# APPENDIX G. NATIONAL ROUTINE METEOROLOGICAL MONITORING NETWORKS

| Network | Lead Agency | Number of Sites | Initiated | Measurement Parameters | Location of Information and/or Data |
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| ASOS -- Automated Surface Observing System | NOAA | ~1000 (supplemented by military weather observation sites) | 1992 (replaced routine surface observations collected manually at 260 Weather Service facilities) | Continuous measurements of: Wind Direction and Wind Speed; Visibility; Runway Visual Range; Type, intensity and amount of rain, snow, etc.; Obstructions due to fog, mist, etc.; Cloud Height and Amount; Ambient Temperature; Dew Point Temperature; Pressure; Lightning detection; Automated, manual, and plain language remarks on special weather conditions (depending on level of service); and Additive and automated maintenance data on precipitation amount, max/min temperature, pressure tendency, etc. | http://www.nws.noaa.gov/asos/pdfs/aum-toc.pdf |
| Cooperative Observer Program | NOAA | ~11,400 | 1890 | 24-hour maximum and minimum temperatures, Liquid equivalent of precipitation, snowfall, snow depth, and Other special phenomena such as days with thunder, hail, etc. | http://www.nws.noaa.gov/om/coop/coopmod.htm |
| SLAMS – State and Local Ambient Monitoring Stations | EPA | ~3000 | 1978 | Wind direction and speed, Temperature, Precipitation, Relative humidity | http://www.epa.gov/air/oaqps/qa/monprog.html |
| Remote Automated Weather Stations | DOA | ~2200 | ~1978 | Wind direction and speed, Precipitation, Pressure, Temperature, Relative humidity, Fuel moisture and temperature | http://www.fs.fed.us/raws/raws101.shtml |
| NOAA Profiler Network (and Cooperative Agency Profilers) | NOAA | 35 (plus ~100 CAP sites) | 1992 | Vertical profiles of wind direction and speed (and vertical profiles of temperature at RASS sites) | http://www.profiler.noaa.gov/npn/ |
| Upper Air Stations (Weather Balloons) | NOAA | 102 in North America, Pacific Islands, and the Caribbean | 1937 | Measurements of temperature, relative humidity, wind direction and speed, and altitude/height at selected pressure levels. | http://www.ua.nws.noaa.gov/net-info.htm |
| Forecast Systems Laboratory Aircraft Communications Addressing and Reporting System | NOAA | ~4000 commercial aircraft | 2001 (routinely available database) | Wind direction, wind speed and temperature reported for various altitudes at which aircraft typically operate | http://acweb.fsl.noaa.gov/FAQ.html#variables |
| National Doppler Radar Sites | NOAA | 158 | 1990 (national radar network originated prior to 1960) | Base Reflectivity, Composite Reflectivity, One-Hour Precipitation, and Storm Total Precipitation | http://www.srh.noaa.gov/radar/radinfo/radinfo.html |
| National Lightning Detection Network | Commercial | 100+ | 1989 | Detection of cloud-to-ground lightning flashes at distances up to 400 km | http://www.nwstc.noaa.gov/METEOR/Lightning/detection.htm |
| National Environmental Satellite, Data, and Information Service | NOAA | 2 GOES satellites 2 POES satellites | 1994 (earlier satellite systems replaced) | Vertical profiles of temperature, moisture, and wind; visible and infrared imagery of clouds; water vapor imagery | http://www.goes.noaa.gov/ |
| C-MAN – Buoy and Coastal-Marine Observing Network | NOAA | 70 | Early 1980s | Pressure, wind direction, wind speed and gust, and air temperature, relative humidity, precipitation, visibility, sea water temperature, water level, and waves | http://www.ndbc.noaa.gov/cman.php |

## APPENDIX G. NATIONAL ROUTINE METEOROLOGICAL MONITORING NETWORKS (contd)

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| Mexican National Weather Service Network | Servicio Meteorológico Nacional (SMN), SEMANART | 1000 surface stations (133 automatic stations); 70 climate observatories | 1890; 1994 (automatic stations) | Continuous measurements of: Wind Direction and Wind Speed; Visibility;Type, intensity and amount of rain, etc.; Cloud Height and Amount; Ambient Temperature; Dew Point Temperature; Pressure; max/min temperature, pressure tendency, etc. | http://smn.cna.gob.mx |
| Red Nacional de Estaciones Estatales Agroclimatológicas<br><br>States agroclimatological surface stations network | Coordinadora Nacional de las Fundaciones Produce, A.C. (COFUPRO) ( | 200 | 2003 | 2m height temperature, precipitation, relative humidity, pressure, vegetation humidity, dew point temperature, solar radiation, magnitude and direction of wind | http://clima.inifap.gob.mx/redclima/rednacional.html#proyecto |
| Programa de Estaciones Meteorológicas del Bachillerato Universitario (PEMBU)<br><br>Weather Station Network of UNAM College Program | UNAM | 20 sites in Mexico City, Campeche, Oaxaca, Morelos | 2004 | 2m height temperature, precipitation, relative humidity, pressure, dew point temperature, solar radiation, magnitude and direction of wind, UV. | http://pembu.unam.mx/version/index.html |
| Red Meteorológica (REDMET)<br><br>Meteorological surface station network | GDF-SMA | 10 | 1986 (?) | 2m height temperature, precipitation, relative humidity, pressure, dew point temperature, solar radiation, magnitude and direction of wind. | http://www.sma.df.gob.mx/simat |
| Red Meteorologica Maritima<br><br>Naval surface weather station network | Mexican Secretary of Navy (SEMAR) | 60 along the coast | 2004 | 2m height temperature, precipitation, relative humidity, pressure, dew point temperature, solar radiation, magnitude and direction of wind , UV. | http://www.semar.gob.mx/sitio/index.php?option=com_content&task=view&id=375&Itemid=221 |