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Term	Definition
Aerial detection	The act or process of discovering, locating and reporting wildfire incidents from aircraft. Aerial detection can be: • **Planned –** where an agency mobilizes aircraft with aerial observers for the specific purpose of detecting wildfires; • **Unplanned –** where an aircraft not specifically hired or mobilised to detect wildfires reports a wildfire to a responsible agency. For example, unplanned aerial detection may come from passenger airplanes or other leisure aircraft.
Aerial fires (aka crown or canopy)	Fires that burn suspended material at the canopy level, such as tall trees, vines, and mosses. The spread of an aerial fire (referred to as crowning) is dependent on the density of canopy, it's height, continuity, and sufficient surface and ladder fires in order to reach the tree crowns.
Aerial observer	A person flying in an aircraft who is tasked with: • discovering, locating, and reporting wildfires and forest fires from an aircraft; and/or, • aerial reconnaissance.
Aerial reconnaissance	Use of aircraft for conducting preliminary surveys of a wildfire to gather information on: • fire behaviour • topography and fuel types • potential hazards and high risk areas • potential windows of opportunity • safety of ground personnel The information gathered from aerial reconnaissance will be communicated to the Incident Commander to assist in the decision-making process.
Alidade	A sighting device used to determine the horizontal bearing of a fire from an observation point.
Altitude	Vertical distance between sea level and an aircraft in flight.
Annotation	The addition of explanatory notes, comments or instructions to a map or image.
Automatic detection	A wildfire detection device which operates by itself with little or no direct human control.

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Base map	A map intended as a base onto which other information is added, either as manual annotations, or digitally as new map layers in a Geographic Information System (GIS). Base maps usually include the grid coordinate system, roads, settlements, rivers and any other topographic features which will help users generate new useful information. These features are used to help locate known but as yet unmapped features such as fire hydrants, or interpreted to produce new information such as relative fuel load or accessibility.[1]
Blind area	An area in which neither the ground nor its vegetation can be seen from an observation point.
Communication channel	A medium used to send a data transmission from one or several senders (or transmitters) to one or several receivers. Common examples of communication channels include: copper wires, optical fibres and wireless communication channels.
Communication tower	A structure built to support equipment that transmits communication signals.
Control centre	A building or facility dedicated to the coordination of particular activities.
Conversion burning	A type of prescribed burn which involves the deliberate use of fire to eliminate unwanted species that have appeared through natural regeneration. The ultimate purpose of conversion burning is usually to prepare an area for planting or to introduce different species.
Coordinates	Intersecting lines of reference which are used to identify specific locations on a map.
Data	Items of information represented in a formalised manner which are suitable for processing and interpretation.
Data quality	An assessment of the completeness and reliability of a dataset and its suitability for a particular purpose.
Data transmission	The physical transfer of data via a communication channel.
Database	A management system for one or more datasets.

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[1] Definition provided by Julia McMorrow, University of Manchester (UK).

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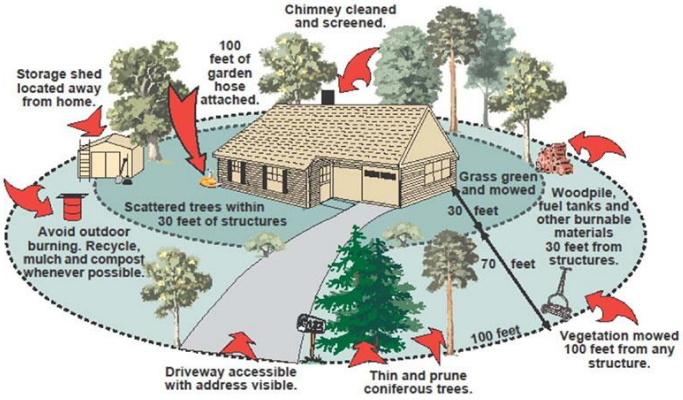
Defendable Space	The area around a structure where flammable vegetation and objects are managed to create a zone in which fire fighters can operate safely in order to help protect a home during a wildfire. This space is wide enough to prevent direct flame impingement and reduce the amount of radiant heat reaching the structure. The defendable space for each structure varies, depending on the type of vegetation and topography. 
Detection	The act or process of discovering, locating and reporting wildfire incidents.
Digital Elevation Model	A digital elevation model is a 3-D representation of a terrain's surface created from terrain elevation data.
Elevation	Height above sea-level.
Encryption	The process of converting data into code to prevent unauthorized individuals from being able to view the data.
Fire Adapted Community	A human community consisting of informed and prepared citizens collaboratively planning and taking action to safely coexist with wildfire.
Fire danger	A general term used to express an assessment of both fixed and variable factors of the fire environment that determine the ease of ignition, rate of spread, difficulty of control, and impact. Fire danger is often expressed as an index.[2]
Fire danger index[3]	A quantitative indicator of fire danger, expressed either in a relative sense or as an absolute measure. Fire danger indexes are often used to guide fire management activities.
Fire hazard	Any situation, process, material or condition that can cause a wildfire or that can provide a ready fuel supply to augment the spread or intensity of a wildfire, all of which pose a threat to life, property or the environment.[4]

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[2] Source: Global Fire Monitoring Centre (2010) *International Multi-Lingual Fire Management Terminology* (Global Fire Monitoring Centre, Freiburg), p.121.
[3] Also referred to as *"fire index"*.
[4] Amended from the definition provided by: NFPA (2011) NFPA 921 – Guide for Fire and Explosion Investigations (NFPA, Quincy, Massachusetts), p.14.

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Term	Definition
Fire Plan[5]	A plan detailing predetermined fire suppression strategies and tactics to be implemented following the occurrence of a wildfire within a particular area.
Fire Prevention	A collective term for all proactive activities that are implemented with the aim of reducing the occurrence, severity and spread of wildfires.
Fire Prevention Plan	A scheme or programme of activities which is formulated in order to prevent wildfire incidents.
Fire Suppression Plan	A pre-determined strategic scheme or programme of activities which is formulated in order to safely and effectively accomplish fire suppression objectives. A fire suppression plan will outline the selection of tactics, selection of resources, resource assignments and how performance and safety will be monitored and maintained at a particular incident. Fire suppression plans need to be dynamic to take into account any changes in conditions or circumstances.
Firebreak	An area on the landscape where there is a discontinuity in fuel which will reduce the likelihood of combustion or reduce the likely rate of fire spread. Firebreaks may be naturally occurring or may be deliberately created as part of a wildfire mitigation or prevention activities.
Fragmentation	The process of transforming large continuous areas of vegetation and fuel into smaller discontinuous areas. Fragmentation leads to a change in fire regimes through the alteration and discontinuity of fuels.
Fuel management	The process of managing fuel or fuel arrangement. The aim of fuel management is usually to create a discontinuity in fuels to achieve fragmentation.
Fuel model	A mathematical representation of fuel properties within a specified location, often used to predict and plot likely fire spread and intensity.
Fuel treatment	The deliberate manipulation or removal of fuels using one or more of a variety of different means[6] to: • reduce the likelihood of ignition; and/or, • reduce potential fire intensity; and/or, • reduce potential damage; and/or, • assist suppression activities.
Geocode	The numerical or alphanumerical element in a database which identifies the geographical location of a particular record.
Geographic Information System (GIS)	A system designed to capture, store, manipulate, analyse, and present geographically referenced data.
Global Positioning System (GPS)	A global navigation system that provides very precise positioning information about the location of any point on or near the Earth surface. The system is freely accessible to anyone with a GPS navigation device/receiver.

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[5] Sometimes referred to as a *Fire Management Plan*.
[6] Inclusive of the following means: manual, mechanical, chemical, or using fire.

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Term	Definition
Global Positioning System (GPS) Navigation Device[7]	Any device that receives and triangulates GPS signals in order to determine its physical location on the Earth's surface.
Grid reference	Coordinates that can be used to define and identify specific locations on a map.
Ground Fire	They typically burn by smouldering, fed by subterranean roots, duff or other organic matter, and can burn slowly for anything from days to months. The fuel type is especially susceptible to ignition due to spotting.
Hardware	The physical components of a system, such as a computer monitor or CD ROM drive. The programmes that control the functioning of hardware are called software.
Hazard Reduction	Any treatment on living and dead fuels that reduces the potential spread or consequences of fire. Also, often referred to as hazard mitigation
Home Assessment	The evaluation of a dwelling and its immediate surrounding(s) to determine its potential to escape damage by an approaching wildfire. It includes the fuels and vegetation in the garden and adjacent to the structure, roof environment, decking and siding materials, prevailing winds, topography, fire history, etc., with the intent of mitigating fire hazards and risks.
Ignition patterns	A generic term for the three key techniques for igniting a managed burn: • **Line ignition** - igniting a burn in strips along a control line and the adjacent fuel. • **Points of fire ignition** - igniting a number of fires within an area of fuel. The aim of this technique is for the individual fires to burn into one another. • **Fingers of fire ignition** - igniting lines of fire at right angles to a control line and parallel to the wind.
Incident	An occurrence or event that requires action to prevent or minimise loss of life, damage to property or damage to the environment.
Incident localization	Identification of the specific location of a wildfire following its detection.
Interface	Where a distinct boundary line exists between the wildfire risk and the urban habitats
Intermix	Where structures are scattered throughout the risk area with no clear demarcation

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[7] Also referred to as a *"GPS Receiver".*

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Infrared (IR)	Thermal radiation which is invisible to the human eye[8]. A number of devices used by wildfire practitioners incorporate IR technology, including: infrared imagers; night-vision devices; and, wireless connections between computer devices.
Infrared imager	An instrument that converts incoming infrared radiation into a thermal image or map to show temperature variation.
Land management	The process of managing the use and development of an area of land for: wildfire prevention; conservation, restoration or protection of the environment; commerce; and/or for other reasons.
Land use planning	A decision-making process involving the allocation of areas of land to different uses and/or vegetation types. This allocation should take into account any necessary considerations regarding wildfire prevention and detection.
LIDAR (Light Detection And Ranging)	An optical remote sensing technology that can measure the distance to or other properties of a target by illuminating the target with light, often using pulses from a laser. LIDAR technology has applications in geomatics, geography, geology, geomorphology, forestry, remote sensing as well as in airborne laser swath mapping (ALSM), laser altimetry and contour mapping.
Managed burn	A planned and supervised burn carried out for the purpose of removing fuel either as part of a land management exercise (a prescribed burn) or a Fire Suppression Plan (an operational burn).
Manual detection system	A wildfire detection system which is operated by and requires direct control from a person.[9]
Map	A graphical representation of an area which depicts the relative positions of features and landmarks.
Map layer	A map of a single thematic feature, such as contours, roads, or rivers and streams. Each map layer is usually stored as a separate file in a Geographic Information System (GIS) and overlaid to produce topographic or other maps.[10]
Map overlay	The combination of several map layers with the same map projection to create a new output map layer which shows the relationship between them. It is visually similar to stacking several maps of the same area.[11]

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[8] IR has an approximate wavelength of between 0.75 and 1,000 micrometres. IR has a frequency that is less than that of visible light (which is what makes it invisible to the human eye) and greater than that of most radio waves.
[9] Some detection systems are designed to allow users to switch between automatic, manual and/or semi-automatic modes.
[10] Definition provided by Julia McMorrow, University of Manchester (UK).
[11] With thanks to Julia McMorrow, University of Manchester (UK), for her contributions to this definition.

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Term	Definition
Mitigation	A collective term used for those activities implemented prior to, during, or after a wildfire which are designed to reduce the actual or potential consequences of the wildfire. Mitigation measures can include efforts to educate governments, businesses and the general public on appropriate actions to take to reduce loss of life and property during wildfire incidents. The development of mitigation measures is often informed by lessons learned from prior incidents.[12]
Near Surface / Elevated (aka Ladder fires)	Fires that consume material between low-level vegetation and tree canopies, such as small trees, downed logs, and vines.
Observation point	A specific location with a view of a surrounding area which is used for wildfire detection.
Observation tower[13]	A structure with a view of a surrounding area which is used for wildfire detection.
Observer	An individual occupying an observation tower/point or completing a patrol of a designated area that is tasked with detecting and reporting wildfires.
Optical sensor	A device that measures visible (light) radiation.
Orthophotograph	A photograph that has been geometrically corrected to adjust for topography, lens distortion and camera tilt. Unlike standard photographs, orthophotographs can be used to measure true distances.
Patrol	The act of supervising a specified area in order to prevent, detect and/or control a wildfire.
Preparedness plan	A pre-determined strategic scheme or programme of activities which is formulated in order to satisfactorily prepare an organisation or a geographic area to respond effectively to wildfire incidents.
Prescribed burn[14]	A planned and supervised burn carried out under specified environmental conditions to remove fuel from a predetermined area of land and at the time, intensity and rate of spread required to meet land management objectives.[15]
Prevention	The act or process of reducing the occurrence and/or impact of wildfires.

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[12] Based on the definition provided by the NWCG: National Wildfire Coordinating Group (2011) *Glossary of Wildland Fire Terminology* (National Wildfire Coordinating Group, Boise), p.121.
[13] Also sometimes referred to as *"lookout towers"* or *"lookout points"*.
[14] Prescribed burning is not currently permitted within all EU countries. Those countries that do permit prescribed burns often have specific legal restrictions concerning when and where a prescribed burn can take place.
[15] Based on the definition provided by AFAC for *"prescribed burning"*: Australasian Fire and Emergency Service Authorities Council (2009) *Wildfire Glossary* (Australasian Fire and Emergency Service Authorities Council, Melbourne), p.22.

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Remote sensing	The acquisition and interpretation of images of the Earth's surface, where images are usually acquired by cameras and scanners carried on aircraft or orbiting satellites. Optical images simultaneously record visible and invisible reflected light in several different wavelengths; when combined, these images (or 'bands') can be used to map burn scars, different types of fuel and fuel moisture. Thermal images record emitted heat from active fires and the Earth's surface. Radar remote sensing uses artificial microwave energy to produce images of burn scars through cloud and at night.[16]
Restricted area	An area in which specified activities or entry are temporarily or permanently restricted in order to mitigate risk to human health or safety by potential or on-going wildfires. A restricted area may also be temporarily or permanently established in order to reduce the risk of a wildfire igniting within a specified location.
Rural Urban Interface (RUI)	The area of transition between unoccupied land and human development, where there is an identified risk of wildfire. The RUI exists in two forms, the interface and the intermix – each defined in their own right previously
Satellite detection system	A wildfire detection system which operates via a satellite.
Semi-automatic detection system	A detection system which is partially operated by itself and partially operated by manual control.
Sensor	A device that measures physical quantities and then converts them into a signal which can be interpreted by a person or instrument. Infrared and optical sensors are common components of wildfire detection systems.
Server	A computer or computer programme that manages access to a central service or resource within a computer network. Three examples of different servers commonly found within prevention and detection systems include: • **Database server** - a computer or computer programme that provides database services to computer connected to a network. • **File server** – a computer or computer programme that enables the storage and retrieval of computer files by computers connected to a network. • **Print server** – a computer or computer programme that connects printers to computers that are connected to a network.

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[16] Definition provided by Julia McMorrow, University of Manchester (UK).

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Software	The programmes that control the functioning of hardware. Software can be divided into two sub-categories: • **Systems software** – all software necessary for a system to function, such as a computer operating system. • **Applications software** – all programmes that enable the user of a system to complete a specific task, such as a word processor programme on a computer.
Surface Fires	Fires fuelled by low-lying vegetation such as leaf and timber litter, debris, grass, and low-lying shrubbery
System	An assembly of components connected together in an organized way to achieve a particular purpose.
System functionality	The range of operations or actions that can be run by a system.
System integration	The process of combining multiple systems into one system.
System operator	An individual who is responsible for operating and/or maintaining a computer system or communication network.
Terrestrial detection system	A wildfire detection system which is operated from the Earth's surface.
Thermal sensors	A sensor that detects variations in temperature.
Triangulation	A method which uses two known coordinates to determine the coordinates of a third location.
Wildfire	Any uncontrolled vegetation fire which requires a decision, or action, regarding suppression.
Wildfire Threat Analysis	A systematic method of identifying the level of threat a particular area faces from wildfire. The level of threat is generally related to a combination of ignition potential, potential fire behaviour and the values threatened. These factors may themselves be derived from other combinations of factors, for instance, potential fire behaviour can be determined from a combination of climate, topography and fuels.
Wireless communication	A system that transmits data using radio waves, microwaves or other types of electromagnetic waves. In other words, a system that transmits data without the need for physical mediums such as wires, cables or fibre optics.

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