

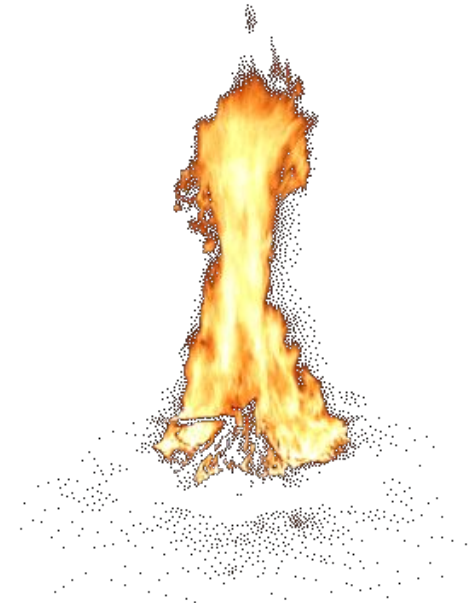
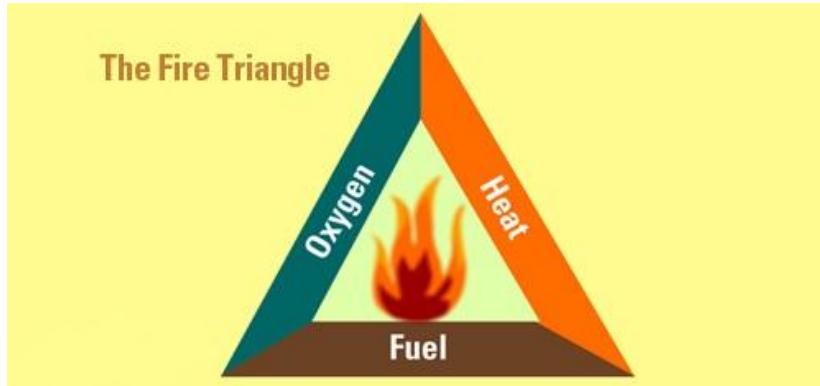


Wildfires

Introduction to wildfires

Fire is the visible part of a combustion. A *combustion* is a chemical reaction of three things: **Heat, fuel and Oxygen**. These 3 ingredients must be present before a fire can be made and maintained.

This can be best explained *in the fire triangle* below:



For the fire triangle to stand, ***all three ingredients must be present.***

What is a wildfire?

- 1) **A wildfire** is an uncontrolled fire that is wiping out large fields and areas of land;
- 1) Wildfires can also be termed **forest fires, grass fires, peat fires and bush fires** depending on type of vegetation being burnt;
- 1) Wildfires can cause damage to property and human life, but they have many **beneficial effects** on native vegetation, animals, and ecosystems that have evolved with fire.



There are any causes of wildfire:



sparks from
rockfalls



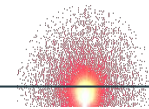
spontaneous
combustion

lightning



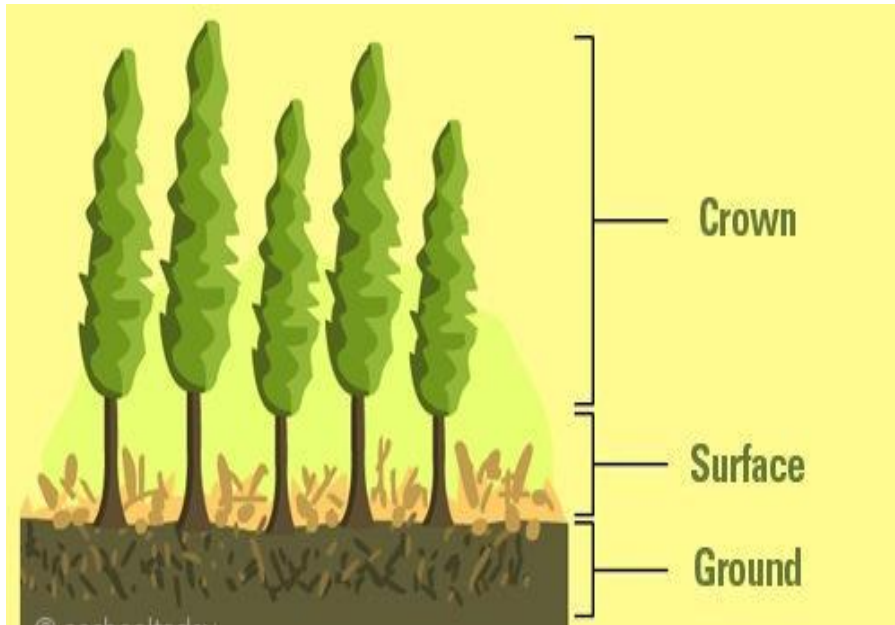
volcanic eruption





Fireworks

Types of Wildfire



Crown Fire — combustion of tree canopies ignited from below or spreading from tree crown to tree crown

Surface Fire — combustion of above-ground fire fuels (grass, herbs, leaves, downed wood)

Ground Fire — smoldering combustion of compacted organic material, typically slow-moving



A wildfire in California
on September 5, 2008



A surface fire in the
western desert of
Utah, U.S.

Experimental fire in
Canada



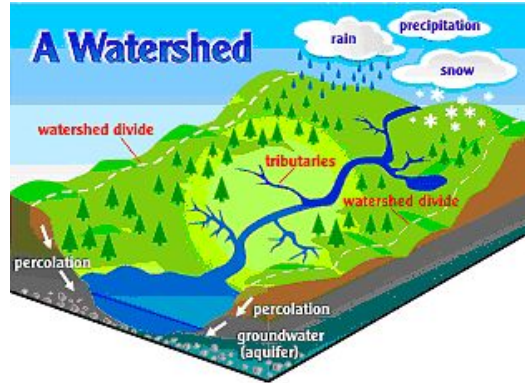


A massive brush fire burning downhill in the Sun Valley, Sunland and Burbank area on Saturday, Sept. 2, 2017, was called the biggest fire in the history of the city of Los Angeles.

What are the effects of wildfires?



Economic cost



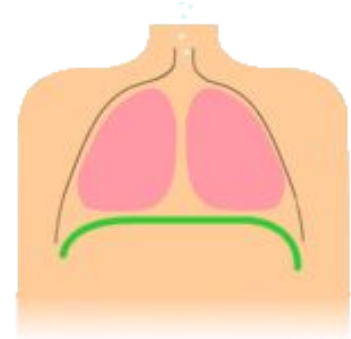
Watershed



Soils and organic matter

Health effects

- 1) Wildfire smoke is composed of *carbon dioxide, water vapor, particulate matter, organic chemicals, and other compounds*. The principal health concern is the inhalation of particulate matter and carbon monoxide;
- 1) The illnesses most commonly with exposure to fine particle from wildfire smoke are *bronchitis, exacerbation of asthma and pneumonia*;
- 1) Another important and somewhat less obvious health effect of wildfires is *psychiatric diseases and disorders*



Animation of diaphragmatic breathing with the diaphragm shown in green



Fighting wildfires



aircrafts



firemen

firing out



Wildfire prevention tips

- 1) Keep fire service and emergency numbers handy;
- 1) Learn how to use the fire extinguisher in the car, at home, in the office or university;
- 1) Be sure to call the fire department any time you notice a fire or think there is a fire hazard anywhere;
- 1) If you live in a town where burning refuse is permitted, be sure to do that in a safe way;
- 1) Check the weather



Thanks for your
attention

