

**APPENDIX B. MAJOR ROUTINE OPERATING AIR MONITORING NETWORKS<sup>4</sup>**

Network	Lead Agency	Number of Sites	Initiated	Measurement Parameters	Location of Information and/or Data
<b>State / Local / Federal Networks</b>					
NCore <sup>1</sup> – National Core Monitoring Network	EPA	75	2008	O <sub>3</sub> , NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , CO, PM <sub>2.5</sub> /PM <sub>10</sub> -2.5 <sup>2</sup> , PM <sub>2.5</sub> speciation, NH <sub>3</sub> , HNO <sub>3</sub> , Surface Meteorology <sup>2</sup>	<a href="http://www.epa.gov/ttn/amtic/monstratdoc.html">http://www.epa.gov/ttn/amtic/monstratdoc.html</a>
SLAMS <sup>1</sup> – State and Local Ambient Monitoring Stations	EPA	~3000	1978	O <sub>3</sub> , NO <sub>x</sub> /NO <sub>2</sub> , SO <sub>2</sub> , PM <sub>2.5</sub> /PM <sub>10</sub> , CO, Pb	<a href="http://www.epa.gov/air/oaqps/ga/monprog.html">http://www.epa.gov/air/oaqps/ga/monprog.html</a>
STN—PM <sub>2.5</sub> Speciation Trends Network	EPA	300	1999	PM <sub>2.5</sub> , PM <sub>2.5</sub> speciation, Major Ions, Metals	<a href="http://www.epa.gov/ttnamti1/specgen.html">http://www.epa.gov/ttnamti1/specgen.html</a>
PAMS—Photochemical Assessment Monitoring Network	EPA	75	1994	O <sub>3</sub> , NO <sub>x</sub> /NO <sub>y</sub> , CO, Speciated VOCs, Carbonyls, Surface Meteorology & Upper Air	<a href="http://www.epa.gov/air/oaqps/pams/">http://www.epa.gov/air/oaqps/pams/</a>
IMPROVE—Interagency Monitoring of Protected Visual Environments	NPS	110 plus 67 protocol sites	1988	PM <sub>2.5</sub> /PM <sub>10</sub> , Major Ions, Metals, Light Extinction, Scattering Coefficient	<a href="http://vista.cira.colostate.edu/IMPROVE/">http://vista.cira.colostate.edu/IMPROVE/</a>
CASTNet – Clean Air Status and Trends Network	EPA	80+	1987	O <sub>3</sub> , SO <sub>2</sub> , Major Ions, Calculated Dry Deposition, Wet Deposition, Total Deposition for Sulfur/Nitrogen, Surface Meteorology	<a href="http://www.epa.gov/castnet/">http://www.epa.gov/castnet/</a>
GPMN—Gaseous Pollutant Monitoring Network	NPS	33	1987	O <sub>3</sub> , NO <sub>x</sub> /NO/NO <sub>2</sub> , SO <sub>2</sub> , CO, Surface Meteorology, (plus enhanced monitoring of CO, NO, NO <sub>x</sub> , NO <sub>y</sub> , and SO <sub>2</sub> plus canister samples for VOC at three sites)	<a href="http://www2.nature.nps.gov/air/Monitoring/network.cfm#data">http://www2.nature.nps.gov/air/Monitoring/network.cfm#data</a>
POMS—Portable Ozone Monitoring Stations	NPS	14	2002	O <sub>3</sub> , surface meteorology, with CASTNet-protocol filter pack (optional) sulfate, nitrate, ammonium, nitric acid, sulfur dioxide	<a href="http://www2.nature.nps.gov/air/studies/portO3.cfm">http://www2.nature.nps.gov/air/studies/portO3.cfm</a>
Passive Ozone Sampler Monitoring Program	NPS	43	1995	O <sub>3</sub> dose (weekly)	<a href="http://www2.nature.nps.gov/air/Studies/Passives.cfm">http://www2.nature.nps.gov/air/Studies/Passives.cfm</a>
NADP/NTN—National Atmospheric Deposition Program / National Trends Network	USGS	200+	1978	Major Ions from precipitation chemistry	<a href="http://nadp.sws.uiuc.edu/">http://nadp.sws.uiuc.edu/</a>
NADP/MDN—National Atmospheric Deposition Program / Mercury Deposition Network	None	90+	1996	Mercury from precipitation chemistry	<a href="http://nadp.sws.uiuc.edu/mdn/">http://nadp.sws.uiuc.edu/mdn/</a>
AIRMoN—National Atmospheric Deposition Program / Atmospheric Integrated Research Monitoring Network	NOAA	8	1992	Major Ions from precipitation chemistry Note: some sites began in 1976 as part of the DOE MAP3S program; early data are archived on NADP and ARL servers.	<a href="http://nadp.sws.uiuc.edu/AIRMoN/">http://nadp.sws.uiuc.edu/AIRMoN/</a>
IADN—Integrated Atmospheric Deposition Network	EPA	20	1990	PAHs, PCBs, and organochlorine compounds are measured in air and precipitation samples	<a href="http://www.epa.gov/glnpo/monitoring/air/">http://www.epa.gov/glnpo/monitoring/air/</a>
NAPS—National Air Pollution Surveillance Network	Canada	152+	1969	SO <sub>2</sub> , CO, O <sub>3</sub> , NO, NO <sub>2</sub> , NO <sub>x</sub> , VOCs, SVOCs, PM <sub>10</sub> , PM <sub>2.5</sub> , TSP, metals	<a href="http://www.etc-cte.ec.gc.ca/NAPS/index_e.html">http://www.etc-cte.ec.gc.ca/NAPS/index_e.html</a>
CAPMoN—Canadian Air and Precipitation Monitoring Network	Canada	29	2002	O <sub>3</sub> , NO, NO <sub>2</sub> , NO <sub>y</sub> , PAN, NH <sub>3</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> and coarse fraction mass, PM <sub>2.5</sub> speciation, major ions for particles and trace gases, precipitation chemistry for major ions	<a href="http://www.msc.ec.gc.ca/capmon/index_e.cfm">http://www.msc.ec.gc.ca/capmon/index_e.cfm</a>
National Information System for Air Quality (SINAICA)	Mexico	52-62	Late 1960's	O <sub>3</sub> , NO <sub>x</sub> , CO, SO <sub>2</sub> , PM <sub>10</sub> , TSP, VOC	<a href="http://www.ine.gob.mx/dgicur/calaire/indicadores.html">http://www.ine.gob.mx/dgicur/calaire/indicadores.html</a> ; <a href="http://sinaica.ine.gob.mx/">http://sinaica.ine.gob.mx/</a>

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Mexican City Metropolitan Area Ambient Air Quality Monitoring Network (RAMA)	Mexico	49	Late 1960's	O3, NOx, CO, SO2, PM10, TSP, VOC	<a href="http://www.sma.df.gob.mx/simat/">http://www.sma.df.gob.mx/simat/</a>
Mexican Dioxin Air Monitoring Network (MDAMN)	Mexico	9	2008	Dioxins, furans and coplanar PCB	Not available
Mexico Mercury Wet Deposition Network	Mexico	2	2003-2004		Not available
<b>Air Toxics Monitoring Networks</b>					
NATTS—National Air Toxics Trends Stations	EPA	23	2005	VOCs, Carbonyls, PM10 metals <sup>3</sup> , Hg	<a href="http://www.epa.gov/ttn/amtic/airtoxpg.html">http://www.epa.gov/ttn/amtic/airtoxpg.html</a>
State/Local Air Toxics Monitoring	EPA	250+	1987	VOCs, Carbonyls, PM10 metals <sup>3</sup> , Hg	<a href="http://www.epa.gov/ttn/amtic/airtoxpg.html">http://www.epa.gov/ttn/amtic/airtoxpg.html</a>
NDAMN—National Dioxin Air Monitoring Network	EPA	34	1998 - 2005	CDDs, CDFs, dioxin-like PCBs	<a href="http://cfpub.epa.gov/ncea/CFM/reordisplay.cfm?deid=54811">http://cfpub.epa.gov/ncea/CFM/reordisplay.cfm?deid=54811</a>
<b>Tribal Monitoring Networks</b>					
Tribal Monitoring <sup>5</sup>	EPA	120+	1995	O3, NOx/NO2, SO2, PM2.5/PM10, CO, Pb	<a href="http://www.epa.gov/air/tribal/airprog.html#ambmon">http://www.epa.gov/air/tribal/airprog.html#ambmon</a>
<b>Industry / Research Networks</b>					
New Source Permit Monitoring	None	variable	variable	O3, NOx/NO2, SO2, PM2.5/PM10, CO, Pb	Contact specific industrial facilities
HRM Network—Houston Regional Monitoring Network	None	9	1980	O3, NOx, PM2.5/PM10, CO, SO2, Pb, VOCs, Surface Meteorology	<a href="http://hrm.radian.com/houston/how/index.htm">http://hrm.radian.com/houston/how/index.htm</a>
ARIES / SEARCH—Aerosol Research Inhalation Epidemiology Study / SouthEastern Aerosol Research and Characterization Study experiment	None	8	1992	O3, NO/NO2/NOy, SO2, CO, PM2.5/PM10, PM2.5 speciation, Major Ions, NH3, HNO3, scattering coefficient, Surface Meteorology	<a href="http://www.atmospheric-research.com/studies/SEARCH/index.html">http://www.atmospheric-research.com/studies/SEARCH/index.html</a>
SOS – SERON—Southern Oxidant Study - Southeastern Regional Oxidant Networks	EPA	~40	1990	O3, NO, NOy, VOCs, CO, Surface Meteorology	<a href="http://www.ncsu.edu/sos/pubs/sos3/State_of_SOS_3.pdf">http://www.ncsu.edu/sos/pubs/sos3/State_of_SOS_3.pdf</a>
<b>National/Global Radiation Networks</b>					
RadNet—formerly Environmental Radiation Ambient Monitoring System (ERAMS)	EPA	200+	1973	Radionuclides and radiation	<a href="http://www.epa.gov/enviro/html/erams/">http://www.epa.gov/enviro/html/erams/</a>
SASP -- Surface Air Sampling Program	DHS	41	1963	<sup>89</sup> Sr, <sup>90</sup> Sr, naturally occurring radionuclides, <sup>7</sup> Be, <sup>210</sup> Pb	<a href="http://www.eml.st.dhs.gov/databases/sasp/">http://www.eml.st.dhs.gov/databases/sasp/</a>
NEWNET—Neighborhood Environmental Watch Network	DOE	26	1993	Ionizing gamma radiation, Surface Meteorology	<a href="http://newnet.lanl.gov/">http://newnet.lanl.gov/</a>

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<b>Solar Radiation Networks</b>					
UV Index – EPA Sunrise Program <sup>6</sup>	EPA	~50 U.S. cities	2002	Calculated UV radiation index	<a href="http://www.epa.gov/sunwise/uvindex.html">http://www.epa.gov/sunwise/uvindex.html</a>
UV Net -- Ultraviolet Monitoring Program	EPA	21	1995/2004	Ultraviolet solar radiation (UV-B and UV-A bands), Irradiance, ozone, NO <sub>2</sub>	<a href="http://www.epa.gov/uvnet/access.html">http://www.epa.gov/uvnet/access.html</a>
NEUBrew (NOAA-EPA Brewer Spectrophotometer UV and Ozone Network) <sup>7</sup>	NOAA	6	2005	Ultraviolet solar radiation (UV-B and UV-A bands), Irradiance, ozone, SO <sub>2</sub>	<a href="http://www.esrl.noaa.gov/gmd/grad/neubrew/">http://www.esrl.noaa.gov/gmd/grad/neubrew/</a>
UV-B Monitoring and Research Program	USDA	35	1992	Ultraviolet-B radiation	<a href="http://uvb.nrel.colostate.edu/UVB/index.jsf">http://uvb.nrel.colostate.edu/UVB/index.jsf</a>
SURFRAD – Surface Radiation Budget Network	NOAA	7	1993	solar and infrared radiation, direct and diffuse solar radiation, photosynthetically active radiation, UVB, spectral solar, and meteorological parameters	<a href="http://www.srb.noaa.gov/surfrad/index.html">http://www.srb.noaa.gov/surfrad/index.html</a>
AERONET – Aerosol RObotic NETWORK	NASA	22 + other participants	1998	Aerosol spectral optical depths, aerosol size distributions, and precipitable water	<a href="http://aeronet.gsfc.nasa.gov/index.html">http://aeronet.gsfc.nasa.gov/index.html</a>
MPLNET – Micro-pulse Lidar Network	NASA co-located networks	8	2000	Aerosols and cloud layer heights	<a href="http://mplnet.gsfc.nasa.gov/">http://mplnet.gsfc.nasa.gov/</a>
PRIMENet -- Park Research & Intensive Monitoring of Ecosystems NETWORK <sup>7</sup>	NPS	14	1997	ozone, wet and dry deposition, visibility, surface meteorology, and ultraviolet radiation	<a href="http://www.cfc.umd.edu/primenet/Assets/Announcements/99PReport.pdf">http://www.cfc.umd.edu/primenet/Assets/Announcements/99PReport.pdf</a>

Footnotes:

1. NCore is a network proposed to replace NAMS, as a component of SLAMS; NAMS are currently designated as national trends sites.
2. Surface Meteorology includes wind direction and speed, temperature, precipitation, relative humidity, solar radiation (PAMS only).
3. PM10 metals may include arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and others.
4. Some networks listed separately may also serve as subcomponents of other larger listed networks; as a result, some double counting of the number of individual monitors is likely.
5. The number of sites indicated for tribal monitoring is actually the number of monitors, rather than sites. The number of sites with multiple monitors is probably less than 80.
6. Sunrise program estimates UV exposure levels through modeling - does not include measurements.
7. NEUBREW is a subset Original UV brewer network (UV Net); PRIMENET participated in UV Net program.