



In a landmark recent publication, [Ellison et al. \(2017\)*](#) reviewed current understanding of the way trees, forests and climate interact. **Key points for the virtual seminar derive from that review (and underpinning references):**

- **It's a hot world** – all valid means and pathways are needed to keep climate change in check.
- **Cool insights** – three climate scales (micro- (tree), meso-(landscape, forest) & macro-climate) align where we talk of temperature, rainfall, wind speed; stakeholders also synergize/align more easily than in a climate discourse exclusively focused on carbon & other greenhouse gases.
- **Forests & trees** – this is about a continuum, not a forest/nonforest dichotomy; trees in urban and rural settings dominate benefits at microscale, forests in landscapes at meso, and large remaining forests at continental scales.
- **Novelty** – ‘what everybody knows’ now has firm science backing; it’s new for existing climate policy and its segregated concepts of mitigation and adaptation; hydroclimate is new as focus; trees and hydroclimate aspects of ‘climate smart agriculture’ remain obscured in the existing mitigation/adaptation language.
- **Complexity** – the multiple scales and multiple feedbacks involved in the full hydrological cycle (interacting oceans, land masses, vegetation, atmosphere) are at the current cutting edge of planetary climate science.
- **Simplicity** – the basic idea that ‘trees are cool’ is easy to grasp, and a pretty safe basis for action within an overarching Sustainable Development Goals framework, with goals on water, climate and human wellbeing; Regional/continental cooperation on ‘ecological rainfall infrastructure’ doesn’t have to wait for international (UNFCCC) agreements and modalities.
- **Urgency** – with the carbon-based forest conservation mechanisms not delivering on the REDD+ promise (for various reasons), the direct and multiple hydroclimatic benefits of forests and trees can give fresh impetus to managing global land cover and avoid existing bottlenecks.

* Ellison D, Morris CE, Locatelli B, Sheil D, Cohen J, Murdiyarto D, Gutierrez V, van Noordwijk M, Creed IF, Pokorny J, Gaveau D, Spracklen D, Tobella AB, Ilstedt U, Teuling R, Gebrehiwot SG, Sands DC, Muys B, Verbist B, Springgay E, Sugandi Y, Sullivan CA. 2017. Trees, forests and water: cool insights for a hot world. *Global Environmental Change* 43:51–61. <http://www.sciencedirect.com/science/article/pii/S0959378017300134>

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