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# Sea-level changes vs. organic productivity as controls on Early and Middle Devonian bioevents: Facies- and gamma-ray based sequence-stratigraphic correlation of the Prague Basin, Czech Republic

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## Abstract

The Devonian marine stratigraphic record is characterized by a number of bioevents – overturns in pelagic and benthic faunal assemblages, which are associated with distinct changes in lithology. The coincidence of lithologic and biotic changes can be explained by the causal link between biotic evolution, carbonate production and relative sea-level changes. To gain insight into the sea-level history of Early and Middle Devonian bioevents (the Lochkovian/Pragian Event, Basal Zlíchovian E., Daleje E., and Choteč E.) we carried out a sequence-stratigraphic analysis of carbonate-dominated successions in the Prague Basin (peri-Gondwana), a classic area of Devonian bioevents. The study is based on a basin-wide correlation of facies and field gamma-ray spectrometry (GRS) logs from 18 sections (Lochkovian to Eifelian), supported by element