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## PROGRAM AND ABSTRACTS



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**INVESTIGATING PAST CLIMATE-BIOSPHERE LINKS: SPELEOTHEM-BASED CLIMATE RECONSTRUCTIONS TO CONSTRAIN CONTROLS ON LATE HOLOCENE FOREST EXPANSION IN SOUTH AMERICA.**

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The Late Holocene expansion of tropical and subtropical forests in South America has been generally attributed to an intensification of the South American Summer Monsoon. It is still debated, however, whether and how extensive biome shifts were driven by changes in precipitation. There are several existing reconstructions of Late Holocene monsoon variability based on  $\delta^{18}\text{O}$  records, however, many of the published records are derived from climate archives occurring outside the monsoon core (e.g., Andean Mountain range and east and southeast Brazil). To address this, we present late Holocene reconstructions of monsoon variability from speleothems (cave mineral deposits) collected from the Brazilian Amazon and Cerrado (Savanna). Further, we use a multi-proxy approach - using speleothem  $\delta^{18}\text{O}$  values to reconstruct regional monsoon intensity and speleothem  $^{87}\text{Sr}/^{86}\text{Sr}$  to provide insight into local moisture conditions – to enable assessment of the temporal variability in the degree of coupling between monsoon intensity and local moisture conditions along a transect from the core to periphery of the monsoon region. Our records will provide unique constraints on the role of climate with respect to Late Holocene vegetation dynamics.