Table S5: Full breakdown of relative time spans involved per site for "top three" model runs.

	Paper	*Time span of data*	*Time span of simulation*
DigiBog	Baird, Morris & Belyea, 2012	n/a	116 days
	Morris, Baird & Belyea, 2013	n/a	100 developmental steps (varying scales)
	Swindles et al., 2012	n/a (proxies used)	2300-1850 cal. BP
	Mahdiyasa et al., 2022	n/a	6000 BCE - 0 CE
	Morris, Baird & Belyea, 2012	n/a	varying scales: 500-5000 years
	Morris, Baird & Belyea, 2015	Climate data: 1981-2011; no field measurements	n/a
	Young et al., 2017	Climate data: 2010-2013; no field measurements	4000-yr spin-up, 300 years simulated
	Morris et al., 2015	n/a	8000-0 yrs. BP
	Putra, Baird, Holden, 2022	Climate data: 2011-2015; no field measurements	2011-2012, 2013-2014, 2015-2016
ecosys	Dimitrov, Bhatti, & Grant, 2014	Climate data: 1994-2008; field measurements: 2003-2005	2003-2005
	Dimitrov et al., 2010a	Climate data and field measurements (calibration): 1998-2004; validation: 2001 and 2004	spin-up: 60 to 70 years; total model run: 106 years; analysis: 2000-2004
	Chang et al., 2019a	Climate data and field measurements (for both calibration and validation): 2002-2007	spin-up: 1901-2001; analysis: 2002-2010
	Chang et al., 2019b	Climate data and field measurements (for both calibration and validation): 2011-2013	spin-up: 1901-2001; analysis: 2002-2013
	Grant et al., 2017	Field measurements: 2013; climate data: 1981-2013 and 2013-2015	spin-up: 1980-2013; analysis: 1985-2015
	Dimitrov et al., 2010b	Climate data and field measurements (calibration): 1998-2004; validation: 2001 and 2004	spin-up: 60 to 70 years; total model run: 106 years; analysis: 2000-2004
	Dimitrov et al., 2011	Climate data and field measurements (calibration): 1998-2004; validation: 2001 and 2004	spin-up: 60 to 70 years; total model run: 106 years; analysis: 2000-2004
	Mezbahuddin, Grant, & Flanagan, 2016	Climate data and field measurements (for both calibration and validation): 2003-2009	spin-up: 1961-2002; analysis: 2004-2009
	Mezbahuddin, Grant, & Hirano, 2015	Climate data and field measurements (for both calibration and validation): 2002-2005	spin up: 1961-2001; analysis: 2002-2005
	Mezbahuddin, Grant, & Hirano, 2014	Climate data and field measurements (for both calibration and validation): 2002-2005	spin up: 1961-2001; analysis: 2002-2005
	Mezbahuddin, Grant, & Flanagan, 2017	Climate data and field measurements (for both calibration and validation): 2003-2009	spin-up: 1961-2002; analysis: 2004-2009
***ecosys* and LPJ**	Sulman et al., 2012 (Lost Creek)	Field measurements: 2001-2006; climate data measured/gap-filled for the same period	spin-up: not specified--at least 5 years; analysis: not specified (possibly same as field measurement spans)
	Sulman et al., 2012 (Western Peatland)	Field measurements: 2004-2007; climate data measured/gap-filled for the same period	
	Sulman et al., 2012 (Mer Bleue)	Field measurements: 1999-2006; climate data measured/gap-filled for the same period	
LPJ	Chaudhary, Miller, & Smith, 2017 (Sweden)	Climate data: 1901-2000; no field measurements	5000 cal. BP - 2000; 1900-2100
	Chaudhary, Miller, & Smith, 2017 (Canada)	Climate data: 1901-2000; no field measurements	10000 cal. BP - 2000; 1900-2100
	Wania, Ross, & Prentice, 2010 (MI, USA)	Climate data: 1901-2002; field measurements: 1991	Spin-up: 1000 years; analysis: 1991
	Wania, Ross, & Prentice, 2010 (MN, USA)	Climate data: 1901-2002; field measurements: 1989	Spin-up: 1000 years; analysis: 1989
	Wania, Ross, & Prentice, 2010 (Canada)	Climate data: 1901-2002; field measurements: 1996	Spin-up: 1000 years; analysis: 1996
	Wania, Ross, & Prentice, 2010 (Finland)	Climate data: 1901-2002; field measurements: 1993	Spin-up: 1000 years; analysis: 1993
	Wania, Ross, & Prentice, 2010 (Northeast Sweden)	Climate data: 1901-2002; field measurements: 1996	Spin-up: 1000 years; analysis: 1996
	Wania, Ross, & Prentice, 2010 (North Sweden)	Climate data: 1901-2002; field measurements: 2006	Spin-up: 1000 years; analysis: 2006
	Wania, Ross, & Prentice, 2010 (China)	Climate data: 1901-2002; field measurements: 2001	Spin-up: 1000 years; analysis: 2001
	Spahni et al., 2013	Climate data: Last Glacial Maximum (LGM)-2000AD and RCP scenarios 2000-2100	Spin-up: 1500 years; analysis: LGM-2100
	Tang et al., 2015	Climate data: 1913-2000 and 2001-2012; field measurements: 2003-2012, 2007-2009, 2006-2008, and 2004-2008	Spin-up: not specified; analysis: 2003-2012 (with various outputs matching field measurement spans)
	Tang et al., 2018	Climate data: 1913-2000 and 2001-2012; field measurements: 2007-2009	Spin-up: not specified; analysis: 2007-2009