

TABLE 1. Comparison of climate features simulated by CCM 0 and CCM 1

Feature	CCM 0 Simulation	CCM 1 Simulation	Principal Difference
Last Glacial Maximum upper-level winds	18 ka ( <sup>14</sup> C) experiment southward displacement and strengthening of the jet stream in both Jan. and July; split jet around ice sheet	21 ka (cal) experiment southward displacement and strengthening of the jet stream in both Jan. and July	ice sheet no longer distinctively splits jet in CCM 1, but southward displacement still present
sea-level pressure and surface winds	glacial anticyclone over ice sheet; prevailing easterlies in PNW, strong onshore flow in SW; strong Aleutian low in Jan., southerly flow into Alaska in Jan.	glacial anticyclone over ice sheet; prevailing easterlies in PNW, strong onshore flow in SW; strong Aleutian low in Jan., southerly flow into Alaska in Jan.	glacial anticyclone over ice sheet and prevailing easterlies in PNW both less well developed, but still obvious
surface climates	greatest cooling near ice sheet (DT ~ -10°C); less cooling farther away; formation of a NW-to-SE temperature gradient; high precipitation along the southern edge of the ice sheet; generally dry to south of ice sheet; wet in SW	greatest cooling near ice sheet (DT ~ -10°C); less cooling farther away; generally dry to south of ice sheet; wet in SW	Jan. temp. in SW US very close to present in CCM 1, July temp. in SW US still cooler than present; the band of high precipitation along the southern edge of the ice sheet is less evident in CCM 1
Late-Glacial upper-level winds	12 ka ( <sup>14</sup> C) experiment jet stream no longer split, Jan. and July jet stream at present latitude, and stronger than present	14 ka (cal) experiment Jan. and July jet stream at present latitude, and stronger than present	LGM-to-Late-Glacial circulation change not as large in CCM 1 as in CCM 0
sea-level pressure and surface winds	glacial anticyclone in July only; westerly winds in PNW and SW US; weak subtropical high-pressure systems (STHs) in July	STHs in July as strong or stronger than present	glacial anticyclone not obvious in CCM 1; STHs in July much better developed in CCM 1 than in CCM 0
surface climates	continued cold near ice sheet; July temp. near present in SW US, SE US, and Alaska; Jan. temp. below or near present throughout; shift of positive temperature anomalies toward the center of the continent	continued cold near ice sheet; July temp. near or higher than present in SW US, SE US, and Alaska; Jan. temp. below or near present throughout; strong W-to-E precipitation gradient across Beringia	July temp. anomalies in regions distant from ice sheet are larger in CCM 1 than in CCM 0; CCM 1 generally shows warming to near-present conditions earlier than CCM 0; precipitation gradient across Beringia is better developed in CCM 1
Early Holocene upper-level winds	9 ka ( <sup>14</sup> C) experiment upper-level circulation generally near present configuration; subtropical (ST) ridge over SW US in July	11 ka (cal) experiment upper-level circulation generally near present configuration; ST ridge over SW US in July	upper-level circulation is qualitatively quite similar in CCM 0 and CCM 1
sea-level pressure and surface winds	strong STHs in July; strong onshore flow into SW US	strong STHs in July; strong onshore flow into SW US	stronger onshore flow in SW US in July in CCM 1 than in CCM 0
surface climates	July temp. higher than present everywhere except along edge of ice sheet; Jan. temp. near or slightly below present; dry in PNW and Alaska; wet in SW US	July temp. higher than present everywhere except along edge of ice sheet; Jan. temp. near present; dry in PNW and Alaska; wet in SW US	July temp. in Alaska and W US higher in CCM 1 than in CCM 0
Mid-Holocene upper-level winds	6 ka ( <sup>14</sup> C) experiment upper-level circulation generally near present configuration; ST ridge over SW US in July	6 ka (cal) experiment upper-level circulation generally near present configuration; ST ridge over SW US in July	upper-level circulation is qualitatively quite similar in CCM 0 and CCM 1
sea-level pressure and surface winds	strong STHs in July; strong onshore flow into SW US and S US	strong STHs in July; strong onshore flow into SW US and S US	stronger onshore flow in SW and S US in July in CCM 1 than in CCM 0
surface climates	wetter than present in SW & S US in July; warmer than present in July throughout	wetter than present in SW US in July; warmer than present in July throughout	SE US drier than present in July in CCM 1

Source: Bartlein, P.J., K.H. Anderson, P.M. Anderson, M.E. Edwards, C.J. Mock, R.S. Thompson, R.S. Webb, T. Webb III, and C. Whitlock (1998), Paleoclimate simulations for North America over the past 21,000 years: features of the simulated climate and comparisons with paleoenvironmental data. *Quaternary Science Reviews* 17(6-7): 549-585.