

Recommended Key Terms to Know **From Ahrens' *Meteorology Today*, 8th edition**

All key terms in Ahrens' list of "Key Terms" at the end of each chapter are highlighted in the text the first time they occur and are also defined in the glossary at the end of the book. Words in brackets are words I have added to the list. They are defined in the text but are not always defined in the glossary at the end of the book.

Chap 1 (p. 24): atmosphere, nitrogen, oxygen, water vapor, carbon dioxide, ozone, ozone hole, acid rain, outgassing, density, (air) pressure, lapse rate, temperature inversion, troposphere, radiosonde, tropopause, stratosphere, [stratopause,] mesosphere, [mesopause,] thermosphere, ionosphere, weather, climate, meteorology, middle latitudes, middle latitude cyclonic storm, hurricane, thunderstorm, tornado, wind, wind direction, front

Chap 2 (p. 51): energy, potential energy, kinetic energy, temperature, heat, absolute zero, Fahrenheit scale, Celsius scale, latent heat, conduction, convection, thermals, advection, radiant energy (radiation), electromagnetic waves, wavelength, micrometer, photons, longwave radiation, shortwave radiation, visible region, ultraviolet (UV) radiation, infrared (IR) radiation, selective absorbers, greenhouse effect, atmospheric window, scattering, reflected (light), solar wind, aurora borealis, aurora australis

Chap 3 (p. 82): summer solstice, autumnal equinox, Indian summer, winter solstice, vernal equinox, radiational cooling, radiation inversion, nocturnal inversion, thermal belts, orchard heaters, wind machines (to protect plants from inversions), freeze, controls of temperature (what are the controls of temperature?), isotherms, daily (diurnal) range of temperature, mean (average) daily temperature, annual range of temperature, heating degree-day, cooling degree-day, growing degree-days, wind-chill index, frostbite, hypothermia, liquid-in-glass thermometers, maximum thermometer, minimum thermometer, electrical thermometers, radiometers, bimetallic thermometer, instrument shelter

Chap 4 (p. 103): sublimation, deposition, evaporating (water), condensing (water), saturation, precipitation, hydrologic cycle, humidity, (actual) vapor pressure, saturation vapor pressure, [boiling (p. 92),] relative humidity, supersaturation, dew-point temperature (dew point), frost point, heat index (HI), apparent temperature, hygrometer, hair hygrometer

Chap 5 (p. 135-136): dew, frost, condensation nuclei, hygroscopic nuclei, hydrophobic nuclei, haze [dry and wet], fog, acid fog, radiation (ground) fog, advection fog, advection-radiation fog, evaporation (mixing) fog, steam fog, winter chilling (of trees), cirrus clouds, cirrocumulus clouds, cirrostratus clouds, altocumulus clouds, altostratus clouds, nimbostratus clouds, stratocumulus clouds, stratus clouds, cumulus clouds, cumulonimbus clouds, lenticular clouds, pileus (cap) clouds, mammatus clouds, contrails, geostationary satellites, polar-orbiting satellites

Chap 6 (p. 159): parcel of air, [stable and unstable equilibriums (p. 140)], [neutrally stable equilibrium (class notes)], [lapse rate (p. 141)]

Chap 7 (p. 188): precipitation, equilibrium vapor pressure, curvature effect, solute effect, collision and coalescence process, terminal velocity, coalescence, ice-crystal process, supercooled (water droplets), ice nuclei, cloud seeding, rain, drizzle, virga, shower, snow, flurries, blizzard, sleet (ice pellets), freezing rain, hailstones, standard rain gauge, trace (of precipitation), tipping bucket rain gauge, water equivalent, Doppler radar

Chap 8 (p. 216): air pressure, barometer, millibar, hectopascal, mercury barometer, aneroid barometer, station pressure, sea-level pressure, isobars, ridges, troughs, anticyclones, pressure gradient, pressure gradient force, Coriolis force, geostrophic wind, friction layer

Chap 9 (p. 251): scales of motion, microscale, mesoscale, synoptic scale, planetary (global) scale, viscosity, mechanical turbulence, planetary boundary layer, thermal turbulence, wind shear, clear air turbulence (CAT), snow rollers, wind-sculptured trees, windbreaks, wind waves (in water), onshore/offshore wind, prevailing wind, wind vane, anemometer, aerovane, wind profiler, thermal circulations, thermal highs, thermal lows, sea/lake breeze, land breeze, sea breeze front, monsoon wind system, chinook wind, Santa Ana wind, haboob, dust devil

Chap 10 (pp. 281-282): general circulation (of the atmosphere), Hadley cell, doldrums, subtropical highs, horse latitudes, trade winds, intertropical convergence zone (ITCZ), westerlies, polar front, polar easterlies, semipermanent highs and lows, Bermuda high, Pacific high, Icelandic low, Aleutian low, Siberian high, jet streams, subtropical jet streams, polar front jet stream, oceanic front, Ekman spiral, Ekman transport, upwelling, El Niño, Southern Oscillation, ENSO, La Niña, teleconnections

Chap 11 (p. 306): air mass, source regions (for air masses), continental polar (air mass), continental arctic (air mass), lake-effect snows, maritime polar (air mass), maritime tropical (air mass), continental tropical (air mass), front, stationary front, cold front, “back door” cold front, warm front, overrunning, frontal inversion, dryline, occluded front (occlusion), cold occlusion, warm occlusion

Chap 12 (p. 332): polar front theory, wave cyclone, frontal cyclone, warm sector, northeaster, convergence, divergence, cold advection, warm advection, conveyor belt model, dry slot, comma cloud, polar low

Chap 13 (p. 363): weather watch, weather warning, analysis, numerical weather prediction, atmospheric models, chaos, ensemble forecasting, persistence forecast, trend forecast, analogue forecasting method, statistical forecast, probability forecast, climatological forecast, very short-range forecast (nowcast), teleconnections

Chap 14 (p. 402): severe thunderstorm, ordinary thunderstorms, cumulus stage, mature stage, gust front, dissipating stage, multicell storms, supercell, squall line, outflow boundary, shelf cloud, roll cloud, downburst, microburst, flash floods, lightning, thunder, sonic boom, stepped leader, return stroke, ball lightning, St. Elmo's fire, fulgurite, tornadoes, funnel cloud, tornado outbreak, suction vortices, tornado watch, tornado warning, Fujita scale, supercell tornadoes, hook echo, Doppler radar, waterspout

Chap 15 (p. 427): tropical easterly wave, hurricane, typhoon, eye, eye wall, tropical disturbance, tropical depression, tropical storm, storm surge, hurricane watch, hurricane warning, Saffir-Simpson scale, super typhoon (essentially a Cat 5 hurricane in the western Pacific)

Chap 16 (p. 456): dendrochronology, Ice Age, interglacial period, Little Ice Age, water vapor-greenhouse feedback, positive feedback mechanism, negative feedback mechanism, theory of plate tectonics, Milankovitch theory, radiative forcing, desertification