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Glossary

Abiotic	A non-living physical agent, e.g. temperature, wind, or chemicals, that causes injury to plant tissue.
Abscission	The normal or abnormal separation of leaves from a plant; leaf-fall.
AQRV	Air Quality Related Values, a term used in the Clean Air Act to describe ecosystem components that are vulnerable to air pollution, e.g. plants, soil, surface waters, visibility, and odor.
Bioindicator	A plant species, selection, or clone used to monitor air pollution injury because of its specific sensitivity to particular air pollutants.
Biotic	A living agent, e.g. a fungus, bacterium, or insect, causing injury or disease in plant tissue.
Bole	The main stem or trunk of a tree.
Branch	A limb, offshoot, or ramification of any main stem of a tree.
Canopy	The cover formed by the leafy upper branches of trees in a forest.
Chlorotic	Abnormally yellow color of leaf tissues resulting from loss of chlorophyll after injury by air pollutants or other abiotic agents.
Chronic	Injury continuing for a long time or recurring frequently due to relatively low concentration exposures to air pollutants.
Complement	A pre-determined amount or quantity of pine needle fascicles that constitutes a complete needle whorl of a particular age.
Damage	Injury that reduces value or the money equivalent for injury.
DBH	Diameter-at-breast-height of the bole or stem of a tree as measured at 1.4 m above the ground on the uphill side.
Fascicle	A small bundle of three or five pine needles (depending on species), sometimes called a dwarf shoot, that together form a needle whorl or complement.
Genotype	The genetic makeup of an organism with reference to a single trait, e.g., sensitivity to an air pollutant.
Gradient	The rate of change with distance of a variable quantity, e.g. the change of ozone concentration in the downwind diffusion path from a source area.
Index	A numerical expression serving to describe the state of an individual based on an additive combination of separate attributes, e.g. whorl retention, chlorotic mottle, needle length, percent live crown.
Injury	A particular form or instance of harm that is usually visible and causes an impairment of the normal function of a leaf-tree.
Locator tree	A prominent tree with evident promise of longevity that is selected and labeled permanently as a means of locating a nearby population of sample trees (in a plot).

Glossary

Mesophyll	The cells of a leaf with a large quantity of chloroplasts forming the tissue of the same name that is the primary site of photosynthesis.
Monitor	The process of using plants (bioindicators), other devices, and systems to detect and record chronic injury from air pollution.
Mottle	Marked with spots or blotches of different color, e.g. yellow islands of tissue against the normal green is the appearance of chlorotic mottle on all needle surfaces caused by ozone injury.
Necrosis	Death of a circumscribed portion of a plant, e.g., death of needle tips or bands at any position on the needle.
Needle	A small, slender, rod-like leaf usually in bundles of three or five called fascicles; number of needles per fascicle depends on pine species.
OII	Ozone injury index, a numerical index comprised of four variables, namely, whorl retention, chlorotic mottle, needle length, and percent live crown. OII is scaled from 0–no injury, to 100–maximum injury.
Ozone	A form of oxygen with three atoms and oxidizing properties that are harmful to plants and irritating to humans; formed from the photochemical reaction of unsaturated hydrocarbons and nitrogen dioxide.
Plot	A small parcel of land sufficiently large to contain an adequate sample of trees for repeated observation of crown condition (expressed as the OII); usually 80 m wide and sufficiently long to contain at least 50 sample trees on the same exposure, slope and landform.
Population	The assemblage of organisms (trees) living in a given area (plot).
QA	Quality Assurance, a process whereby data quality is assured by standardizing procedures, setting data quality objectives, and requiring remeasurement to ascertain the quality of measurements and the suitability of the entire data set.
QC	Quality Control, the application of measures to improve data quality on the basis of knowledge gained from QA procedures.
Retention	The state of all possible needle fascicles retained within a single annual whorl, or of the entire tree retaining a variable number of whorls depending on its history of injury from biotic and abiotic agents.
Sampling	The act or process of selecting a sample for testing. Usually a process called stratified random sampling is used in which sample areas are randomly selected from among large units (entire forests), intermediate units (individual watersheds), and focused units (vegetation types).
Stratification	The hierarchal division of an area to be sampled into distinct strata (see sampling).

Survey	A sampling, or partial collection, of facts and data taken and used to indicate what a complete collection and analysis might reveal, e.g., sampling along a transect.
Transect	A sample area established by cutting across an area of interest (vegetation type) in a path of indeterminate length, where specific (not all) information is gathered.
Tree ring	A tree ring or annual ring is a yearly formation of new wood in stems, observable as a ring on the cross-section of a tree trunk. Stress reduces ring-width.
Whorl	A circular arrangement of like parts (pine needle fascicles) around a section of an axis (branch).
Winter fleck	Necrotic spots and blotches found only on the upper surface of pine needles after exposure to at least one winter. The histological symptoms are distinct from ozone, but the exact cause(s) are uncertain.