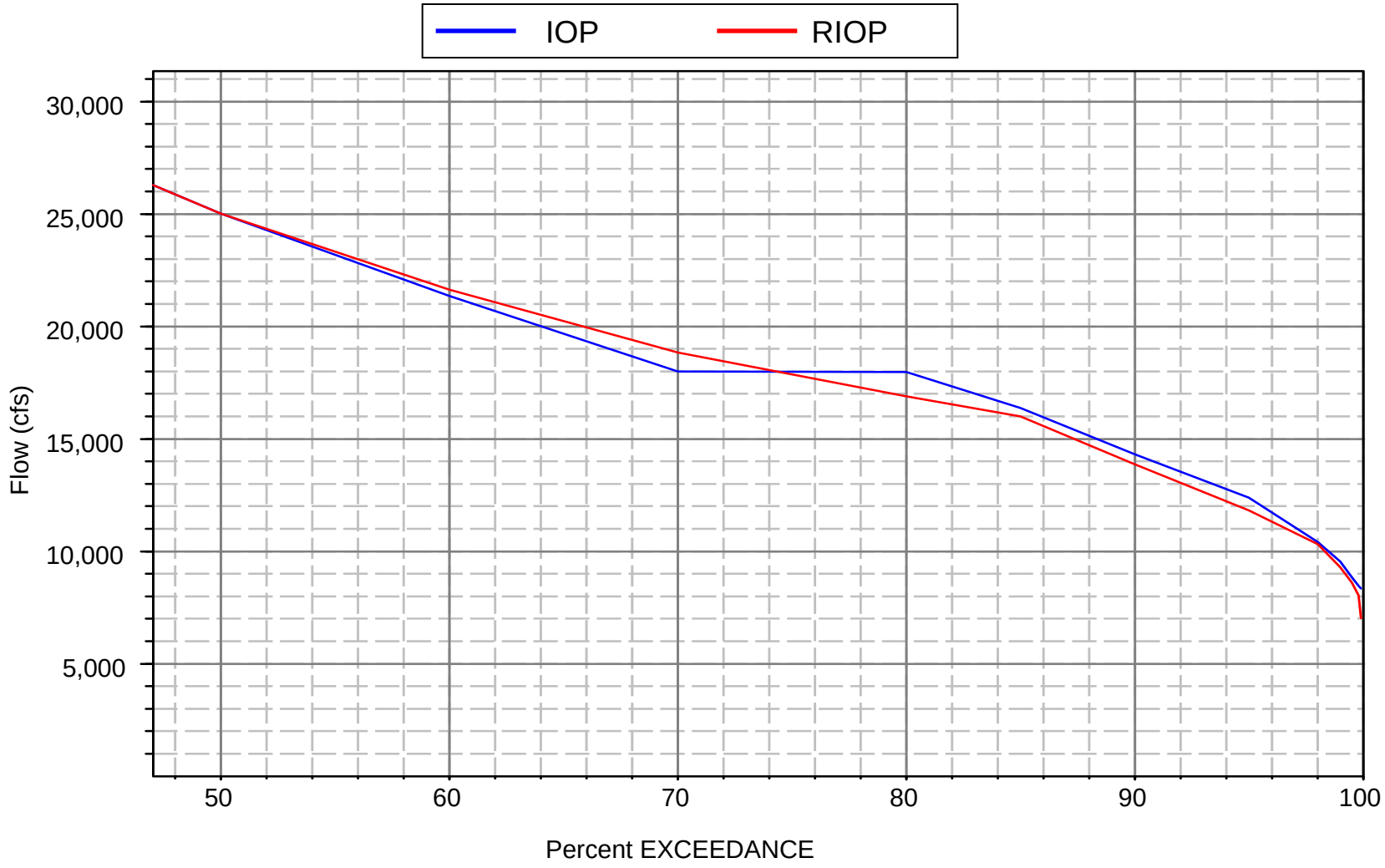
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U MAR Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U MAR Interpolated

Monthly Flow Duration - April



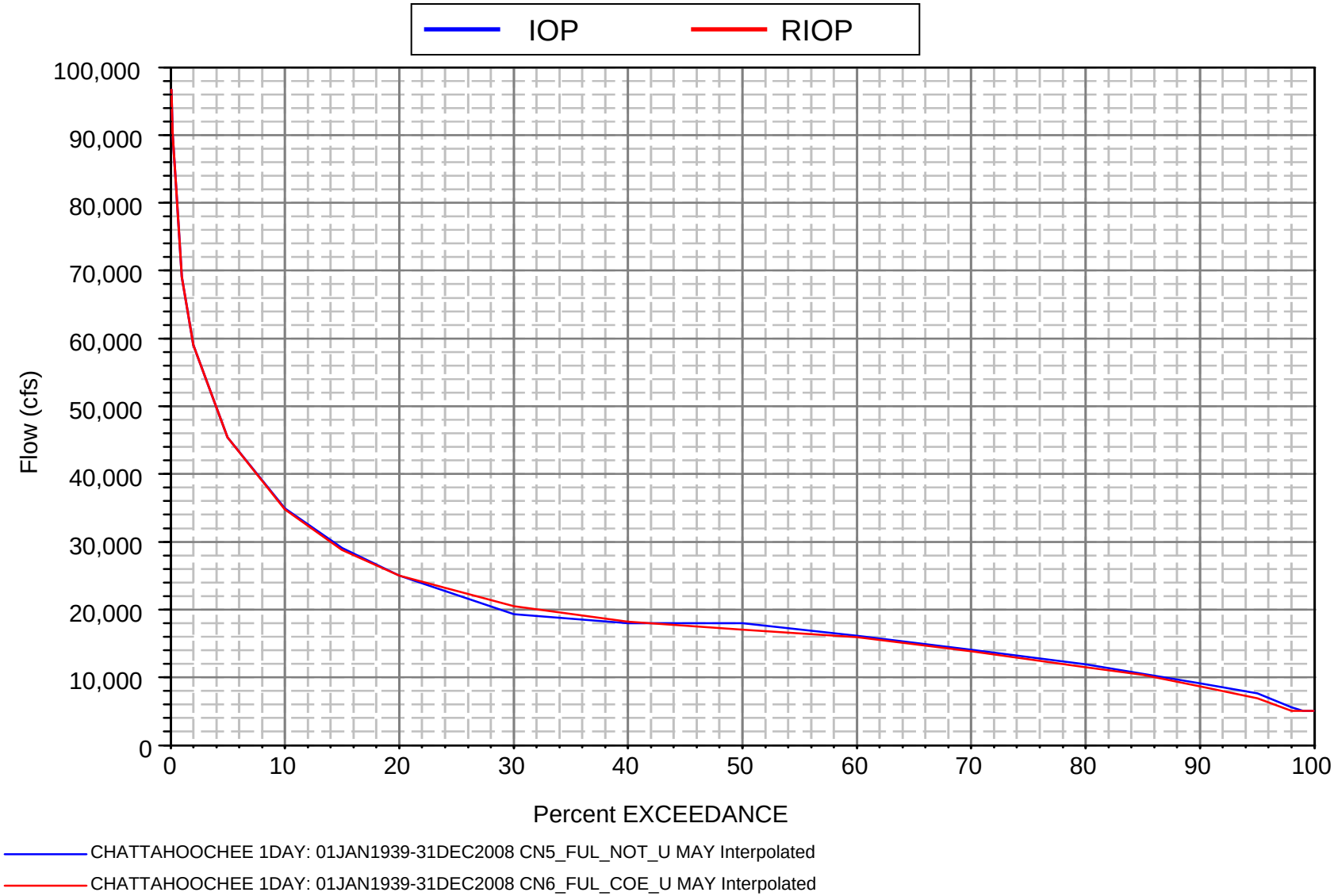
Monthly Flow Duration - April



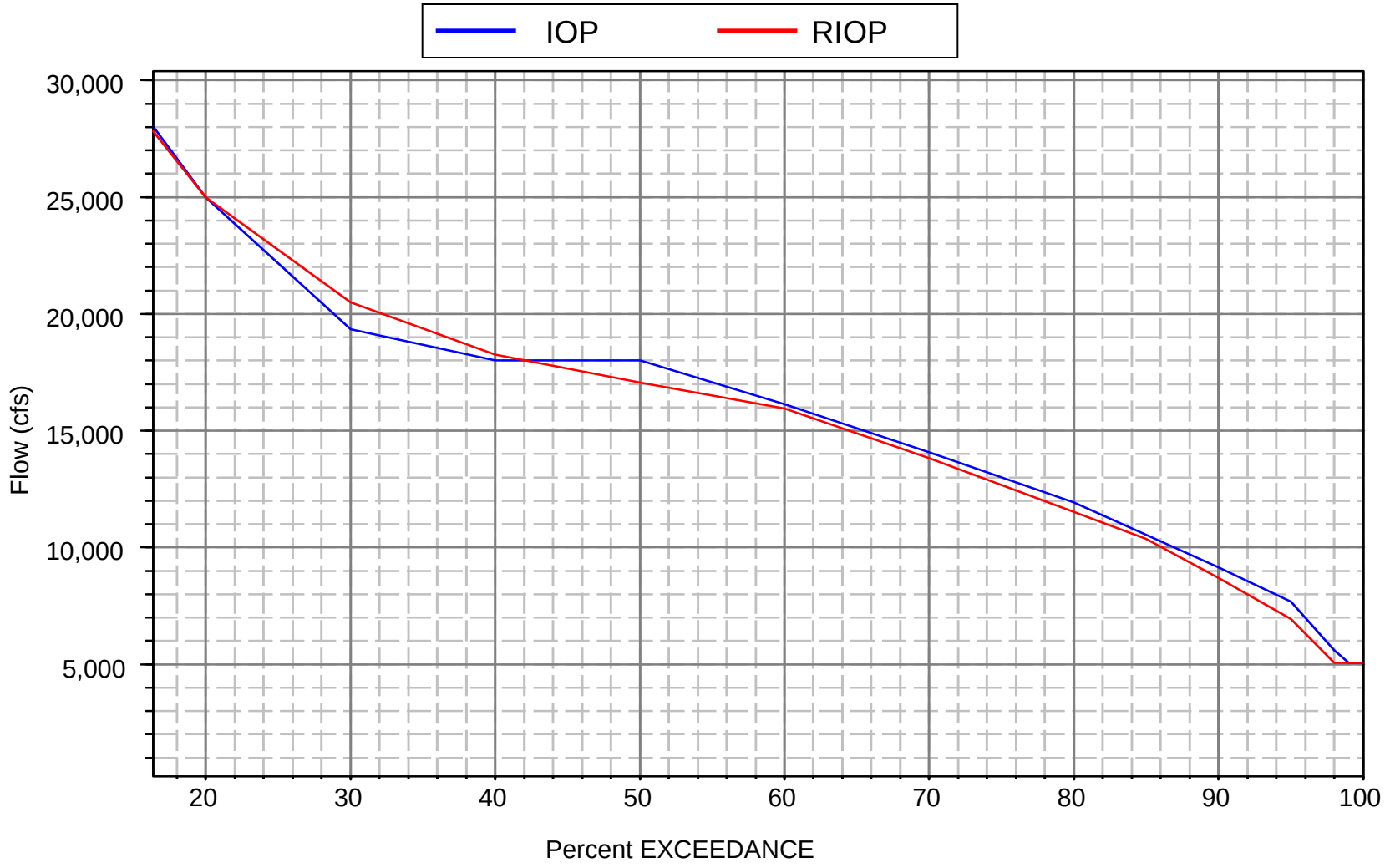
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U APR Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U APR Interpolated

Monthly Flow Duration - May



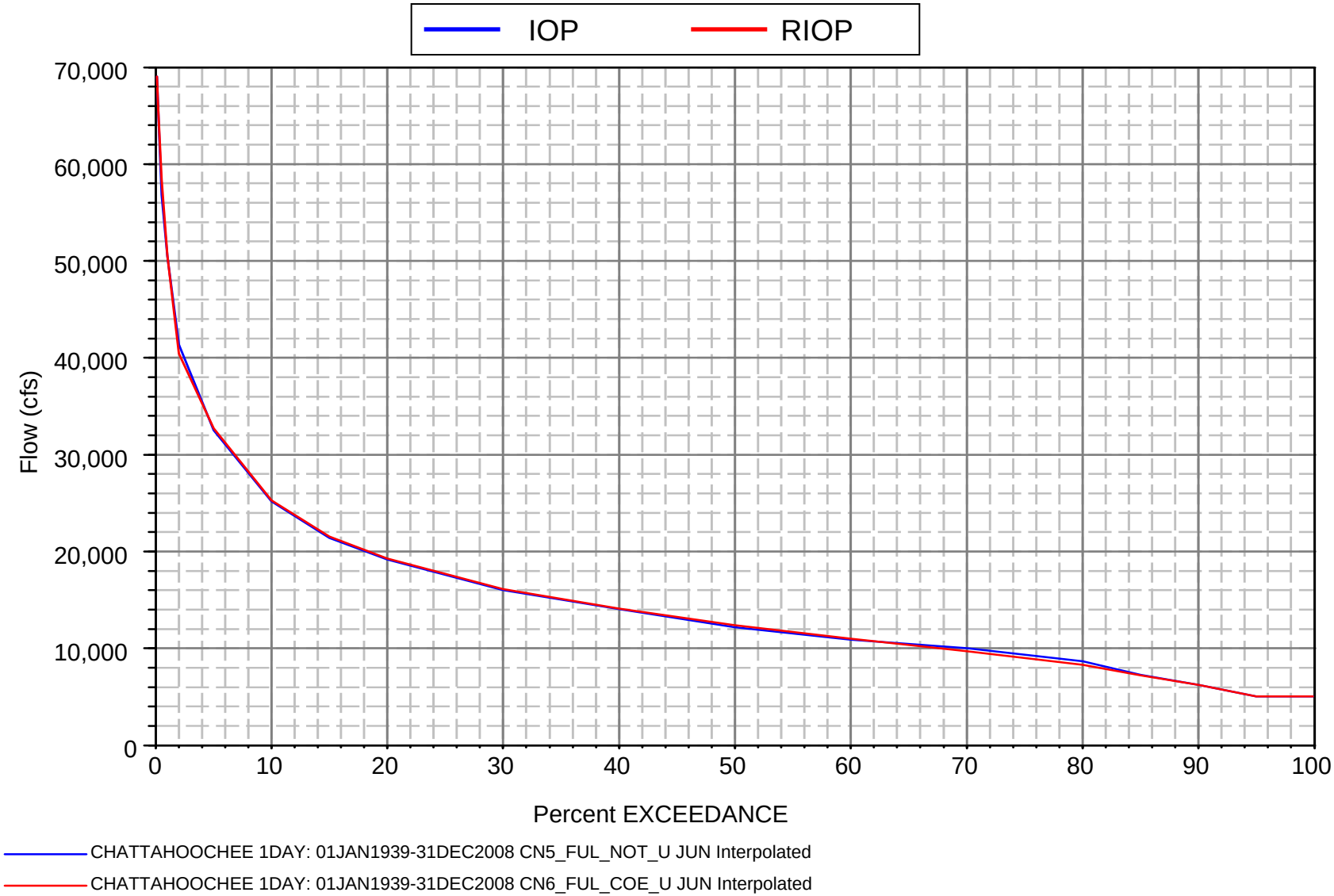
Monthly Flow Duration - May



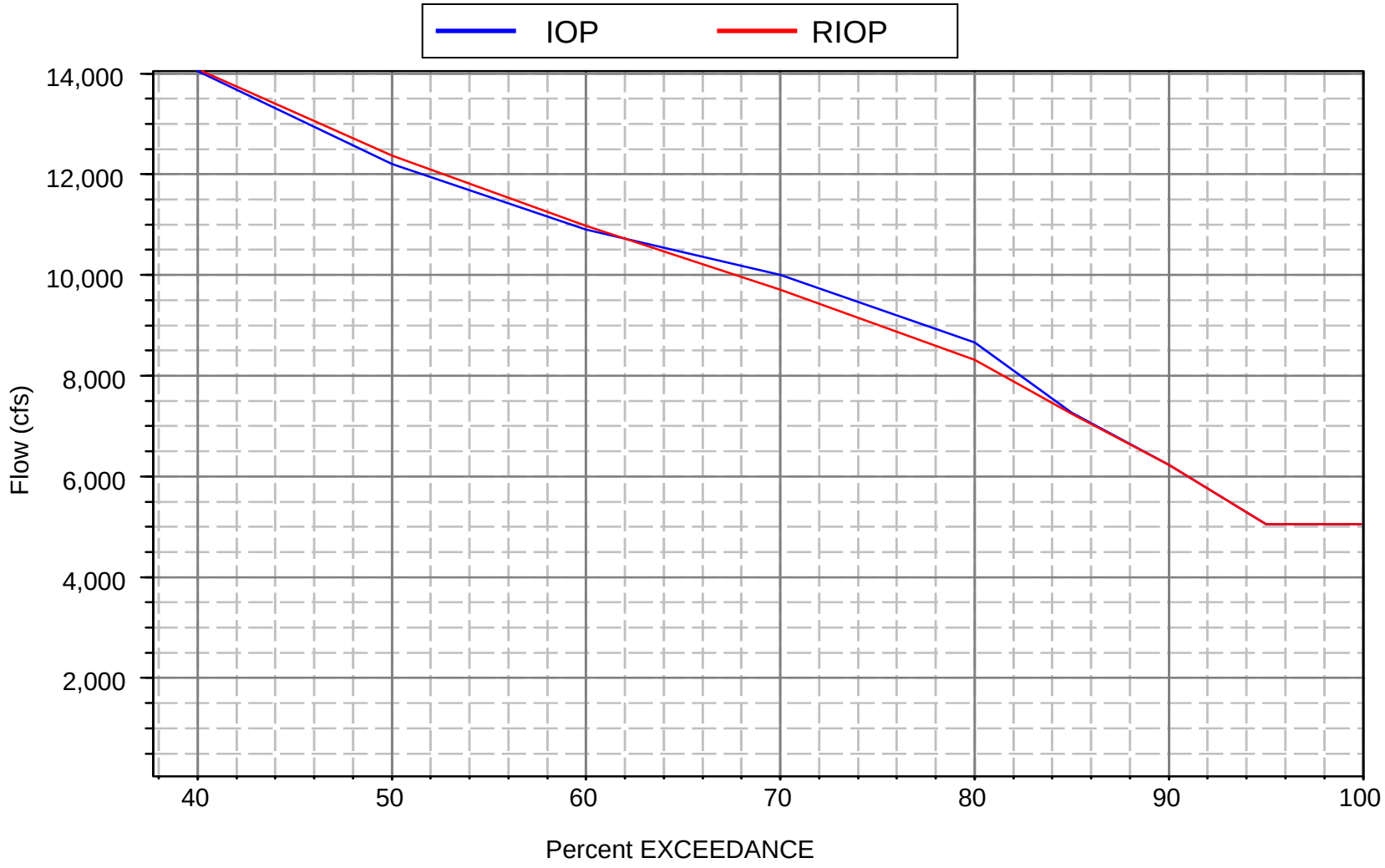
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U MAY Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U MAY Interpolated

Monthly Flow Duration - June



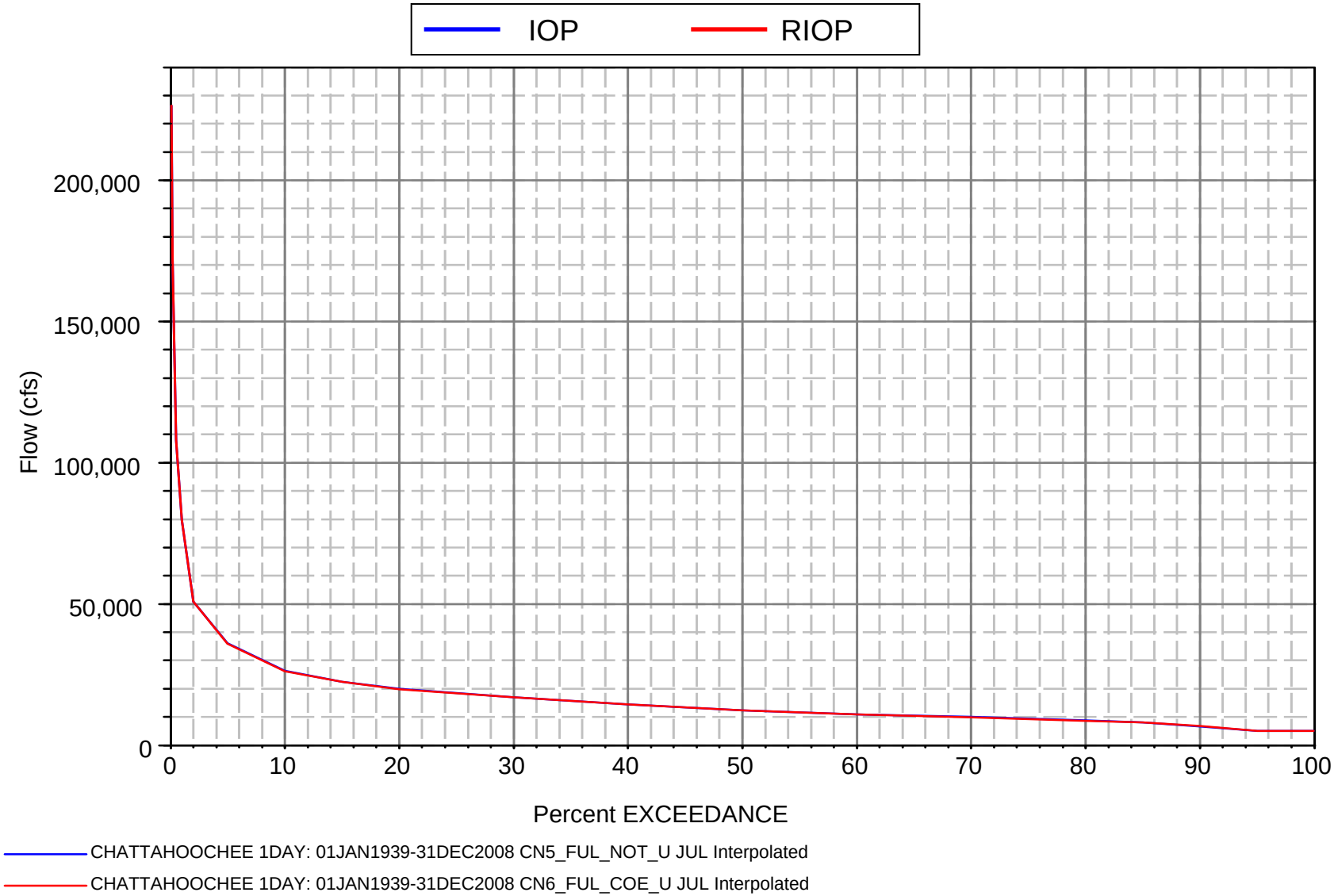
Monthly Flow Duration - June



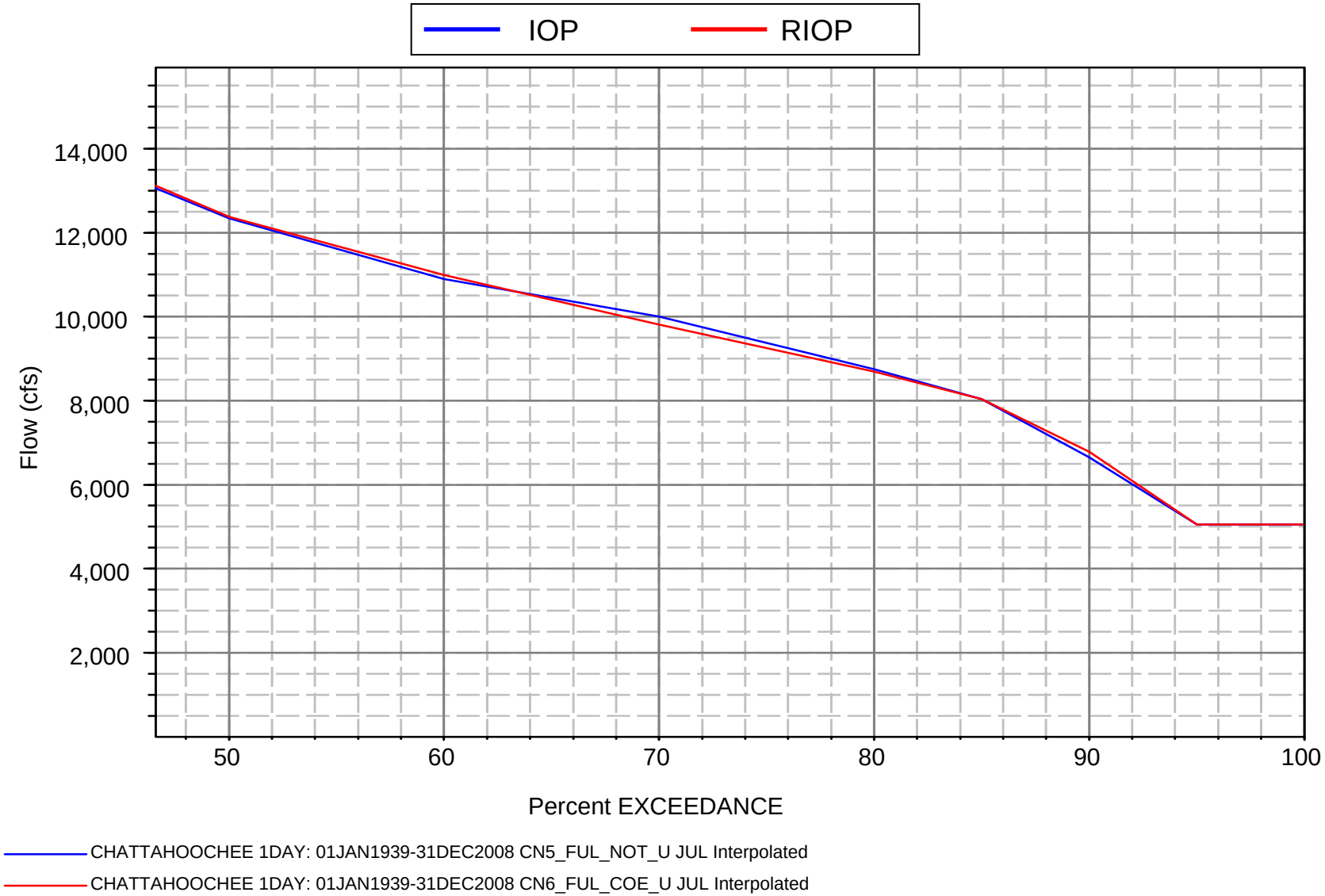
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U JUN Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U JUN Interpolated

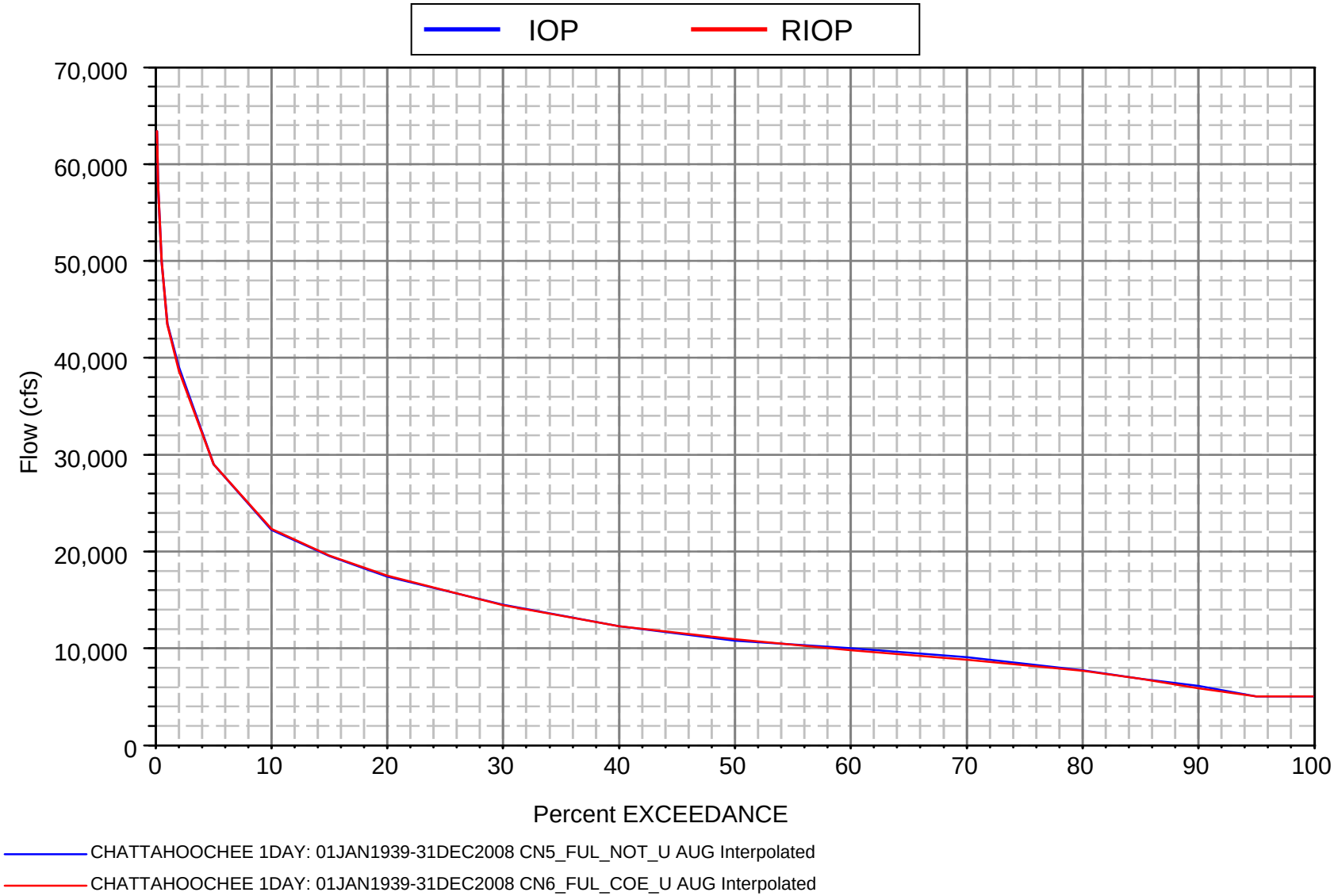
Monthly Flow Duration - July



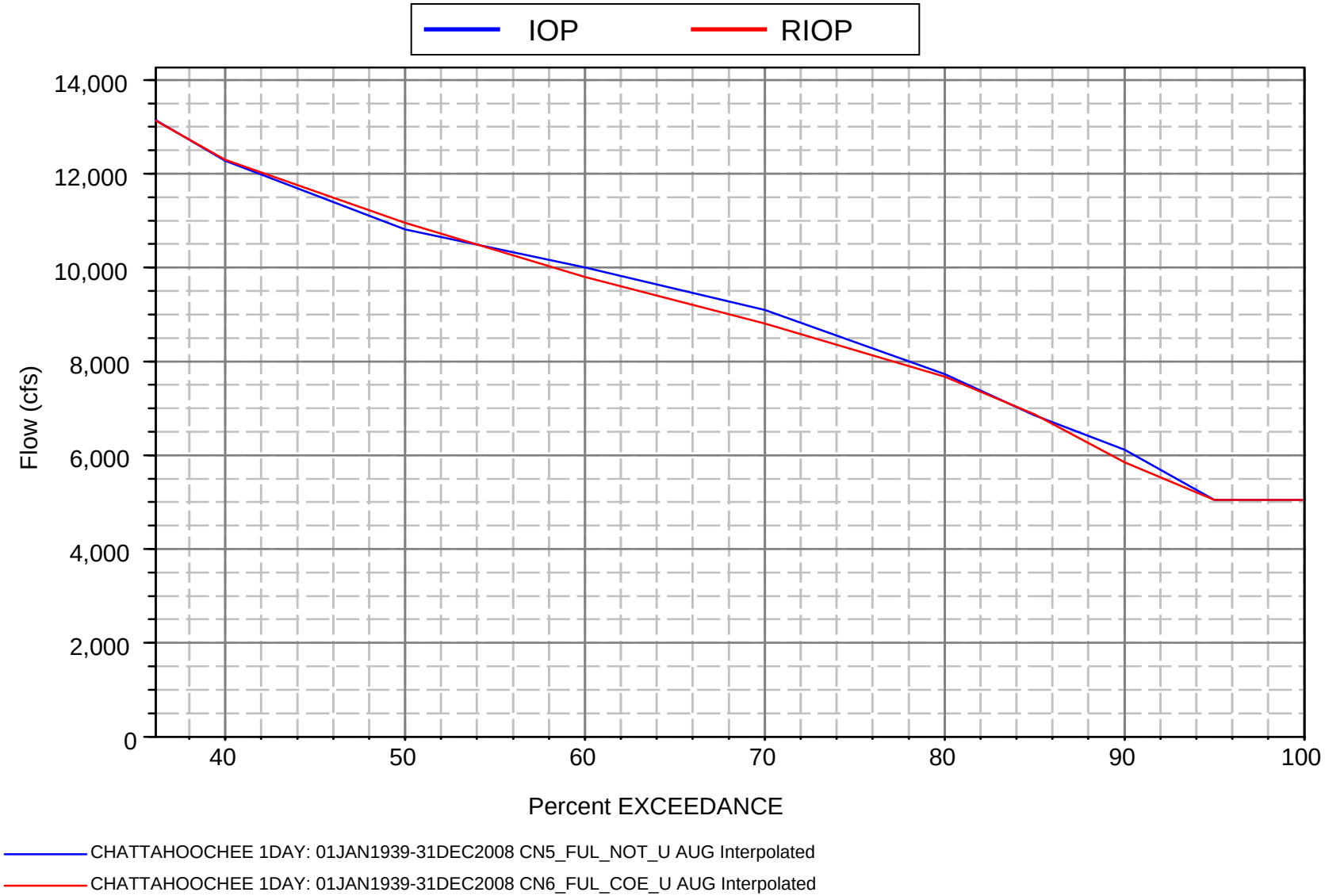
Monthly Flow Duration - July



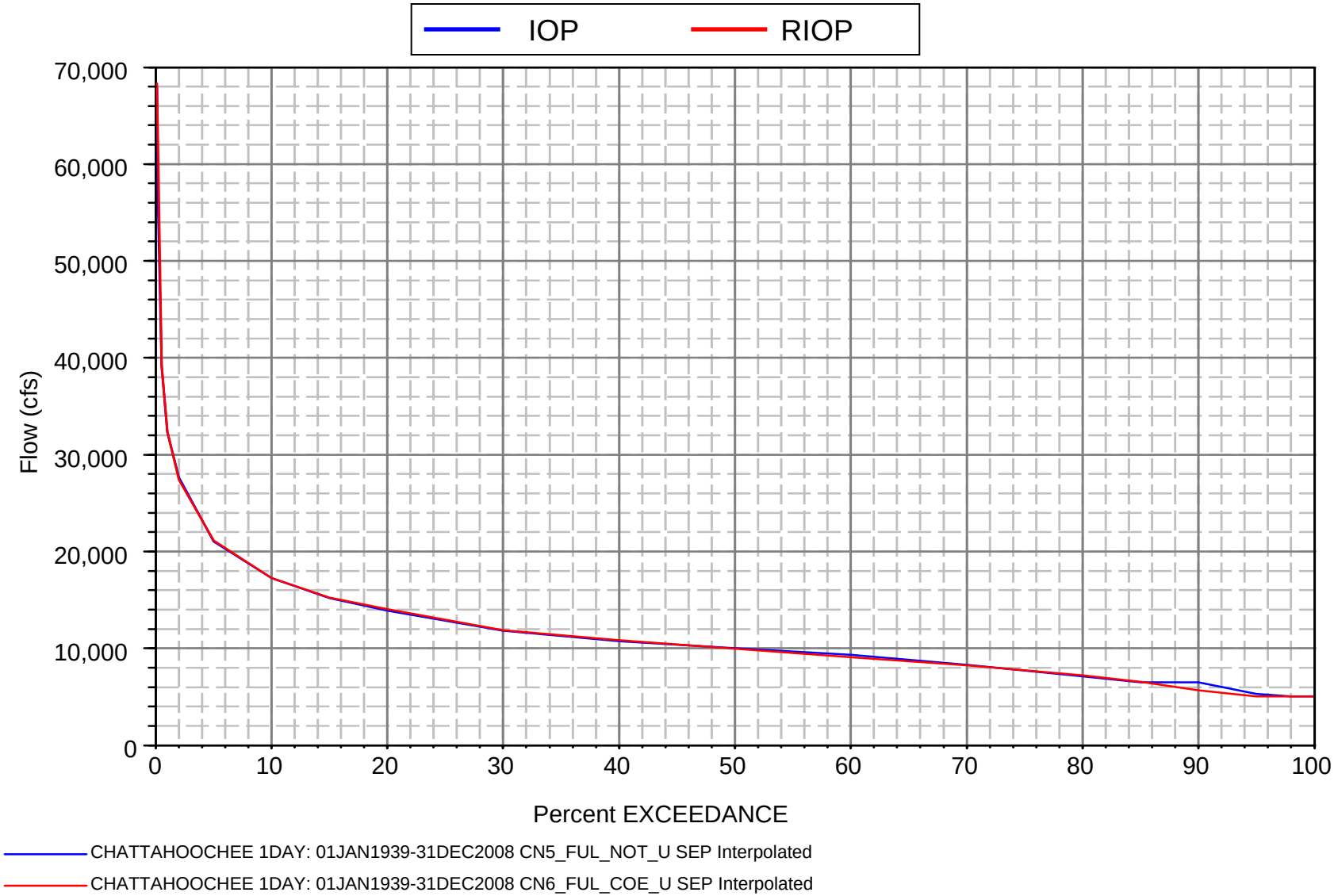
Monthly Flow Duration - August



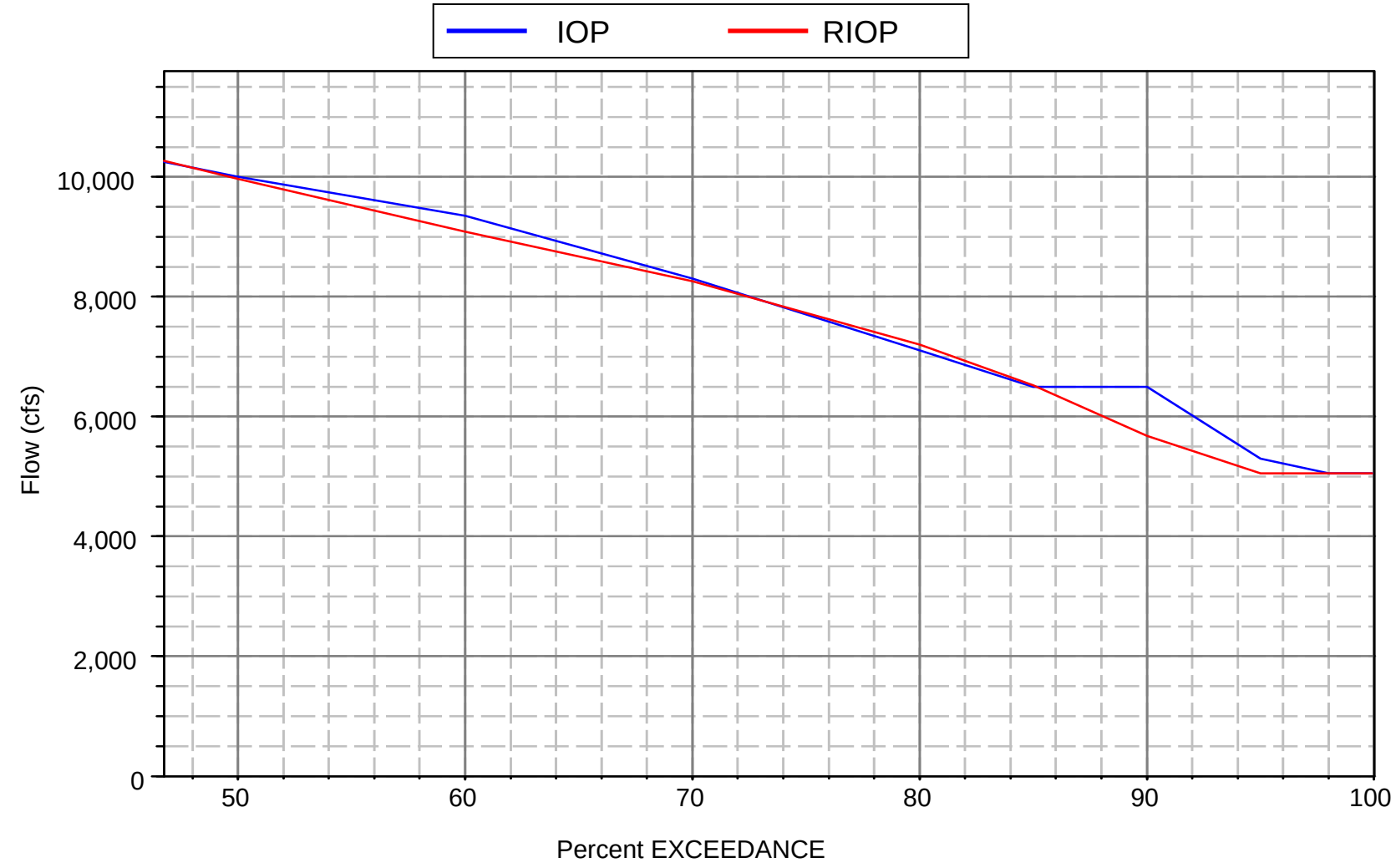
Monthly Flow Duration - August



Monthly Flow Duration - September



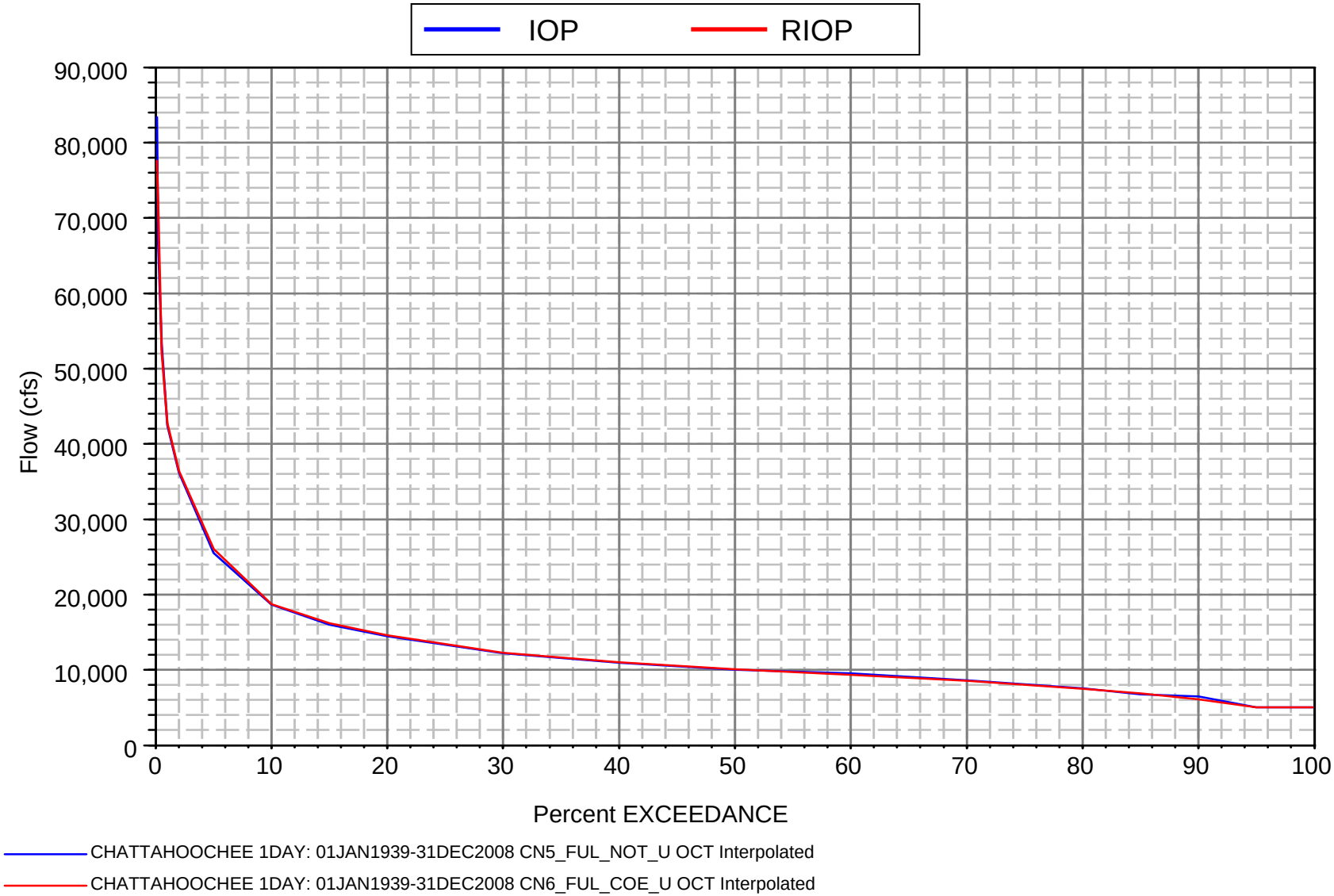
Monthly Flow Duration - September



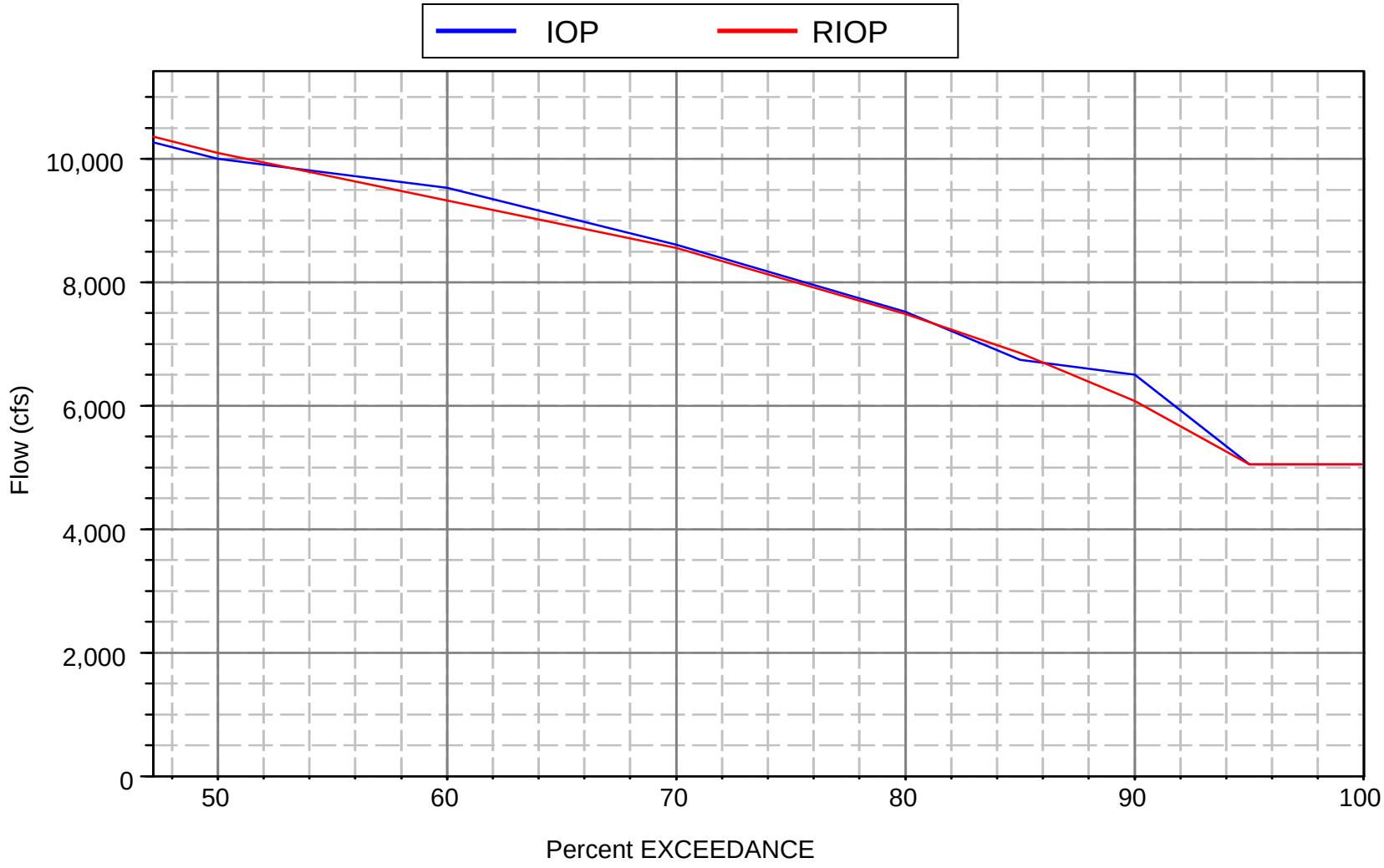
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U SEP Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U SEP Interpolated

Monthly Flow Duration - October



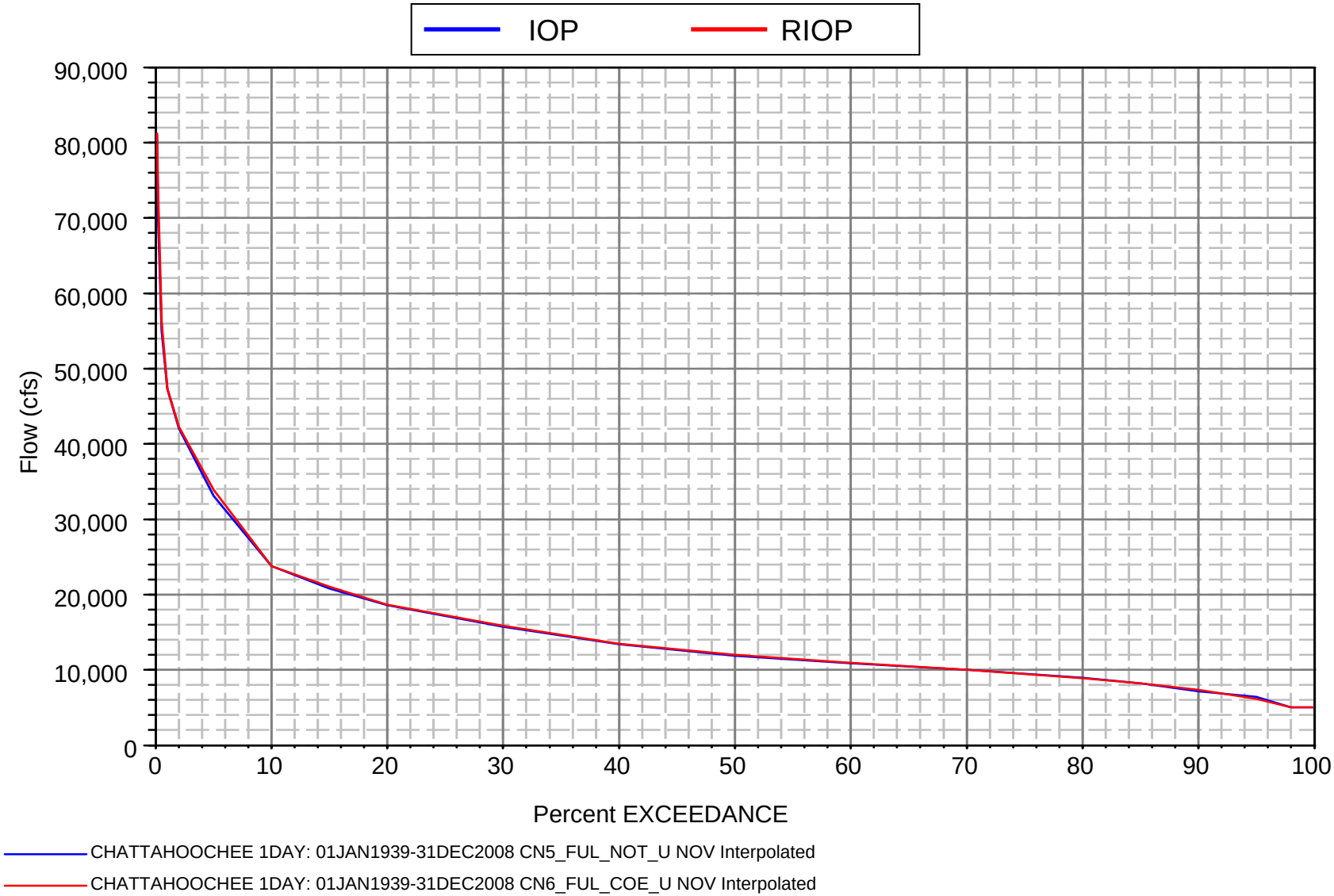
Monthly Flow Duration - October



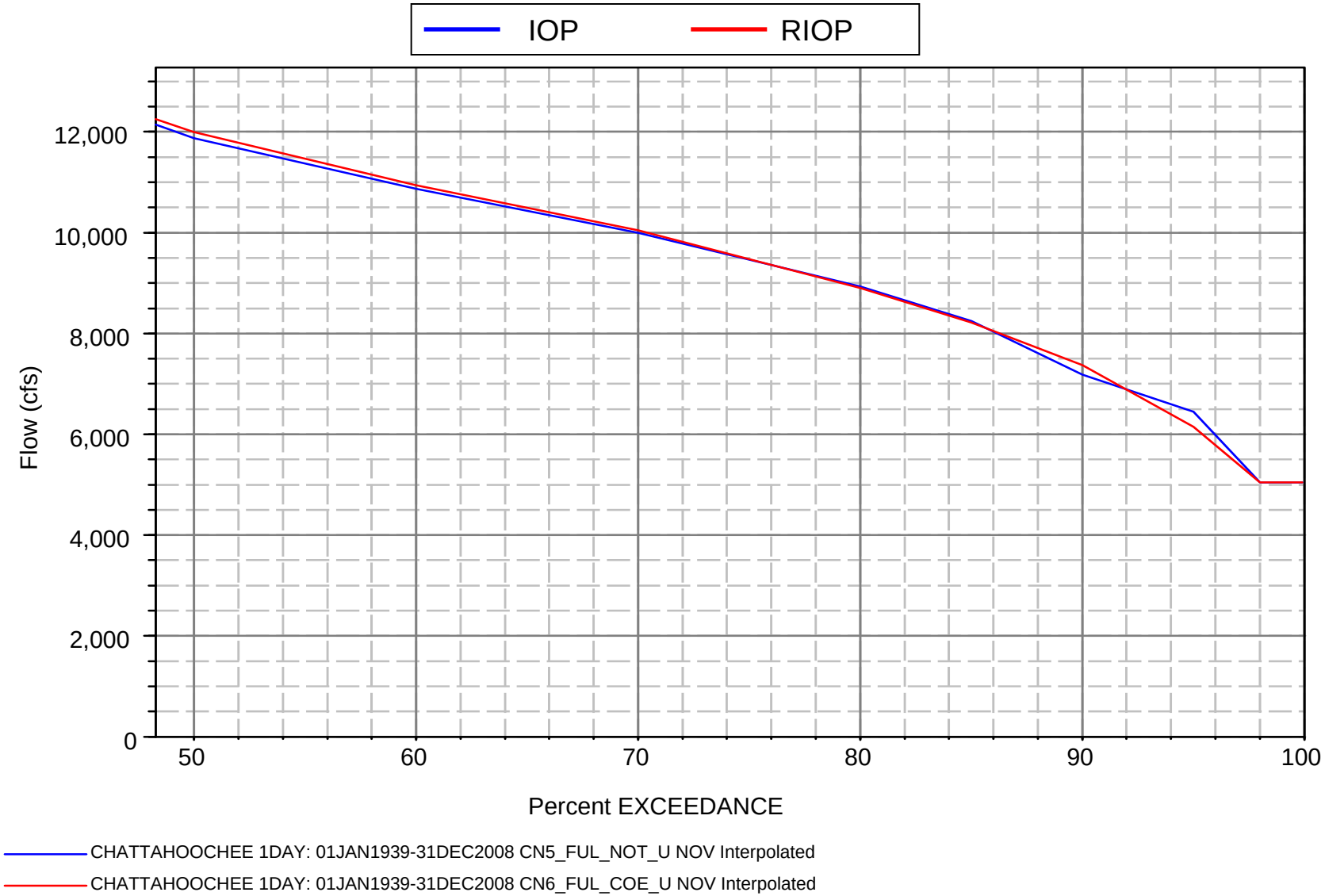
CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U OCT Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U OCT Interpolated

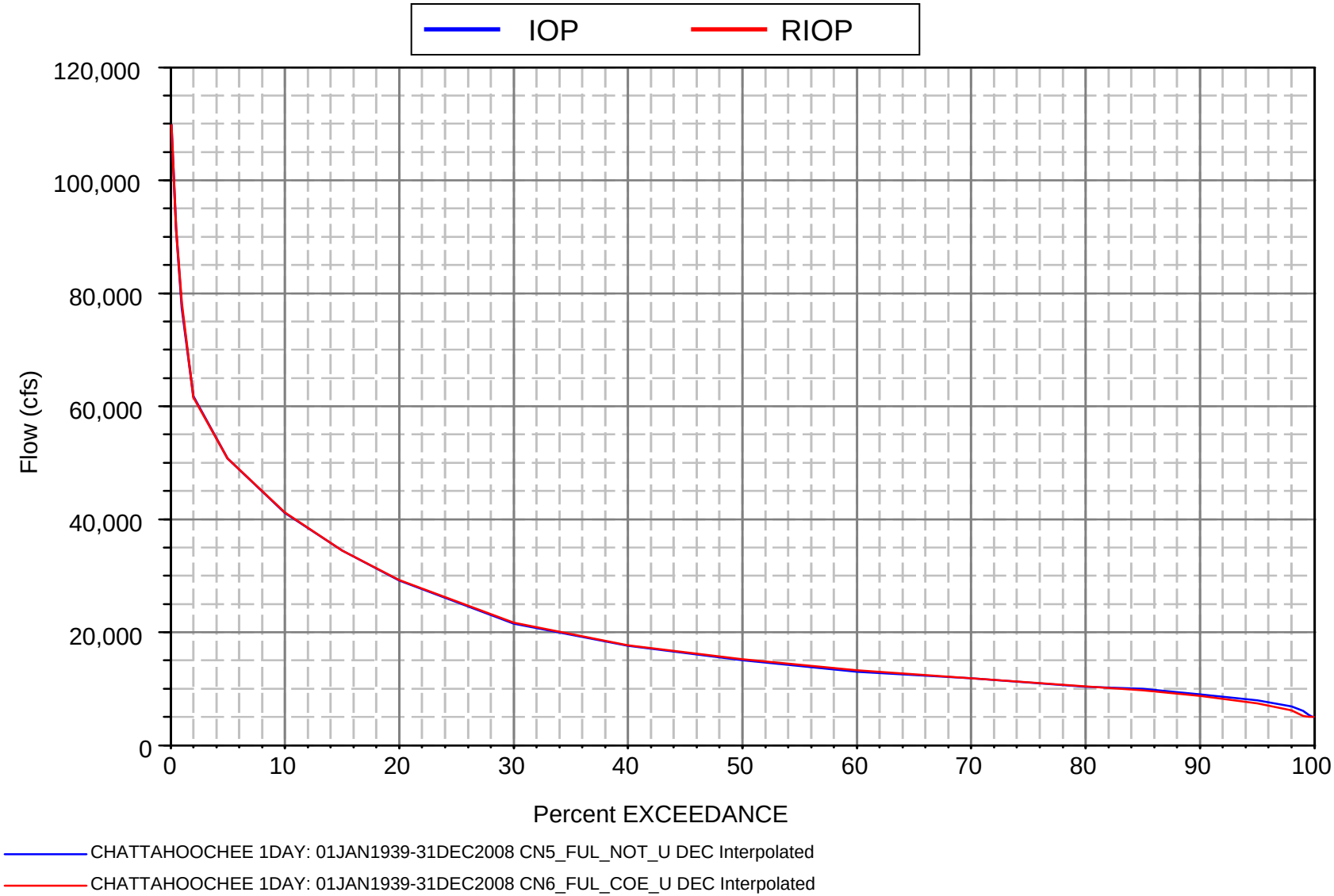
Monthly Flow Duration - November



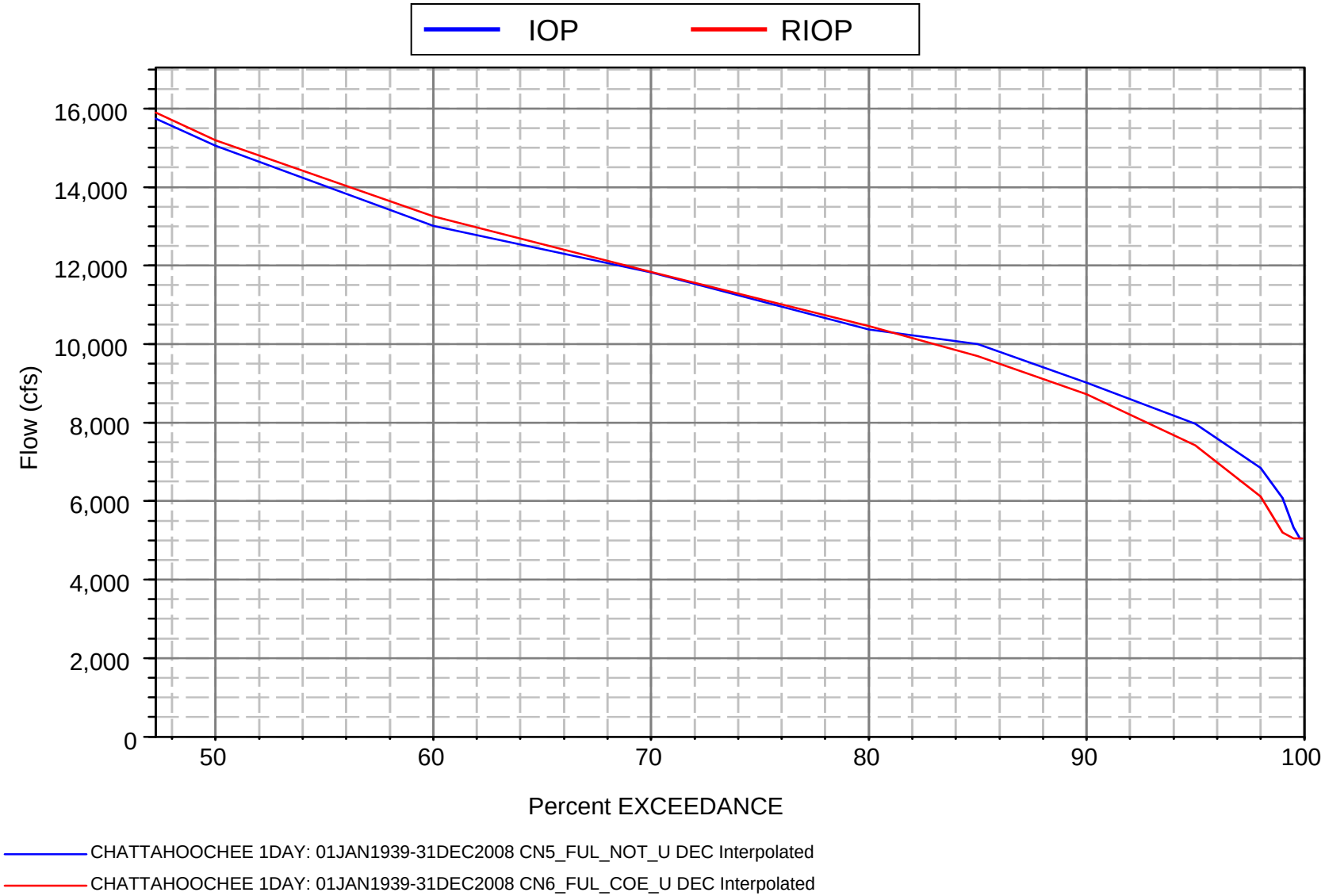
Monthly Flow Duration - November



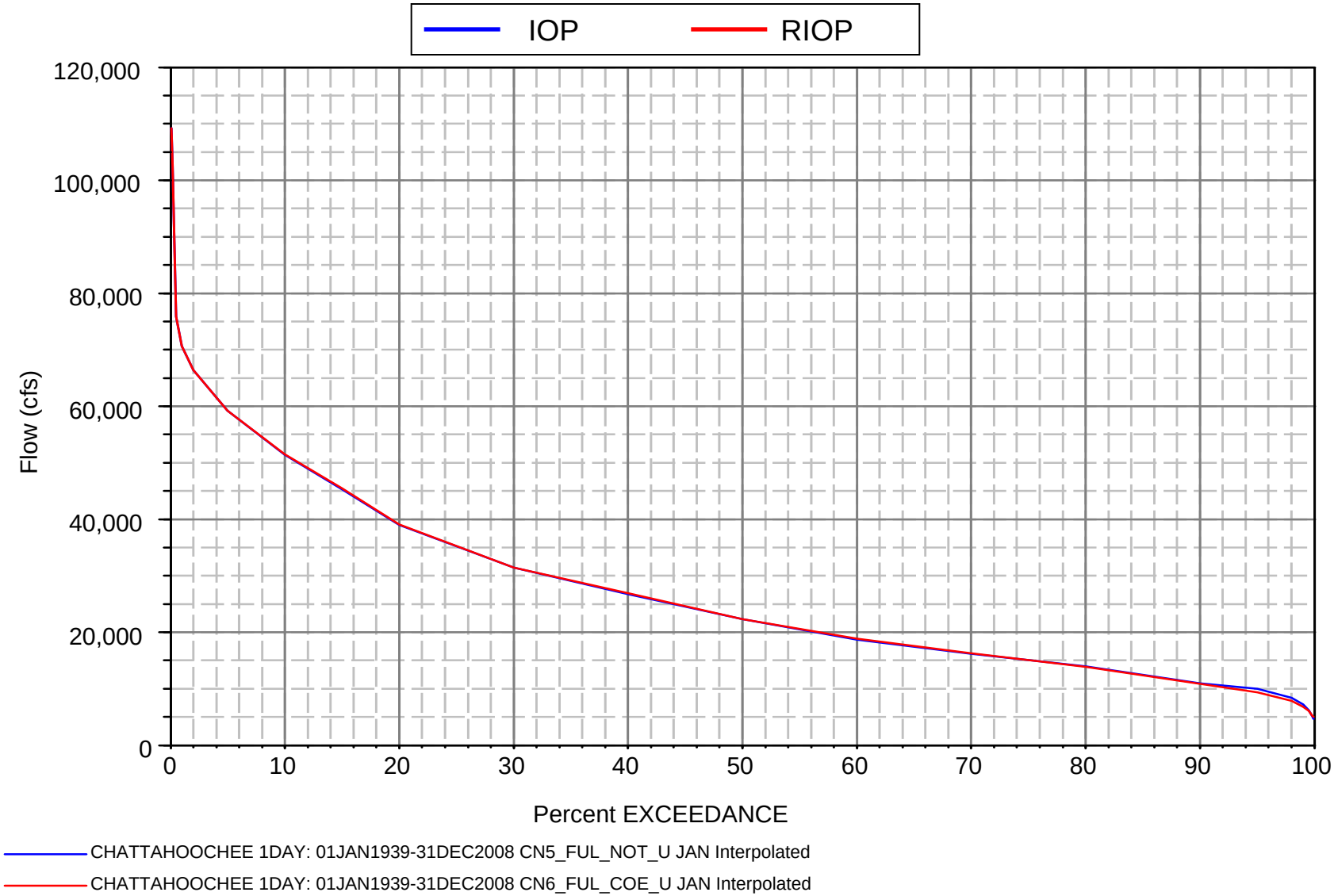
Monthly Flow Duration - December



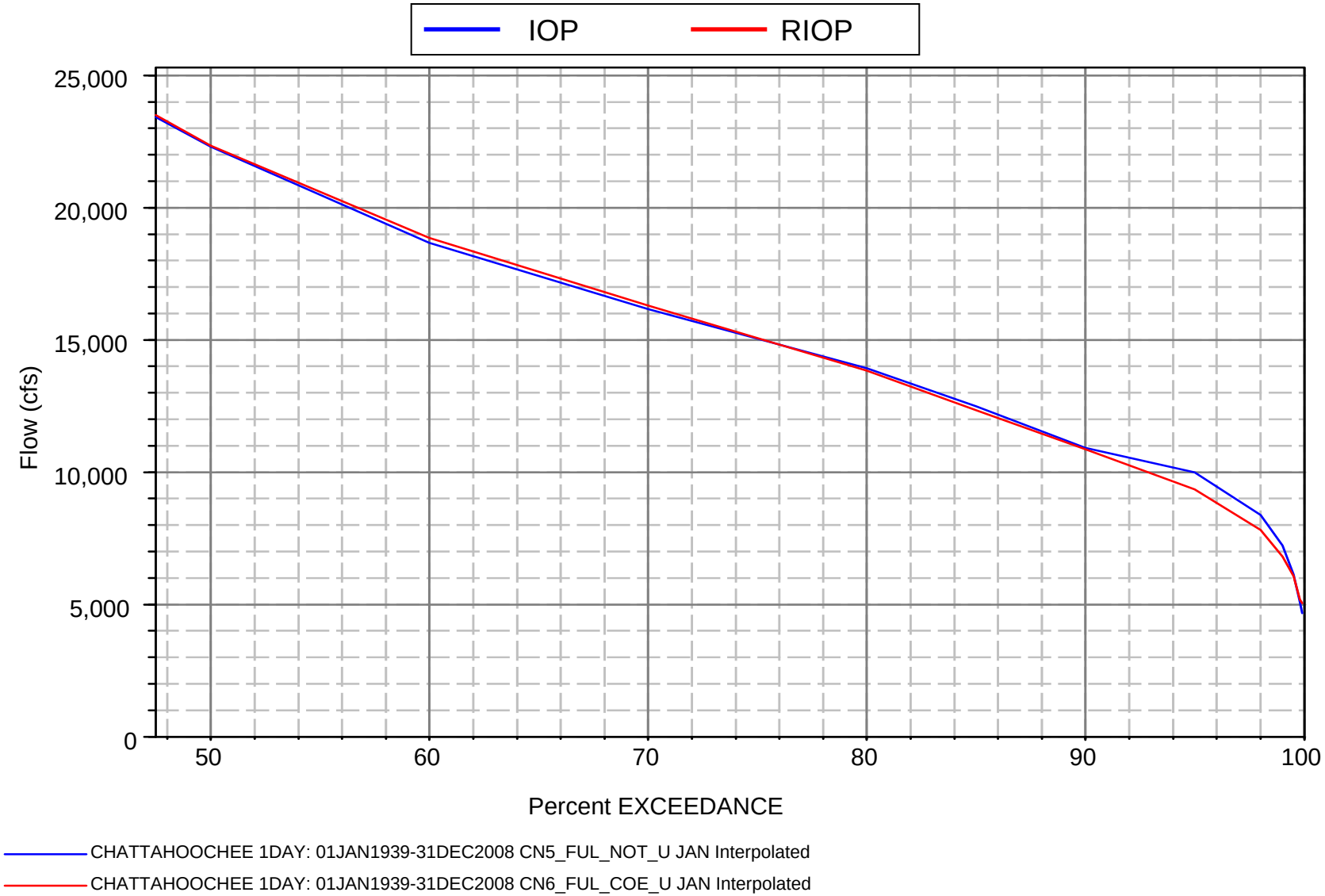
Monthly Flow Duration - December



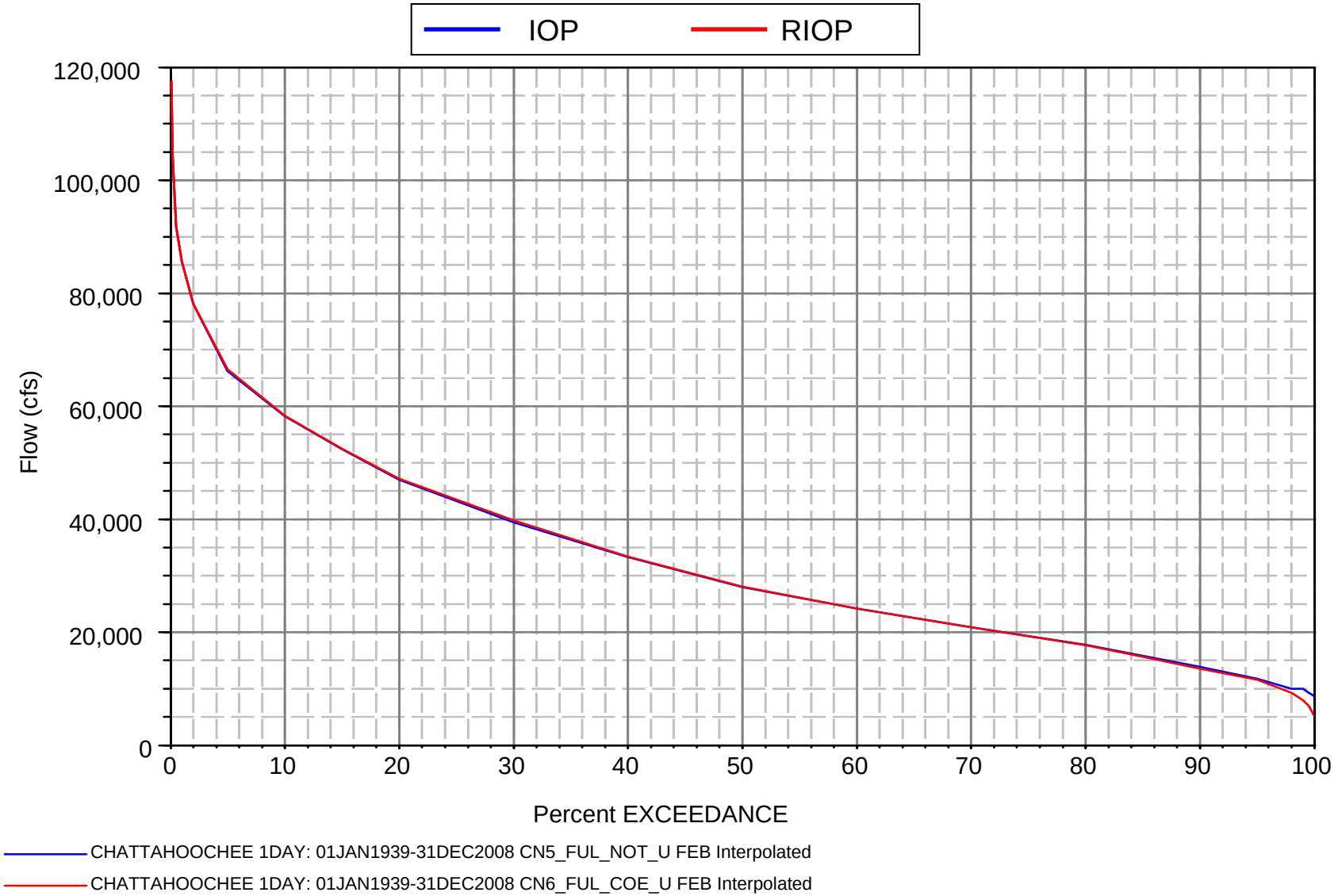
Monthly Flow Duration - January



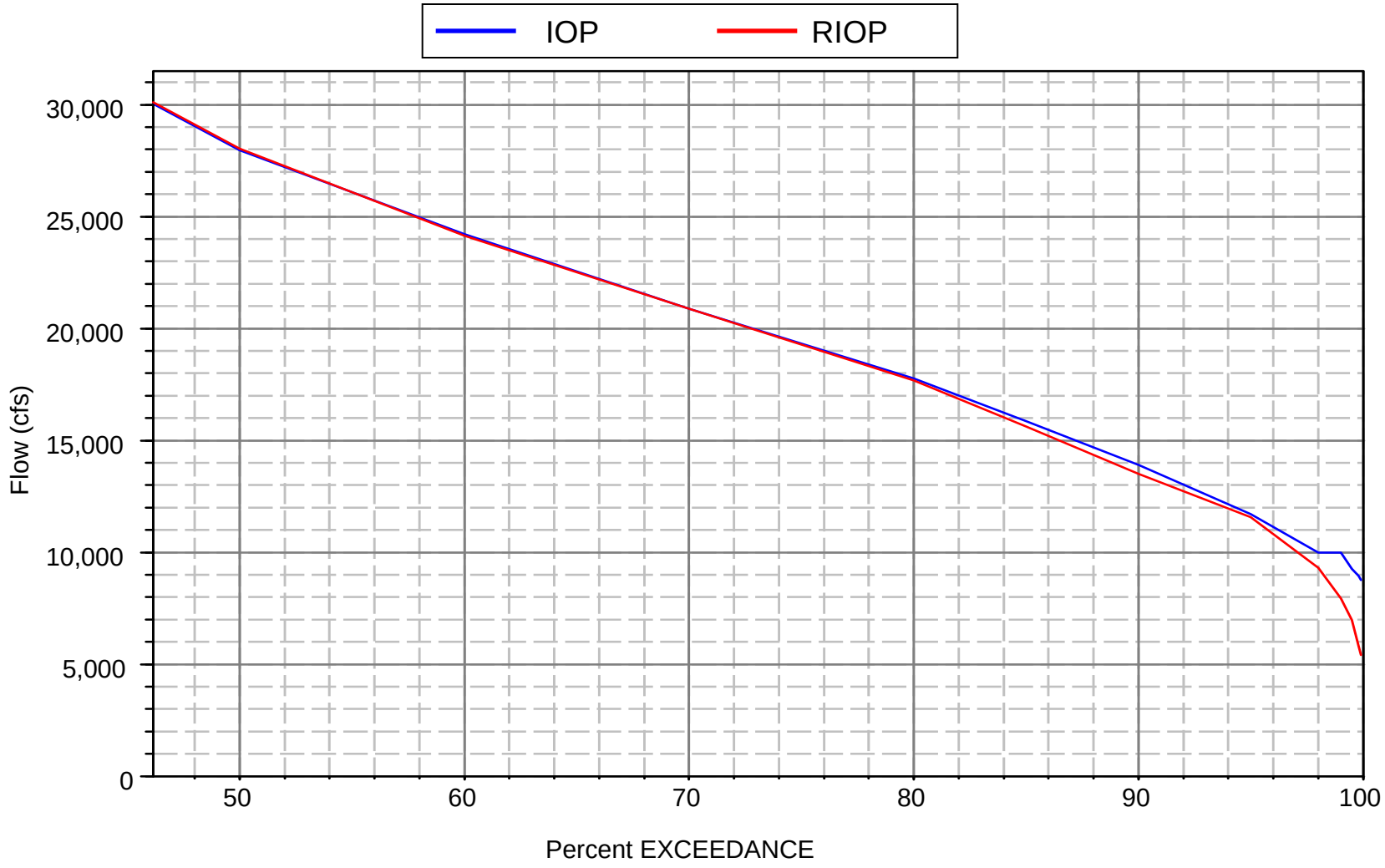
Monthly Flow Duration - January



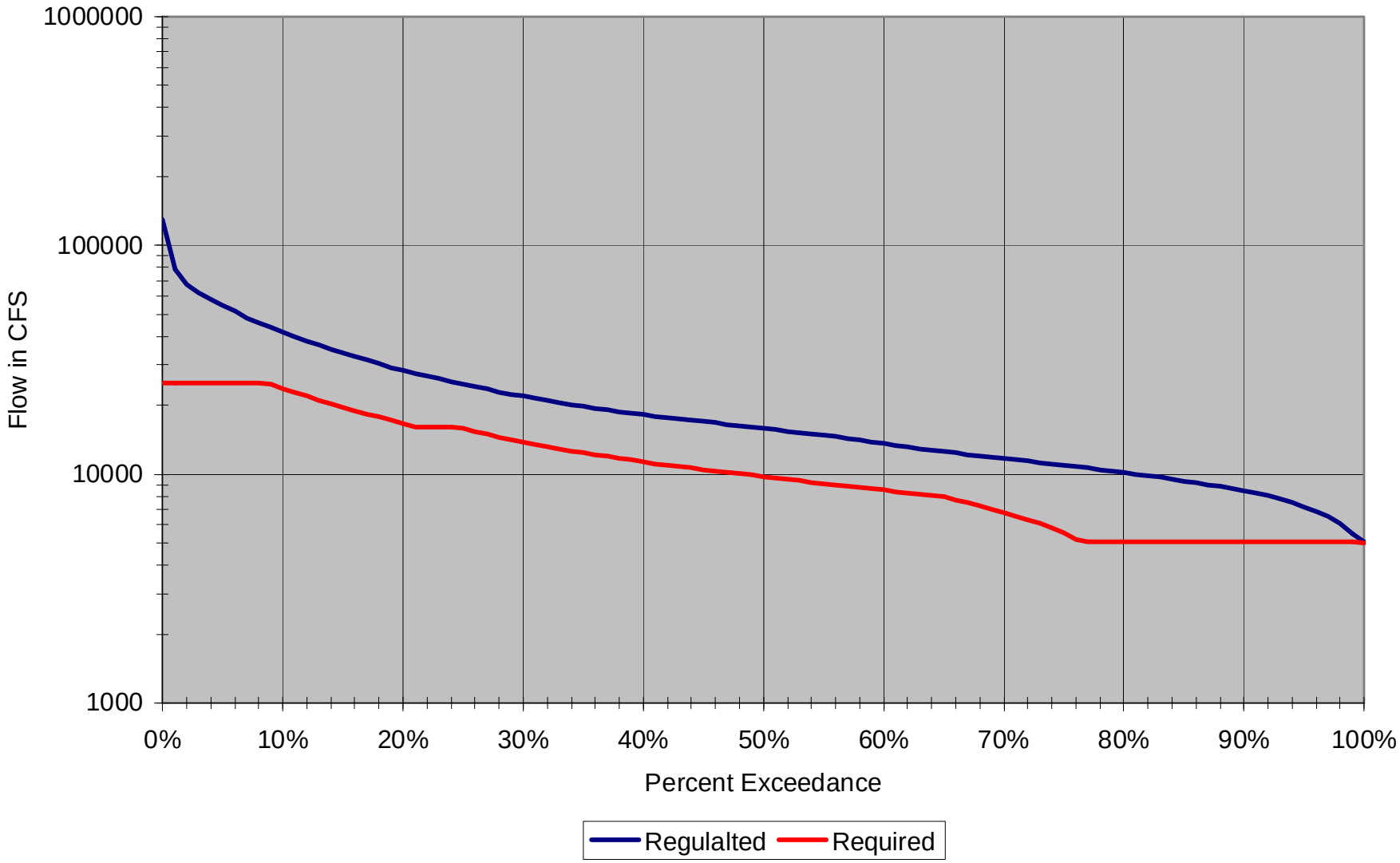
Monthly Flow Duration - February



Monthly Flow Duration - February



CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN5_FUL_NOT_U FEB Interpolated

CHATTAHOOCHEE 1DAY: 01JAN1939-31DEC2008 CN6_FUL_COE_U FEB Interpolated

RIOP Chattahoochee Flow Required vs Regulated