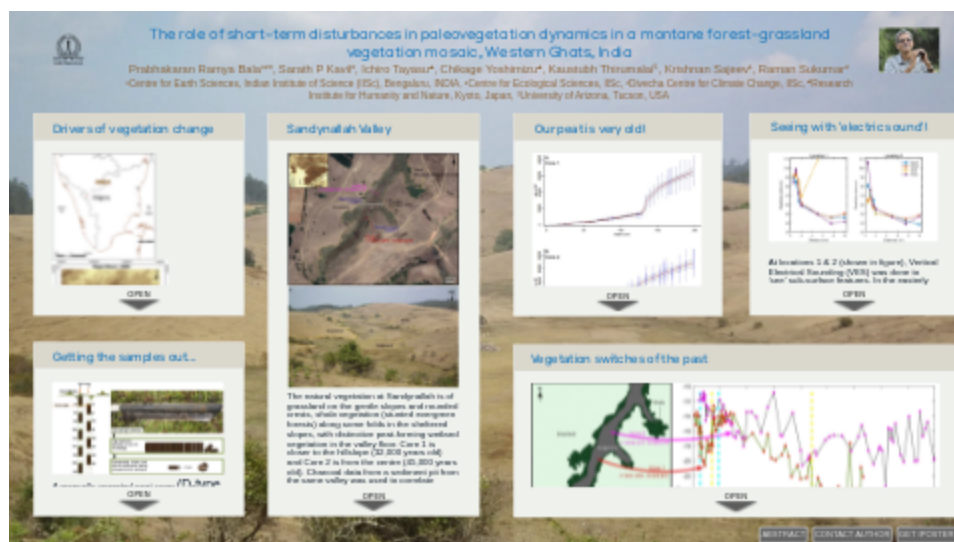


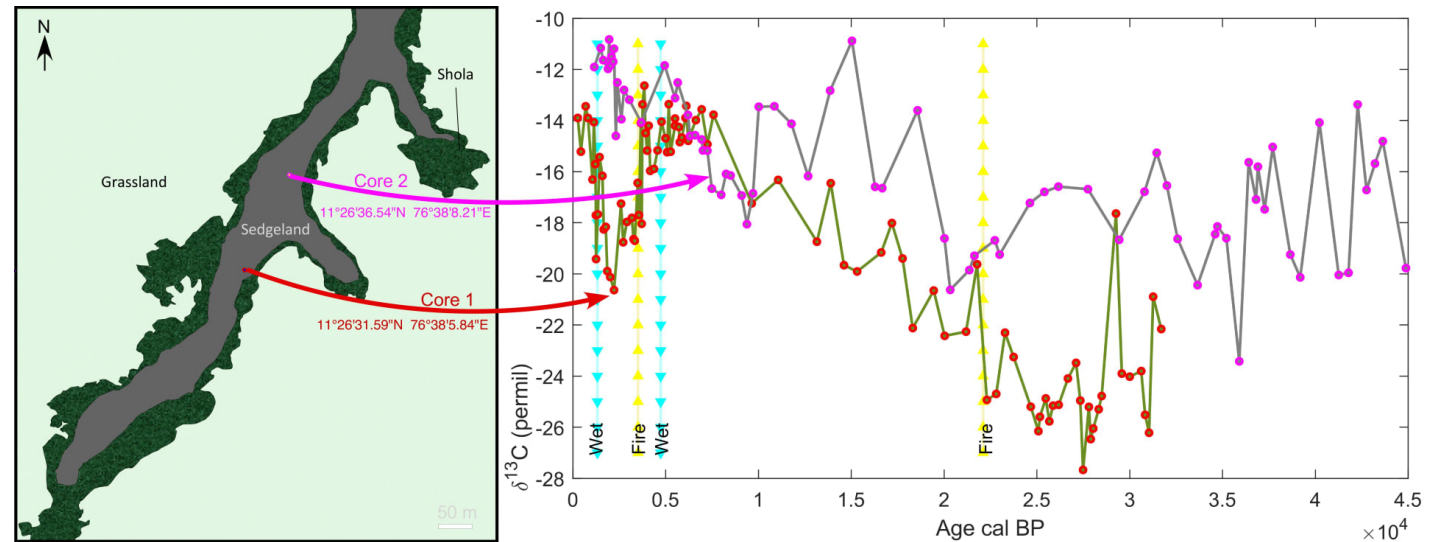
# The role of short-term disturbances in paleovegetation dynamics in a montane forest-grassland vegetation mosaic, Western Ghats, India



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## VEGETATION SWITCHES OF THE PAST



- Core 1 is an ecotone showing *shola*-sedgeland dynamics with vegetation switching at c.22ka from *shola forest* (C3 signature), possibly due to fire, to a prolonged unstable state until 13 ka sustained by low waterlogging.
- Following a hiatus c.13-7 ka, sedgeland (mixed C3-C4) dominates, with a shift into *shola forest* at 3.75 ka driven by increasing aridity.
- Core 2 shows a stable sedgeland signature responding to temperature, enriched in C3-vegetation in the last glacial with C4-dominance beginning c.18.5 ka, indicative of deglacial warming.

The distinctive vegetation states in Cores 1 and 2 within the same valley, responding independently to disturbances and climate, respectively, is the first paleo-record of alternative stable states in the montane tropics. Our results point to the need to account for short-term disturbances and site attributes before ascribing vegetation changes to changing climate in alternative stable states landscapes. For more details on our results please check out our preprint now accepted for publication in The Holocene - [doi.org/10.1002/essoar.10504188.1](https://doi.org/10.1002/essoar.10504188.1)