

Continuous PM_{2.5} Monitoring Network in California

California Environmental Protection Agency

Air Resources Board

Monitoring and Laboratory Division

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Continuous PM 2.5 Monitoring

- Utilize the Met-One Beta Attenuation Monitor (BAM)
- Network to consist of more than 30 sites
 - purchased with federal, state and local funds
 - four collocated sites planned
 - some units in parallel with FRM/IMPROVE
 - complete network by Summer 2001

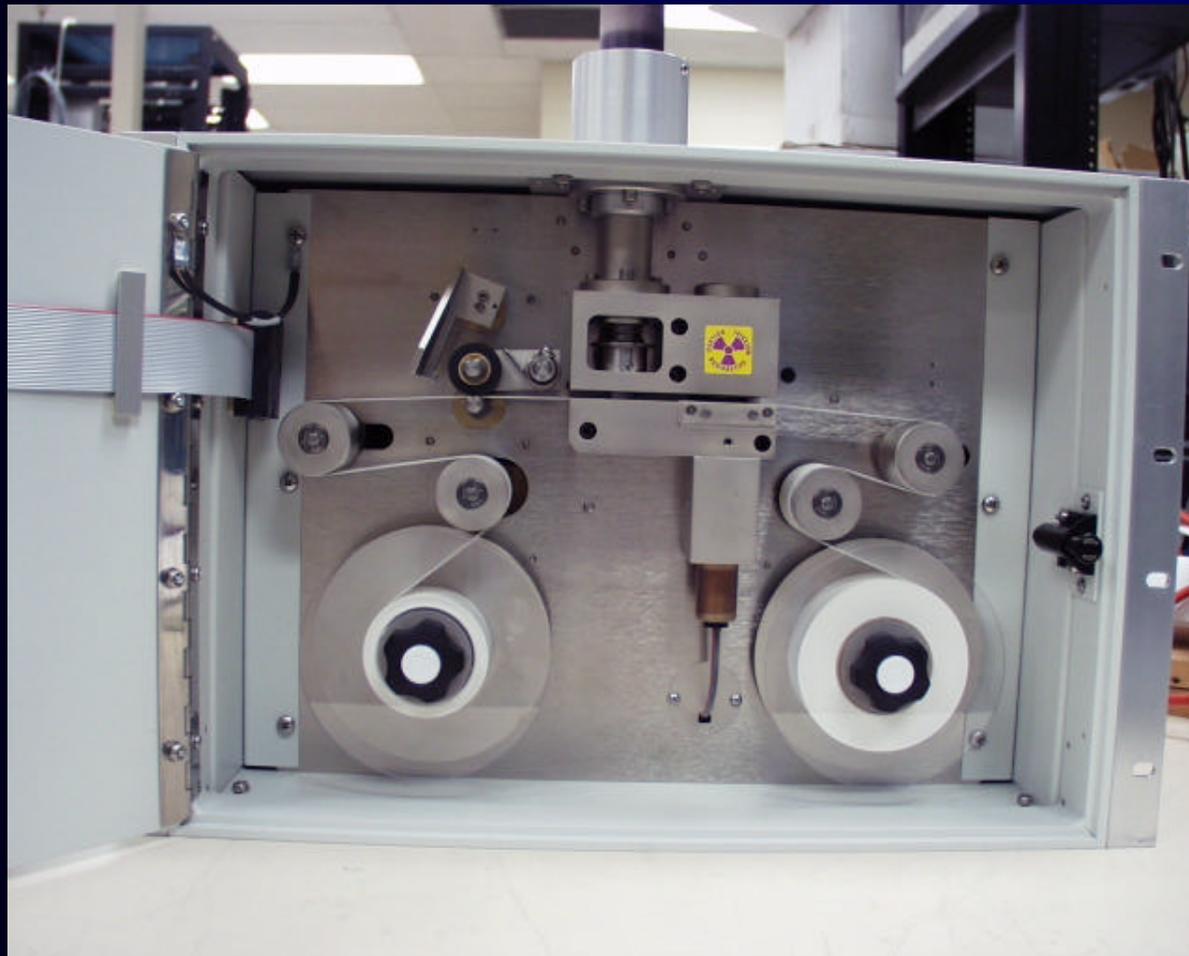
Met-One Model 1020 BAM

- Features (ver 3.05)
 - C14 Beta Source is solid phase, 60 micro-curies
 - Hour Measurement = High Signal to Noise
 - Auto Zero Drift and Span Check every hour
 - Sharp Cut Cyclone for PM2.5 Fraction
 - CARB configuration uses met translator to maintain volumetric flow @ 16.7 LPM
 - Inlet heated to 3 C above ambient during high Inlet Humidity

Met-One BAM (Front)



Met-One BAM (Inside)



Current Deployment Status

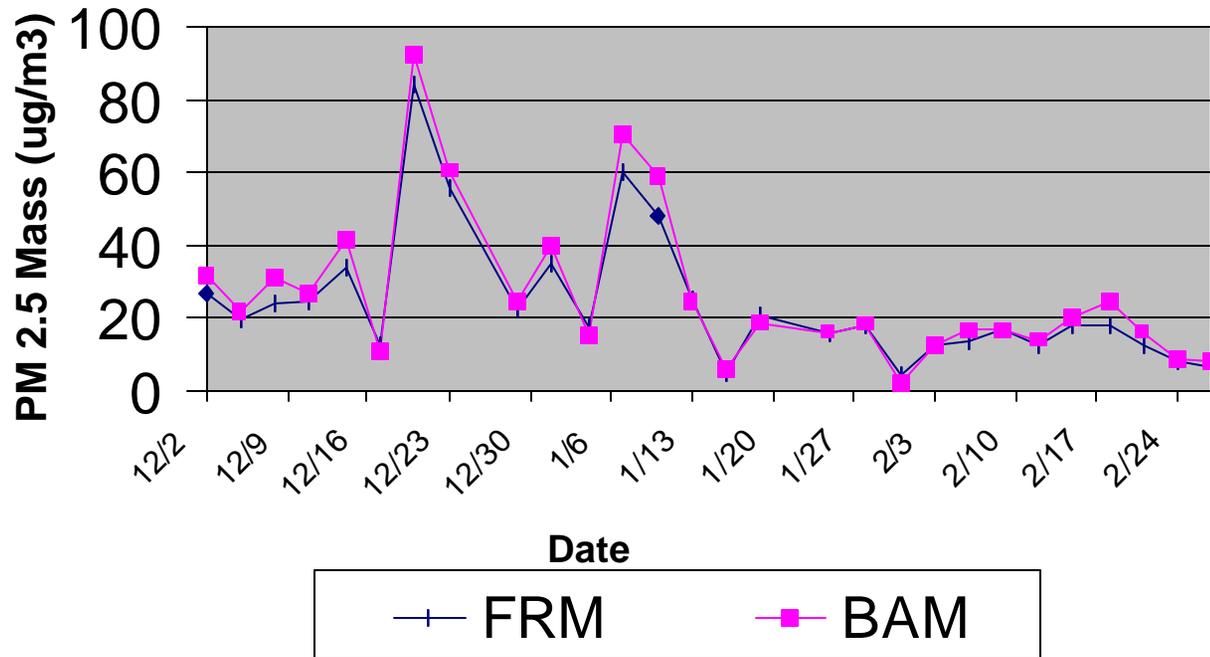
- Twenty Two (22) units have been deployed
 - (15) SLAMS sites (mostly in parallel with FRM)
 - (3) Children's Environmental Health/ “EJ”
 - (2) PM2.5 Background Sites (Parallel with IMPROVE)
 - (1) Ag Burn Forecasting Program
 - (1) Special Purpose Site (Near Source Impacts)
 - (8) *Additional Sites Pending Upgrades*

Data Comparison (BAM vs. FRM)

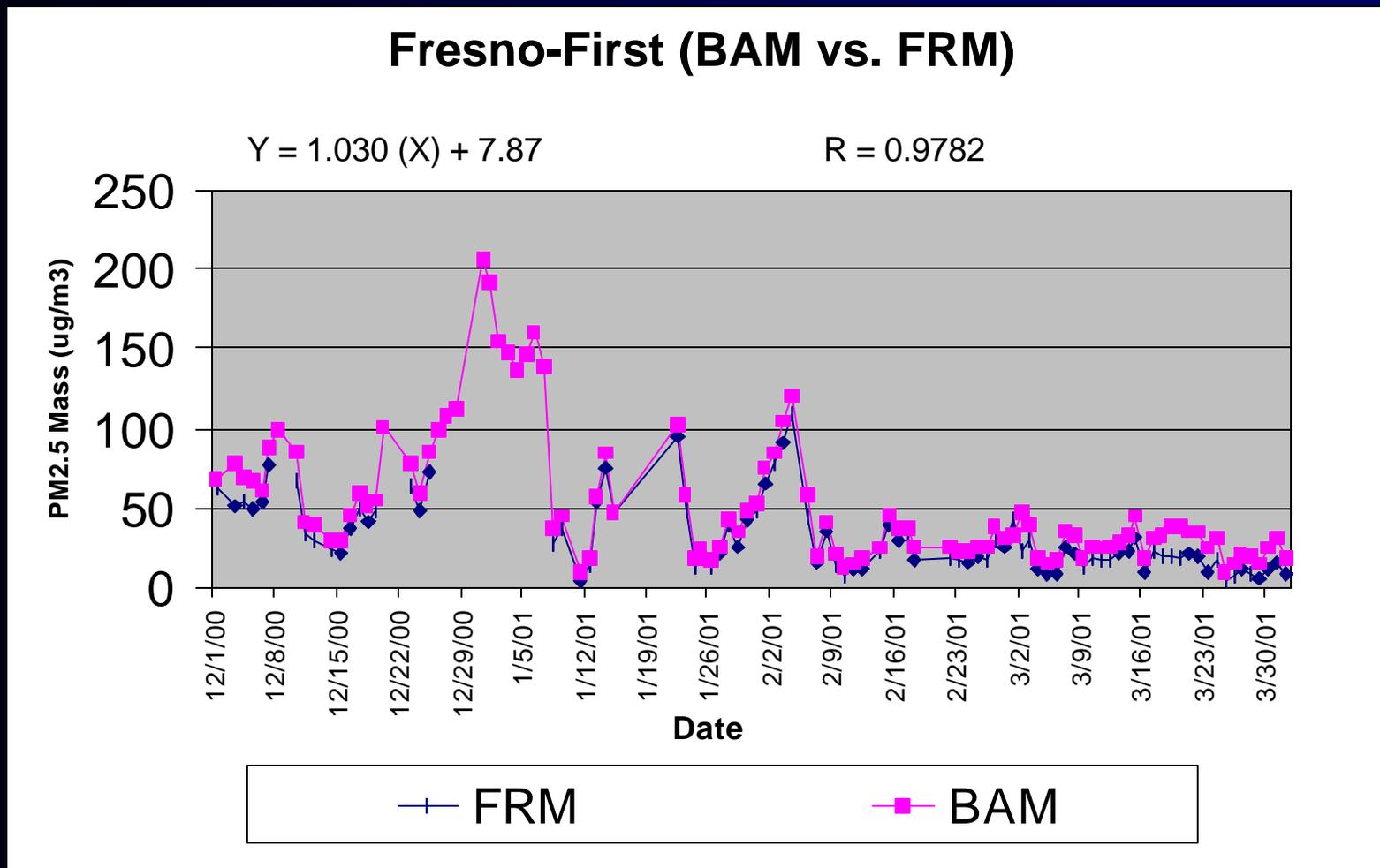
Calexico-Ethyl (BAM vs. FRM)

R = 0.9924

Y = 1.1356 (X) - 0.5624



Data Comparison (BAM vs. FRM)



Things to Consider

- Get latest software version to ensure volumetric flow
- Verify data has correct time-stamp
- Nickel Plated Sharp Cut Cyclone can corrode, suggest alternative coating (ie Anodized AL)
- Other