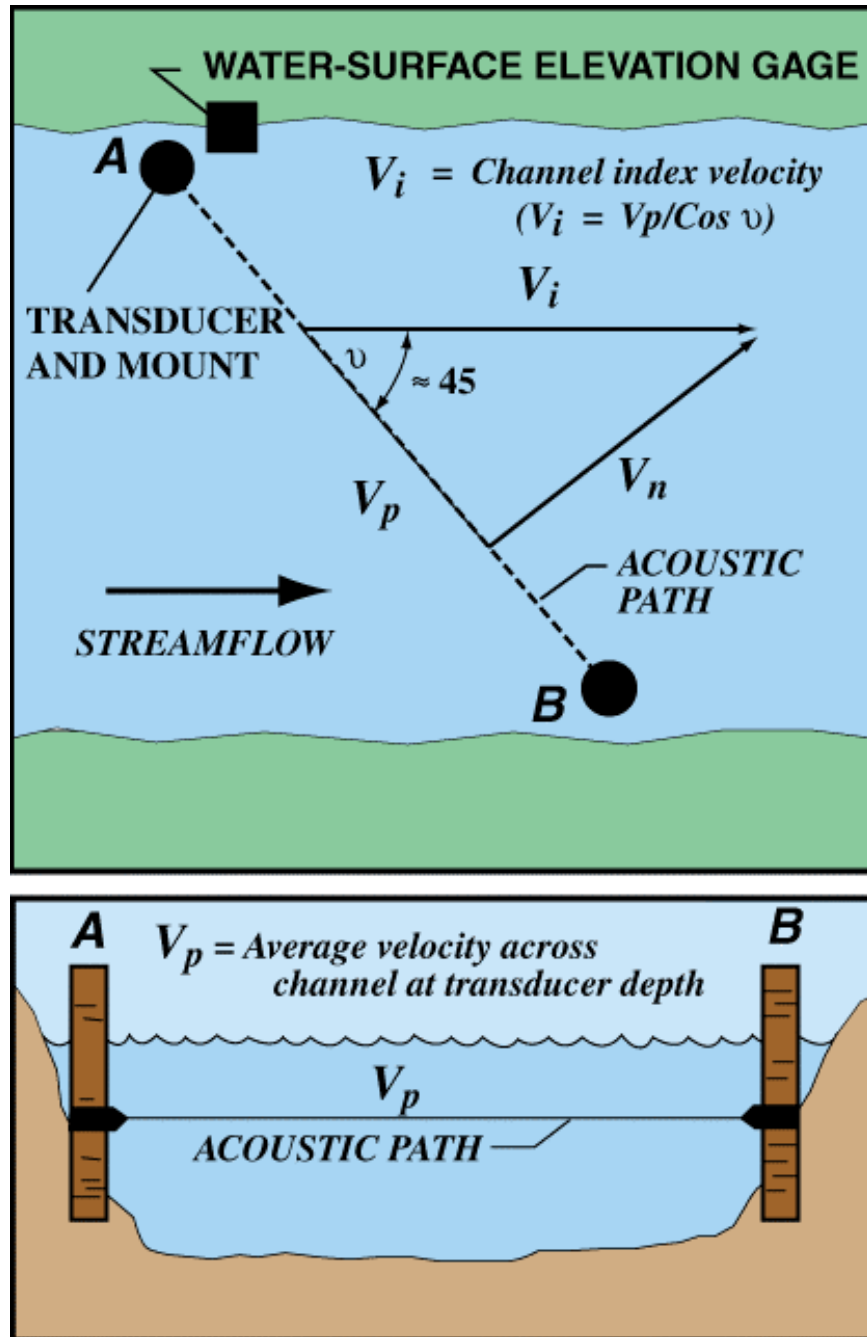




(Source: Oltmann and Simpson 1997.)

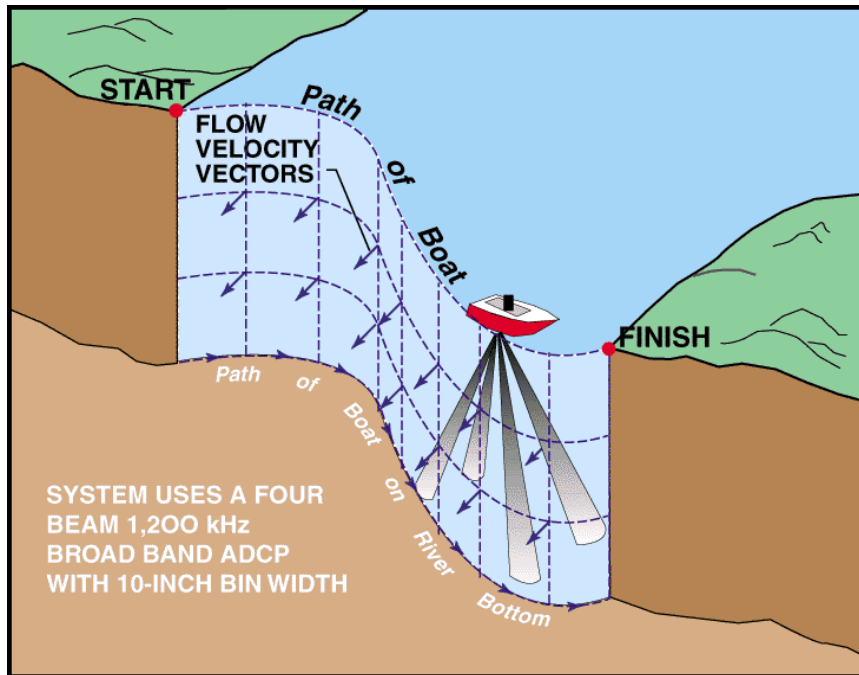
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**Figure D-1**  
**Map of Delta Showing Locations of**  
**U.S. Geological Survey Tidal Ultrasonic Velocity Meters**

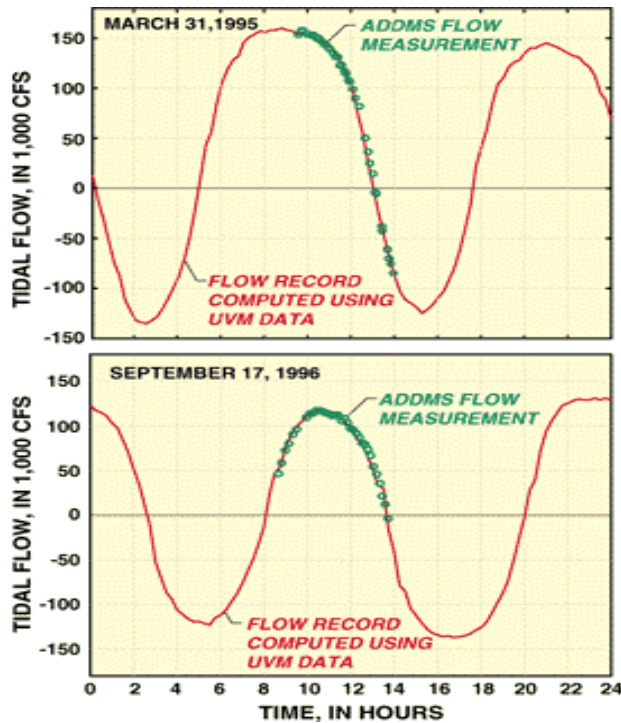


(Source: Oltmann and Simpson 1997.)

**Figure D-2**  
**Diagram Showing the Operation of a**  
**Tidal Ultrasonic Velocity Meter Station**

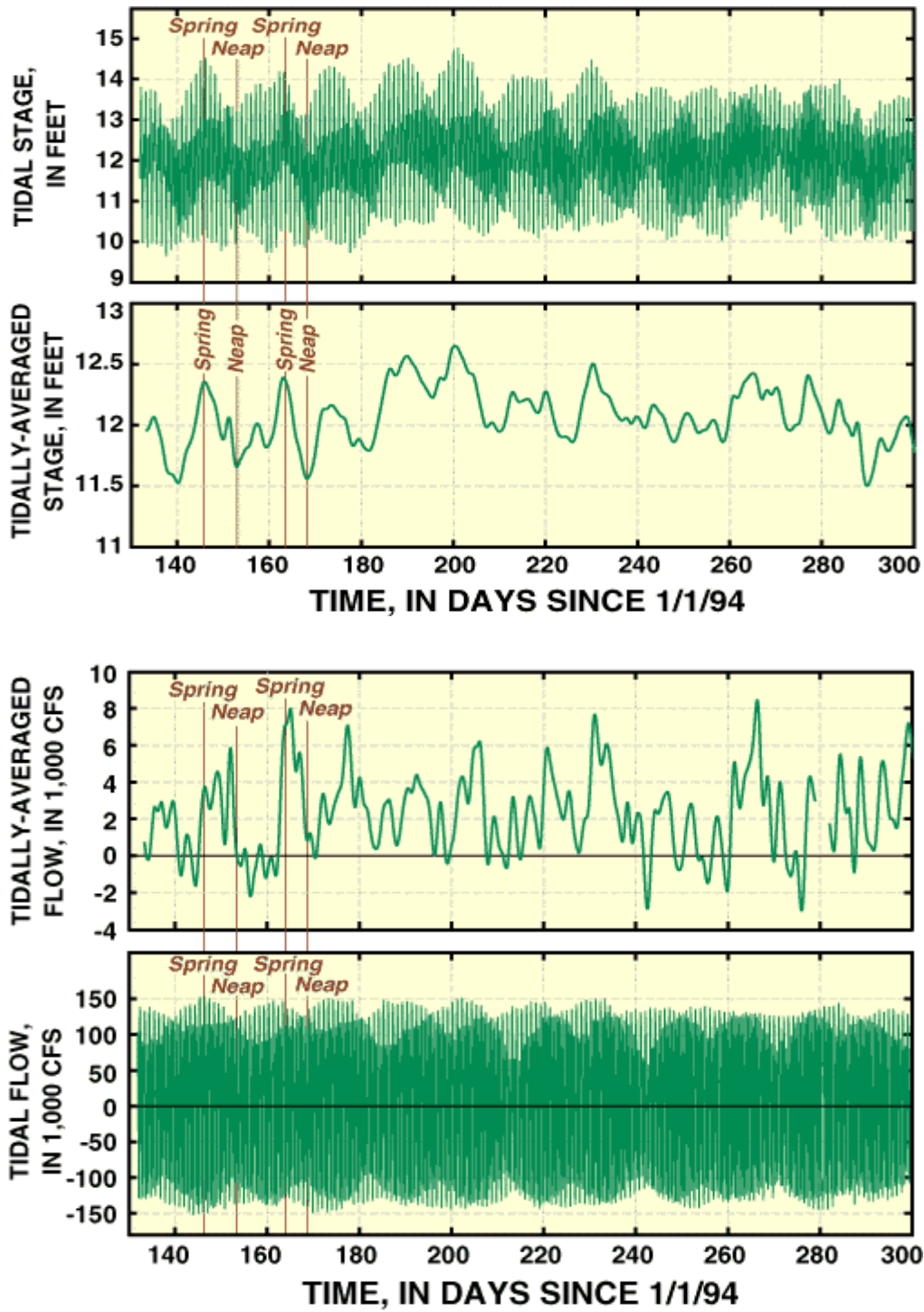


**Figure D-3.** Diagram of Acoustic-Doppler Current Profiling System Measurements of Tidal Flow for Providing a “Rating Curve” for Ultrasonic Velocity Meter Tidal Flow Station  
(Source: Oltmann and Simpson 1997.)



**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.)

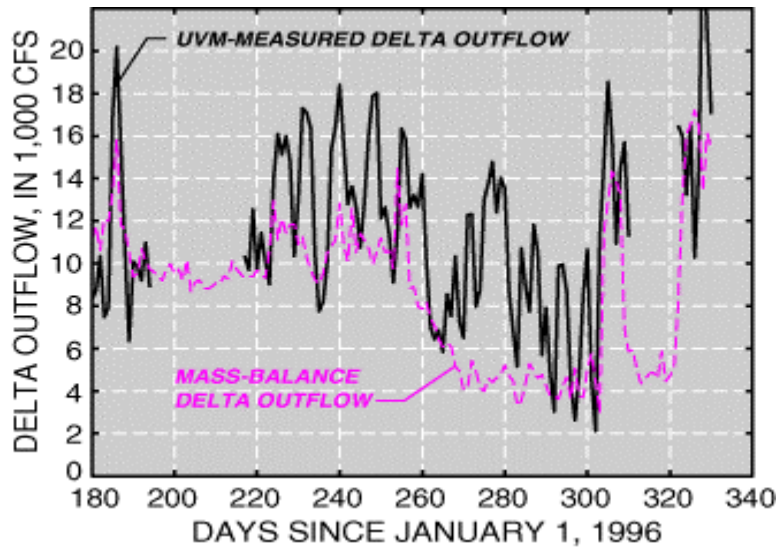
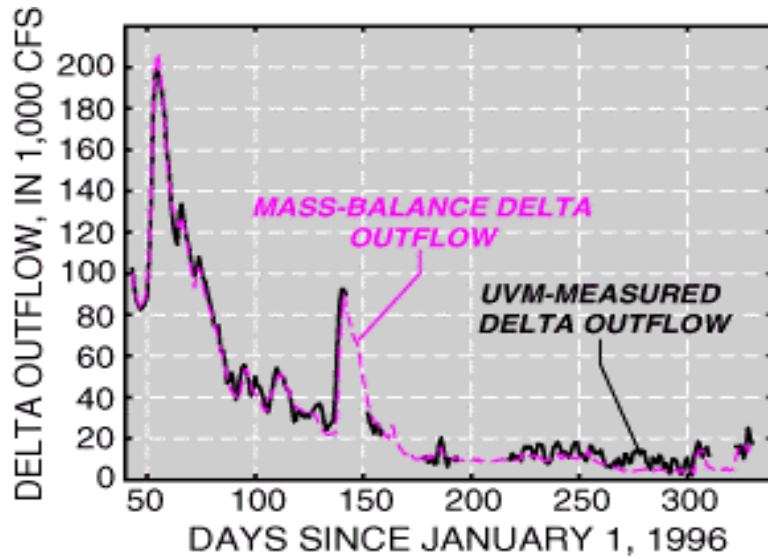
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Note: Sea level is at approximately 12 feet on the gage datum.  
 (Source: Oltmann and Simpson 1997.)

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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.)



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



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



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**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**

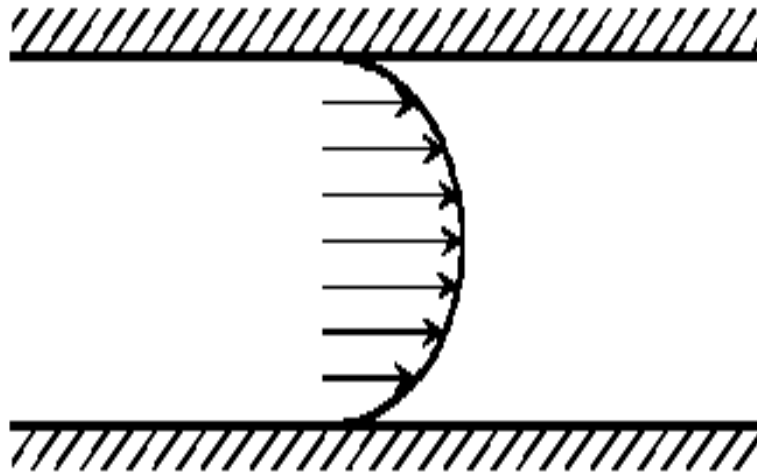
- [VISTA](#)
- [HEC-DSS](#)

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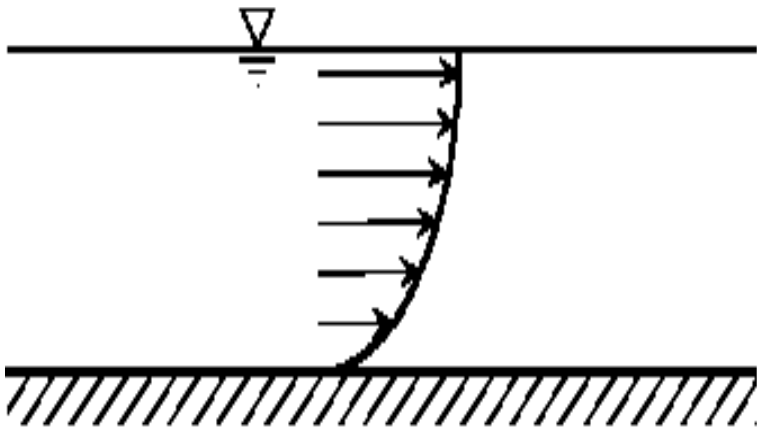
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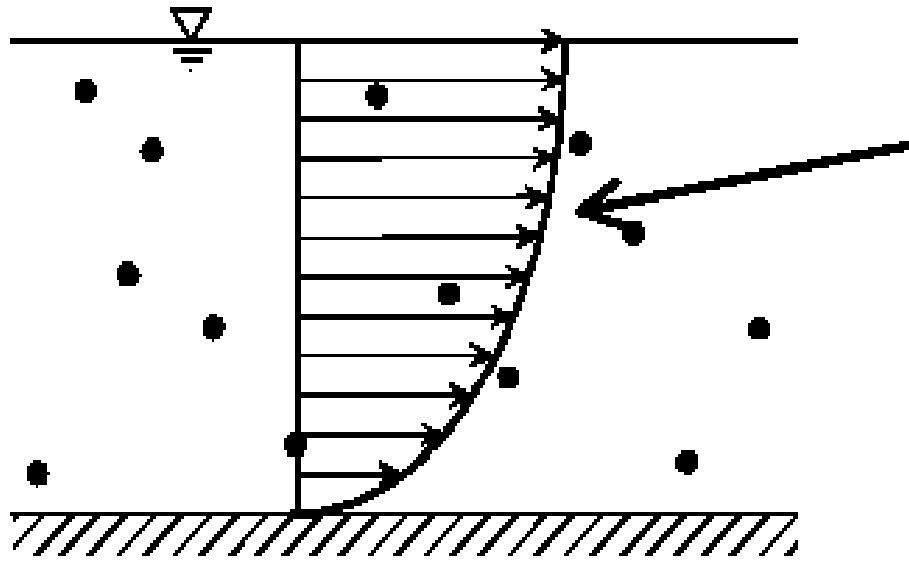
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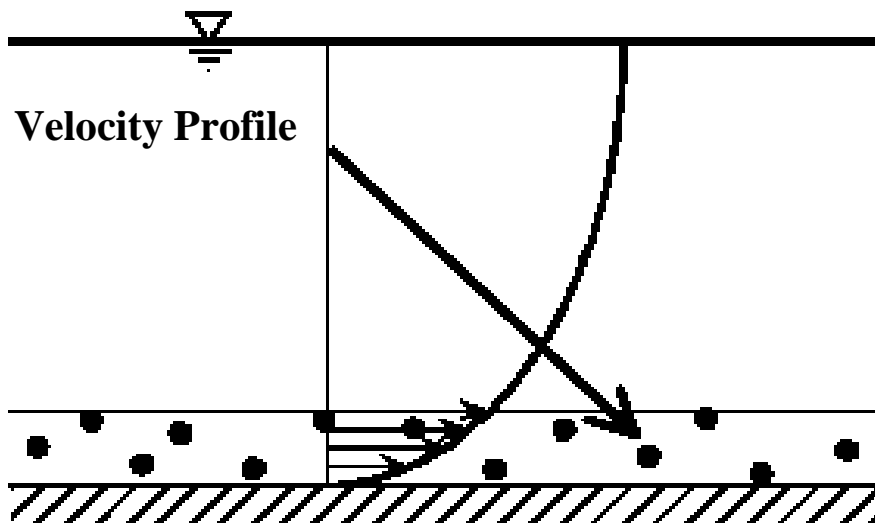
**Figure D-8a.** Assumed Lateral Velocity Profile: Fourth-Order Polynomial Function



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



**Figure D-9a.** Normal Particles with Unrestricted Distribution



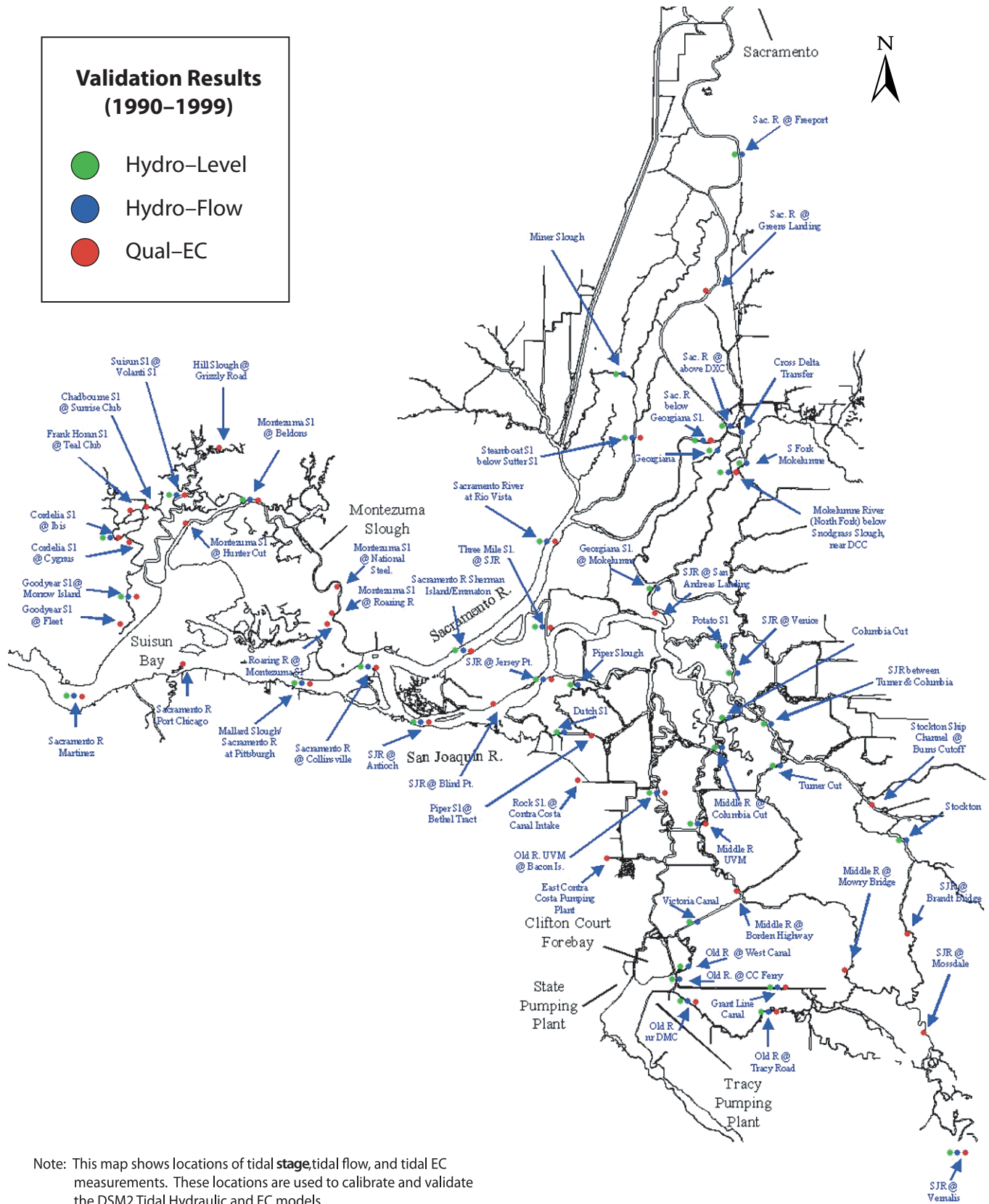
**Figure D-9b.** Particles Restricted to Lower (Slower) Portion of Channel

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**Validation Results  
(1990–1999)**

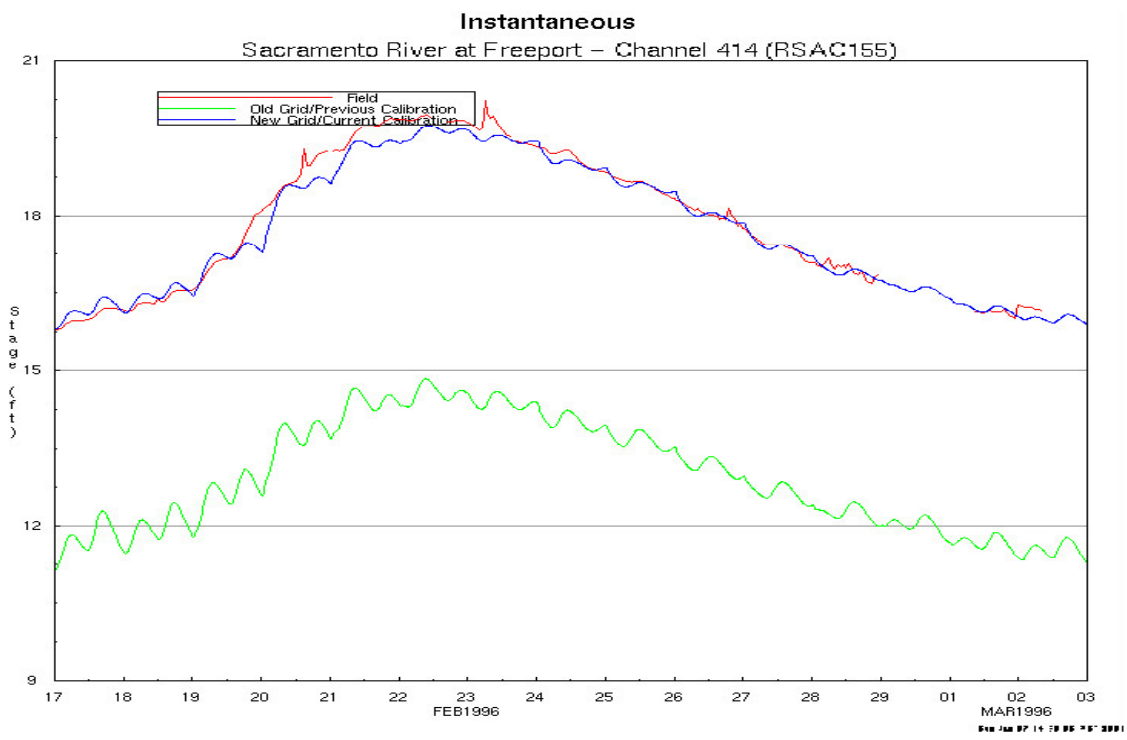
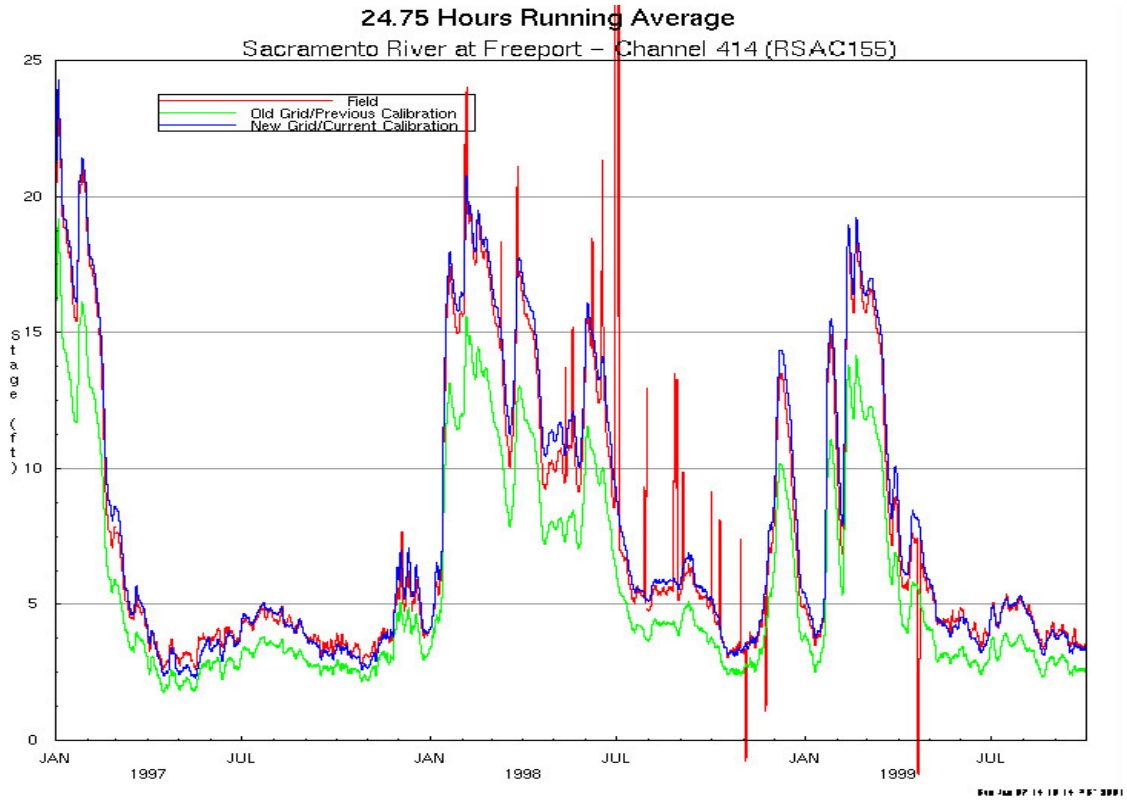
- Hydro–Level
- Hydro–Flow
- Qual–EC



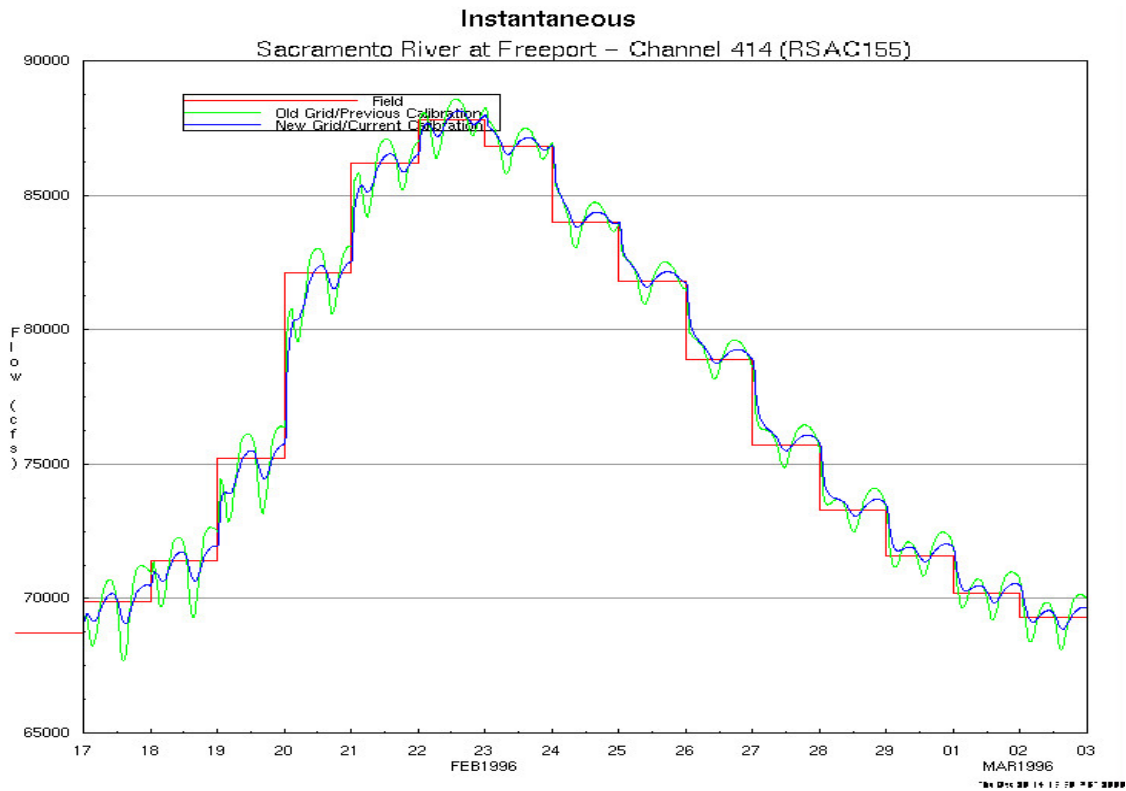
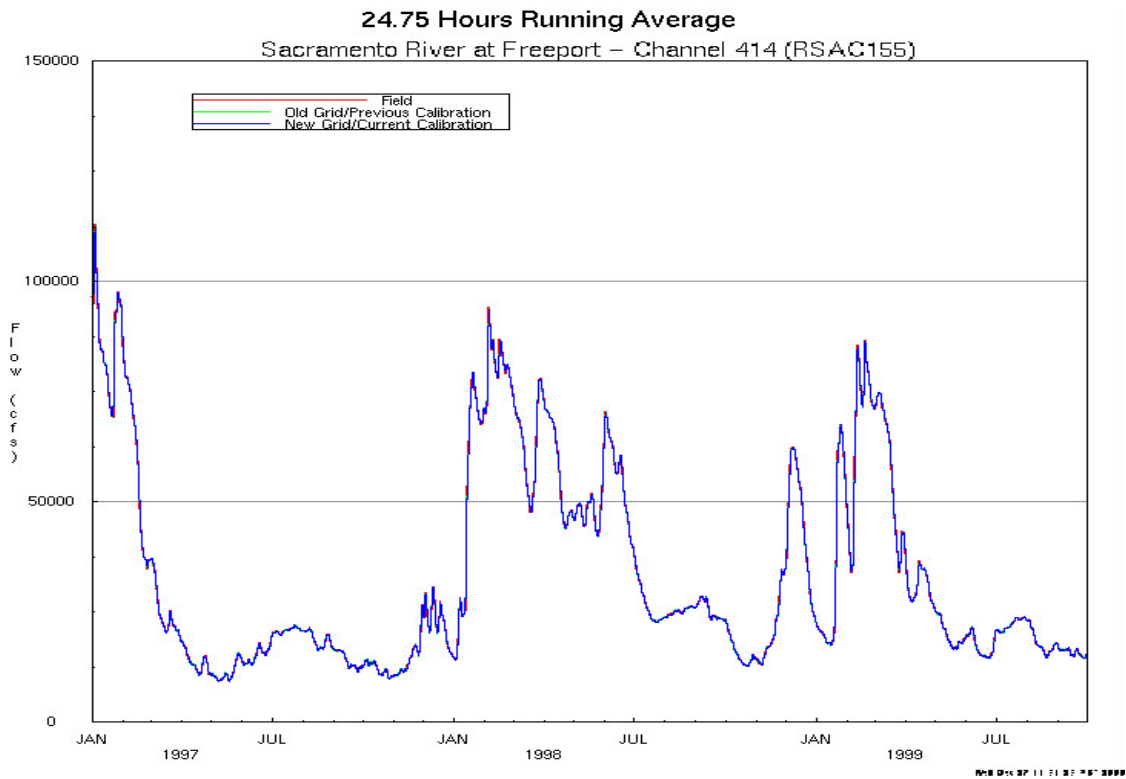
Note: This map shows locations of tidal stage, tidal flow, and tidal EC measurements. These locations are used to calibrate and validate the DSM2 Tidal Hydraulic and EC models.

Source: California Department of Water Resources 2002b.

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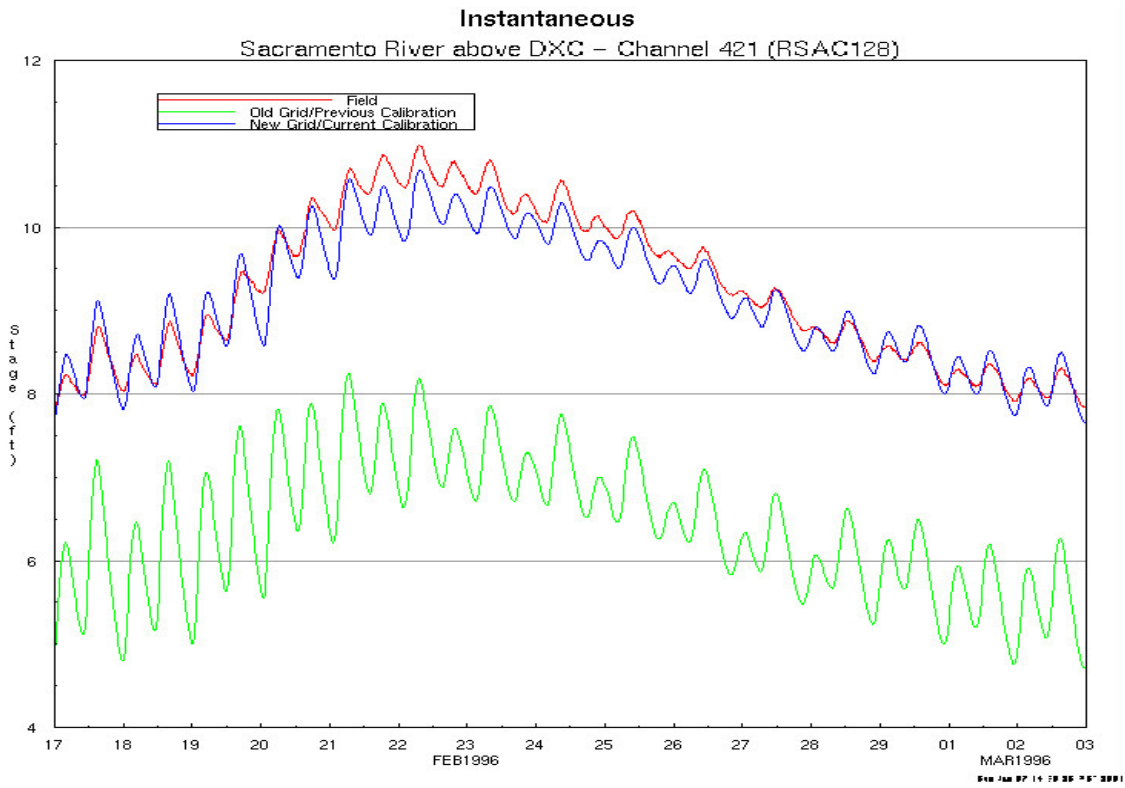
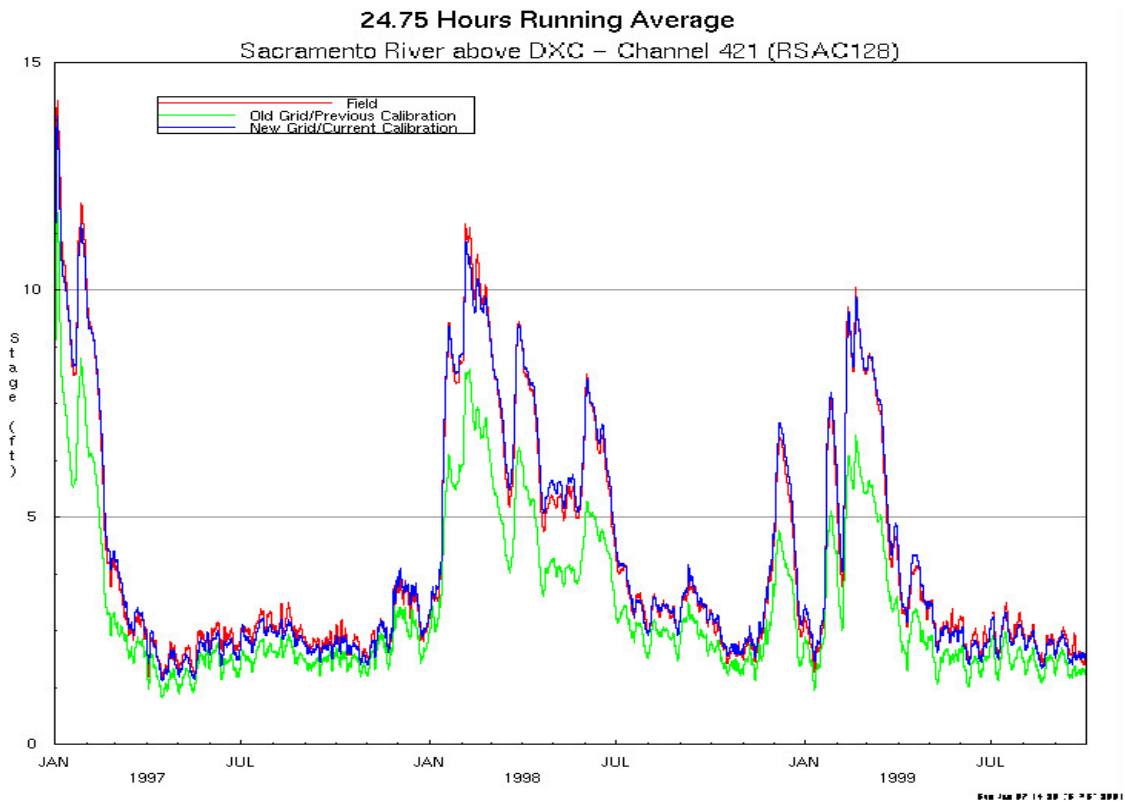


**Figure D-11**  
**DSM2-Simulated and Measured Tidal Stage**  
**in the Sacramento River at Freeport for**  
**January 1997–September 1999 and February 17–March 2, 1996**

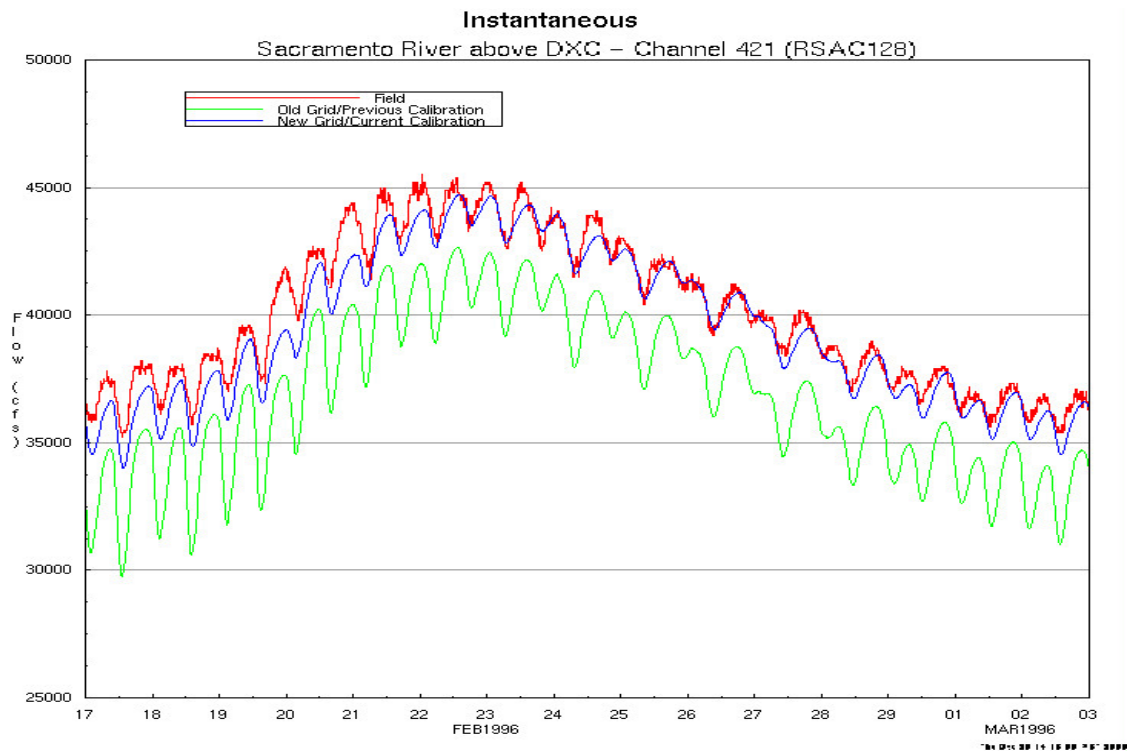
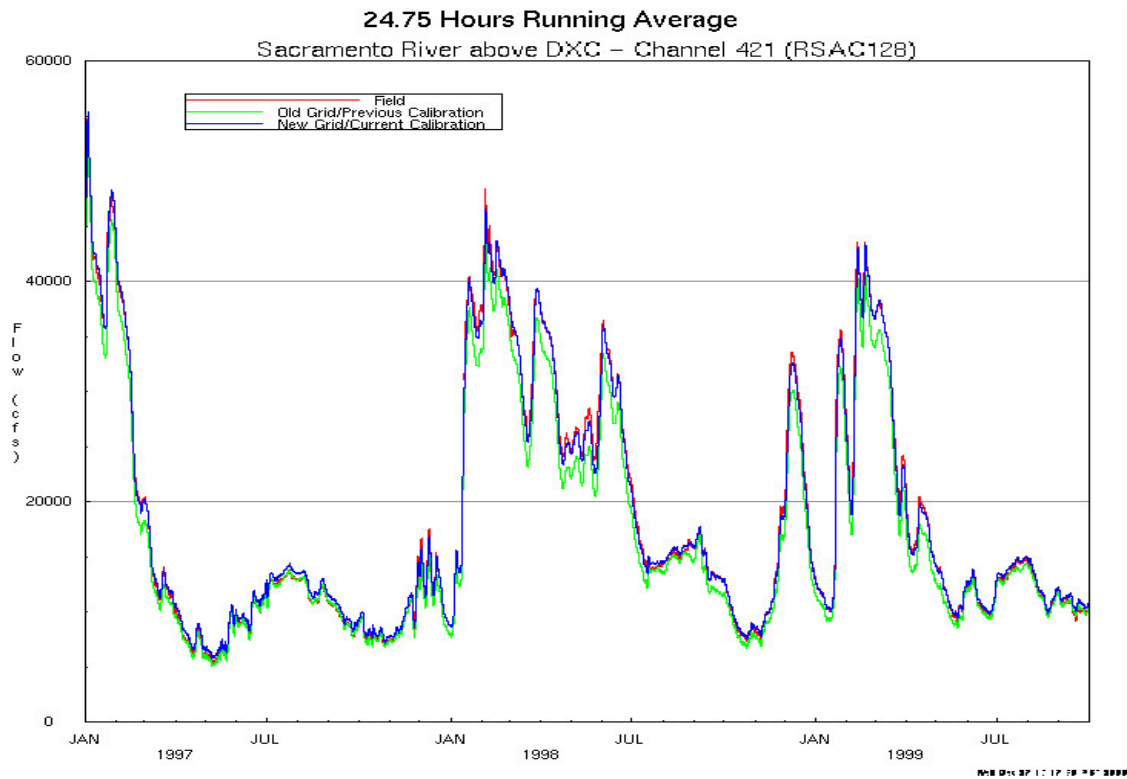


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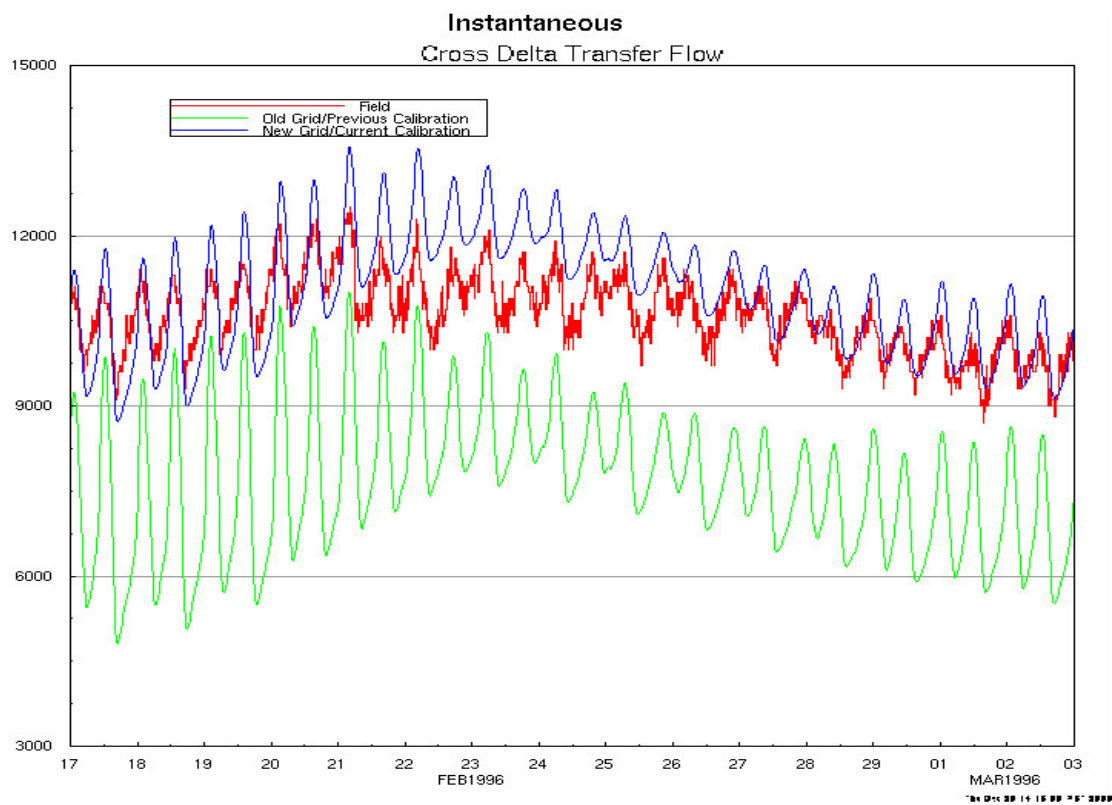
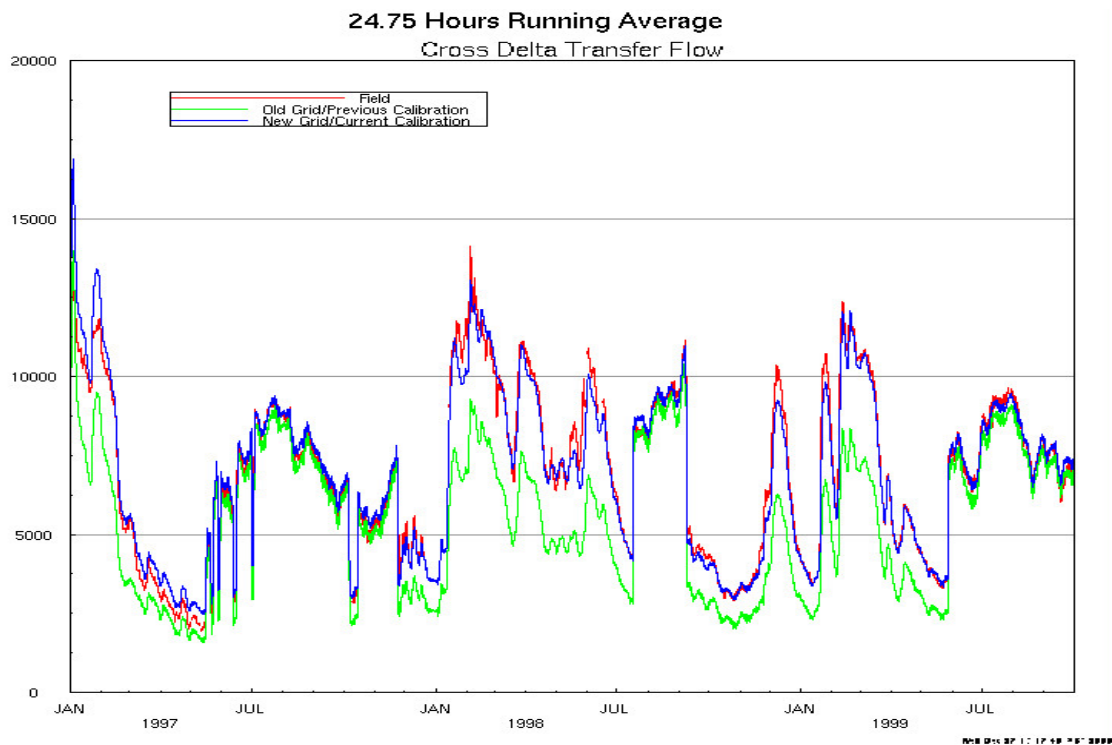
**Figure D-12**  
**DSM2-Simulated and Measured Tidal Flow**  
**in the Sacramento River at Freeport for**  
**January 1997–September 1999 and February 17–March 2, 1996**



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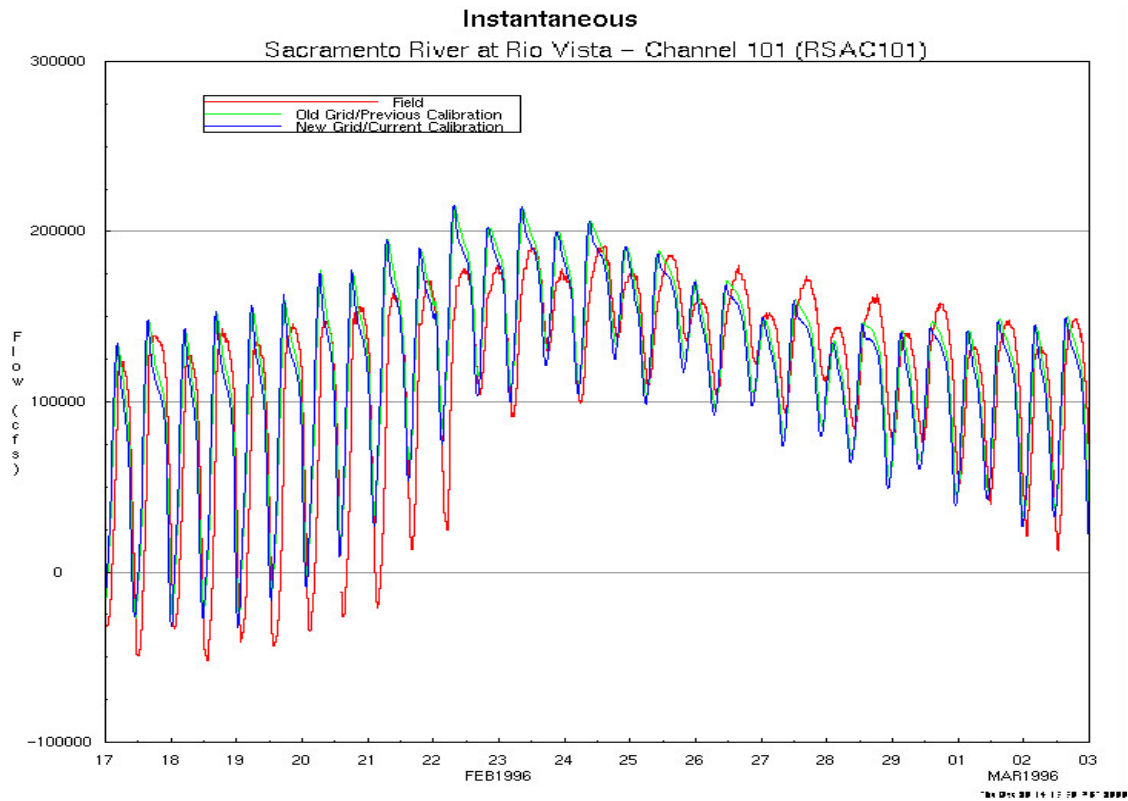
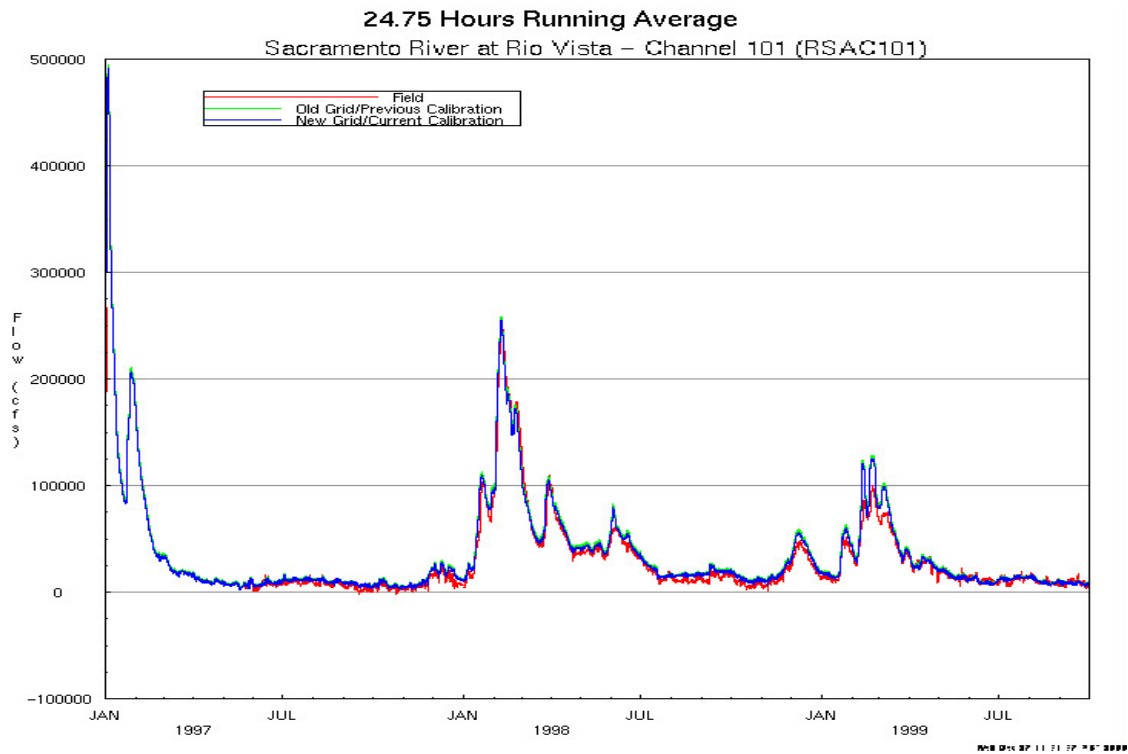


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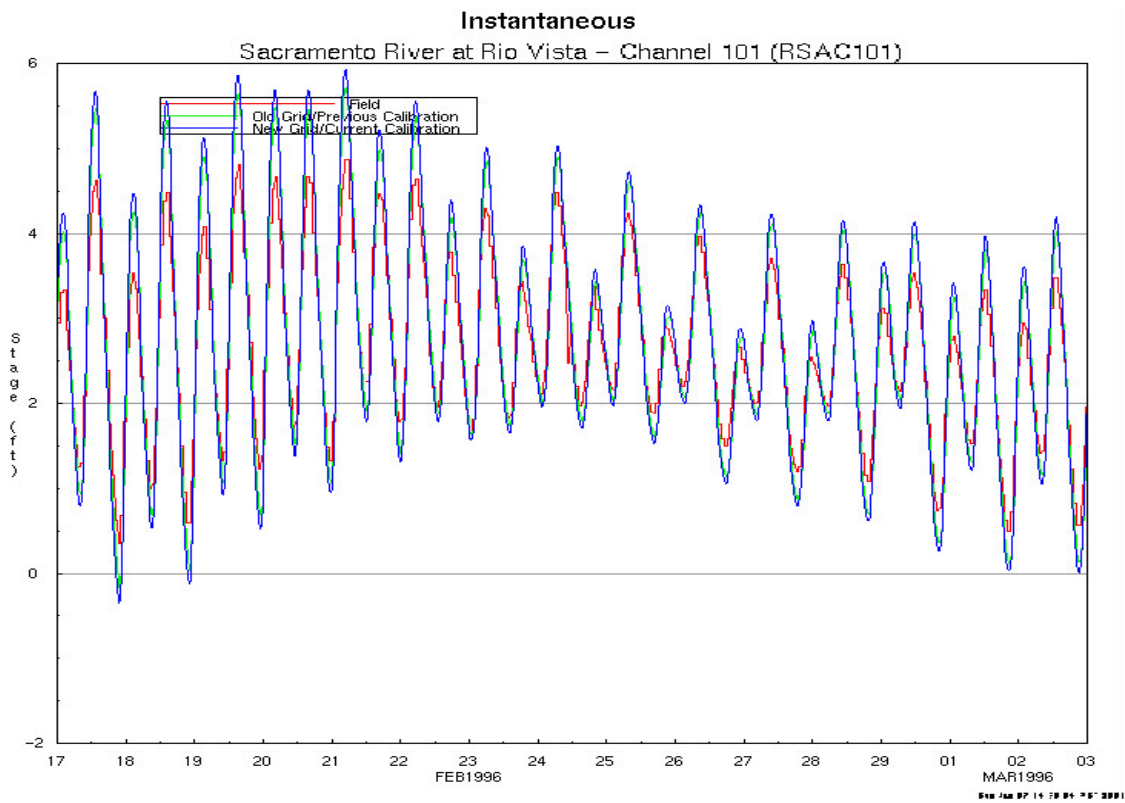
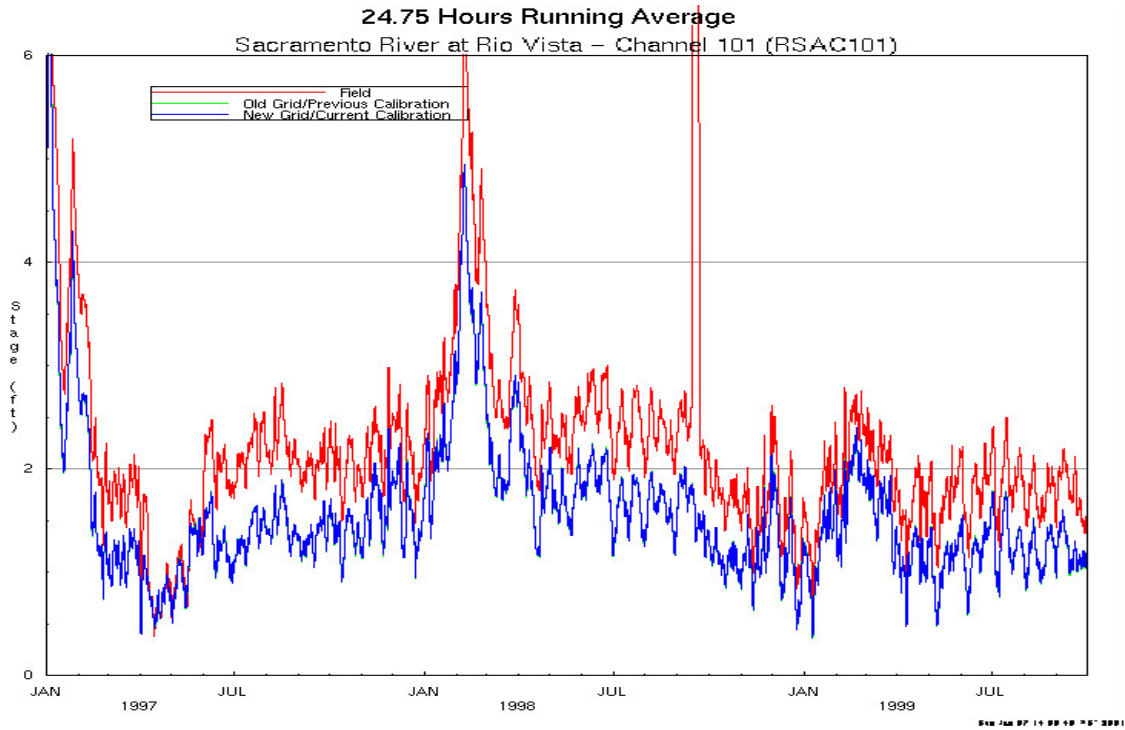




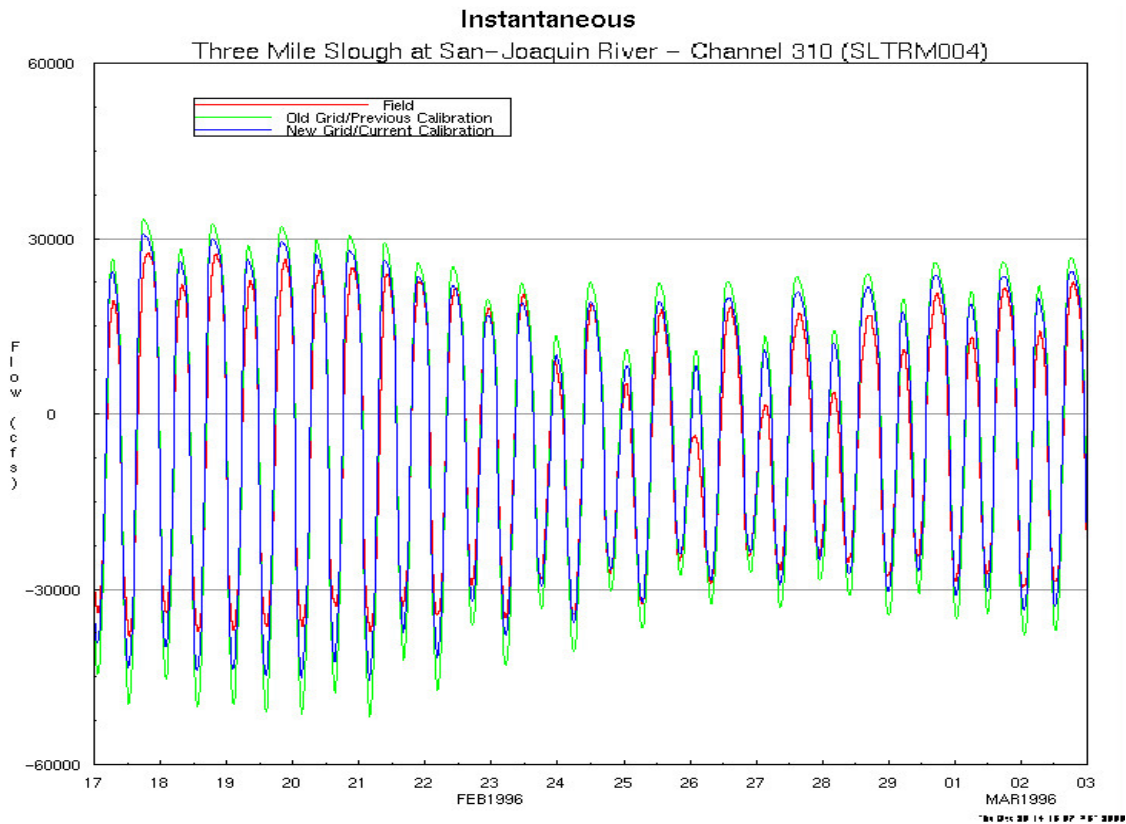
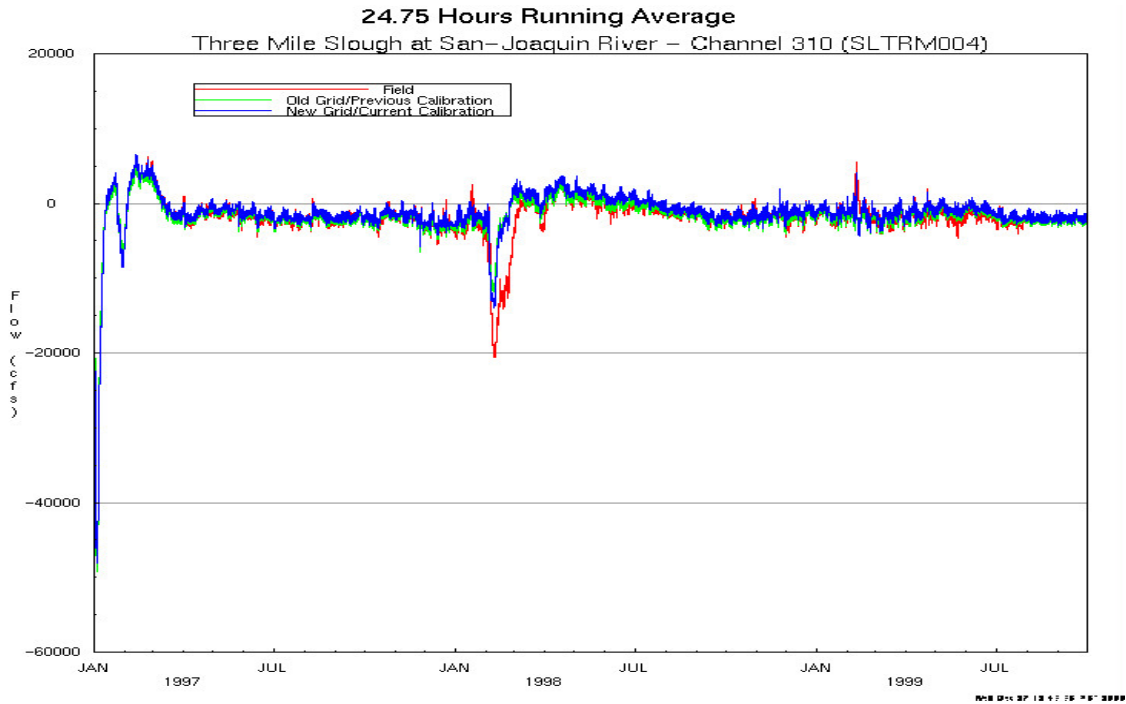
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**Figure D-16**

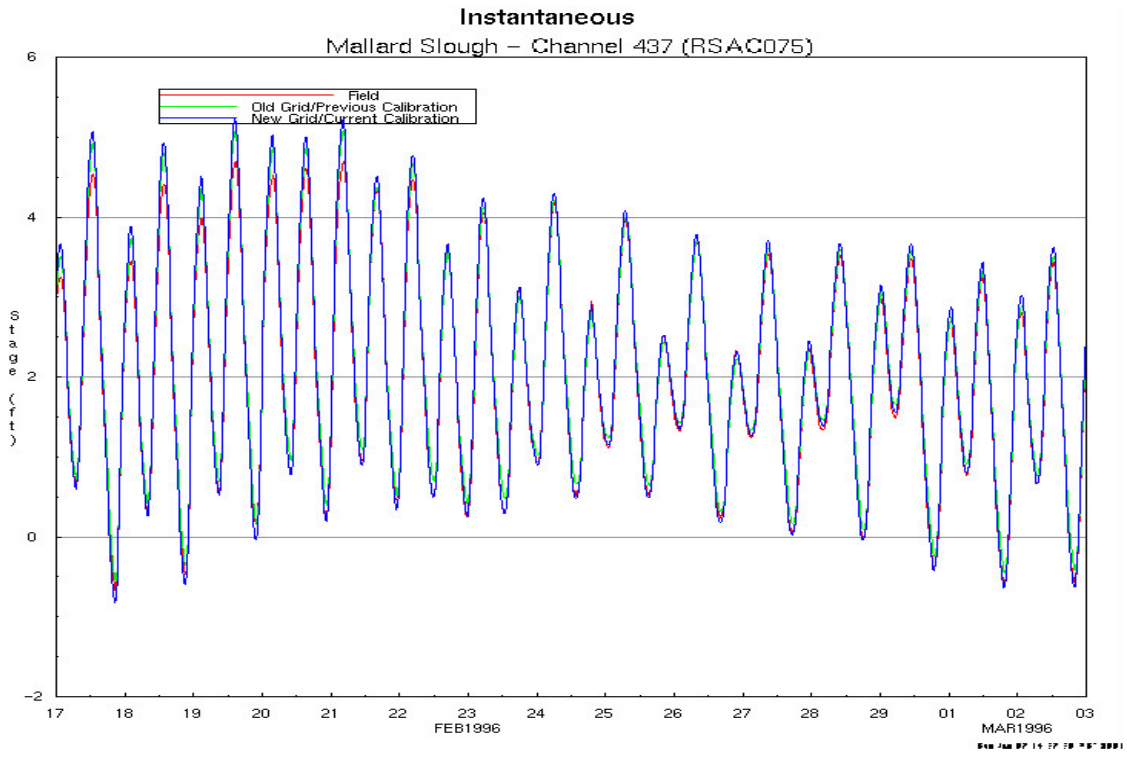
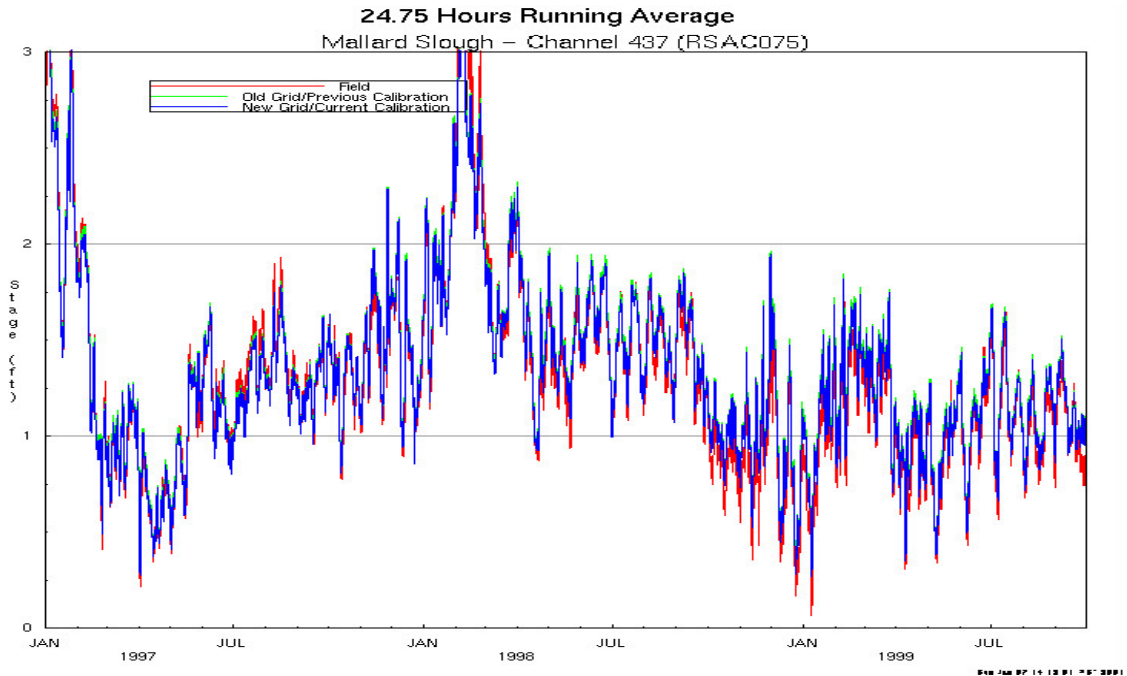
**DSM2-Simulated and Measured Tidal Stage  
in the Sacramento River at Rio Vista for  
January 1997–September 1999 and February 17–March 2, 1996**



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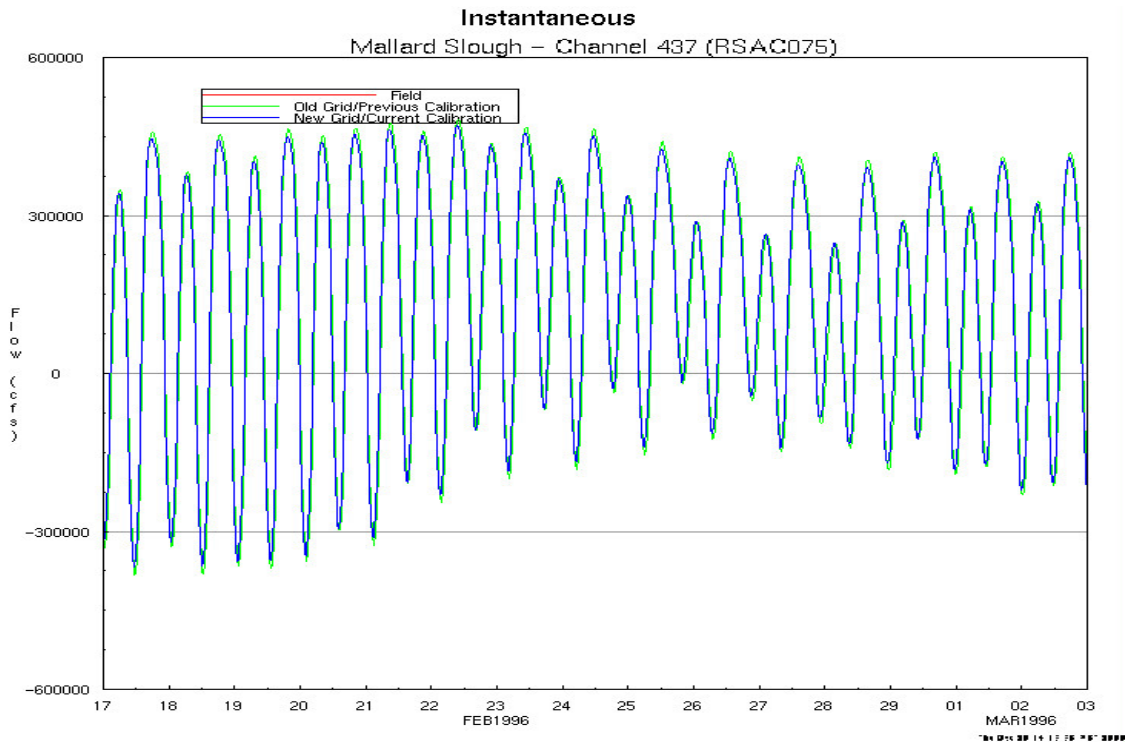
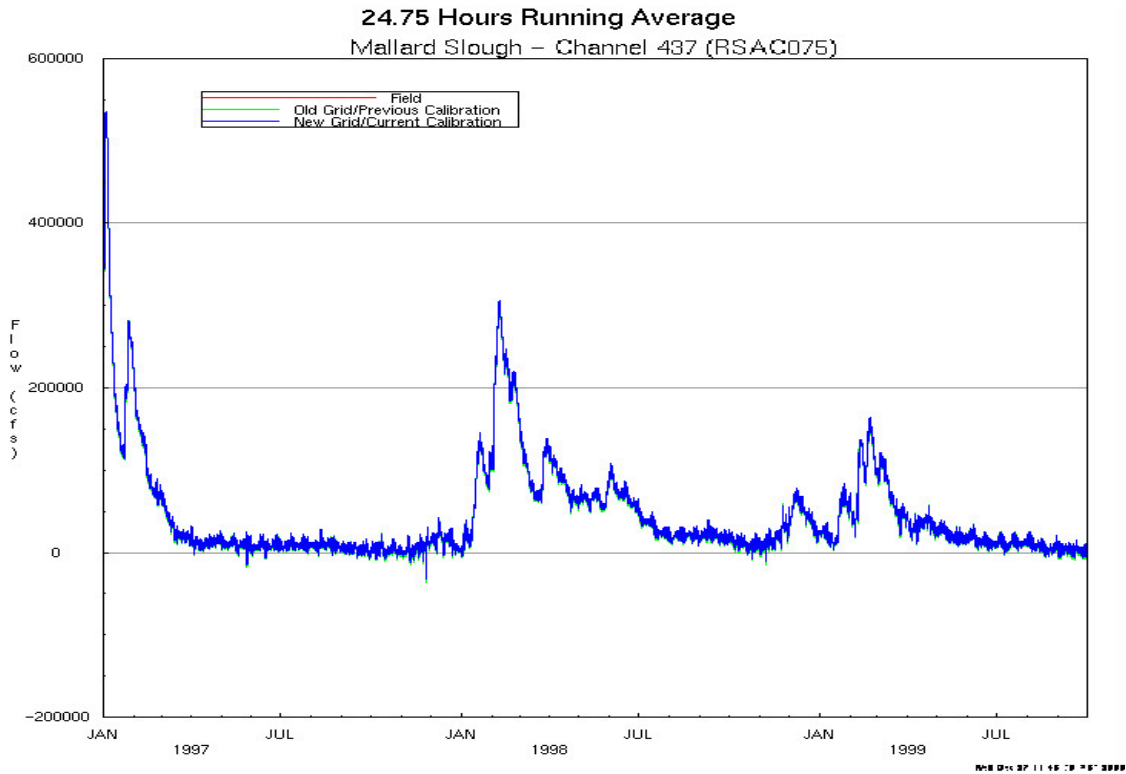


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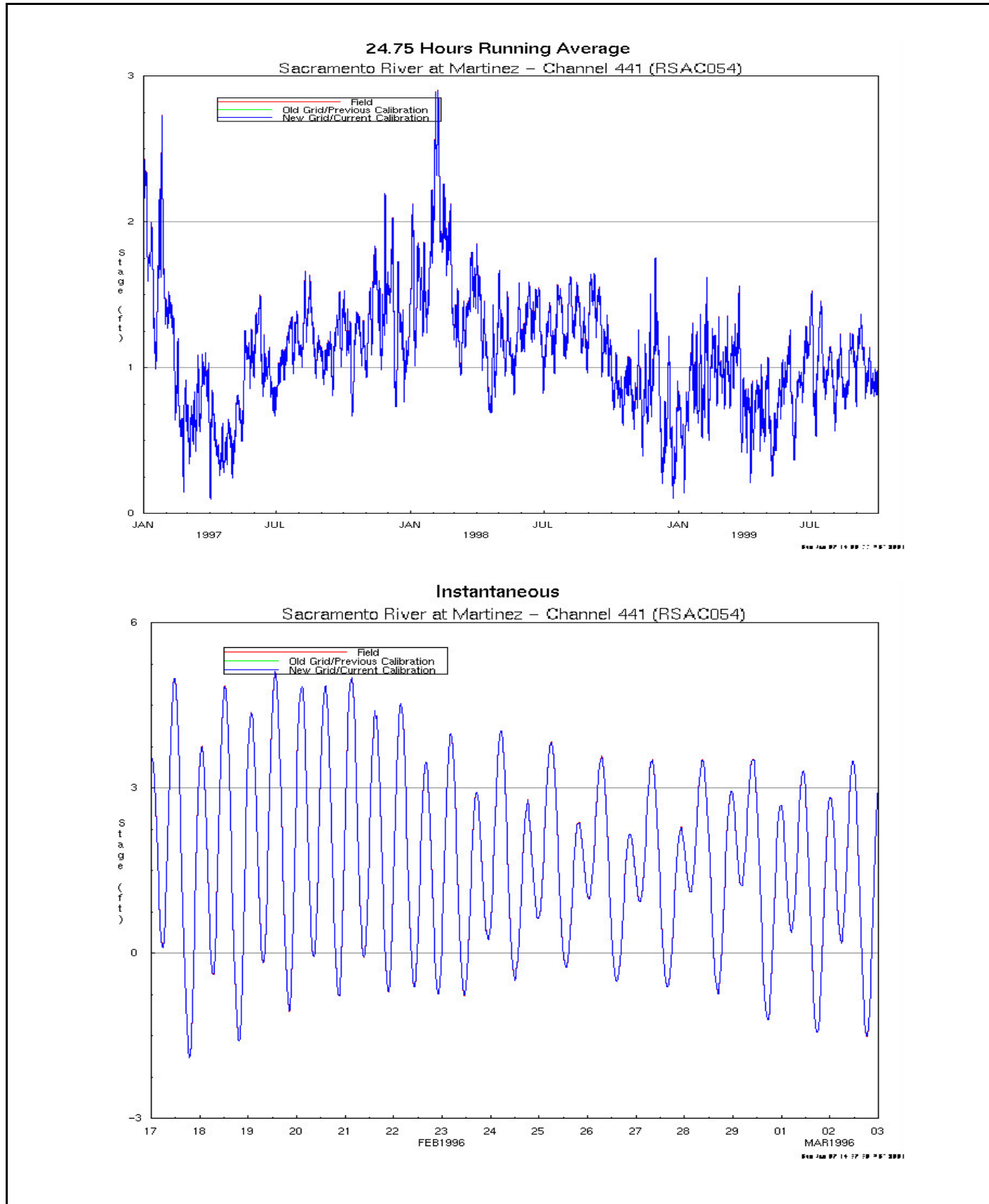


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**Figure D-19**  
**DSM2-Simulated and Measured Tidal Stage in Mallard Slough (Chippis Island) for January 1997–September 1999 and February 17–March 2, 1996**



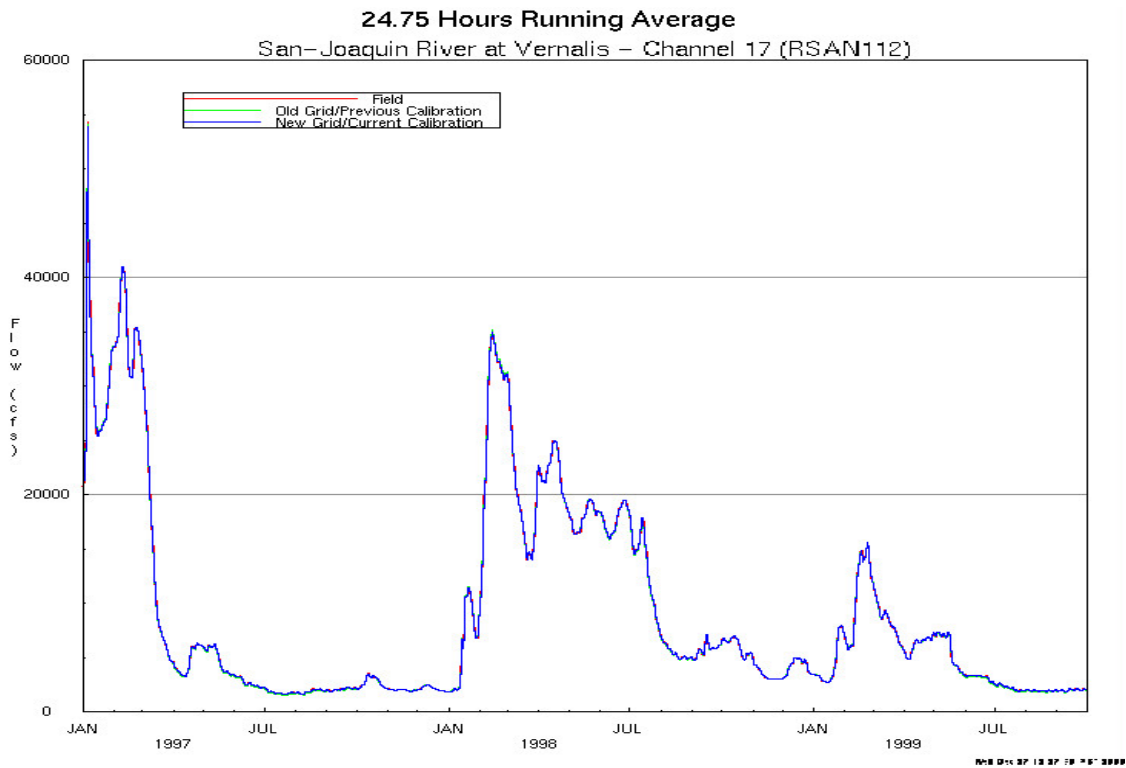
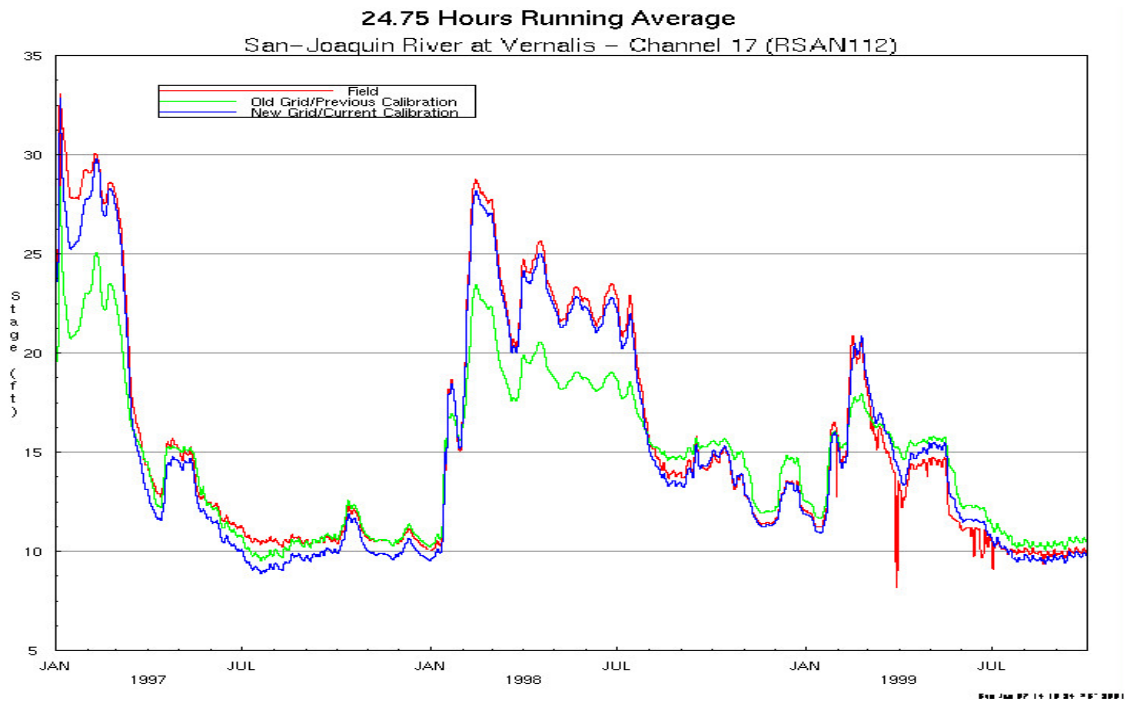
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**Measured Tidal Stage Variations in the Sacramento River at Martinez (DSM2 Model Boundary) for January 1997–September 1999 and February 17–March 2, 1996**





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