Data Dictionary for January-February 2022 Fairbanks Emissions

# Summary

This dataset includes emissions inputs for the Community Multiscale Air Quality (CMAQ) modeling system for the 1.33 km resolution Fairbanks domain (Figure 1, inner box) during the ALPACA period (January 17-February 25, 2022). The following sections describe the data as well as their location on the archival file system, /asm, for EPA’s atmos high-performance computing platform.

\*\*PM2.5 refers to particulate matter 2.5 micrometers or less in diameter



**Figure 1:** US EPA domain configuration with 4 km outer domain (WRF) and a 1.33 km nested domain (WRF, CMAQ) centered over Fairbanks, AK. CMAQ modeling is performed over the inner domain **(**199 rows × 199 columns × 38 layers)

# CMAQ Model-Ready Emissions Inputs for Fairbanks (0133\_AK domain)

**Table 1: Location of CMAQ input files**

|  |  |  |
| --- | --- | --- |
| **Data description** | **File type\*** | **Location on asm** |
| CMAQ-ready emissions inputs for Jan-Feb, 2022 (all) | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis |
| CMAQ-ready emissions: airports | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/airports/emis\_mole\_airports\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, commercial coal | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/airports/emis\_mole\_commercial\_coal\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, commercial distillate oil | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/airports/emis\_mole\_commercial\_distiallate\_oil\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, commercial gas | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/commercial\_gas/emis\_mole\_commercial\_gas\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, commercial wood | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/commercial\_wood/emis\_mole\_commercial\_wood\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, industrial waste oil | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/industrial\_waste\_oil/emis\_mole\_industrial\_waste\_oil\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, residential distillate oil | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/residential\_distillate\_oil/emis\_mole\_residential\_distiallate\_oil\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, residential gas | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/residential\_gas/emis\_mole\_residential\_gas\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: space heating, residential wood | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/residential\_wood/emis\_mole\_residential\_wood\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: non-point/other area | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/nonpt/emis\_mole\_nonpt\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: nonroad | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/premerged/nonroad/emis\_mole\_nonroad\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: onroad, ADEC spatial surrogates | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/onroad\_ADEC\_surrogates/emis\_mole\_onroad\_adec\_surg\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb05\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, Aurora-Chena | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_aurora\_chena/inln\_mole\_ptegu\_aurora\_chena\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, Doyon | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_doyon/inln\_mole\_ptegu\_doyon\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, Ft. Wainwright | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_ft\_wainwright/inln\_mole\_ptegu\_ft\_wainwright\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, North Pole | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_north\_pole/inln\_mole\_ptegu\_north\_pole\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, UAF | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_uaf/inln\_mole\_ptegu\_uaf\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| CMAQ-ready emissions: EGU point source, Zehnder | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_zehnder/inln\_mole\_ptegu\_zehnder\_${year}${month}${day}\_1\_33FAIRBANKS2\_cmaq\_cb6ae7\_WR704\_Fairbanks.ncf |
| Stack groups: EGU point source, Aurora-Chena | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_aurora\_chena/stack\_groups\_ptegu\_aurora\_chena\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf |
| Stack groups: EGU point source, Doyon | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_doyon/stack\_groups\_ptegu\_doyon\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf |
| Stack groups: EGU point source, Ft. Wainwright | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_ft\_wainwright/stack\_groups\_ptegu\_ft\_wainwright\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf  |
| Stack groups: EGU point source, North Pole | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_north\_pole/stack\_groups\_ptegu\_north\_pole\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf |
| Stack groups: EGU point source, UAF | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_uaf/stack\_groups\_ptegu\_uaf\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf |
| Stack groups: EGU point source, Zehnder | netCDF | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ptegu\_zehnder/stack\_groups\_ptegu\_zehnder\_1\_33FAIRBANKS2\_WR704\_Fairbanks.ncf |
| January “smoke merge dates” for emissions sectors that do not have daily files | ASCII | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/smk\_merge\_dates\_202201.txt |
| February “smoke merge dates” for emissions sectors that do not have daily files | ASCII | /asm/MOD3DEV/kfa/Fairbanks/ALPACA/emis/ smk\_merge\_dates\_202202.txt |

\*Note that netCDF files contain metadata describing the variables in each file and their units

# Emissions variables, descriptions, and units

**Table 2.** Emissions variables (species’ emissions only listed if the name differs from Table 3; gas phase emissions are in units of moles/s and aerosol emissions are in units of g/s)

|  |  |  |
| --- | --- | --- |
| **Species/variable** | **Definition** | **Units** |
| BENZ  | Benzene | moles/s |
| XYL | xylene and other polyalkyl aromatics (including naphthalene) | moles/s |
| PSO4  | Fine sulfate | g/s |
| PNH4  | Fine ammonium | g/s |
| PNO3  | Fine nitrate | g/s |
| PCL | Fine chloride | g/s |
| PNA | Fine sodium | g/s |
| PEC | Fine elemental carbon | g/s |
| PMOTHR | Other fine PM | g/s |
| PFE | Fine iron | g/s |
| PAL  | Fine aluminum | g/s |
| PSI  | Fine silicon | g/s |
| PTI | Fine titanium | g/s |
| PCA | Fine calcium | g/s |
| PMG | Fine magnesium | g/s |
| PK  | Fine potassium | g/s |
| PMN | Fine manganese | g/s |
| PH2O | Fine water | g/s |
| POC | Fine organic carbon | g/s |
| PNCOM | Fine non-carbon organic matter | g/s |
| PMC | Coarse particulates | g/s |
| Stack parameters for point sources |  |  |
| ISTACK  | Stack group number  |  |
| LATITUDE  | Latitude | degrees |
| LONGITUDE  | Longitude | degrees |
| STKDM  | Inside stack diameter | m |
| STKHT  | Stack height above ground surface | m |
| STKTK  | Stack exit temperature | degrees K |
| STKVE  | Stack exit velocity | m/s |
| STKFLW  | Stack exit flow rate | m3/s |
| STKCNT  | Number of stacks in group  |  |
| ROW  | Grid row number |  |
| COL  | Grid column number |  |
| XLOCA  | Projection x coordinate | m |
| YLOCA  | Projection y coordinate | m |
| IFIP  | FIPS code |  |
| LMAJOR  | 1= MAJOR SOURCE in domain, 0=otherwise  |  |
| LPING | 1=PING SOURCE in domain, 0=otherwise  |  |

# CMAQ chemical species names, descriptions, and concentration units

(<https://github.com/USEPA/CMAQ/blob/5.4%2B/CCTM/src/MECHS/mechanism_information/cb6r5_ae7_aq/cb6r5_ae7_aq_species_table.md>)

**Table 3**

**Gases**

| **Model Species** | **Definition** | **Units** |
| --- | --- | --- |
| AACD | acetic acid | ppm |
| ACET | acetone | ppm |
| ACRO\_PRIMARY | acrolein from emissions only | ppm |
| ACROLEIN | acrolein | ppm |
| ALD2 | acetaldehyde | ppm |
| ALD2\_PRIMARY | acetaldehyde from emissions only | ppm |
| ALDX | aldehydes with 3 or more carbons | ppm |
| APIN | alpha pinene | ppm |
| BENZENE | benzene | ppm |
| BENZRO2 | counter species for aerosol from benzene+OH | ppm |
| BUTADIENE13 | 1,3-butadiene | ppm |
| BZO2 | peroxy radical from benzene reactions with OH | ppm |
| C2O3 | acetylperoxy radical | ppm |
| CAT1 | methyl catechols | ppm |
| CL | atomic chlorine | ppm |
| CL2 | molecular chlorine | ppm |
| CLNO2 | nitryl chloride | ppm |
| CLNO3 | chlorine nitrate | ppm |
| CLO | chlorine monoxide | ppm |
| CO | carbon monoxide | ppm |
| CRES | cresol and higher molecular weight phenols | ppm |
| CRO | alkoxy radical from cresol | ppm |
| CRON | nitro-cresols | ppm |
| CXO3 | acetylperoxy radicals with 3 or more carbons | ppm |
| DMS | dimethylsulfide | ppm |
| ECH4 | methane | ppm |
| EPOX | isoprene epoxydiol | ppm |
| EPX2 | peroxy radical from EPOX+OH reaction | ppm |
| ETH | ethene | ppm |
| ETHA | ethane | ppm |
| ETHY | ethyne (acetylene) | ppm |
| ETOH | ethanol | ppm |
| FACD | formic acid | ppm |
| FMCL | formylchloride | ppm |
| FORM | formaldehyde | ppm |
| FORM\_PRIMARY | formaldehyde from emissions only | ppm |
| GLY | glyoxal | ppm |
| GLYD | glycoaldehyde (hydroxyacetaldehyde) | ppm |
| H2NO3PIJ | tracer producing HNO3 or ClNO2 from N2O5 in fine mode aerosols | ppm |
| H2NO3PK | tracer producing HNO3 or ClNO2 from N2O5 in coarse mode aerosols | ppm |
| H2O2 | hydrogen peroxide | ppm |
| HCL | hydrochloric acid | ppm |
| HCO3 | radical from HO2 reactions with formaldehyde | ppm |
| HG | elemental mercury | ppm |
| HGIIAER | precursor of aerosol divalent mercury | ppm |
| HGIIGAS | divalent mercury | ppm |
| HNO3 | nitric acid | ppm |
| HO2 | hydroperoxy radical | ppm |
| HOCL | hypochlorous acid | ppm |
| HONO | nitrous acid | ppm |
| HPLD | hydroperoxyaldehyde from ISO2 isomerization | ppm |
| INTR | nitrate from isoprene | ppm |
| IOLE | internal alkene bond | ppm |
| ISO2 | isoprene peroxy radical | ppm |
| ISOP | isoprene | ppm |
| ISOPRXN | counter species for aerosol from isoprene, volatility pathways | ppm |
| ISPD | isoprene reaction products (methacrolein, methylvinyl ketone, others) | ppm |
| ISPX | hydroperoxide from ISO2 reaction with HO2 | ppm |
| KET | carbon-ketone bond | ppm |
| MEO2 | methylperoxy radical | ppm |
| MEOH | methanol | ppm |
| MEPX | methylhydroperoxide | ppm |
| MGLY | methyl glyoxal | ppm |
| MMTNO3 | organic nitrates from monoterpene oxidation (Should not to be included for tracking nitrogen) | ppm |
| MSA | methane sulfonic acid | ppm |
| N2O5 | dinitrogen pentoxide | ppm |
| NAPH | naphthalene | ppm |
| NO | nitric oxide | ppm |
| NO2 | nitrogen dioxide | ppm |
| NO3 | nitrate radical | ppm |
| NTR1 | monofunctional organic nitrates | ppm |
| NTR2 | multifunctional organic nitrates | ppm |
| O | ground-state oxygen atoms, O(3P) | ppm |
| O1D | electronically excited oxygen atoms, O(1D) | ppm |
| O3 | ozone | ppm |
| OH | hydroxyl radical | ppm |
| OLE | terminal alkene bond | ppm |
| OPAN | peroxyacylnitrate from OPO3 | ppm |
| OPEN | aromatic ring opening product (an alkene and aldehyde) | ppm |
| OPO3 | peroxyacyl radical from OPEN | ppm |
| PACD | peroxycarboxylic acids | ppm |
| PAHRO2 | counter species for aerosol from NAPH+OH | ppm |
| PAN | peroxyacylnitrate | ppm |
| PANX | peroxyacylnitrates with 3 or more carbons | ppm |
| PAR | carbon-carbon single bond | ppm |
| PCSOARXN | counter species for potential aerosol from combustion (from PCVOC reactions) | ppm |
| PCVOC | tracer for potential combustion SOA VOCs | ppm |
| PNA | peroxynitric acid | ppm |
| PRPA | propane | ppm |
| RO2 | total peroxy radical concentration | ppm |
| ROOH | methylhydroperoxide | ppm |
| ROR | secondary alkoxy radical | ppm |
| SESQ | sesquiterpenes | ppm |
| SESQRXN | counter species for aerosol from sesquiterpenes | ppm |
| SO2 | sulfur dioxide | ppm |
| SOAALK | tracer for alkanes that can form secondary organic aerosol | ppm |
| SULF | sulfuric acid (gaseous) | ppm |
| SULRXN | sulfate aerosol precursor | ppm |
| SVAVB1 | low volatility organic gas from oxidation of anthropogenic VOCs | ppm |
| SVAVB2 | semivolatile organic gas from oxidation of anthropogenic VOCs | ppm |
| SVAVB3 | semivolatile organic gas from oxidation of anthropogenic VOCs | ppm |
| SVAVB4 | semivolatile organic gas from oxidation of anthropogenic VOCs | ppm |
| TERP | monoterpenes | ppm |
| TERPNRO2 | counter species for aerosol from TERP + NO3 | ppm |
| TO2 | toluene peroxy radical | ppm |
| TOL | toluene and other monoalkyl aromatics | ppm |
| TOLRO2 | counter species for aerosol from TOL+OH | ppm |
| TOLU | toluene | ppm |
| TRPRXN | counter species for aerosol precursor from monoterpenes | ppm |
| VIVPO1 | evaporated primary organic aerosol, intermed-volatility | ppm |
| VLVOO1 | evaporated secondary organic aerosol, low-volatility, cat 1 | ppm |
| VLVOO2 | evaporated secondary organic aerosol, low-volatility, cat 2 | ppm |
| VLVPO1 | evaporated primary organic aerosol, low-volatility | ppm |
| VSVOO1 | evaporated secondary organic aerosol, semi-volatile, cat 1 | ppm |
| VSVOO2 | evaporated secondary organic aerosol, semi-volatile, cat 2 | ppm |
| VSVOO3 | evaporated secondary organic aerosol, semi-volatile, cat 3 | ppm |
| VSVPO1 | evaporated primary organic aerosol, semi-volatile, cat 1 | ppm |
| VSVPO2 | evaporated primary organic aerosol, semi-volatile, cat 2 | ppm |
| VSVPO3 | evaporated primary organic aerosol, semi-volatile, cat 3 | ppm |
| XLO2 | peroxy radical from XYLMN+OH reaction | ppm |
| XO2 | NO oxidation to NO2 via peroxy radical | ppm |
| XO2H | NO oxidation to NO2 with HO2 production, from alkoxy radicals | ppm |
| XO2N | nitrate production from NO reaction with peroxy radical | ppm |
| XOPN | product of aromatic ring-opening reaction | ppm |
| XPAR | organic nitrate production from PAR | ppm |
| XPRP | organic nitrate production from PRPA | ppm |
| XYLMN | xylene and other polyalkyl aromatics except naphthalene | ppm |
| XYLRO2 | counter species for aerosol from XYLMN+OH | ppm |
| LVPCSOG | surrogate SOA precursor gas for combustion/anthropogenic sources | ppm |
| NH3 | ammonia | ppm |
| SVMT1 | low volatility gas from monoterpene photooxidation | ppm |
| SVMT2 | low volatility gas from monoterpene photooxidation | ppm |
| SVMT3 | semivolatile gas from monoterpene photooxidation | ppm |
| SVMT4 | semivolatile gas from monoterpene photooxidation | ppm |
| SVMT5 | semivolatile gas from monoterpene photooxidation | ppm |
| SVMT6 | semivolatile gas from monoterpene photooxidation | ppm |
| SVISO1 | semivolatile gas of secondary aerosol material from isoprene | ppm |
| SVISO2 | semivolatile gas of secondary aerosol material from isoprene | ppm |
| SVSQT | semivolatile gas of secondary aerosol material from sesquiterpenes | ppm |

**Aerosols**

| **Model Species** | **Definition** | **Units** |
| --- | --- | --- |
| AAL | Aluminum | micrograms per cubic meter |
| AAVB1 | low volatility organic particulate matter from oxidation of anthropogenic VOCs | micrograms per cubic meter |
| AAVB2 | semivolailte organic particulate matter from oxidation of anthropogenic VOCs | micrograms per cubic meter |
| AAVB3 | semivolailte organic particulate matter from oxidation of anthropogenic VOCs | micrograms per cubic meter |
| AAVB4 | semivolailte organic particulate matter from oxidation of anthropogenic VOCs | micrograms per cubic meter |
| ACA | Calcium | micrograms per cubic meter |
| ACL | Chloride | micrograms per cubic meter |
| ACORS | Anthropogenic Coarse-mode particle mass | micrograms per cubic meter |
| AEC | Elemental Carbon | micrograms per cubic meter |
| AFE | Iron | micrograms per cubic meter |
| AGLY | Glyoxal and Methylglyoxal SOA in aqueous aerosol material | micrograms per cubic meter |
| AH2O | Water | micrograms per cubic meter |
| AH3OP | Hydronium Ion | micrograms per cubic meter |
| AISO1 | Semivolatile SOA Product from Isoprene | micrograms per cubic meter |
| AISO2 | High-Volatility SOA Product from Isoprene | micrograms per cubic meter |
| AISO3 | Acid-catalyzed Isoprene Epoxydiol SOA | micrograms per cubic meter |
| AIVPO1 | Intermediate Volatility Primary Organic Compounds | micrograms per cubic meter |
| AK | Potassium | micrograms per cubic meter |
| ALVOO1 | Low Volatility Oxidized Combustion Organic Compounds | micrograms per cubic meter |
| ALVOO2 | Low Volatility Oxidized Combustion Organic Compounds | micrograms per cubic meter |
| ALVPO1 | Low Volatility Primary Organic Compounds | micrograms per cubic meter |
| AMG | Magnesium | micrograms per cubic meter |
| AMN | Manganese | micrograms per cubic meter |
| AMT1 | low volatility particulate matter from monoterpene photoxidation, C\*=0.01 ug/m3 | micrograms per cubic meter |
| AMT2 | low volatility particulate matter from monoterpene photoxidation, C\*=0.1 ug/m3 | micrograms per cubic meter |
| AMT3 | semivolailte particulate matter from monoterpene photoxidation, C\*=1 ug/m3 | micrograms per cubic meter |
| AMT4 | semivolatile particulate matter from monoterpene photoxidation, C\*=10 ug/m3 | micrograms per cubic meter |
| AMT5 | semivolatile particulate matter from monoterpene photoxidation, C\*=100 ug/m3 | micrograms per cubic meter |
| AMT6 | semivolatile particulate matter from monoterpene photoxidation, C\*=1000 ug/m3 | micrograms per cubic meter |
| AMTNO3J | semivolatile organic nitrates from monoterpene oxidation (Should not be included for tracking nitrogen) | micrograms per cubic meter |
| AMTHYDJ | organic pseudo-hydrolysis accretion product from monoterpene organic nitrates (AMTNO3J) | micrograms per cubic meter |
| ANA | Sodium | micrograms per cubic meter |
| ANH4 | Ammonium | micrograms per cubic meter |
| ANO3 | Nitrate | micrograms per cubic meter |
| AOLGA | Oligomer products of anthropogenic SOA compounds | micrograms per cubic meter |
| AOLGB | Oligomer products of biogenic SOA compounds | micrograms per cubic meter |
| AORGC | Glyoxal and methylglyoxal SOA produced in cloud water | micrograms per cubic meter |
| AORGH2O | Water associated with organic species of particulate matter | micrograms per cubic meter |
| AOTHR | Other Particulate Mass | micrograms per cubic meter |
| APCSO | Potential Combustion SOA | micrograms per cubic meter |
| APNCOM | Non-Carbon Organic Matter associated with APOC | micrograms per cubic meter |
| APOC | Primary Organic Carbon | micrograms per cubic meter |
| ASEACAT | Sea spray cations | micrograms per cubic meter |
| ASI | Silicon | micrograms per cubic meter |
| ASO4 | Sulfate | micrograms per cubic meter |
| ASOIL | Lumped crustal species | micrograms per cubic meter |
| ASQT | Semivolatile SOA Product from Sesquiterpenes | micrograms per cubic meter |
| ASVOO1 | Semivolatile Oxidized Combustion Organic Compounds | micrograms per cubic meter |
| ASVOO2 | Semivolatile Oxidized Combustion Organic Compounds | micrograms per cubic meter |
| ASVOO3 | Semivolatile Oxidized Combustion Organic Compounds | micrograms per cubic meter |
| ASVPO1 | Semivolatile Primary Organic Compounds | micrograms per cubic meter |
| ASVPO2 | Semivolatile Primary Organic Compounds | micrograms per cubic meter |
| ASVPO3 | Semivolatile Primary Organic Compounds | micrograms per cubic meter |
| ATI | Titanium | micrograms per cubic meter |
| NUMACC | Accum. Mode Number Conc | # per cubic meter |
| NUMAIT | Aitken Mode Number Conc | # per cubic meter |
| NUMCOR | Coarse Mode Number Conc | # per cubic meter |
| SRFACC | Accum. Mode Surface Area Conc | m2 / m3 |
| SRFAIT | Aitken Mode Surface Area Conc | m2 / m3 |
| SRFCOR | Coarse Mode Surface Area Conc | m2 / m3 |