CAMNAT

CALIFORNIA AIR MONITORING NETWORK ASSESSMENT TOOLS

PQAO Training
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Providence Engineering and Environmental Group LLC
Objective: Introduce you to CAMNAT capabilities

1. Background
2. CAMNAT data sources, report logic
3. Using CAMNAT
4. Getting help
5. Q&A
BACKGROUND
CAMNAT PROJECT

- **Goal:** enable more consistency in Annual Network Plans and 5-Year Assessments required by 40 CFR 58.10
- **Objective:** Web-based application
  - Standardize monitoring reports
  - Automate analytical tools
  - Site/monitor database as the foundation
- **Sponsors:** US EPA Region 9, Bay Area AQMD, California Air Resources Board
CAMNAT OVERVIEW

• Web-based database and software system
  – Reports
  – Analytical tools
  – Data editing
  – User management and security

• Criteria pollutant monitors and sites:
  – O3, NO2, SO2, CO, PM10, PM2.5, Pb
DATA SOURCES AND REPORT LOGIC
Database of sites and monitors is the foundation of CAMNAT

Initial data pulled from
- AQS
- ARB QA database
- Annual Network Plans
- Caltrans, National Emission Inventory, Census Bureau

All data can be edited by CAMNAT Users and Admins
## CAMNAT Data Sources for Sites, Monitors

<table>
<thead>
<tr>
<th>Category</th>
<th>Data Examples</th>
<th>ARB QA</th>
<th>EPA AQS</th>
<th>Network Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site ID information</td>
<td>local site name, AQS ID</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Site location</td>
<td>address, elevation, air basin</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Agencies</td>
<td>site operator, monitor collecting agency</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Traffic info</td>
<td>traffic count, roads</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Instrument info</td>
<td>method, mfr/model, FRM status</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Monitor purposes</td>
<td>objective, site type, scale</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Monitor installation</td>
<td>probe height, obstructions</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Monitor operations</td>
<td>sampling frequency, QA audits</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

1 = primary data source, 2 = secondary data source
DATA EXPORT & INTERFACE

- CAMNAT data can be exported to Excel
- CAMNAT does not currently interface with AQS or ARB databases
  - CAMNAT-AQS interface is a possible future addition, could be an alternative to A&M transactions
REPORT LOGIC & FORMATS

- **Detailed Site Report**
  - 40 CFR 58.10; EPA R9 Memo, 5/8/12

- **Minimum Monitoring Reports**
  - Ozone: 40 CFR 58, App D, Table D-2
  - PM10: 40 CFR 58, App D, Table D-4
  - PM2.5 SLAMS: 40 CFR 58, App D, Table D-5
  - PM2.5 Continuous: 40 CFR 58, App D, Section 4.7.2

- **Collocated Monitor Reports**
  - PM2.5: 40 CFR 58, App A, Section 3.2.5
  - PM10: 40 CFR 58, App A, Section 3.3.1

- **Sampling Frequency Calculators**
  - PM2.5: 40 CFR 58.12(d)
  - PM10: 40 CFR 58.12(e)
USING CAMNAT
Overview - California Air Monitoring Network Assessment Tools (CAMNAT)

CAMNAT consists of a web-based database and software tools, designed to allow California air monitoring agencies to easily produce reports for the annual monitoring network plans and periodic network assessments required by 40 CFR 58 Subpart B. The consistency of the reports generated by CAMNAT will allow EPA to more easily review and approve California’s monitoring network plans and periodic assessments. The CAMNAT reports and assessment tools provide insight on the effectiveness and efficiency of California’s regional air monitoring networks.

The CAMNAT system consists of the following main components:

- **CAMNAT Database**: contains information on California’s air monitoring sites and pollutant monitors, as well as summary air quality data needed for annual monitoring network plans and periodic network assessments. Data is periodically imported from EPA’s AQS database and the ARB Quality Assurance database.

- **Data Editing Interface**: web-based and designed for use by personnel within California’s air monitoring agencies.

- **Report Generator**: produce reports for Annual Network Plans, including Detailed Site Reports, Minimum Monitoring Requirements Reports, Collocated Monitor Reports.

- **Analytical Tools**: generate standardized analyses for Periodic Network Assessments.

- **Security**: Monitoring agency personnel are able to edit the data for their own networks, and view and generate reports for all monitors and sites.
USERS AND ADMINISTRATORS

- Users
  - view all data,
  - generate reports
  - edit Agency’s data

- Agency Admins: all of the above, plus
  - add/delete sites & monitors,
  - create new Users,
  - affiliate Users to Agency

- System Admin: all of the above, plus
  - assign Agency Admins
**BECOMING A CAMNAT USER**

- **Ask your Agency Admin to create a new User**
- **Agency Admin:**
  - Go to CAMNAT Homepage
  - Click on Admin tab
    - Click Create New User, enter info
    - Click Manage Users, specify Agency for new User
- **New User:**
  - Go to CAMNAT Home page
  - Log-in
CREATING A NEW USER

CALIFORNIA AIR MONITORING NETWORK ASSESSMENT TOOLS (CAMNAT)

Welcome snester! [ Log Out ]
Change Password

Home | Data Entry | Reports | Tools | Help | Admin

User Name: 
Password: 
Confirm Password: 
E-mail: 

Create User
AFFILIATING A USER WITH AN AGENCY

SYSTEM ADMINISTRATION - MANAGE USERS

Username: seneater
Agency: Select Agency
Locked: [ ]
Role: [ ] Admin [ ] Agency admin [ ] Agency edit [ ] Read only

Last Login: 11/21/2014 11:30:42 AM
Email: seneater@providence.com [ ]
Active: [ ]

[Update] [Cancel]
EDITING DATA

- Sites, Monitors, Agency, CBSA

1. In the upper right corner, search for the record you want to edit, e.g. a monitor
2. Make changes to the data on the page
3. Save your changes at the bottom of the page
1. Select your monitor
2. Edit the data
3. Save your changes (bottom of webpage)
1. On the Home page, choose the type of report
   - Detailed Site Report
   - Minimum Monitoring Reports
   - Collocated Monitor Reports

2. Report page
   a. Specify the scope of the report – pollutant, geographic area, etc
   b. Activate

   - Detailed Site Reports are generated in Excel, others as PDFs or Word
   - Reports reflect the contents of the CAMNAT database. To change results, edit the data.
MINIMUM MONITORING REQUIREMENTS

CALIFORNIA AIR MONITORING NETWORK ASSESSMENT TOOLS (C...)

MINIMUM MONITORING REPORT

Select pollutant and MSA

- Summary Report
- Pdf
- Ozone

Select CBSA
- Bakersfield, CA
- Chico, CA
- Clearlake, CA
- El Centro, CA
- Eureka-Arcata-Fortuna, CA
- Fresno, CA
- Hanford-Corcoran, CA
- Los Angeles-Long Beach-Santa Ana, CA
- Madera, CA
- Merced, CA
- Modesto, CA
- Napa, CA
- Oxnard-Thousand Oaks-Ventura, CA
- Phoenix Lake-Cedar Ridge, CA
- Red Bluff, CA
- Redding, CA
- Riverside-San Bernardino-Ontario, CA
- Sacramento--Arden-Arcade--Roseville, CA
- Salinas, CA
- San Diego-Carlsbad-San Marcos, CA
This report
- Finds active monitors in the MSA
- Calculates # of required monitors based on population, DV
CALCULATING SAMPLING FREQUENCY

- Sampling Frequency Calculators for PM2.5 and PM10

1. Select the pollutant
2. Select the monitor
3. CAMNAT displays sampling frequency based on recorded Design Values
4. Inputs can be changed to check potential for changing sampling schedule
### Sampling Frequency Calculator for PM Monitors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>AQS ID</th>
<th>Get Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM10</td>
<td>06-007-0008-81102-1</td>
<td></td>
</tr>
</tbody>
</table>

**Maximum Concentrations**

<table>
<thead>
<tr>
<th>Concentration Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Daily Measurements</td>
<td>97</td>
</tr>
<tr>
<td>PM10 Highest Daily Concentration</td>
<td>59</td>
</tr>
<tr>
<td>PM10 Second Highest Daily Concentration</td>
<td>55</td>
</tr>
<tr>
<td>PM10 Third Highest Daily Concentration</td>
<td>51</td>
</tr>
<tr>
<td>PM10 Fourth Highest Daily Concentration</td>
<td>50</td>
</tr>
</tbody>
</table>

**Design Concentration:**

- PM10: 59
- PM2.5: 59

**Calculated Sampling Frequency:**

- PM10: 1:6

*Based on 2011 - 2013 Data*
GETTING HELP

- Help Menu
  - User’s Guide
  - Contact Us link sends email to CAMNAT Sys Admin
- Contact me if you have questions
  - scottnester@providenceeng.com
  - (559) 709-9759
Q & A