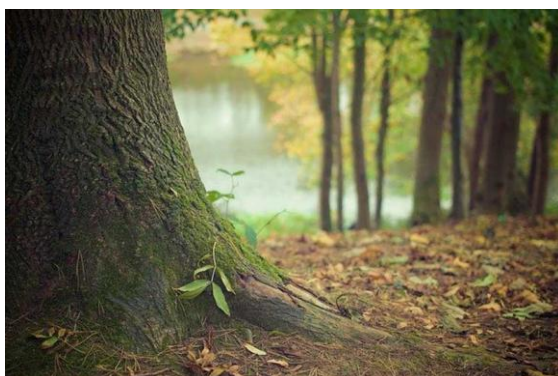


Long-term data series are key to assess health of forests

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Forest ecosystems are affected by many different stressors, such as climate change and air pollution. Drought periods, like the one in 2018, strongly reduce tree growth and increase tree mortality in the UNECE region. At the same time, air pollution affects forests from the leaf to the ecosystem level. For example, elevated levels of pollutants, such as ground-level ozone, decrease photosynthesis significantly, directly affecting plant growth and other plant functions. In addition, indirect effects of air pollution can cause nutrient imbalances and increase vulnerability to insect and fungal species. These, in turn, might also expand their distribution range as a result of a changing climate, thus severely damaging forest ecosystems.

The reduced performance and impaired health of forests affects us all. By absorbing carbon dioxide, purifying water, producing timber, filtering the air we breathe, and providing us with a place for recreation, trees and other plants are essential for environmental and human health, help mitigate climate change and improve air quality. Reduced tree and plant performance thus mean less ecosystem services, such as effective filtering capacities to clean our air.

To address the impact of global change on forest ecosystems and their resilience, long-term data series are indispensable to evaluate state, trends and processes in forest ecosystems. More than three decades of monitoring effects from air pollution within the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) operating under UNECE Convention on Long-range Transboundary Air Pollution have provided harmonized and standardized long-term data series which allows scientists, stakeholders and policymakers to predict the fate of forest ecosystems in the UNECE region and their functioning in a changing environment and take action accordingly.

This week (11-12 June 2020), international experts working together through ICP Forests thus met virtually to discuss data series on forest growth, phenology, biodiversity, nutritional status of foliage and litter fall, ambient air quality, deposition, meteorology, soil and crown condition. Experts agreed that further quantifying the response of forest ecosystems to a changing environment is fundamental for determining the long-term sustainability of forest ecosystems.

Source: <https://moderndiplomacy.eu/2020/06/14/long-term-data-series-are-key-to-assess-health-of-forests/>