

SMC REGIONAL STORMWATER MONITORING COMPARISON AND EVALUATION

OVERVIEW OF MONITORING PROGRAMS

May 15, 2012



MS4 Permit

- Los Angeles RWQCB
- Term: 2010 – 2015
- Most monitoring plan details prescribed in permit

Description	# sites	# storm events	# dry events ¹
Mass emission	3	3	1
Urban outfall	11	3	2 ²

¹Season not specified

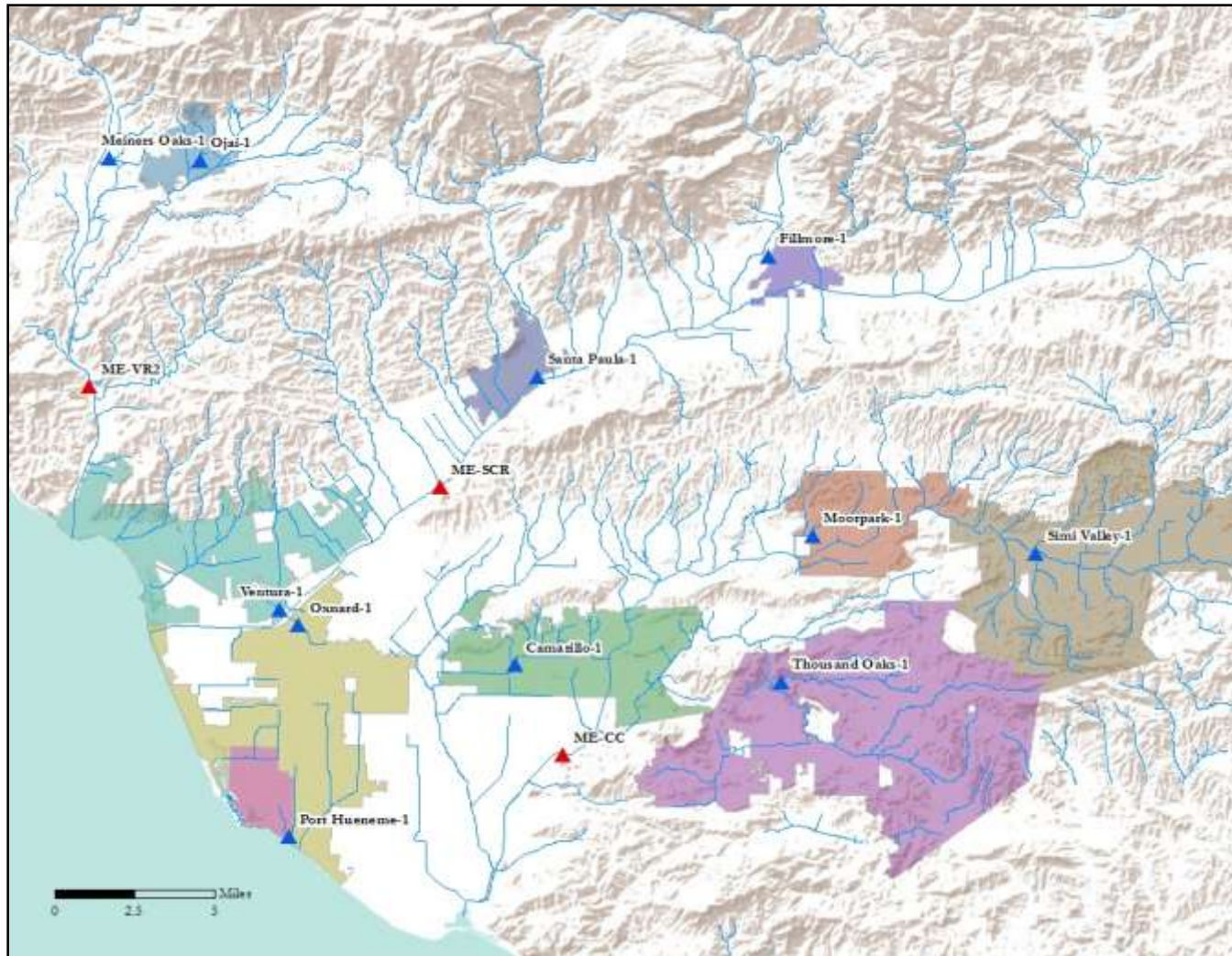
²Second dry event grabs only, between May 1st and Sep 30th



Site selection

- Mass emission stations
 - ▣ Prescribed in permit
 - ▣ Calculate mass emissions from each watershed, cumulative impact of MS4 inputs, trends
- Urban outfalls
 - ▣ One station representative for each Permittee
 - ▣ Selected by Permittees
 - ▣ Selection a balance of
 - Land-use representative of Permittee's jurisdiction
 - > 60% of catchment is Permittee MS4
 - Avoid non-MS4, non-Permittee contributions
 - Ability to measure flow, safety
 - ▣ Estimate loads, EMC, trends, MS4 contribution to WQ exceedances

Monitoring sites





Sampling

- Flow-paced at 11 sites, time-paced at 3 sites
- Sample first 24 hrs of storm / duration of storm
- ISCO 6712 autosamplers for composites
- 1 x 18.5L composite bottle per event
- Single grab samples for bacteria, O&G, TPH, cyanide, VOC, toxicity
- pH, DO, Conductivity, Salinity, Temperature



Event summary

- Go / no-go decision based on 3-4 local forecasts
- 3 field teams of 2 persons (4-5 sites each), 1 person storm control
- Site visit 1 (try < 24 hrs before event): remote programming, bottle installation
- Teams usually mobilized at onset rain (first bucket tip), no night-time restrictions
- Site visit 2: grabs, check autosamplers, adjust pacing if needed
- Deliver bacteria samples to County lab (6 hrs hold time)
- Site visit 3: recover composite bottles
- Arrange pick-up with courier for composite and chemical grabs
- Additional site visits for troubleshooting may occur

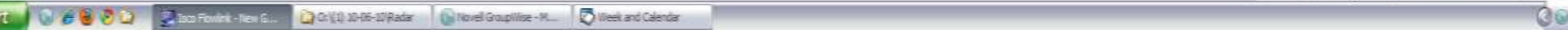
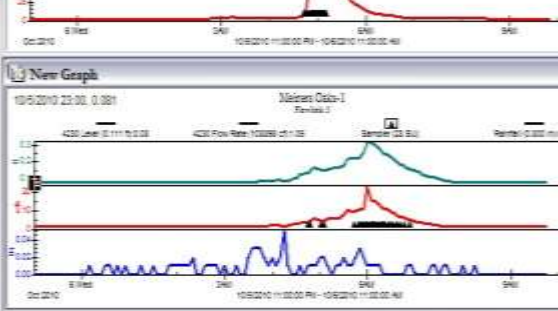
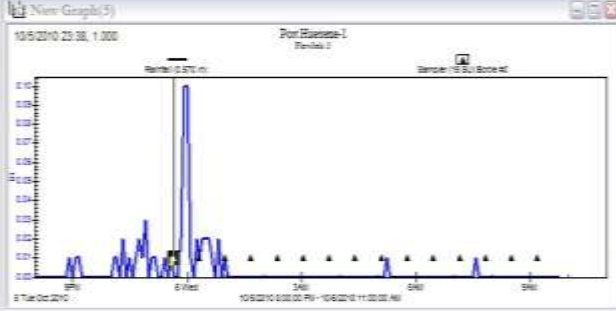
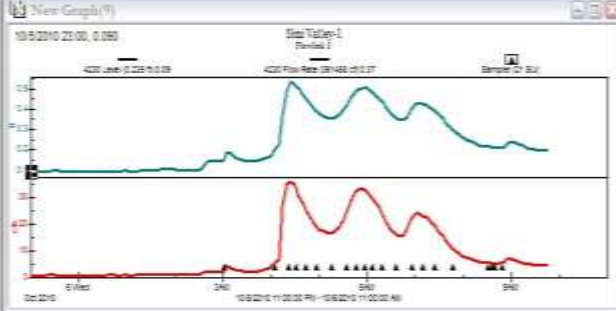
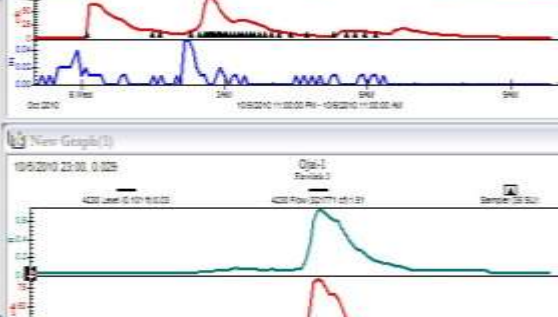
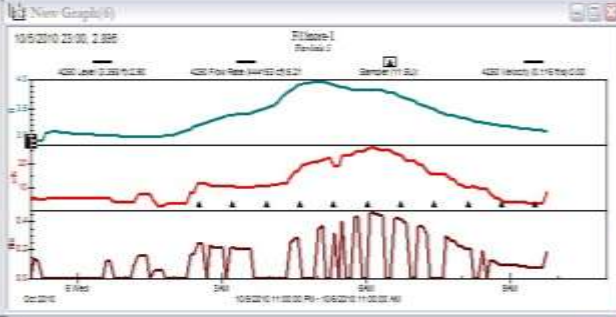
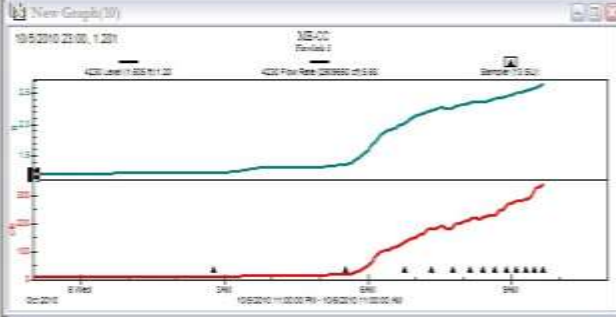
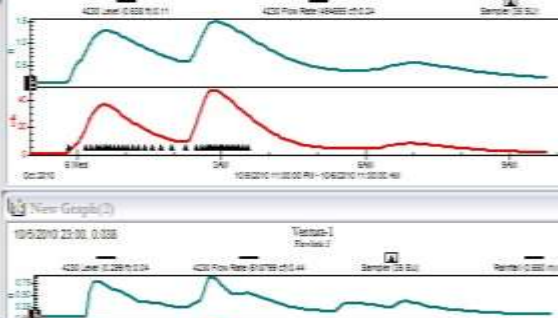
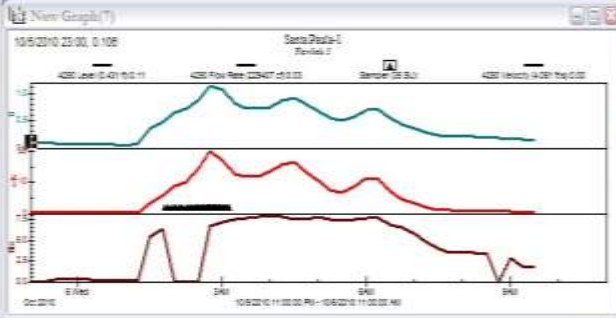
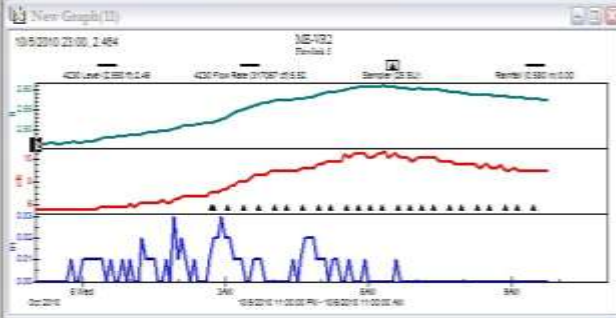
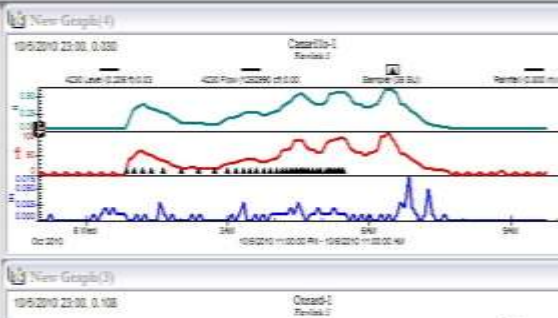
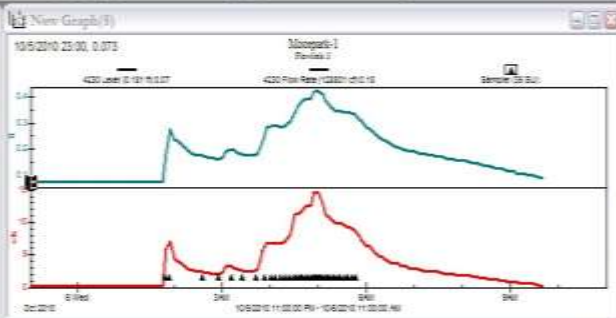
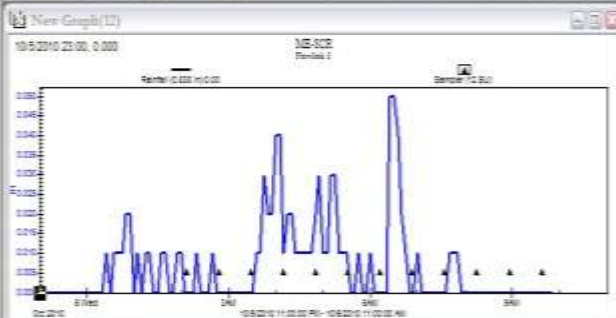
Remote programming and data access



- Automated data collection
- Teledyne Isco 2105c interface module
- SQL server
- Flowlink Pro software
- IP data push from each site via CDMA cellular communication
- Remote control of site instruments via phone modem
- Website for viewing near real-time data



- Meiners Oude-1
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Total Fl
- Opel-1
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Total Fl
- Ventura-1
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Total Fl
- Omond-1
- Canario-1
- Port Huene-1
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Filmore-1
- Santa Paula-1
- Moorpark-1
- Smi Valley-1
- ME-CC
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Total Fl
- ME-VR2
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall
- Total Fl
- ME-SCR
- 2205 Interf
- Input W
- 4230 Le
- 4230 Fl
- Sample
- Rainfall



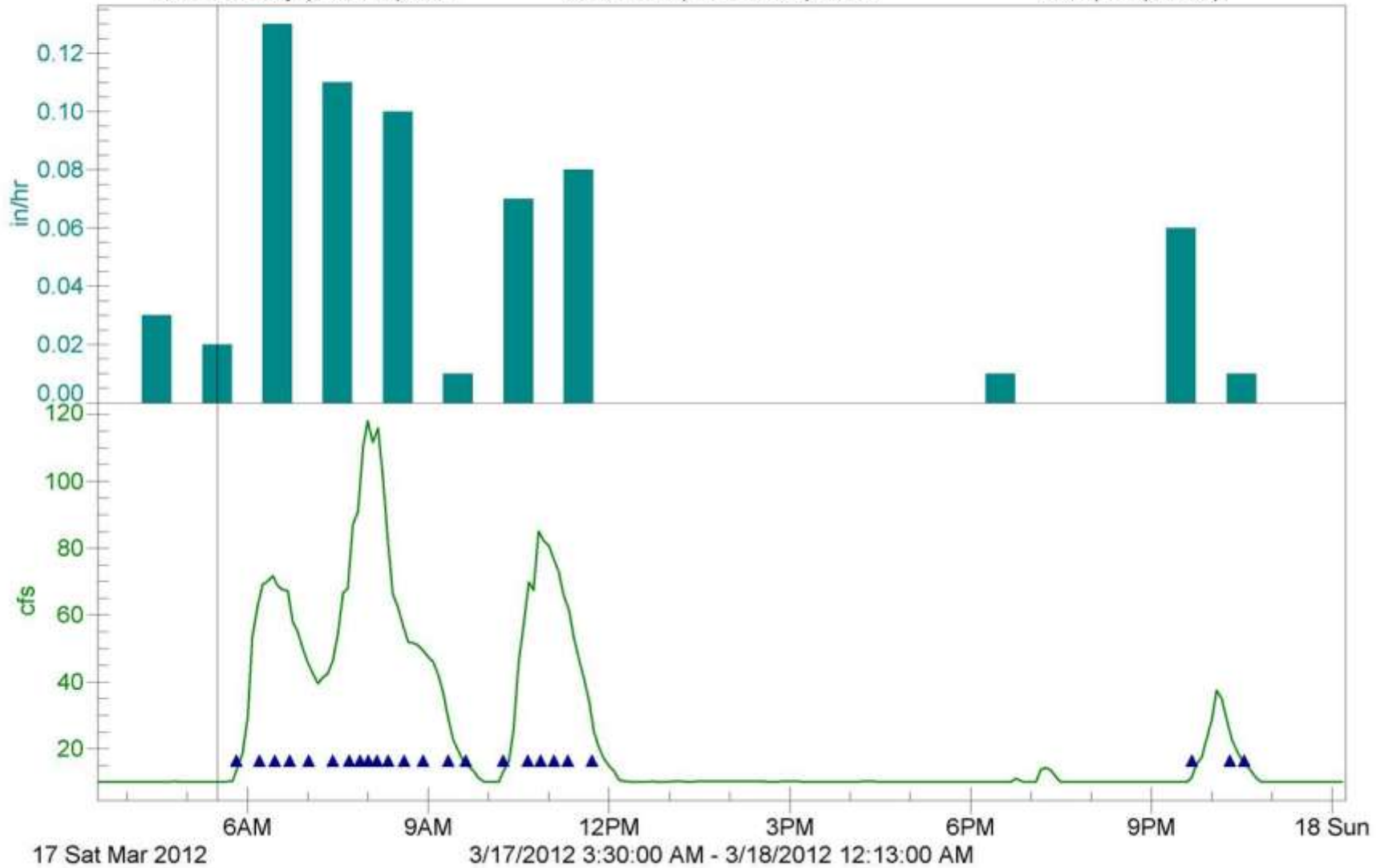
Camarillo-1

Flowlink 5

Rain Intensity (0.630 in):0.02

4230 Flow (1721470 cf):10.08

Sampler (24 SU):



Fillmore-1

Flowlink 5

Input Voltage (12.958 volts): 12.70

