



Tropical phenology and climate change in the 21st century: challenges and way forward

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Tropical phenology is a complex issue as much as the study of tropical diversity. Temporal changes on plant responses to climate are hard to track on tropical systems from individual plants, species to ecosystems. Recently, new technology and computational tools have allowed a better understanding of tropical phenology and its responses to environmental cues. However, we still lack a thoughtful comprehension of drivers and clues for flowering, fruiting or leaf exchanging patterns in tropical ecosystems. Here we explore from traditional (e.g. direct observation, plant traps, land surface phenology) to innovative approaches (e.g. phenocameras, herbarium record, phylogeny, distribution and ecosystem modeling) on plant phenology and discuss the way forward to achieve a consistent progress in our knowledge of tropical plant phenology and their responses to climate change.