Method	Study 1	Study 2	Study 3	Study 4: entire data (studies 1-3)
RFE	vconst_corr	vconst_corr	vconst_corr	vconst_corr
	vconst_2	vconst_2	vconst_2	vconst_2
	vertical_decay_scale	vconst_4	bckgrnd_vdc1	convect_corr
ACV	vconst_corr	vconst_corr	vconst_corr	vconst_corr
	vconst_2	vconst_2	vconst_2	vconst_2
	vertical_decay_scale	vconst_5	bckgrnd_vdc1	convect_corr

Table 3: Logistic regression feature ranking- recursive feature elimination vs. absolute coefficient value; parameters influencing climate model success in bold

Method	Study 1	Study 2	Study 3	Study 4: entire data (studies 1-3)
RFE	vconst_corr	vconst_corr	vconst_corr	vconst_corr
	vconst_2	vconst_2	vconst_2	vconst_2
	vertical_decay_scale	vconst_5	bckgrnd_vdc1	bckgrnd_vdc1
ACV	vconst_corr	vconst_corr	vconst_corr	vconst_corr
	vconst_2	vconst_2	bckgrnd_vdc1	vconst_2
	vertical_decay_scale	vconst_4	vconst_2	convect_corr

Table 4: Linear support vector machines feature ranking- recursive feature elimination vs. absolute coefficient value; parameters influencing climate model success in bold