

Himalayan Birch Tree

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About Himalayan Birch Tree:

- It is a **deciduous broadleaved species** that dominates the Himalayan region.
- **Distribution:** It is widely distributed in the altitudinal range from **3100 – 3800 m** in North-western Himalaya.
- It is native to the **Western Himalayas** and grows at elevations of up to 4,500 metres
- **Features**
 - It has a high **freezing tolerance potential**, allowing it to form a treeline in the Himalayan region.
 - It is a long-lived species which can **survive up to 400 years** and the only angiosperm in the Himalaya which dominates an extensive area at sub – alpine altitudes.
- **Ecological significance:** It contributes to the preservation of the Himalayan **ecosystem** by **reducing soil erosion and creating a bio-shield** for the remaining forests and sub-alpine meadows below the treeline.

Highlights of the research

- Birch trees are **struggling to grow** due to stress **from increased temperatures** and lack of moisture.
- Birch tree which **need more moisture**, are growing less due to heat-related dryness.
- Fir and birch compete for space, sunlight, water and nutrients, making it even harder for birch to grow.
- Climate change-driven disturbances such as early snowmelt, snow fungi, avalanches, landslides, insect outbreaks, hotter droughts and fires will further hinder the recruitment of less resilient species like birch.
- **Impact on environment:** The shift of dominant plant functional types from deciduous to evergreen may also **alter ecological functions** such as the rate of litter decomposition, carbon and nitrogen cycling, water-use efficiency, interactions with animals and fungi and energy fluxes, with further impacts on the composition of alpine plant communities

Q1: What is a characteristic of Deciduous Tree?

A deciduous tree loses its broad, flat leaves at the end of the growing season. Deciduous trees shed their leaves in fall to get ready for winter. Shedding leaves allows them to conserve energy during shorter days with less sunlight.

News: Climate change is altering Himalayan tree landscape — drought-resistant fir trees are replacing birch

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