

Data, Products, Indicators	Uncertainties, Issues, Confidence	Data and Research Needs
<ul style="list-style-type: none"> <li>• Minimum, maximum, apparent temperatures</li> <li>• Degree days</li> <li>• Air stagnation</li> <li>• Solar radiation</li> <li>• Standardized Precipitation Index</li> <li>• Drought indicators</li> <li>• Seasonal climate outlooks (CPC)</li> <li>• Air quality monitoring/modeling</li> <li>• Greenhouse gas emissions</li> <li>• General circulation models</li> <li>• Mesoscale meteorological models</li> <li>• Radiosondes</li> <li>• Radar</li> <li>• Synoptic air mass information</li> <li>• <i>Storm Data</i></li> <li>• Local Storm Reports</li> <li>• Soil moisture</li> <li>• Gridded climate “surfaces”</li> <li>• Satellite imagery</li> <li>• Global climate models</li> <li>• El Nino-Southern Oscillation</li> <li>• <i>National Climate Impact Indicators</i> (NCDC)</li> </ul>	<ul style="list-style-type: none"> <li>• Methods of interpolation and development of gridded datasets</li> <li>• Instrumentation and data collection for experimental studies</li> <li>• Modeling local and regional confounders (e.g., topography, land use change)</li> <li>• Classification and interpretation of synoptic (air mass) conditions</li> <li>• Defining and communicating extreme events (e.g., heat waves, cold spells, drought)</li> <li>• Statistical methods (selecting appropriate parameters, multicollinearity, degrees of freedom)</li> <li>• Determine the appropriate scale</li> <li>• Identification and use of environmental “thresholds” and “triggers”</li> <li>• Correlation vs. Causation</li> <li>• Appropriate integration of time-dependent data; correcting for long-term trends (e.g., seasonality)</li> <li>• Data quality, availability, and completeness</li> </ul>	<ul style="list-style-type: none"> <li>• Better understanding of the relationship between local meteorology and air pollution</li> <li>• Better understanding of the role of urbanization on air quality</li> <li>• Replication: applying localized studies to other regions</li> <li>• Move beyond simple correlation: determine ecological, biological, and mechanistic roles of climate on human health</li> <li>• Better understanding of the effects of air mass transitions on human health</li> <li>• Better understanding of the degree of sensitivity to weather and climate change among different groups, populations</li> <li>• Improvements in the sampling and estimation of hazards and losses associated with extreme events</li> <li>• Better soil moisture measurements</li> <li>• Better effort to apply weather and climate information to GIS applications involving human health</li> <li>• Develop skills in combining climate models with ecological and health models</li> </ul>