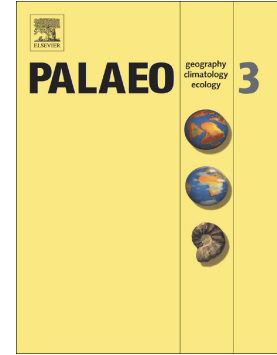


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Sea level and climatic-induced facies variations in the Middle Cambrian House
Range Embayment, western Laurentia

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Abstract

The Middle Cambrian House Range Embayment (HRE) represents a deep-water incursion into an extensive carbonate platform along the passive margin of western Laurentia. The distribution and source of HRE mixed siliciclastic-carbonate sediments are poorly understood because many key elements were missed during past field observations or coarse correlation. This study describes the HRE complex lithological variations, and improves current understanding concerning the global climatic and sea level fluctuations that drove these variations. Magnetic susceptibility (χ), gamma radiation (GR) and carbonate content (CaCO_3 %) are used to construct high-resolution correlation among three overlapping Middle Cambrian marine sedimentary sections: 1) the Drumian Global boundary Stratotype Section and Point (GSSP) in the Drum Mountains, western Utah, 2) the Marjum Pass section in the House Range, western Utah, and 3) the Packrat section Great Basin National Park in the Snake Range, eastern Nevada. Middle Cambrian HRE lithological variations followed broad facies patterns. Carbonate sediments dominated the HRE edges and

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