

## Assessment of Drought on the Goseong-Sokcho Forest Fire in 2019 using Multi-year High-Resolution Synthetic Precipitation Data

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**Abstract**

The influence of drought has increased due to global warming. In addition, forest fires have occurred more frequently due to droughts and resulted in property losses and casualty. In this study, the effects of drought on Goseong-Sokcho Forest Fire in 2019 were analyzed using high-resolution synthetic precipitation data.

In order to determine the severity of drought, the average, 20%tile and 80%ile values were calculated using the synthetic precipitation data of the past 30 years and compared with the current climatology. We have investigated the multi-year accumulated precipitation data to determine the persistence of drought. In Goseong-Sokcho forest fire case, the two-year cumulative synthetic precipitation data shows a similar value to the climate, but the three-year cumulative synthetic precipitation data was close to the 20%ile lines of the climate value. It may expose that the shortage of precipitation in 2017 had persisted until 2019, despite abundant precipitation during the summer in 2018. Therefore, Goseong-Sokcho forest fire might be spread more rapidly by drought which has been persisted since 2017.

**Keywords :** High-resolution, Synthetic precipitation data, Drought, Forest fire

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