

초청강연 3

## Global Changes: Natural & Anthropogenic Hazards

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The Earth is undergoing changes all the time. It is the planet sustaining all life, yet its ecosystems, human societies and communities are subjected to many hazards, natural and anthropogenic. Moreover, pollution in land, atmosphere and oceans puts millions of lives at risk. In countries such as Korea, Greece and many areas in the U.S., wildfires and pollution go hand-in hand with development.

Wildfires in particular are a natural ecological process that has historically played an important role in ecosystem functions and overall dynamics. However, recent record-breaking wildfire outbreaks in the above countries and in the Western United States are increasingly threatening public health, property, and safety. The challenge of fires was recently faced due to dry conditions as the weather becomes drier and will likely continue to be.

Specifically, all ten of the largest wildfires in California's history have occurred since 2003, with seven taking place after 2020—including the August Complex Fire, the largest wildfire in the State's history, which burned more than one million acres. These recent trends in large wildfires are attributed not only to fire-favorable weather conditions, but also as mentioned to drier vegetation under warming conditions, increased human activity associated with population growth, and the accumulation of fuels resulting from aggressive fire-suppression practices.

We will examine the complexity of the factors that drive wildfires, and these examples may offer insights relevant to the recent increase in large wildfires in the Republic of Korea, Greece and California. Pollution is also an increasing challenge that follows human economic growth. Unless humanity makes a priority to sustain the environment, global changes will become more unmanageable.