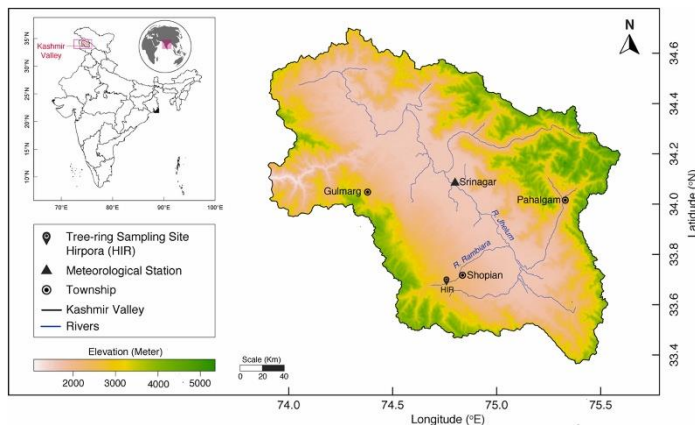


## **Monthly Summary Report-October 2025**

### **Birbal Sahni Institute of Palaeosciences**

**Any significant development/achievement that you feel warrants being brought to Cabinet Secretary's notice:**

A detailed dendroclimatological investigation on *Abies pindrow* from the Hirpora Wildlife Sanctuary in the Kashmir Valley introduces blue intensity (BI) as a novel climate proxy for the Indian Himalaya. The study, based on 139 cross-dated tree-core samples covering the past 287 years (1728–2014 CE), developed six chronologies, including total, early wood, and latewood ring-widths



alongside their corresponding BI parameters—LWBI, EWBI, and  $\Delta$ BI. Statistical correlations with instrumental climate data revealed that while ring-width parameters primarily record moisture stress during the early growing season (May–June), BI parameters, particularly LWBI and  $\Delta$ BI, exhibit strong positive correlations with late-summer (August–September) mean and maximum temperatures and also reflect minimum winter–spring temperature variations. These relationships were validated using a linear regression-based transfer function, confirming BI as a reliable, temperature-sensitive proxy. The findings underscore the superior thermal sensitivity and temporal stability of BI indices compared to conventional ring-width measures, demonstrating their potential to reconstruct late-summer temperature variability with high fidelity. This pioneering work provides the first successful application of BI in Indian dendroclimatology, establishing a cost-effective, high-resolution, and replicable technique for quantitative paleoclimate reconstruction in the western Himalaya and marking a significant methodological advancement in BSIP's ongoing efforts to refine Himalayan climate archives (Shah et al 2025, *Dendrochronologia*; <https://doi.org/10.1016/j.dendro.2025.126438>).

#### **Events during October 2025:**

1. Swachhata Abhiyan and Cleanliness Initiatives (01 – 31 Oct 2025).
2. Three Friday Scientific Lectures were delivered by Scientists and PhD students.
3. One PhD awarded under AcSIR PhD program on 27<sup>th</sup> Oct 2025.
4. Participation Scientists and Research Scholar in 15th International Conference on Palaeogeography.
5. Participation of scientists and research scholars in Platinum jubilee conference titled “Fossils as Earth’s Timekeeper” during 29-31 Oct 2025.
6. Educational Visits and Outreach Activities for college and School students.
7. Training of MSc Students as part of BSIP Internship Program.

**Total 08 Research Papers published in high impact journals during this month.**

**Photographs showing important highlights of major programs/research activities organized during October 2025.**

