Regional Allostratigraphic Correlations across a Foreland Basin: Evidence for a Tectonically- or Eustatically-Dominated System?

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Abstract

The Cenomanian to Early Turonian Fish Scales to Second White Specks interval was deposited during a time of overall marine transgression and tectonic loading in the Western Cordillera. Basin-wide allostratigraphic correlations demonstrate a dynamic coupling between allomembers mapped in the foredeep and across the forebulge into the backbulge segments of the Western Canada Foreland Basin (WCFB). Allostratigraphic surfaces established in the foredeep and extended into the backbulge reveal the influence of a forebulge at time of deposition. Some of the mudstone-rich allomembers in the foredeep are coeval with stratal packages of carbonate-rich, clastic-starved sediment in the backbulge; some allomembers, however, are restricted to one segment of the basin. Overall, a high-degree of stratigraphic condensation occurs along the putative forebulge trend (near the 4th Meridian), with slight thickening eastward into eastern Saskatchewan, reflecting the influence of vertical motion of the forebulge on local accommodation.

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