PP54A-01 The Terrestrial Manifestation of Miocene Climatic Change in the Pacific Northwest (USA): Insights from the Paleobotanical Record

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Abstract

Prominent climatic changes in the Miocene provide opportunity to better understand dynamic climate systems and their interaction with the terrestrial biosphere. Reconstructions of past climate and predictions of future climate both highlight heterogeneity in how global climatic change manifests regionally in the terrestrial realm, demonstrating the importance of region-specific records. Fossil plant records offer important insight to terrestrial paleoclimate as climate influences the diversity and composition of plant communities and the prevalence of particular leaf morphologies (leaf physiognomy). This study utilizes a suite of 13 well-preserved fossil plant sites in the Pacific Northwest (USA) to reconstruct changes in plant community and terrestrial paleoclimate within a refined temporal framework across the Miocene Climatic Optimum warming event and Middle Miocene Climatic Transition cooling event. We will present preliminary results on a subset of sites highlighting new U-Pb radiometric dates and reconstructed trends in plant community composition, diversity, and quantitative paleoclimate. Taken together, this study provides a region-specific record on the terrestrial impacts of global climatic changes and provides important perspective for predictions of future terrestrial climate response.

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