

Glossary

Accretion – The seaward advance of the shoreline resulting from the deposition of sediments (essentially the opposite of erosion)

Active fault – A fracture in the earth's crust that has ruptured repeatedly in the past and whose history indicates that it is likely to rupture again

Adsorption – Process whereby dissolved charged ions attach to clay mineral or other charged particles

Air shed – Regional councils are obliged under the NESAQ to define areas for planning and regulatory purposes. In Canterbury, there are several urban air sheds including Christchurch, Waimate and Timaru

Alluvial fan – Cone shaped sloping terrain, created from materials eroded from mountains in the upper catchment

Ambient – Surrounding air; ambient conditions are those not modified by specific sources

Anion – A negatively charged ion, usually found dissolved in water, such as nitrate (NO_3^-)

Annual Exceedence Probability (AEP) – The likelihood in any given year that a certain magnitude (or in the case of storm tides, elevation) will be exceeded

Background concentrations of hazardous substances – Many hazardous substances are naturally present as trace elements in the environment, at background concentrations. When the concentrations of these substances exceed certain values in soil, sediment, groundwater, surface water or air, they can present a risk to human health or the environment

Berm – elevated land between stopbanks and the main channel fairway designed to protect the stopbanks

Biotic health – The assessed condition of the organisms living in a waterway. It includes elements such as macroinvertebrates and algae and other plants.

BOD – Biochemical oxygen demand – The amount of molecular oxygen in water that is consumed by micro-organisms during the process of decomposition. BOD is used as an indicator of water pollution from organic wastes

Box model – A simple numerical technique applied to estimate the relationship between source emissions to air of a pollutant and the likely resulting ground level concentrations of that pollutant

Cation – A positively charged ion, usually found dissolved in water, such as calcium (Ca^{++})

Coastal profiles – Coastal profiles measure the cross-sectional geometry of the beach surface. Comparison of consecutive surveys provides information on changes in the position and volume of a beach over time

Contaminant pathway – A route that a chemical follows to move from the contaminant source to receptors

Contaminated land – Land of one of the following kinds:

- (a) where, if there is an applicable national environmental standard for contaminants in soil, the land is more contaminated than the standard allows; or
- (b) where, if there is no applicable national environmental standard for contaminants in soil, the land has a hazardous substance in or on it that:
 - (i) has significant adverse effects on the environment; or
 - (ii) is reasonably likely to have significant adverse effects on the environment

CREF – the Canterbury Regional Energy Forum (As of November 2007: Environment Canterbury, Canterbury Employers' Chamber of Commerce, Orion, New Zealand Centre for Advanced Engineering, Meridian Energy and Transpower)

CRES – Canterbury Regional Energy Strategy (to be developed by multi-stakeholder input and consultation)

CRESP – the Canterbury Regional Energy Strategy Project

Damage – The tangible and intangible costs of natural hazard events. Tangible costs can be quantified in monetary terms, for example damage to buildings, bridges, roads, river protection works, and pasture, stock losses, or loss of income. Intangible damages represent the increased levels of physical, emotional and psychological stress in affected communities

Discharge – The rate of flow of water measured in terms of volume per unit time, for example cubic metres per second (cumecs)

Ecological footprint – A measure of the 'load' imposed by a given population on nature. It represents the land area necessary to sustain current levels of resource consumption and waste discharge by that population (www.pce.govt.nz)

Eigenmodel – A condensed form of groundwater model whereby time series of groundwater levels or aquifer discharge may be related to recharge and abstraction

El Niño Southern Oscillation – A Pacific-wide climate cycle that affects air pressure, wind, sea-surface temperature and rainfall on a several-year time scale

Endemic – Those species of plants and animals naturally occurring only with the Canterbury region

Energy conservation – A reduction in energy use

Energy efficiency – Any measure of the ratio of useful energy services to energy input. Additionally, an increase in energy efficiency is when either energy inputs are reduced for a given level of service, or there are increased or enhanced services for a given amount of energy inputs

Engineering lifelines – Transport, energy, communications water, and wastewater facilities and networks

Envelope plot – Graphical means of displaying time series groundwater level data showing how recent results relate to maximum, minimum and mean values for each month

Environmental acceptance criteria – Established concentrations of contaminants in soil, water, sediment or air that are used for preliminary assessment of sample results from contaminated site investigations

Epidemiological studies – Statistical studies which attempt to link human health effects with a specific cause

EPT – Refers to the number of invertebrates found in a sample belonging to the orders Ephemeroptera (Mayflies), Plecoptera (Stoneflies) and Trichoptera (Cased and free-living caddis flies) which are considered to be sensitive to pollution. It is usually presented as a percentage of the sample collected

EVT – Evapotranspiration is the return of water vapour to the air by evaporation from land and water surfaces and by the transpiration of water from vegetation. Irrigation-enhanced EVT is due to the application of water, which enhances plant growth and transpiration. Irrigation also keeps the ground damp, which increases the effectiveness of rainfall to recharge to the groundwater below

Exceedence – A measured value which exceeds the value set by an environmental standard. Standards may include requirements that ambient concentrations of certain pollutants may be exceeded only on one or a few times per year

Fairway – The main channel of a river normally kept clear of vegetation

Floodplain – The area of relatively flat land which is inundated by flood waters from the upper catchment up to the probable maximum flood event

Fuel poverty – Relates to the amount of money household inhabitants need to spend to maintain adequate energy services as opposed to what they actually spend

Georeferencing – The process of assigning map coordinates to image data and resampling the pixels of the image to conform to the map projection grid (ERDAS Field Guide 2005)

Greenhouse gas – A constituent of the atmosphere, both natural and anthropogenic, which absorbs and re-emits infrared radiation. Important greenhouse gases include carbon dioxide, methane and nitrous oxide. Emissions in the biennial Canterbury energy survey reported on page 158 are calculated for coal and oil products only. The analysis does not take into account carbon emissions from other sources such as non-renewable electricity nor from non-energy sources such as deforestation and agriculture

Groynes – banks built out from stopbanks to deflect flows away from stopbanks

Interdecadal Pacific Oscillation – a climate cycle that causes natural variability in air pressure, wind, sea-surface temperature and rainfall over several decades

Habitat health – The assessed condition of the habitats, neighbouring and within, a waterway which affect the flora and fauna of the waterway. It includes elements such as land-use, sediment composition and vegetation cover

HAIL – Hazardous Activities and Industries List. A list of land use activities and industries that use, store or dispose of hazardous substances which could cause site contamination should these substances escape from safe storage or areas of disposal

Indigenous – Occurs naturally in a given area, but also present in other areas

Infrastructure – In relation to transport, all fixed components of a transportation system including roadways and bridges, park-and-ride sites, bus stop shelters and other elements

Instream values – Non-consumptive values associated with a water-body - includes aquatic ecosystem values, natural character and landscape values, Ngāi Tahu values and amenity and recreational values

Integrated ticketing system – A ticket system that can be used across a number of different operators providing transport services, eg Metrocard

Inversion – In air quality science, an inversion refers to the reverse of the usual daytime situation whereby the ground, warmed by the sun, creates a decrease in air temperature with increasing height. The presence of an inversion indicates that near surface air temperature increases with height. Inversions are common occurrences at night and their presence inhibits mixing of the air

Irrigation return water – Additional recharge resulting from unused irrigation water that descends to the underlying groundwater system, or as a consequence of keeping the soil wet under irrigation

Land transport –

(a) transport on land by any means

(b) the infrastructure, goods and services facilitating that transport

Land transport system – All infrastructure, mechanisms and institutions that contribute to providing for land transport

Leachate – Liquid effluent produced by water percolating through contaminating material

LLUR – Listed Land Use Register. An electronic database which Environment Canterbury uses to store specific information about HAIL sites

LNG – Liquefied natural gas

Low carbon – Refers to minimising carbon dioxide emissions from a human activity

Low flow – A flow that is deemed to be below average flow

LPG – Liquefied petroleum gas

LTCCP – Long Term Council Community Plan

Mahinga kai – Food and other resources, the gathering of those resources and the areas that they are sourced from

Mean flow – The average value of the instantaneous continuous record of flows in a water body

Metro – The brand name used to promote scheduled public passenger transport services in Greater Christchurch (bus or ferry only)

Mobility – The ability to move or be moved freely and easily. Mobility is not the same as accessibility, which is about the ability to reach a specific location

Mode – A categorisation of transport methods, eg bus, motor vehicle, single-occupant vehicle, walking, cycling, rail, aeroplane, boat or ferry

Mode share – The portion that a category of a transport method (eg bus, motor vehicle, single occupant vehicles, walking, cycling, rail, aeroplane, boat or ferry) contributes to the total number of transport methods

Mosaicked – Images pieced together side by side, to create a larger image (ERDAS Field Guide 2005)

National Environmental Standards for Air Quality (NESAQ) – 2004 legislation defining the threshold values for ambient air concentrations of certain pollutants

Natural hazard events – Natural events, such as rainfall, wind, earthquakes, tsunamis and erosion, that affect people and property

Natural hazard risk – Natural hazard events measured in terms of consequences x likelihood

Natural hazards – The potential interaction of natural events with people and property

Non-structural measures – In relation to flood management, land use planning, raised floor levels, warning systems, education

ONTRACK – Government agency that manages and operates the national rail network (including rail land)

Orthophoto – An aerial photo that has been transformed by the orthogonal projection, yielding a map that is free of most significant geometric distortions (ERDAS Field Guide 2005)

Ortho-rectify (orthorectification) – A form of rectification that corrects for terrain displacement (ERDAS Field Guide 2005)

Passive discharge – The mobilisation of a contaminant through the soil into groundwater as a result of natural processes, eg rainfall

Peak Oil – Refers to the maximum rate of the production of oil in any area under consideration, recognising that it is a finite natural resource, subject to depletion

PM₁₀ – Particulate matter with a diameter of 10 microns or smaller; 10 microns is equivalent to 10 millionths of a metre

PNRRP – Proposed Natural Resources Regional Plan

Putrescibles – Food waste

Raster clump – Groups of contiguous image pixels in the same class or category (ERDAS Field Guide 2005)

Recharge – Drainage infiltrating into the groundwater system, derived from rainfall and irrigation

Resource recovery park – A site used to collect, separate and transfer organic and recyclable materials, and residual waste

Responses – (In relation to flood management) risk reduction measures, for example stopbanks and land use planning

Return period – The average length of time between hazard events of a certain size. A 100 year flood will occur on average once in every 100 years, and has a 1% chance of occurring in any one year

Riparian zone – Includes the margin and the bank of a river or lake. This is the area where direct interaction occurs between land and water systems and is important for the management of water quality and ecological resources. Swamps and islands in a waterway are not strictly part of the riparian zone, but for practical management purposes are generally included in it

Road Controlling Authority (RCA) – City councils, district councils and the New Zealand Transport Agency

Significant wave height – An average measurement of the height of the highest one-third (33rd percentile) of waves. We measure this because in many applications of wave data, larger waves are more 'significant' (important) than smaller ones. For example, in a storm the larger waves cause the most erosion on a beach

State Highway – A road managed by New Zealand Transport Agency

Storm surge – Storm surge is the response of the ocean to changing atmospheric pressure and wind. As a general rule of thumb in the deep ocean a 1 hectapascal (millibar) fall in pressure results in a 1cm rise in sea level

Structural flood protection measures – Stopbanks, groynes, plantings, and rock work

TA – Territorial Authority

Tangata whenua – 'People of the land', the people who hold the turangawaewae and the mana whenua in an area, according to tribal and hapu custom

Tectonic deformation – Large-scale deformation of the Earth's crust due to movement of tectonic plates

Travel – The act of moving from one place to another

Wahi taonga – Places (wahi) of special value

Wahi tapu – A place of sacred and extreme importance