Atmospheric Circulation Patterns Associated with Tree Growth Anomalies in the Central and Southern Sierra Nevada Mountains

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Abstract

Previous authors (Graumlich 1993; Hughes and Brown 1992; LaMarche 1974) have discussed long-term fluctuations of climatic parameters reconstructed from tree rings sampled in the Sierra Nevada. In this work, I examine patterns of atmospheric circulation associated with tree growth anomalies at mid-to-high altitudes (2000-3500 meters). Although atmospheric circulation patterns associated with past tree growth anomalies cannot be unequivocally interpreted from the tree-ring record, knowledge of climatic controls over tree growth anomalies can lead to richer interpretations of the extensive dendrochronological resource from the Sierra Nevada.

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