Orbital forcing of the Eocene Green River Formation of Wyoming Maika Machlus

The Eocene Green River Formation is recognized as THE classic pre-Pleistocene example of orbital forcing of continental climate. Bradley (1929) made the first attempt to quantitatively test the orbital theory of climate change, followed by qualitative descriptions of well logs and outcrop sections that strongly support orbital forcing (e.g. Fischer and Roberts, 1991; Roehler, 1993). Currently, there are no published quantitative studies (e.g. time series analysis) of the cyclicity or ties to astronomical forcing. This is despite the recent focus on Eocene climate as a critical example of an "extreme" (i.e. hothouse) climate, and despite the fact that the western United States has been the site of intense paleoclimatic investigations.