

Empirical approaches			$[\mu_t - \mu_s]$ $\pm ?$
1	Decadal aggregation, no trend	Callendar (1938 – figure SM.1), IPCC (2013 – figure SPM.1a and Fig. 2.19)	no
2	Moving averages with prescribed window length (varying from 5 to 50 years)	Callendar (1938), Easterling and Wehner (2009), Hansen et al. (2010, Fig. 9), Kocic et al. (2014), Cowtan and Way (2014), Roberts et al. (2015) Smith et al. (2015), Fyfe et al. (2016)	no
3	OLS linear trends, with various corrections for correlated noise	Rajaratnam et al. (2015)	yes
4	OLS linear trends for varying sample periods, with corrections for correlated noise	IPCC (2013 – chap. 2: Box 2.2, Fig. 1a), Karl et al. (2015), this study	yes
5	OLS linear trend with moving windows	Risbey et al. (2014), Marotzke and Forster (2015)	only for $[\mu_t - \mu_{t-1}]$
6	Linear trends with change points (CP)	Cahill et al. (2015), Rahmstorf et al. (2017)	not explicitly
7	Linear trends, based on stair step averages with variable lengths	De Saedeleer (2016)	yes, by colour graphs
8	Splines with Monte Carlo simulation	IPCC (2013 – chap. 2: Box 2.2, Fig. 1b), this study (with CMIP5-derived AR(1) noise)	yes
9	21-term binomial filter	Morice et al. (2012)	no
10	Hodrick–Prescott and Butterworth low-pass filters	Mills (2006)	no
11	Smooth transition trends	Mills (2006)	no
12	Adaptive filtering with padding	Mann (2008)	no
13	Wavelets with scale dependencies	Lin and Franzke (2015)	no
14	EEMD decomposition	Wei et al. (2015), Yao et al. (2015)	no
15	ARIMA decomposition	Mills (2006)	no
16	IRW trend model, part of the STM group of models	Visser and Molenaar (1995), Mills (2006, 2010), model (2) of this study	yes
17	Long memory trend models	Lennartz and Bunde (2009), Rea et al. (2011)	no
Semi-empirical approaches, stationary regressors			
18	Linear for selected PDO regimes	Trenberth (2015)	no
19	Multiple regression models with linear trend, aerosols and solar	Forster and Rahmstorf (2011), model (3b) of this study	yes
20	EEMD decomposition with correlations PDO and AMO	Yao et al. (2015)	no
21	STMs with regressors	Visser and Molenaar (1995), model (3a) of this study	yes
Semi-empirical approaches, non-stationary regressors			
22	Regression models with GHGs, SOI, TSI, volcanic, ARMA noise	Kocic et al. (2014)	not explicitly
23	Cointegration, ARIMA, trend breaks, RF, GHGs	Kaufmann et al. (2006, 2013)	not explicitly
24	Regression models with ENSO, AMO, GHG, solar, aerosols and AR(1) noise	Imbers et al. (2013), reprinted in IPCC (2013 – chap. 10)	not explicitly
25	Regression models with forcings from GHGs, aerosols, solar activity, volcanic activity and Nino3.4 as regressors	Hawkins et al. (2017, their approach 1)	yes
26	Scaling model with local temperature series as regressors (CET, De Bilt)	Hawkins et al. (2017, their approach 3)	yes
27	Regression model with temperature responses to human-induced forcings and natural drivers as explanatory variables. Various GMST observational datasets serve as dependent variable.	Otto et al. (2015), Haustein et al. (2017)	yes