Prime Scholars Library

Advances in Agriculture, Food Science and Forestry

Vol. 9 (3), pp.1 - 2, September, 2021

Editorial

Available online at
https://primescholarslibrary.org/

Short note on wild fires

Hamid Mahmoudi*

Department of Botany, Seed and Plant Improvement Institute, Agricultural Research, Education and Extension Organization (AREEO), Karaj, Iran.

DESCRIPTION

A Wild fire is an accidental, unwanted and uncontrolled fire in a region of combustible vegetation that begins in rural and urban areas. Depending on the existing vegetation, a forest fire can also be more accurately classified as a forest fire (in Australia), desert fire, grass fire, hill fire, peat fire, bush fire, Prairie fire and vegetation fire.

Fossil Charcoal indicates that the wildfires are close to the ground. Plants began to appear 420 million years ago. The occurrence of forest fires in the history of terrestrial life says that the fires must have had pronounced evolutionary effects on the flora and fauna of most ecosystems. Naturally occurring wildfires are most commonly caused by lightning. There also are volcanic, meteorite and seam fires, counting on the circumstances.

Man-made wildfires

Man-made wildfires can be accidental, deliberate (arson), or negligent.

Effect of climate

Heat waves, droughts, climatic fluctuations such as El Niño, and regional weather patterns such as high pressure mountain ranges can increase risk and dramatically change wildfire behavior. Years of rain followed by warm spells can lead to longer fires and longer fire seasons. Since the mid-1980s, the previous thaw and associated warming have also been linked to an increase in the length and severity of the wildfire season, or the most fire-prone time of year, in the western United States. USA. Global warming can increase the intensity and frequency of droughts in many areas and lead to more intense and frequent wildfires.

Emissions

Wildfires release large amounts of CO_2, black and brown carbon particles, and ozone precursors, like volatile organic compounds and nitrogen oxides (NOx), into the atmosphere. These emissions affect radiation, clouds, and climate regionally and even globally. Wildfires also emit significant amounts of non-volatile organic species, which can spread for hours to days after the gas phase is released to form a secondary organic aerosol (SOA). In addition, the formation of other pollutants during air transportation can cause harmful exposures to the population in regions faraway from forest fires. While direct emissions of harmful pollutants can affect first responders and local residents, smoke from wildfires can also travel long distances and affect air quality locally, regionally, and globally. The relevance of the transported columns to surface air quality depends on where they are in the atmosphere, which successively depends on the initial injection height of the convective column in the atmosphere. Smoke injected above the planetary physical phenomenon (PBL) are often detected by space satellites and play a task in changing the Earth's energy balance, but it might not mix at the surface, where it would affect quality of air and human health

Plant adaptation

Wildfires release large amounts of CO_2, black and brown carbon particles, and ozone precursors, like volatile organic compounds and nitrogen oxides (NOx), into the atmosphere. These emissions have regional and even global effects on radiation, clouds, and climate. Wildfires also emit significant amounts of non-volatile organic species which, once the gaseous phase is released, can spread for hours or days to form a Secondary Organic Aerosol (SOA).

Wildfire smoke can travel long distances and affect air quality locally, regionally, and globally. The relevance of the transported columns for surface air quality depends on their position within the atmosphere, which in turn depends on the initial injection height of the convective column into the atmosphere.
Smoke injected onto the planetary boundary layer (PBL) can be detected by space satellites and play a role in changing Earth's energy balance, but it would not mix on the surface, where it would improve air quality and affect health of person.

Atmospheric effects

Wildfires lead to local air pollution and release carbon in the form of carbon dioxide.

Emissions from wildfires contain particulate matter that can cause cardiovascular and respiratory problems. Increased by-products of fire in the troposphere can raise ozone concentrations above safe levels. Forest fires in Indonesia in 1997 released an estimated 0.81 to 2.57 gigatons (0.89 to 2.83 billion tons) of CO_2 into the atmosphere, representing between 13 and 40% of the annual global CO_2 emissions from burning fossil fuels. Fires within the Arctic released quite 140 megatons of CO_2, consistent with an analysis by CAMS. For comparison, this corresponds to the amount of CO_2 emitted by 36 million cars per year. The recent forest fires and their massive CO_2 emissions make it important to take them into account when implementing measures to achieve the greenhouse gas reduction targets set out in the Paris Agreement. Due to the complex oxidative chemistry involved in the transport of wildfire smoke to the atmosphere, an increase in the toxicity of emissions has been indicated over time.