The Chemical Speciation Network (CSN) is a routine air monitoring network designed to complement the PM$_{2.5}$ monitoring network; support the implementation of PM$_{2.5}$ National Ambient Air Quality Standards (NAAQS); assist in developing and tracking emission control strategies; and provide data to aid in health studies. CSN sites are primarily located in urban areas and complement the largely rural Interagency Monitoring of PROtected Visual Environments (IMPROVE) network. The CSN target analytes are trace elements, ions, and carbon.

Samples Successfully Collected and Analyzed in 2017 by Filter Type. PTFE: 107 (96.4%), Nylon: 107 (96.4%), Quartz: 108 (97.3%)

To view and download CSN data: www3.epa.gov/airquality/airdata/
The EPA website with guidance documents and background information: https://www.epa.gov/amtic/chemical-speciation-network-csn
EPA real-time air monitoring data: https://www.epa.gov/outdoor-air-quality-data
The Univ. of California, Davis website with information about current research and publications: https://aqrc.ucdavis.edu/csn
The Colorado State Univ. website with data resources, literature, and visibility overviews: http://vista.cira.colostate.edu/improve/
The following plots summarize the chemical composition of particles collected at this site. The monthly averaged compositions calculated from 2013-2017 data are shown on the left while compositions for the day with the highest measured concentrations during 2017 are shown on the right.

### Average Monthly Particle Composition

The components of the particle composition are broken down into their respective composition types across different months.

#### Highest Day

The components are color-coded and labeled for easy identification:

- **Salt**
- **Soil Dust**
- **Soot**
- **Organic Matter**
- **Nitrate**
- **Sulfate**

#### Components Calculation Natural Sources Anthropogenic Sources

<table>
<thead>
<tr>
<th>Components</th>
<th>Calculation</th>
<th>Natural Sources</th>
<th>Anthropogenic Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt</td>
<td>1.8 \cdot Chloride</td>
<td>Ocean spray, dry lakebeds</td>
<td>Chemical manufacturing, lake consumption</td>
</tr>
<tr>
<td>Soil Dust</td>
<td>2.2 \cdot Al + 2.49 \cdot Si + 1.63 \cdot Ca +2.42 \cdot Fe + 1.94 \cdot Ti</td>
<td>Soil resuspension, dust storms long-range transport</td>
<td>Construction, agriculture, deforestation, unpaved roads</td>
</tr>
<tr>
<td>Soot</td>
<td><strong>Elemental Carbon</strong></td>
<td>Wildfires</td>
<td>Motor vehicles, wood burning, smoking</td>
</tr>
<tr>
<td>Organic Matter</td>
<td>1.4 \cdot Organic Carbon</td>
<td>Plants, animals, wildfires</td>
<td>Motor vehicles, cooking oils, household cleaners</td>
</tr>
<tr>
<td>Nitrate</td>
<td>1.29 \cdot Nitrate</td>
<td>Plants, animals</td>
<td>Fertilizer, stock yards, chemical manufacturing</td>
</tr>
<tr>
<td>Sulfate</td>
<td>4.125 \cdot Sulfur</td>
<td>Volcanism</td>
<td>Coal-fired power plants, chemical manufacturing</td>
</tr>
</tbody>
</table>

The following map shows the average RFM concentrations for nearby sites in both CSN and the rural IMPROVE Network. The point shapes indicate which network the sites are associated with. The color bar indicates the average annual RFM concentration (micrograms per cubic meter) measured at each site in 2017.

### Average RFM Concentration Map

The map illustrates the average RFM concentrations across different sites, broken down into two networks: CSN and IMPROVE.