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# Three approaches to reconstructing North American deglaciation

**Lev Tarasov**(1) and W. R. Peltier(2)

(1)Memorial University of Newfoundland, (2)University of Toronto, (lev@physics.mun.ca)

We present a comparison between three different deglacial reconstructions for North America. The ICE-5G reconstruction has been tuned to closely fit relative sealevel and geodetic constraints. However, the reconstruction lacks meaningful error bars and has no intrinsic glaciological self-consistency. A Bayesian calibration of the MUN/UofT Glacial Systems Model (GSM) includes these constraints along with fundamental glaciological self-consistency and some climatic constraints. Furthermore, the ensemble results are constrained by marine limit and strandline observations. The Bayesian methodology also provides objective error bars relative to the constraint data. A third possible synthesis approach involves physically-constrained nudging of the calibrated model towards ICE-5G. Examination of ice chronologies and fits to relative sea level, marine limit, and geodetic observations will elucidate the trade-offs of these various approaches.