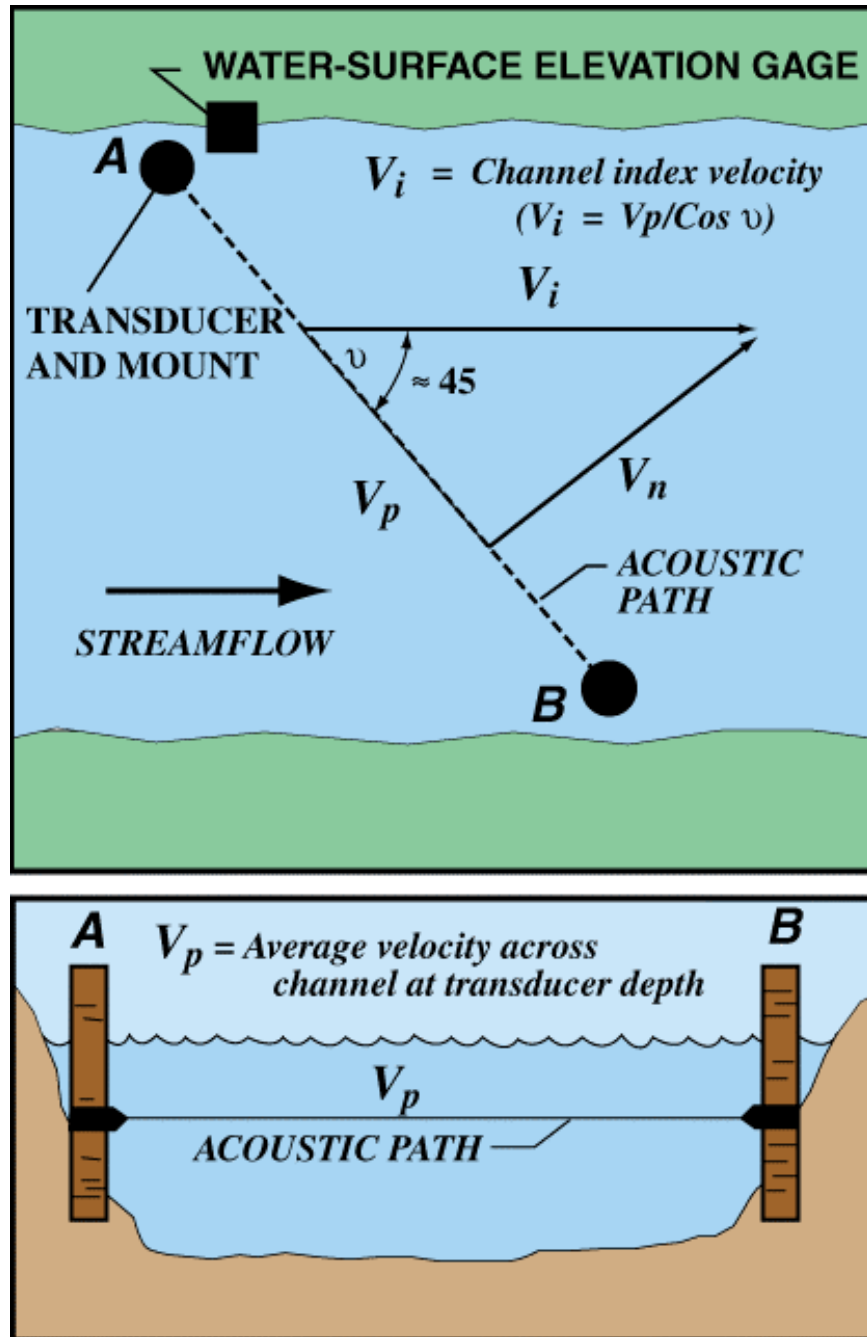




(Source: Oltmann and Simpson 1997.)

02053.02 101

Figure D-1
Map of Delta Showing Locations of
U.S. Geological Survey Tidal Ultrasonic Velocity Meters



(Source: Oltmann and Simpson 1997.)

02053.02 101

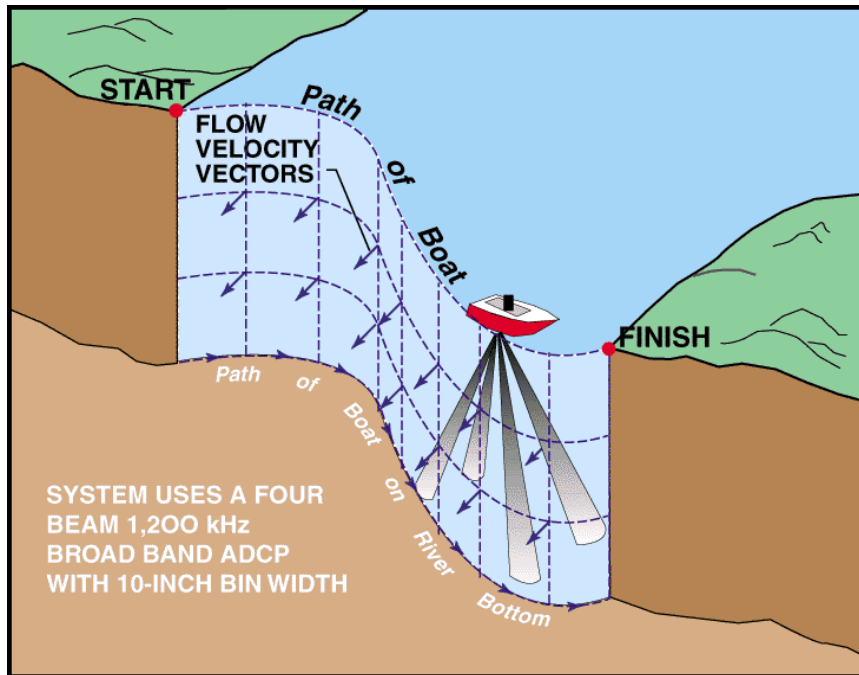


Figure D-3. Diagram of Acoustic-Doppler Current Profiling System Measurements of Tidal Flow for Providing a “Rating Curve” for Ultrasonic Velocity Meter Tidal Flow Station
(Source: Oltmann and Simpson 1997.)

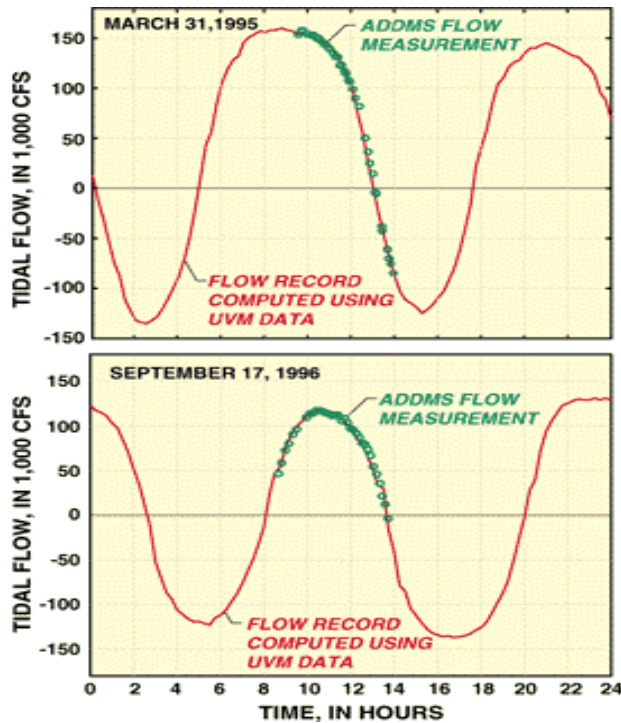
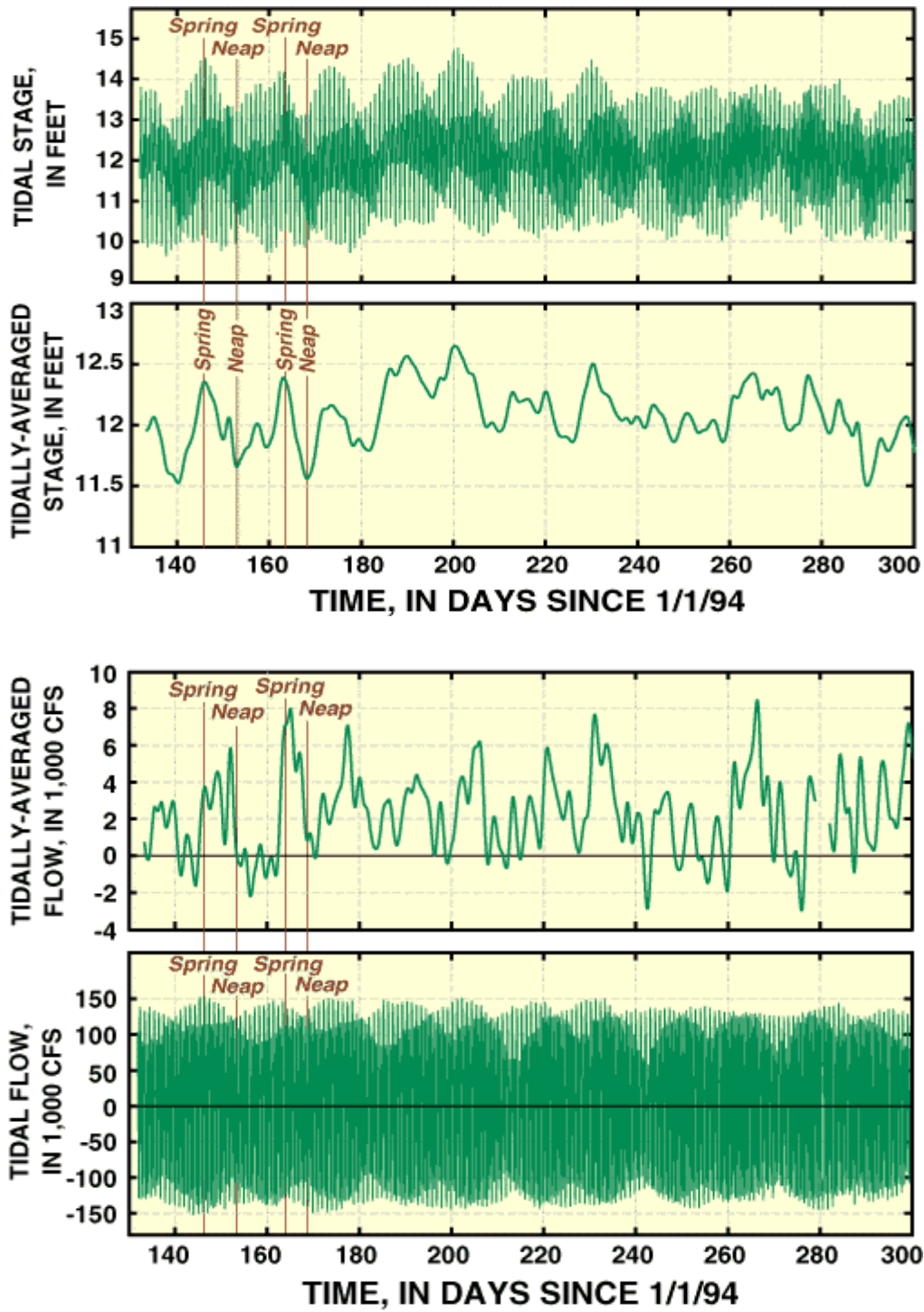


Figure D-4. Example of Comparison between the Acoustic-Doppler Current Profiling System Discrete Flows and Continuous Ultrasonic Velocity Meter Tidal Flows for San Joaquin River at Jersey Point
(Source: Oltmann and Simpson 1997.)

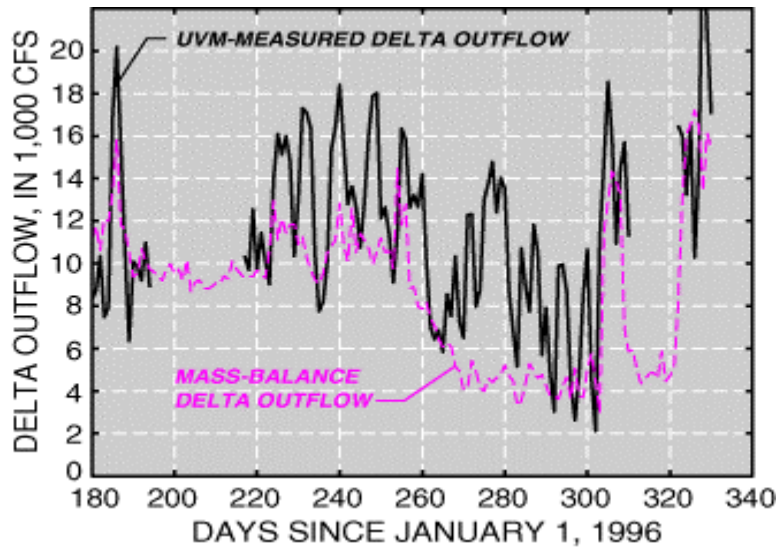
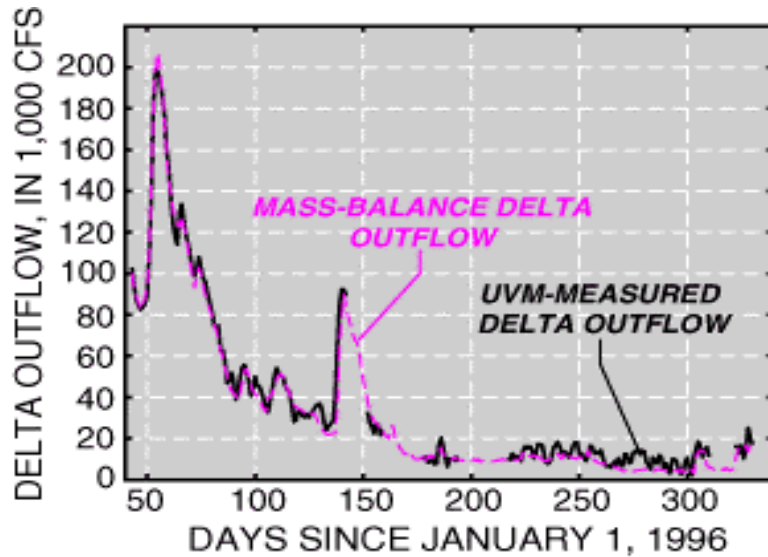
02053.02.101



Note: Sea level is at approximately 12 feet on the gage datum.
 (Source: Oltmann and Simpson 1997.)

02053.02 101

Comparison of Delta outflow measured with the four U.S. Geological Survey Ultrasonic Velocity Meter stations and calculated from the DAYFLOW mass-balance using estimates of Delta channel depletions.



(Source: Oltmann 1998.)

Welcome to *California*

[DWR Home](#)
[BDO Home](#)

Organization

[Administration & Program Control](#)

[Levees and North Delta Programs](#)

[Modeling Support](#)

[South Delta Programs](#)

Fall

Bay-Delta Office
Department of Water Resources

1416 9th Street,
Sacramento, Ca 95814

Mailing Address:
P. O. Box 942636,
Sacramento, Ca 94236-0001



DEPARTMENT OF WATER RESOURCES
BAY-DELTA

Sacramento-San Joaquin Delta Evaluation Tools



▶ [Delta Simulation Model II \(DSM2\)](#)



▶ [Particle Tracking Model \(PTM\)](#)



▶ [Delta Island Consumptive Use Model \(DICU\)](#)



▶ [Cross Section Development Program \(CSDP\)](#)



▶ [Artificial Neural Network \(ANN\) Model of Delta Flow-Salinity Relationship](#)



▶ [Martinez Boundary EC Generator](#)



▶ [Trihalomethanes Simulation Model](#)

DWR My CA

Section Pages

- [Hydrology and Operations](#)
- [Delta Modeling](#)
- [Computer Assistance](#)

[Back to Top of Page](#)

[Conditions of Use](#) | [Privacy Policy](#) | [Comments or Suggestions](#)
© 2004 State of California.

[DWR Home](#)
[BDO Home](#)

Organization

[Administration & Program Control](#)

[Levees and North Delta Programs](#)


[Modeling Support](#)

[South Delta Programs](#)

Fall

Bay-Delta Office
Department of Water Resources

1416 9th Street,
Sacramento, Ca 95814



DEPARTMENT OF WATER RESOURCES
BAY-DELTA

Delta Simulation Model II -- DSM2

Documentation

- [General Description and Program Downloads](#)
- [Guide for Real-Time Applications](#)
- [Draft HYDRO and QUAL Tutorial Document in PDF \(2 MB\)](#)
- [Required input files \(zipped 5 MB\)](#)
- [Most Recent Calibration and Validation](#)

Support Tools

- [VISTA](#)
- [HEC-DSS](#)

DWR My CA

Section Pages

- [Hydrology and Operations](#)
- [Delta Modeling](#)
- [Computer Assistance](#)

02053.02.101

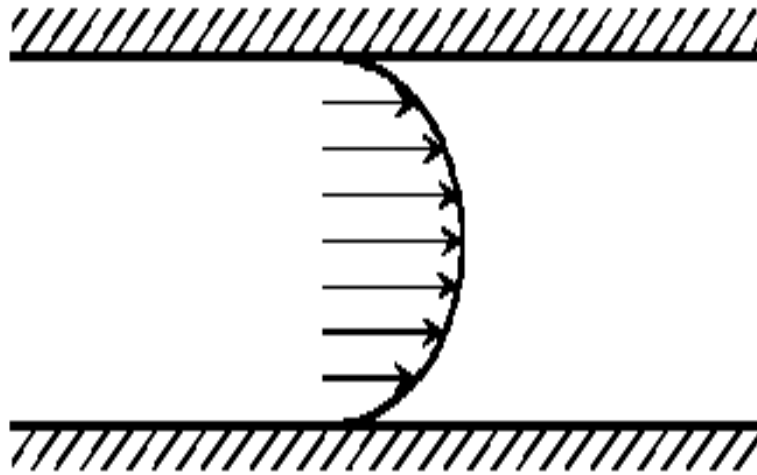


Figure D-8a. Assumed Lateral Velocity Profile: Fourth-Order Polynomial Function

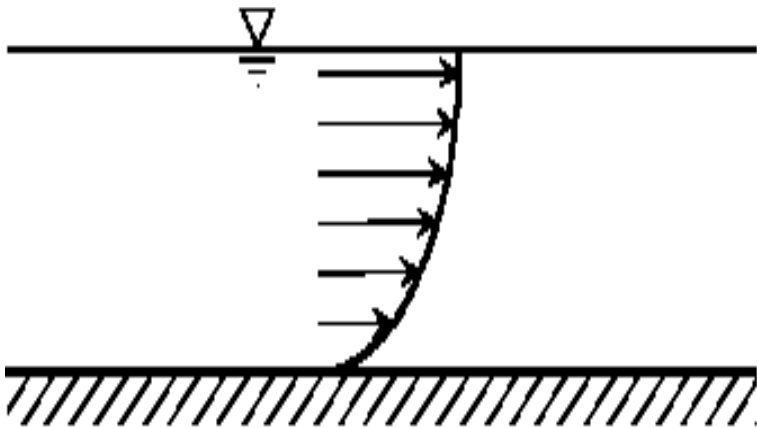


Figure D-8b. Assumed Vertical Velocity Profile: Von Karman Log Function

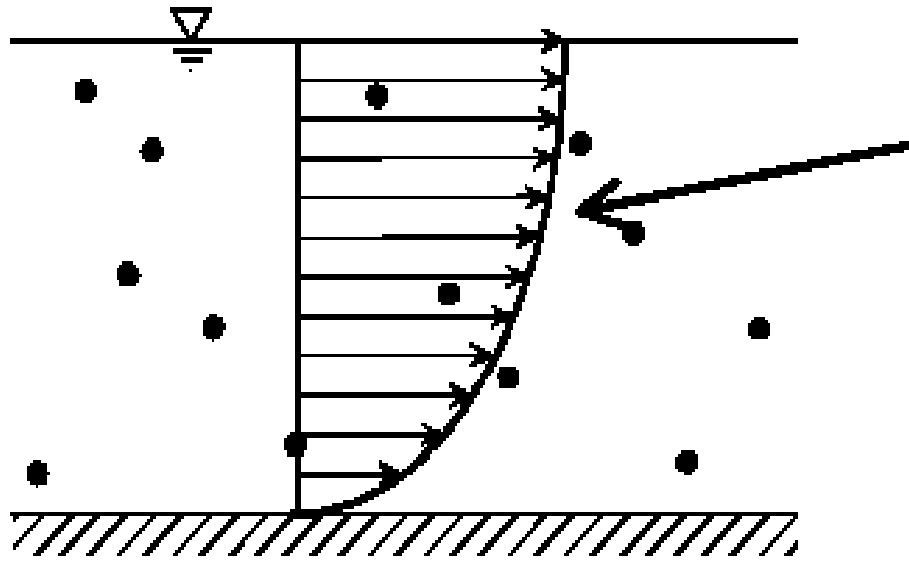


Figure D-9a. Normal Particles with Unrestricted Distribution

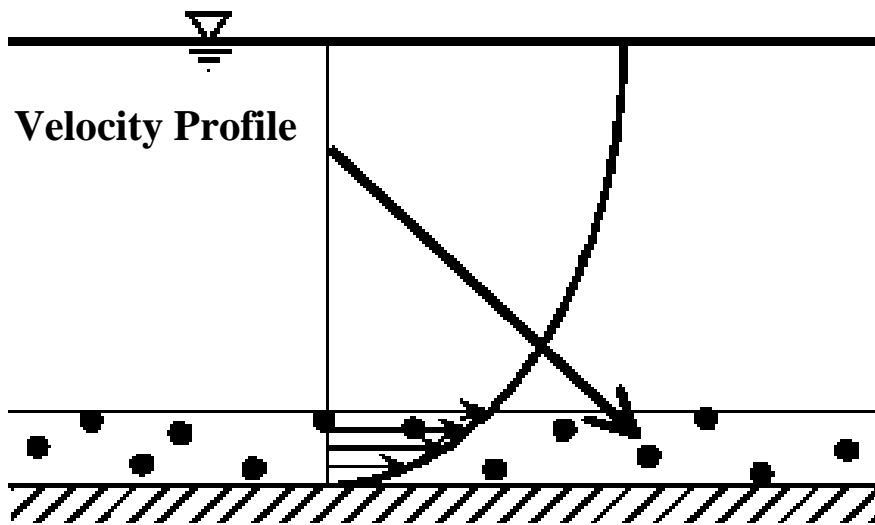
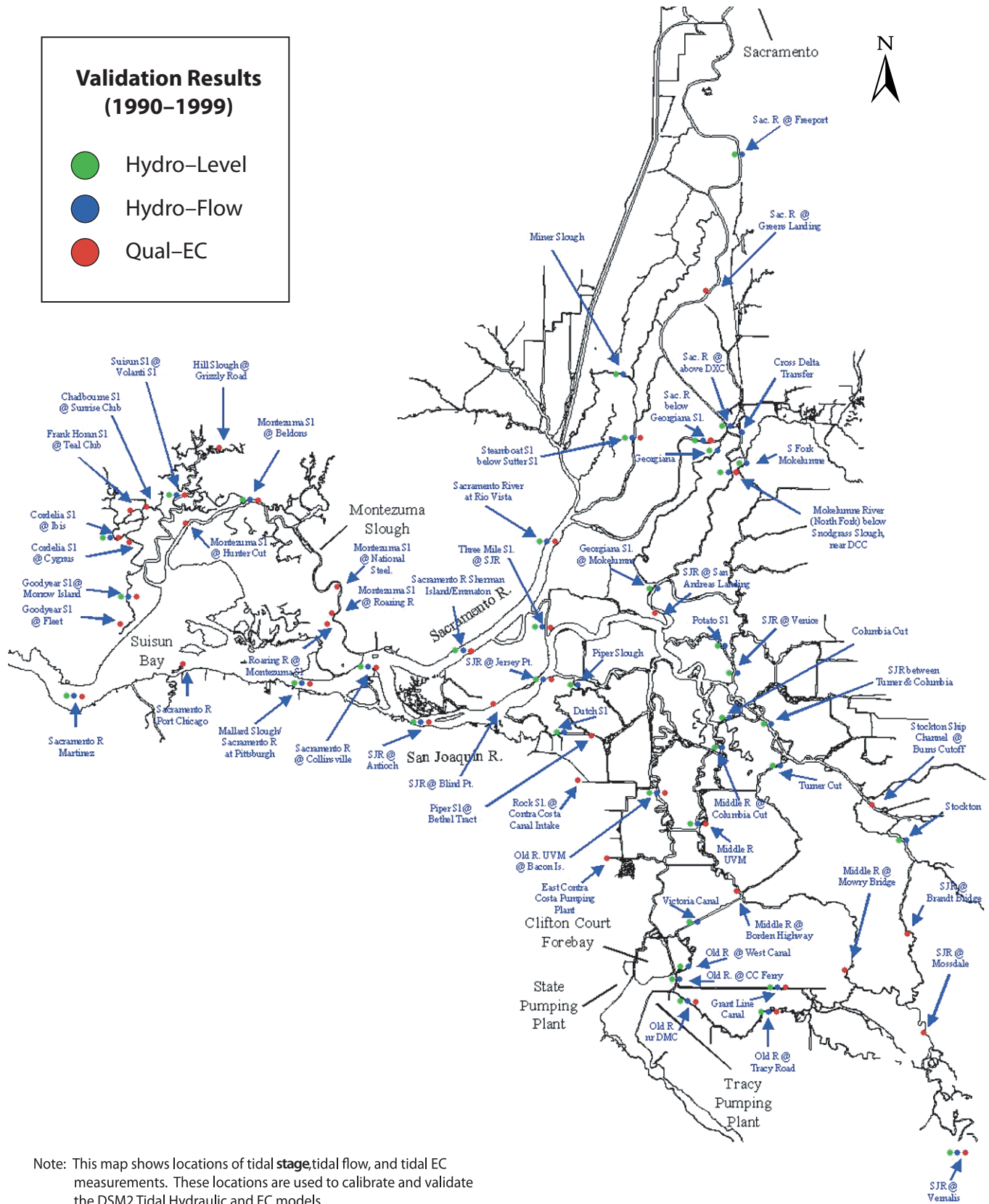


Figure D-9b. Particles Restricted to Lower (Slower) Portion of Channel

02053.02 101

**Validation Results
(1990–1999)**

- Hydro–Level
- Hydro–Flow
- Qual–EC



Note: This map shows locations of tidal stage, tidal flow, and tidal EC measurements. These locations are used to calibrate and validate the DSM2 Tidal Hydraulic and EC models.

Source: California Department of Water Resources 2002b.

02053.02.101 (1/05) Public Draft

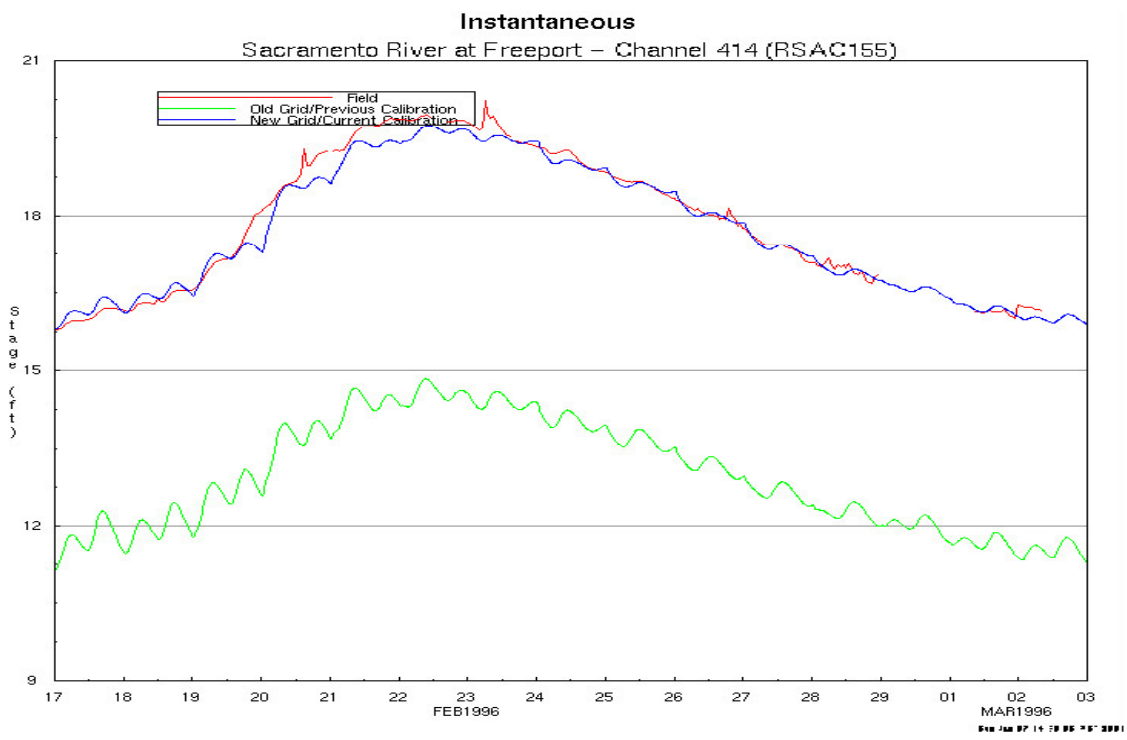
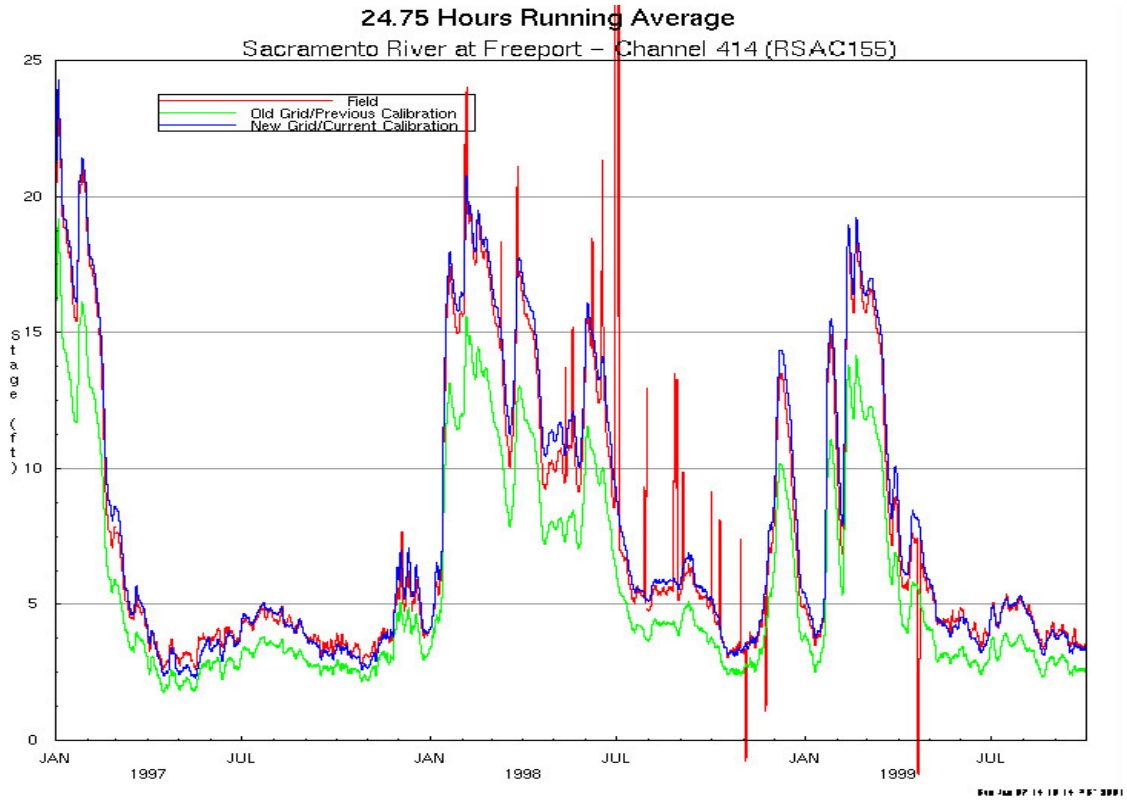
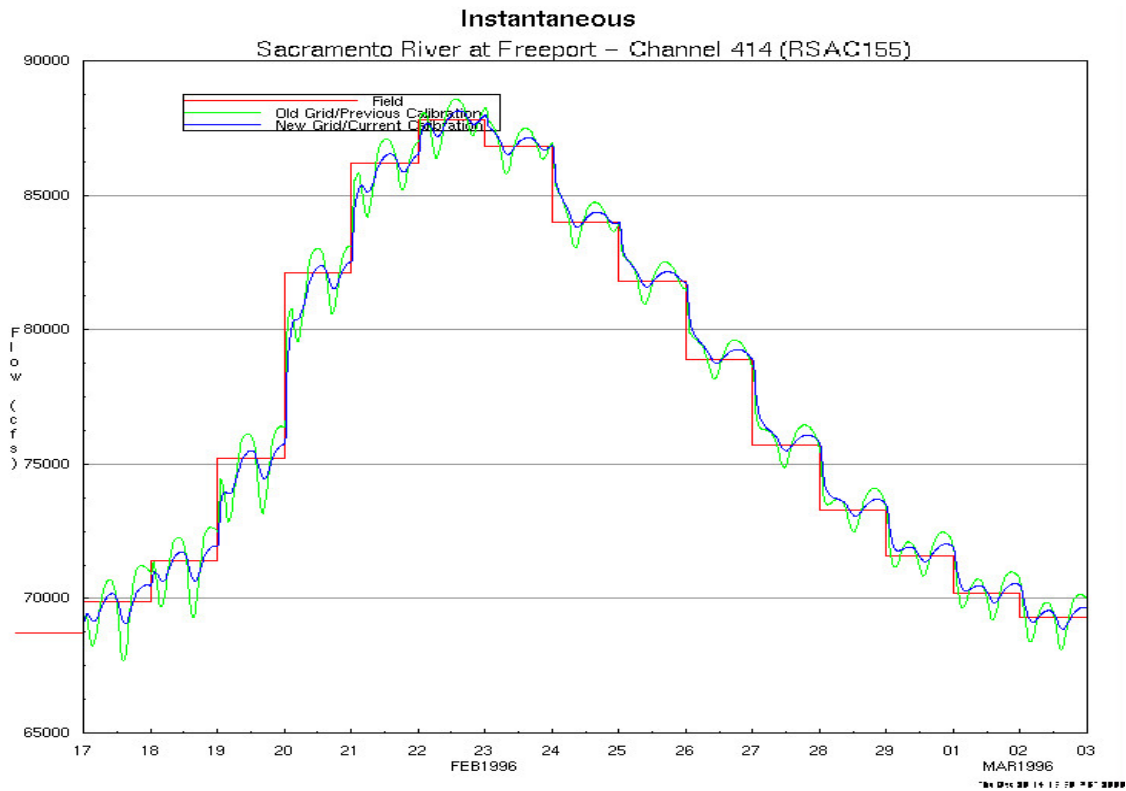
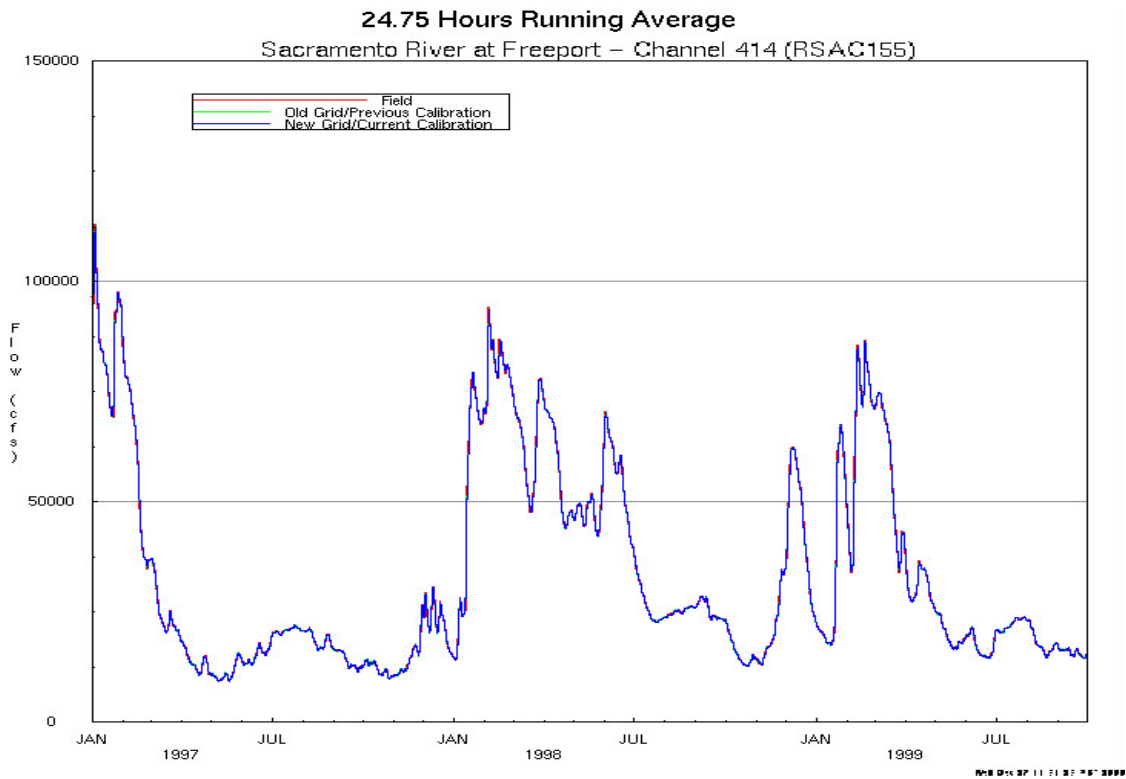


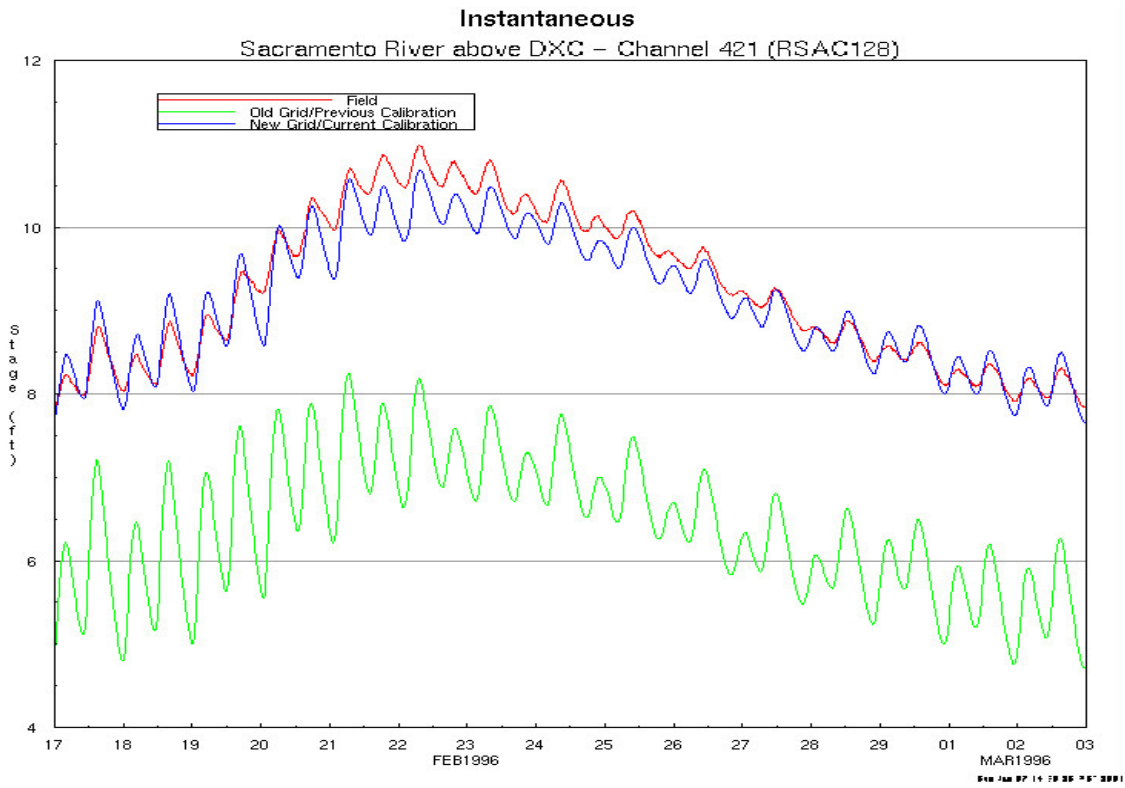
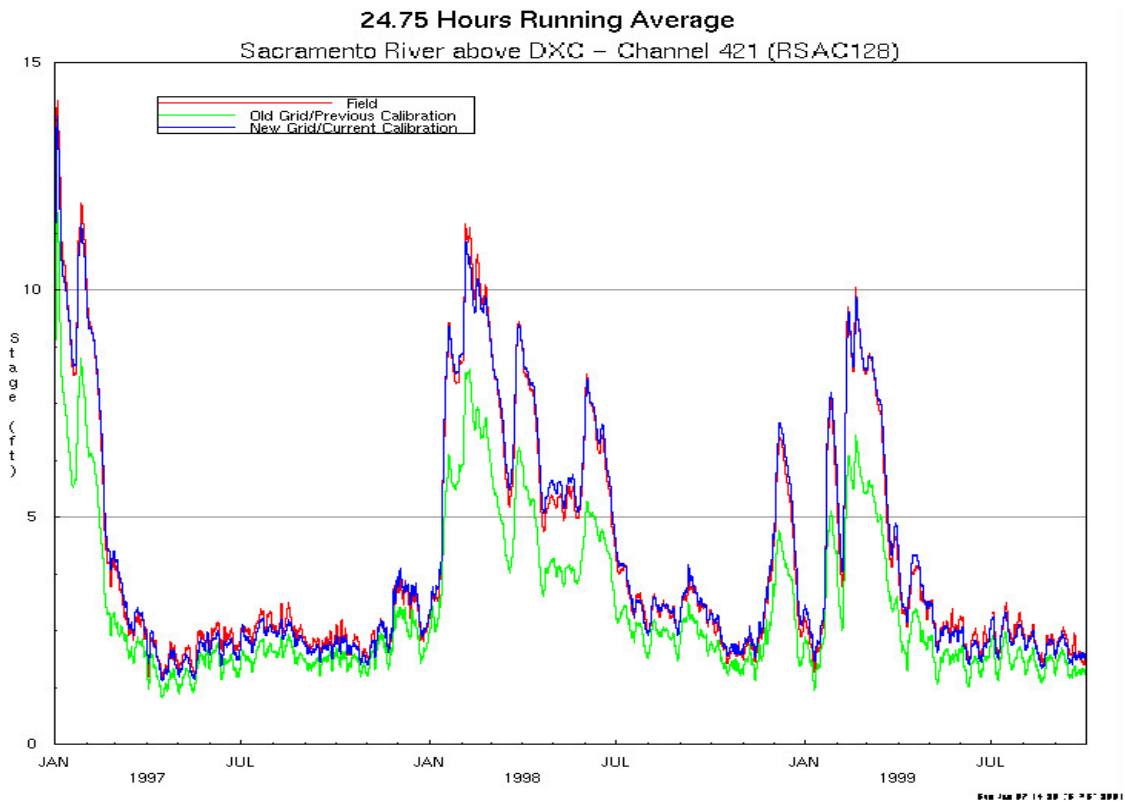
Figure D-11
DSM2-Simulated and Measured Tidal Stage
in the Sacramento River at Freeport for
January 1997–September 1999 and February 17–March 2, 1996

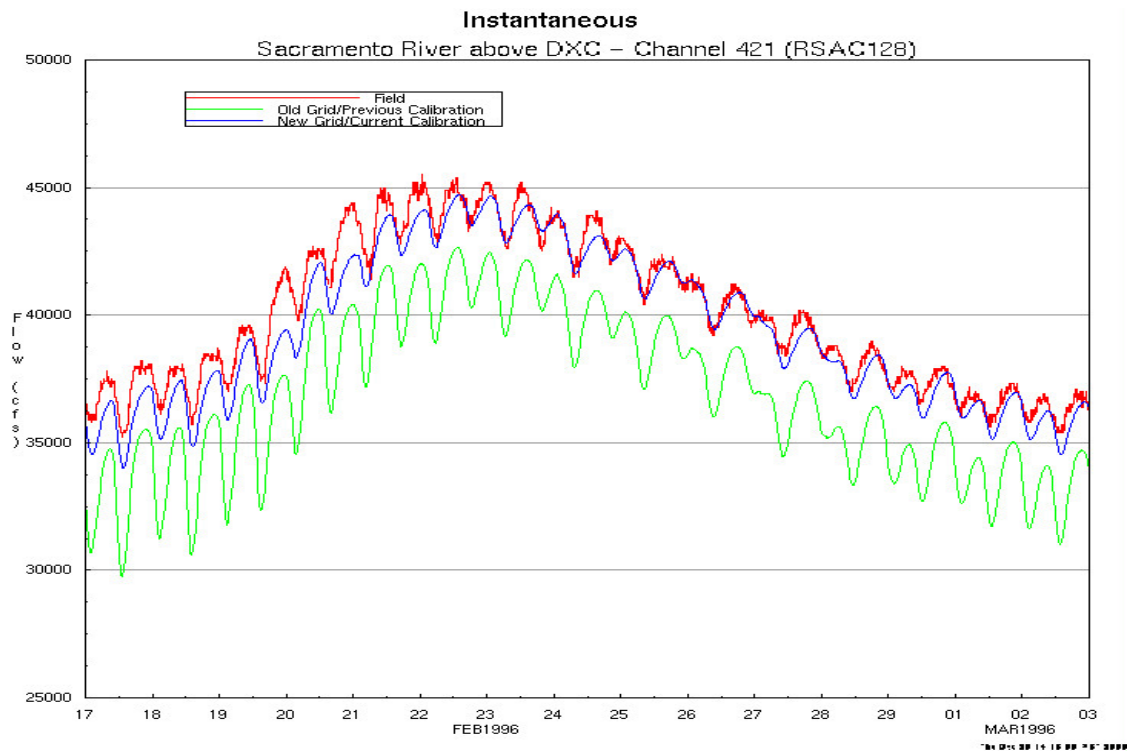
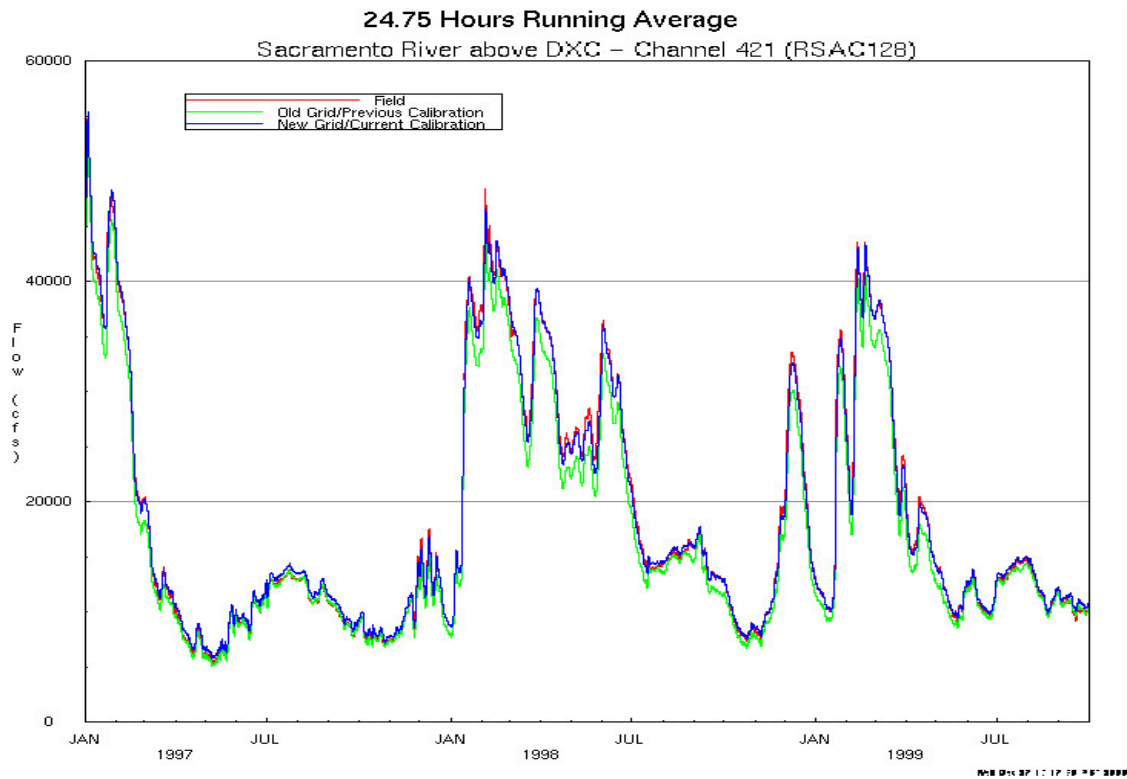


02053.02.101

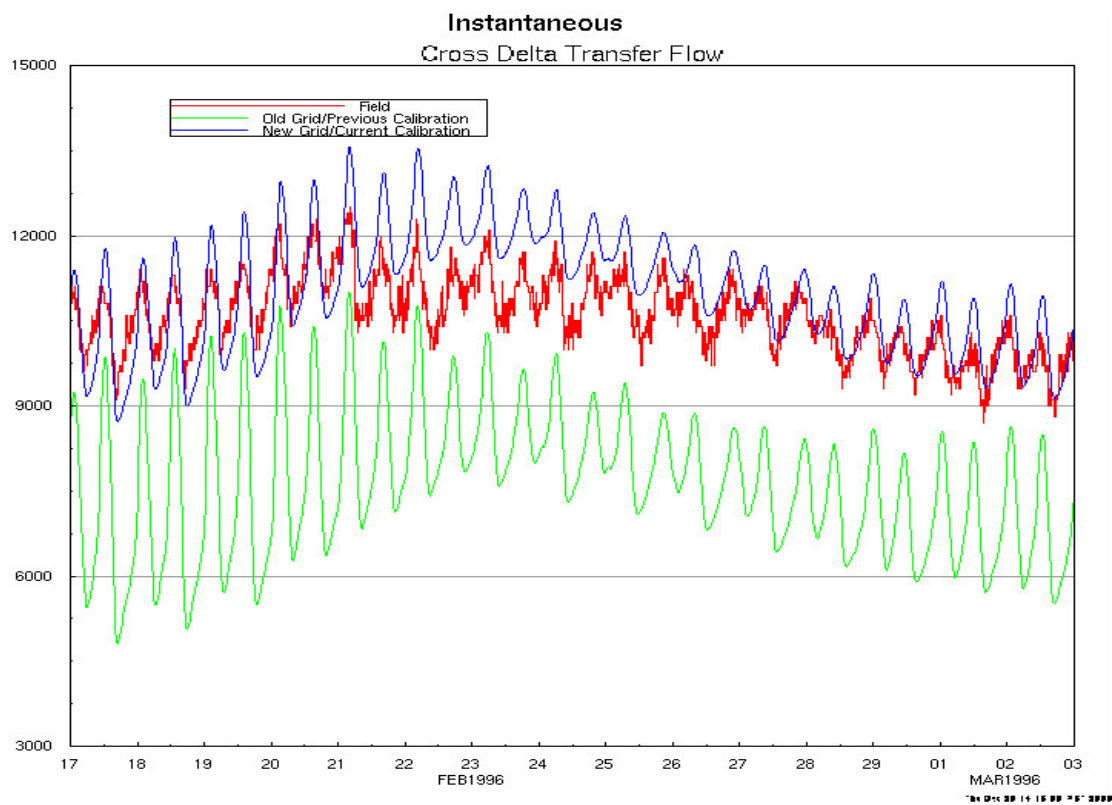
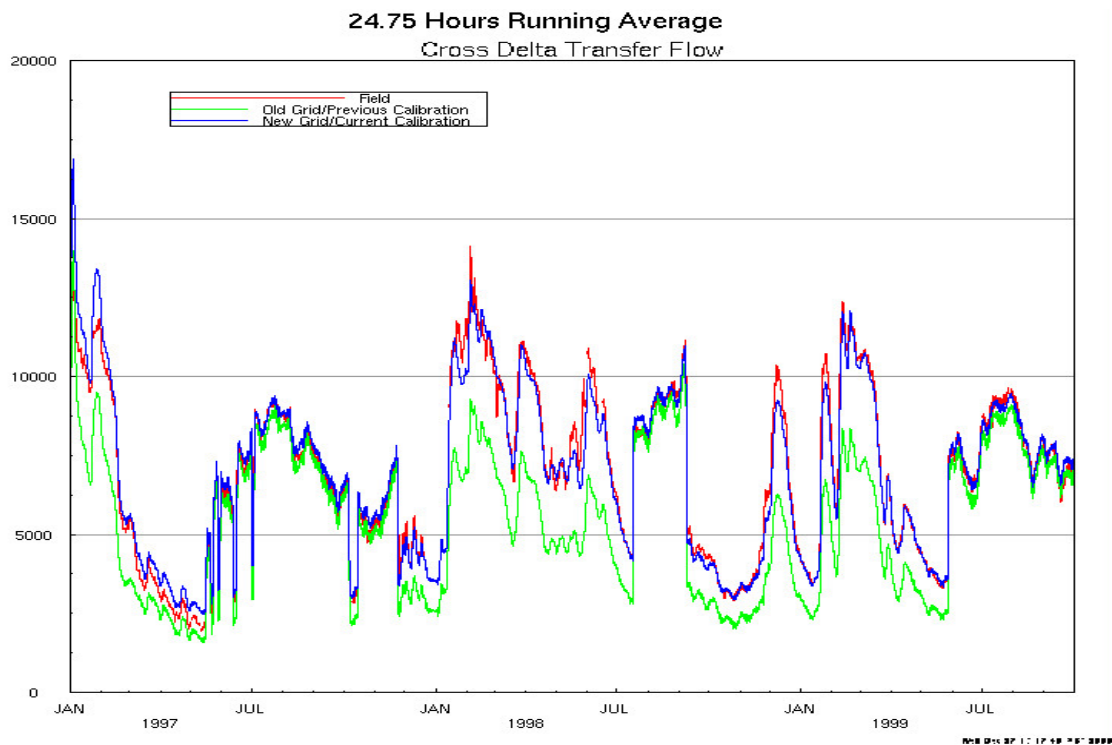
Figure D-12

**DSM2-Simulated and Measured Tidal Flow
in the Sacramento River at Freeport for
January 1997–September 1999 and February 17–March 2, 1996**



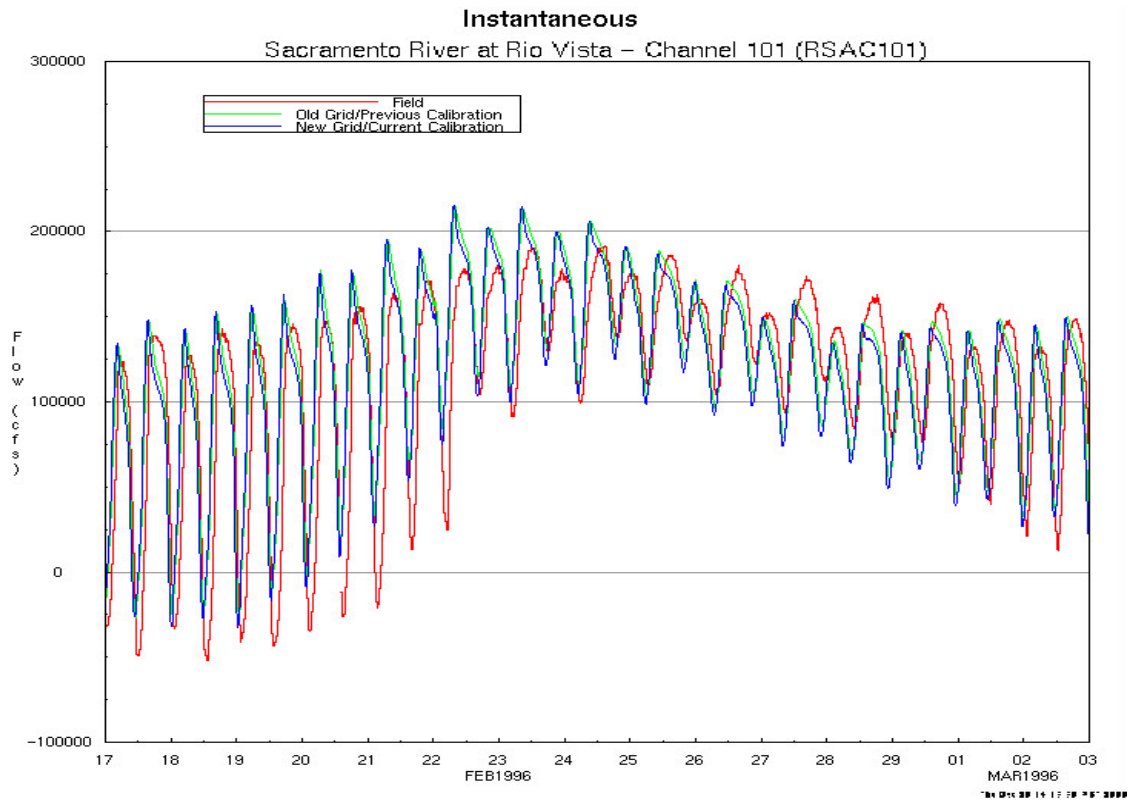
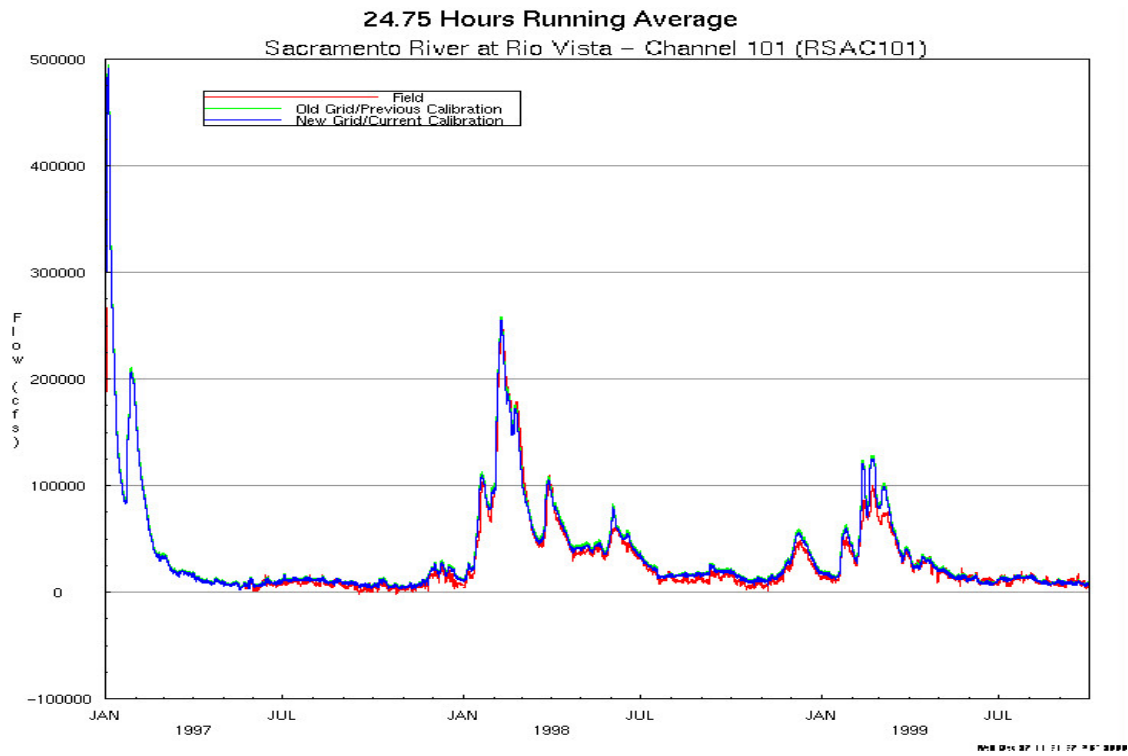


02053.02.101



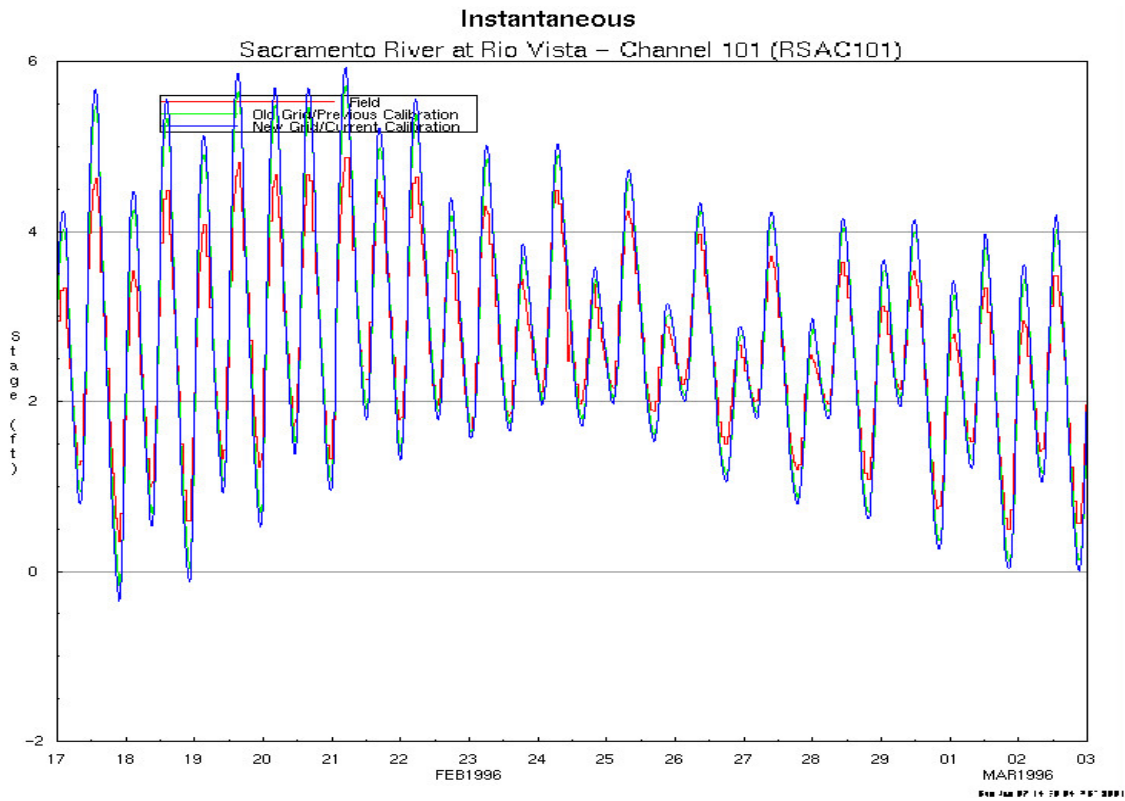
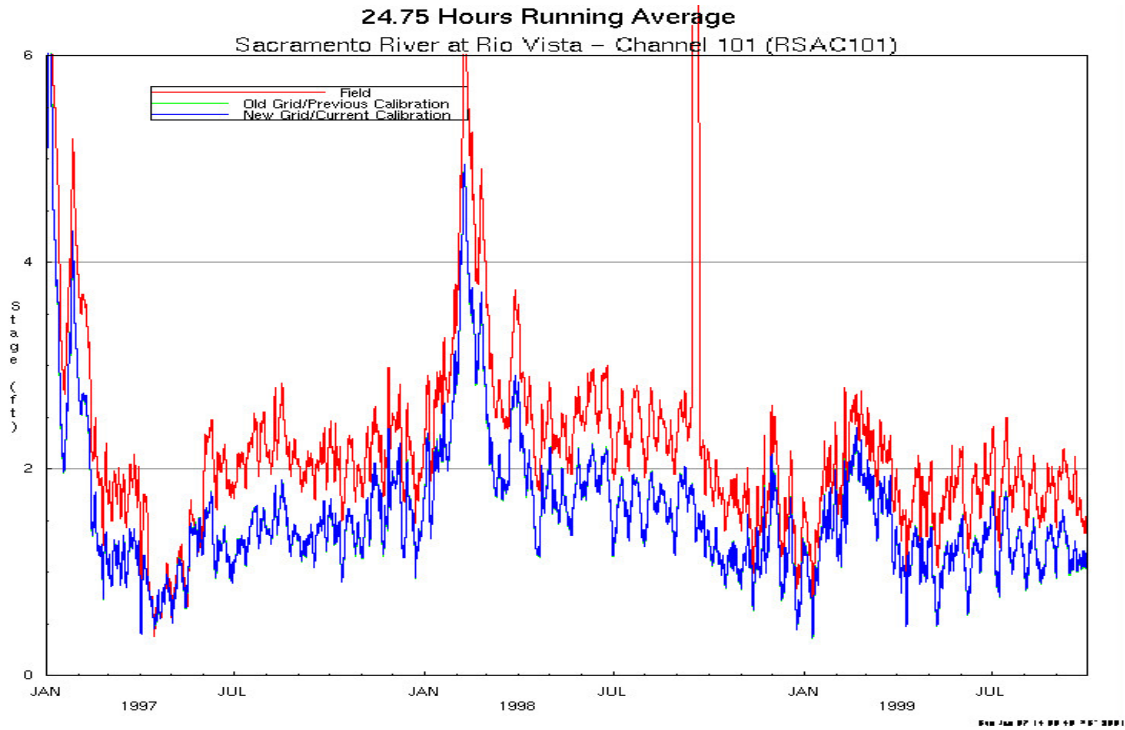
02053.02.101

DSM2-Simulated and Measured Tidal Flow in the Delta Cross Channel and Georgiana Slough near Walnut Grove for January 1997–September 1999 and February 17–March 2, 1996 (Delta Cross Channel Closed)

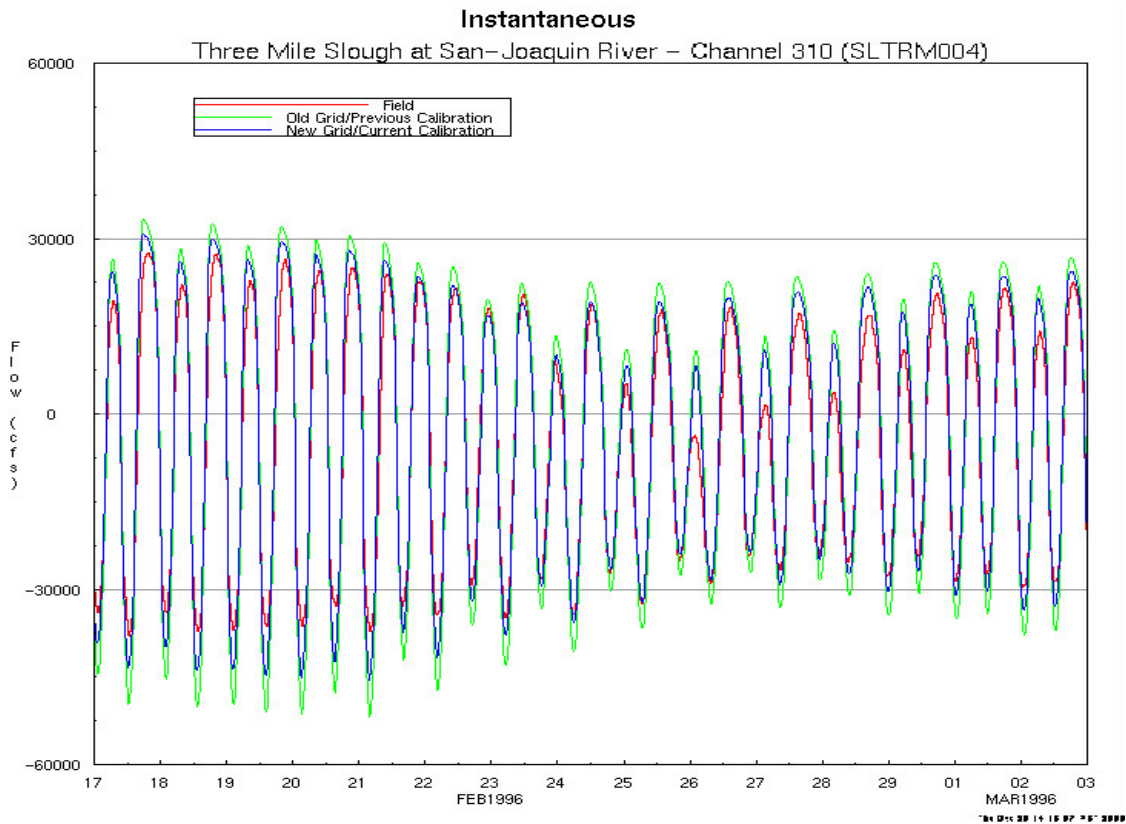
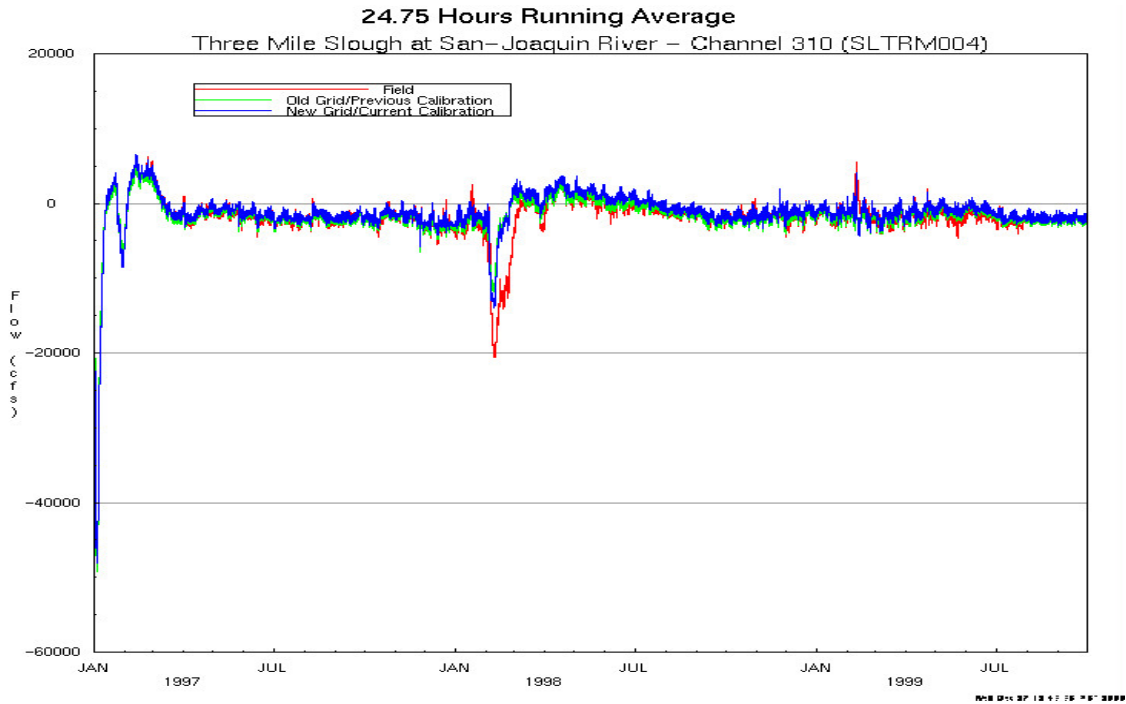


02053.02 101

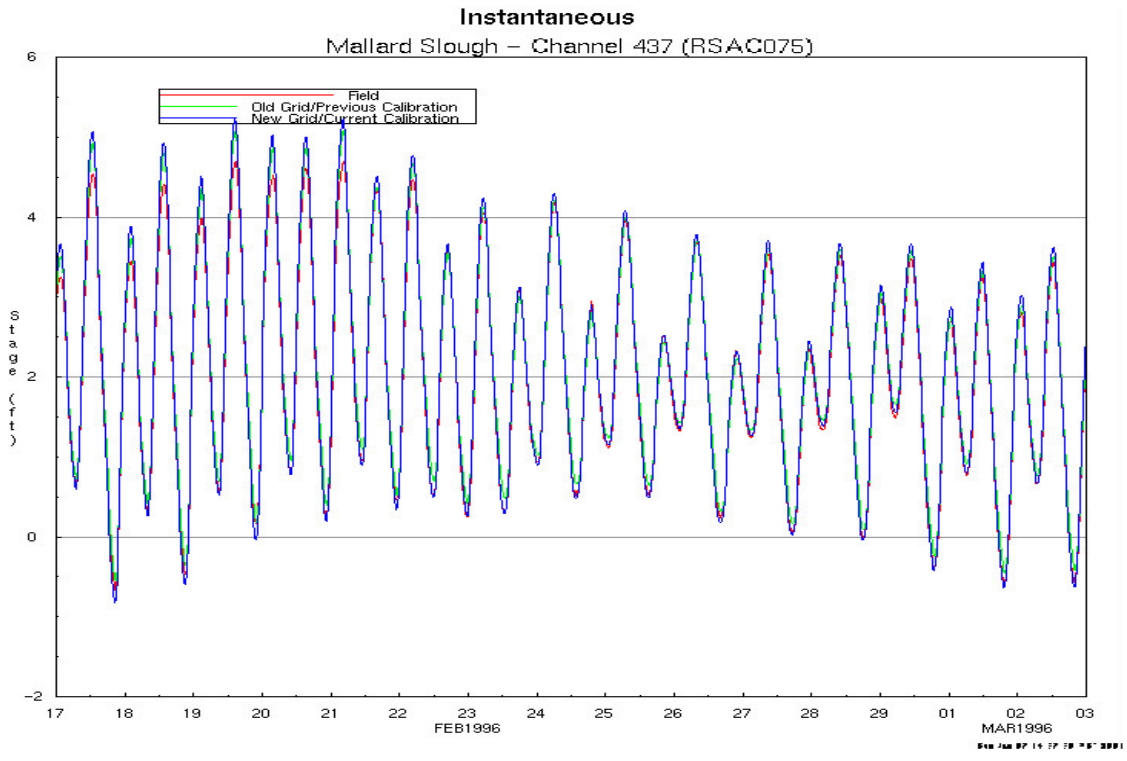
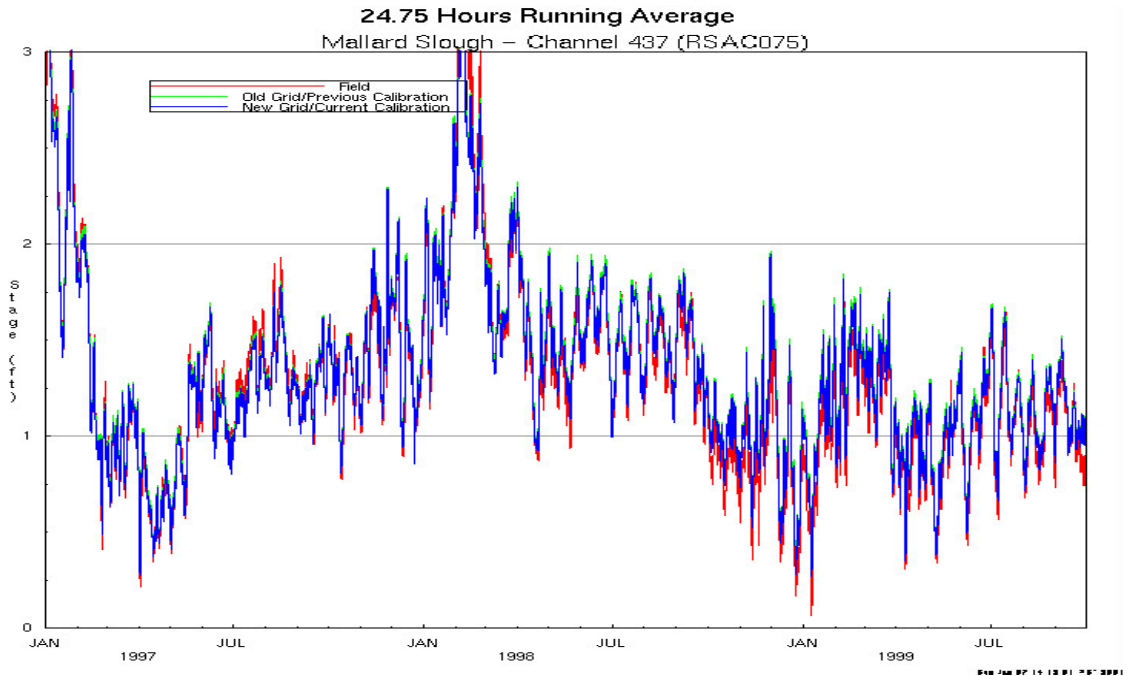
Figure D-16
DSM2-Simulated and Measured Tidal Stage
in the Sacramento River at Rio Vista for
January 1997–September 1999 and February 17–March 2, 1996



02053.02.101

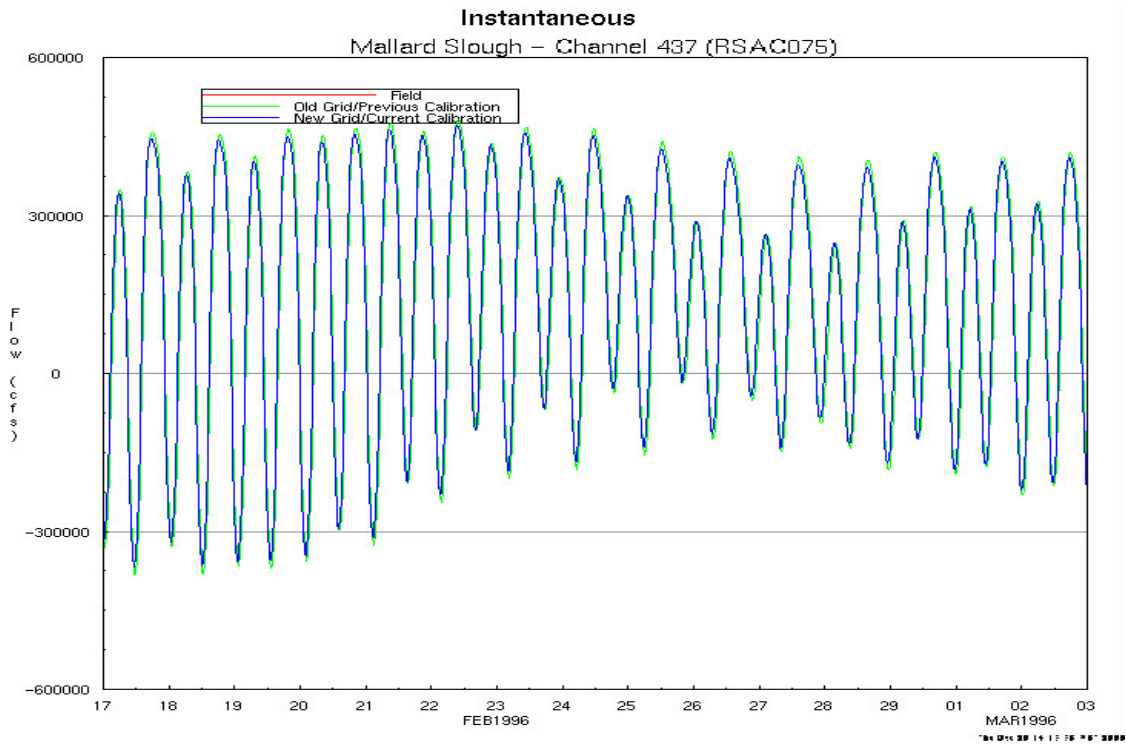
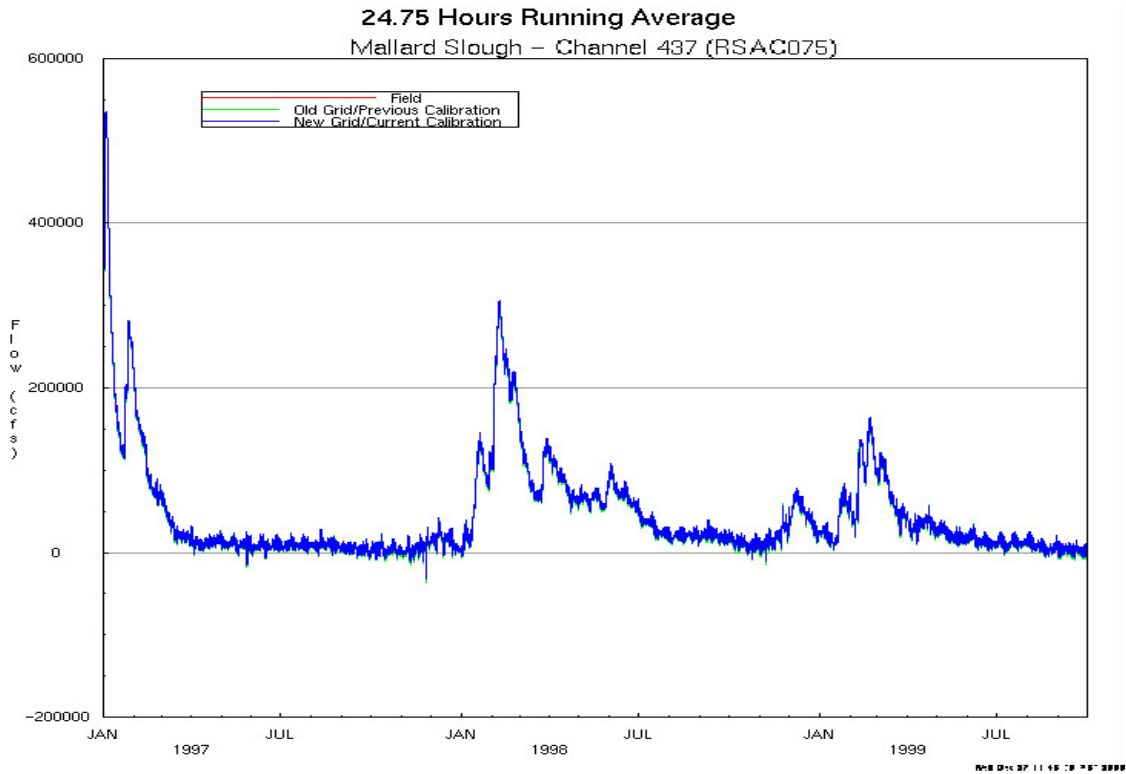


02053.02.101

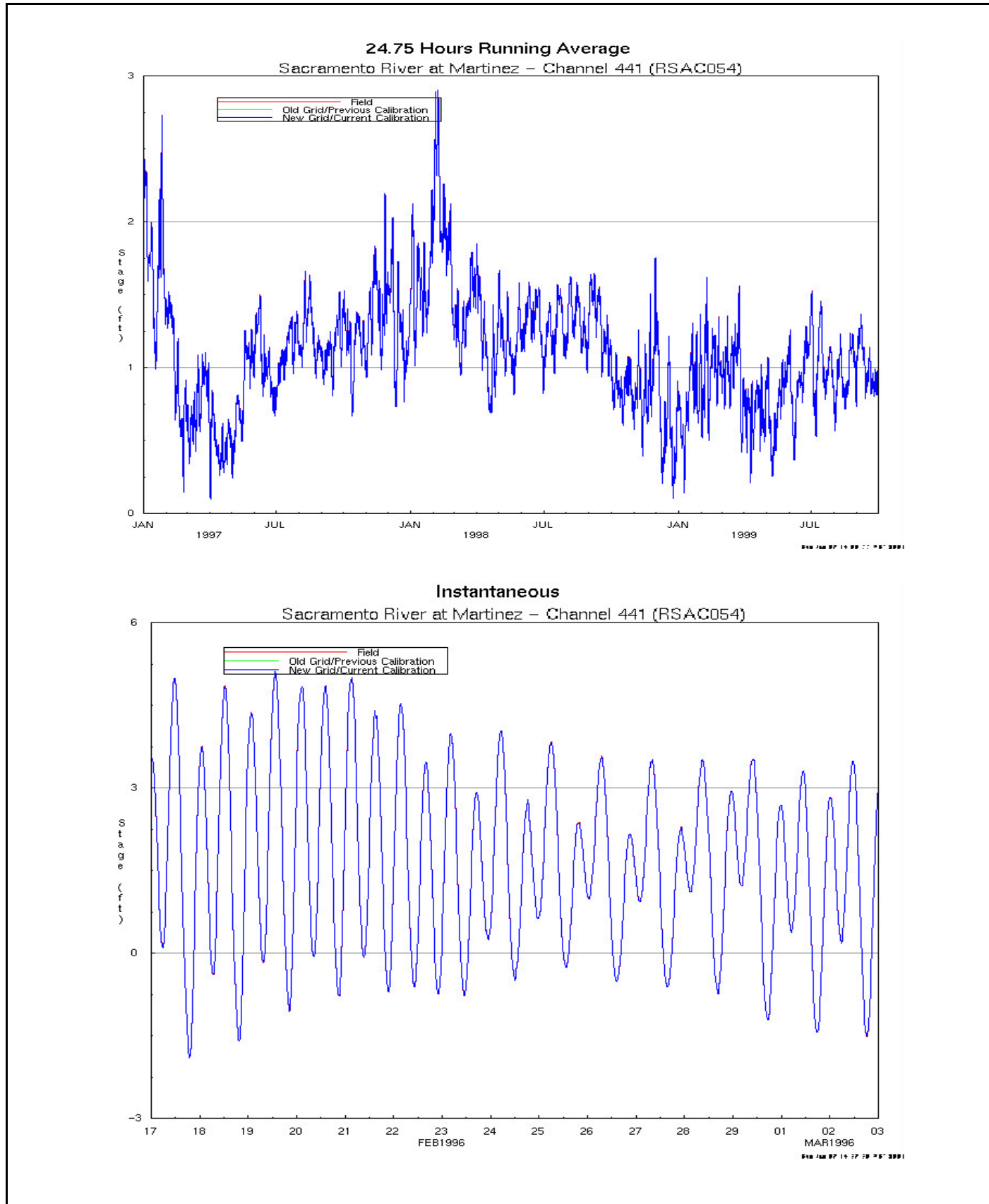


02053.02.101

Figure D-19
DSM2-Simulated and Measured Tidal Stage in Mallard Slough (Chippis Island) for January 1997–September 1999 and February 17–March 2, 1996

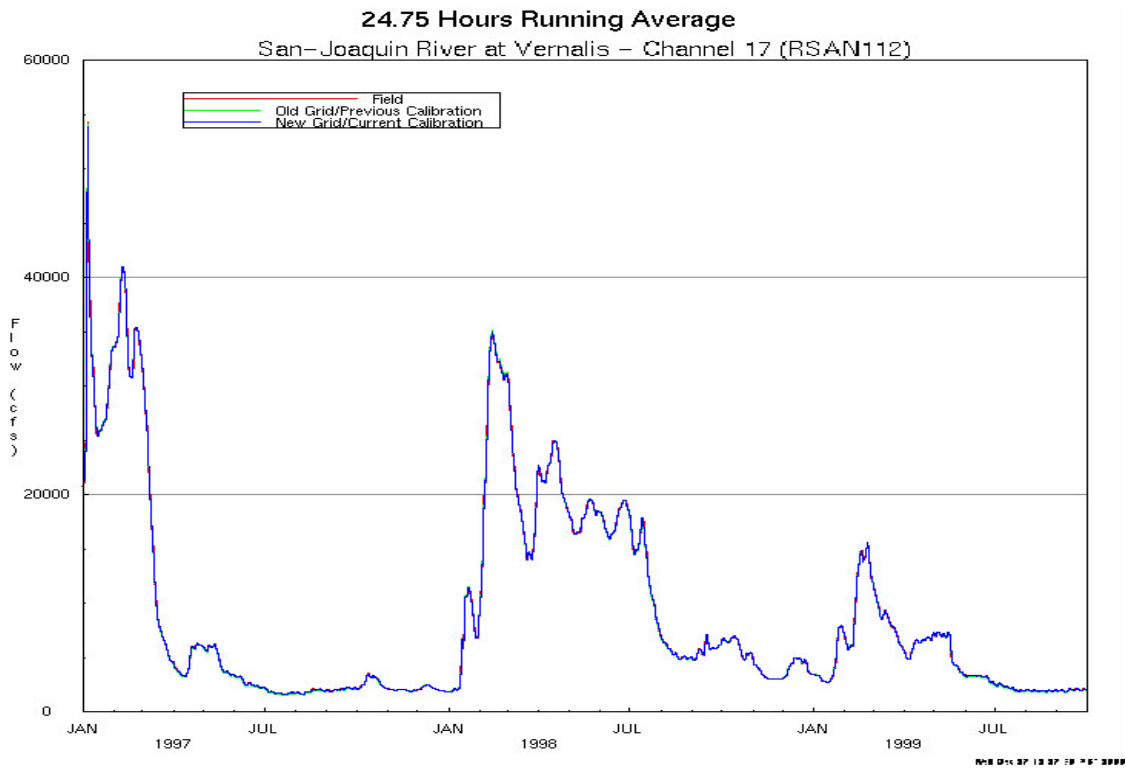
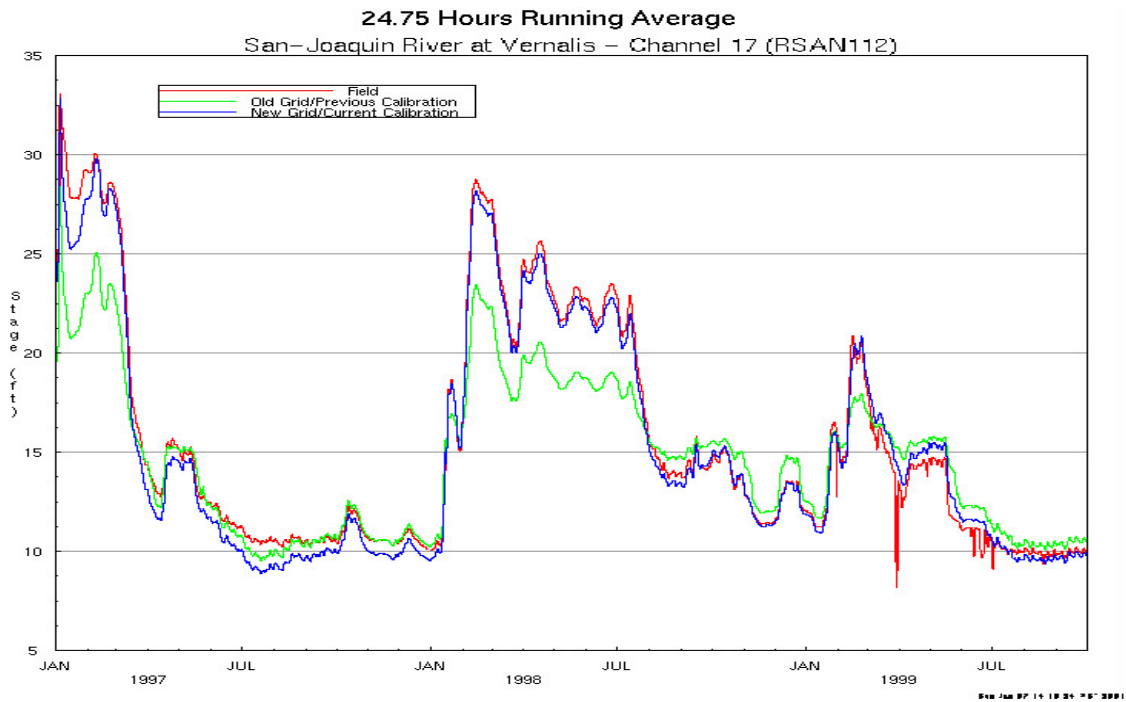


02053.02.101



02053.02.101

Measured Tidal Stage Variations in the Sacramento River at Martinez (DSM2 Model Boundary) for January 1997–September 1999 and February 17–March 2, 1996



02053.02.101