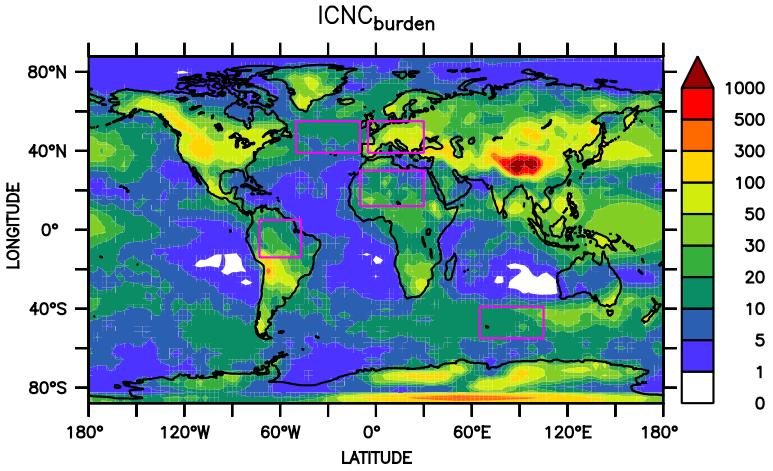

Area	Latitude	Longitude
SAHARA	12S - 30N	10W - 30E
AMAZON	14S - 5N	73W - 47W
EUROPE	39N - 55N	5W - 30E
ATL_oce	39N - 55N	50W - 10W
IND_oce	55S - 39S	65E - 105E

Figure S1. Annual means of vertically integrated ICNC (in $10^8 \mathrm{m}^{-2}$) for the simulation REF. The pink rectangles delimit the areas considered for the regional analyses in Section 4.3; the coordinates of the areas are specified in the table.

Tendency	**Mean**					**Median**				
	AM	SA	EU	IN	AT	AM	SA	EU	IN	AT
DETR	22.90	17.08	13.65	9.16	7.33	0.00	0.00	0.00	0.00	0.00
NCIR	6.22	2.22	1.96	2.27	3.11	0.46	0.24	0.00	0.00	0.13
FREE	107.09	282.80	700.66	159.72	115.15	0.00	0.00	0.00	0.00	0.00
NMIX	0.02	2.39	1.97	0.77	0.49	0.00	0.00	0.00	0.00	0.00
SECP	0.08	0.07	0.55	0.60	0.36	0.00	0.00	0.00	0.00	0.00
SEDI+	7.60	16.08	32.59	10.90	8.60	0.00	0.00	0.00	0.00	0.00
MELT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AGGR	-32.46	-81.99	-187.11	-62.18	-48.05	-1.23	- 0.91	-2.30	-1.21	-1.05
ACCR	-16.29	-43.98	-99.14	-28.87	-24.05	-0.25	-0.29	-1.80	-0.86	-0.46
SELF	-0.17	-0.44	-1.08	-0.30	-0.22	0.00	0.00	0.00	0.00	0.00
SEDI-	-16.61	-30.03	-61.47	-21.06	-15.20	-1.41	-0.90	-0.27	-0.23	-0.27

Table S1. Statistics computed from the 5-hourly ICNC tendencies, output of the simulations REF: means and medians of ICs (in $\mathrm{m}^{-3}\mathrm{s}^{-1}$) are computed over the regions Amazon (AM), Sahara (SA), Europe (EU), Indian Ocean (IN), and Atlantic Ocean (AT) in grid-box volumes where ICNC $> 1\ \mathrm{L}^{-1}$. (Note that SEDI+ and SEDI- take into account only positive and negative values, respectively.)

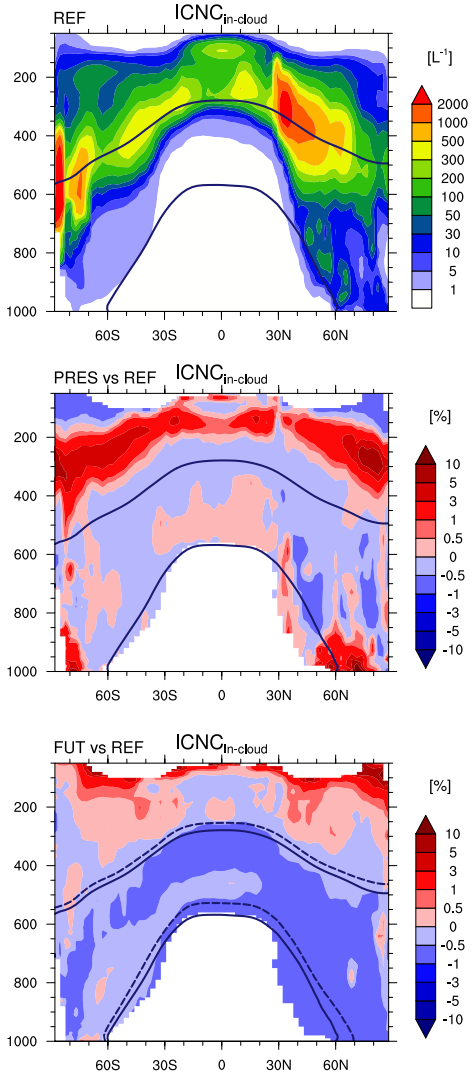

Figure S2. Annual zonal means of (grid-averaged) ICNC for the simulation REF and the relative percentage changes of PRES and FUT with respect to REF, computed where the ICNC in REF is $> 1\mathrm{L}^{-1}$. The isotherms at $0^{\circ}\mathrm{C}$ and $-35^{\circ}\mathrm{C}$ are annual means in REF (solid lines) and in FUT (dashed lines).

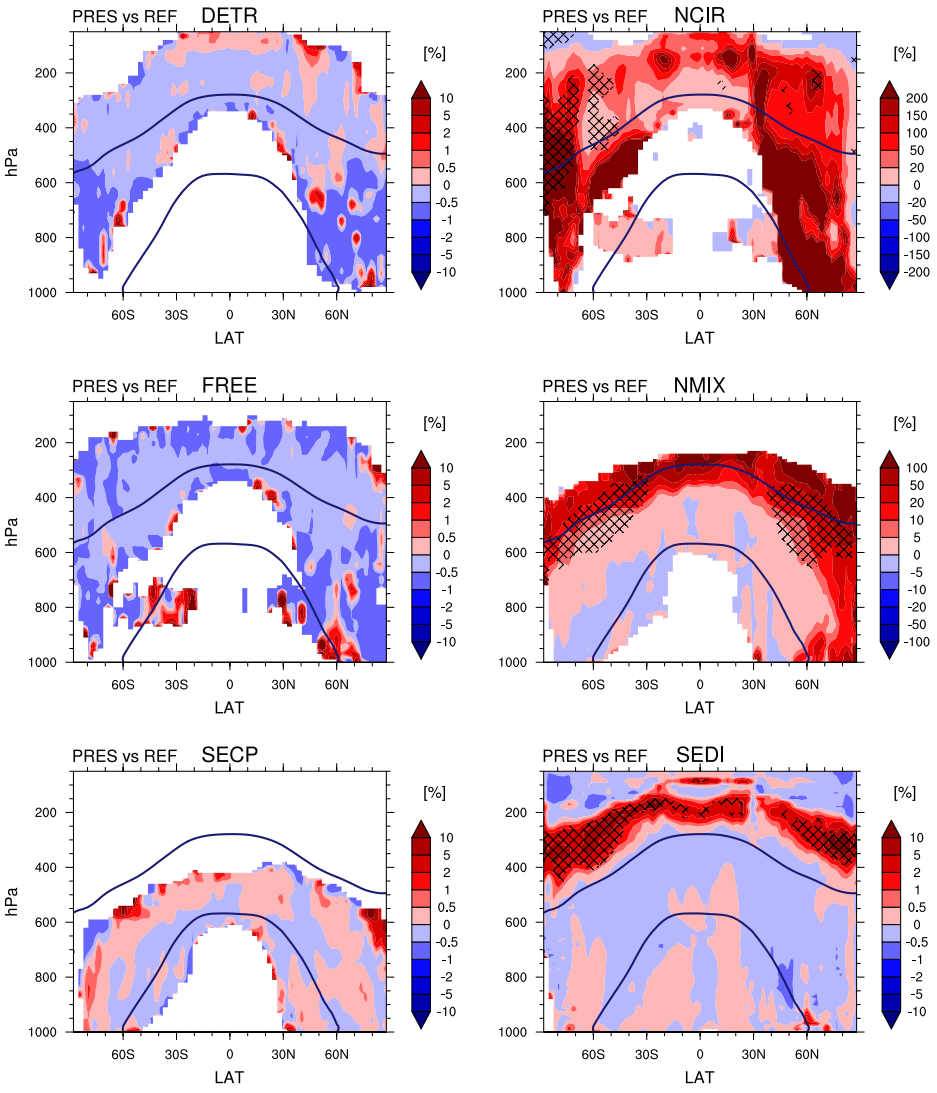

Figure S3. Relative percentage changes of the tendencies associated to the IC sources in cold clouds in PRES with respect to REF, computed where the tendencies in REF are $> 10^{-5}\mathrm{m}^{-3}\mathrm{s}^{-1}$. The hatched pattern indicates areas with a significance level of 70%. The isotherms (solid lines) at 0°C and -35°C are annual means in REF. (Note that SEDI here takes into account only positive values.)

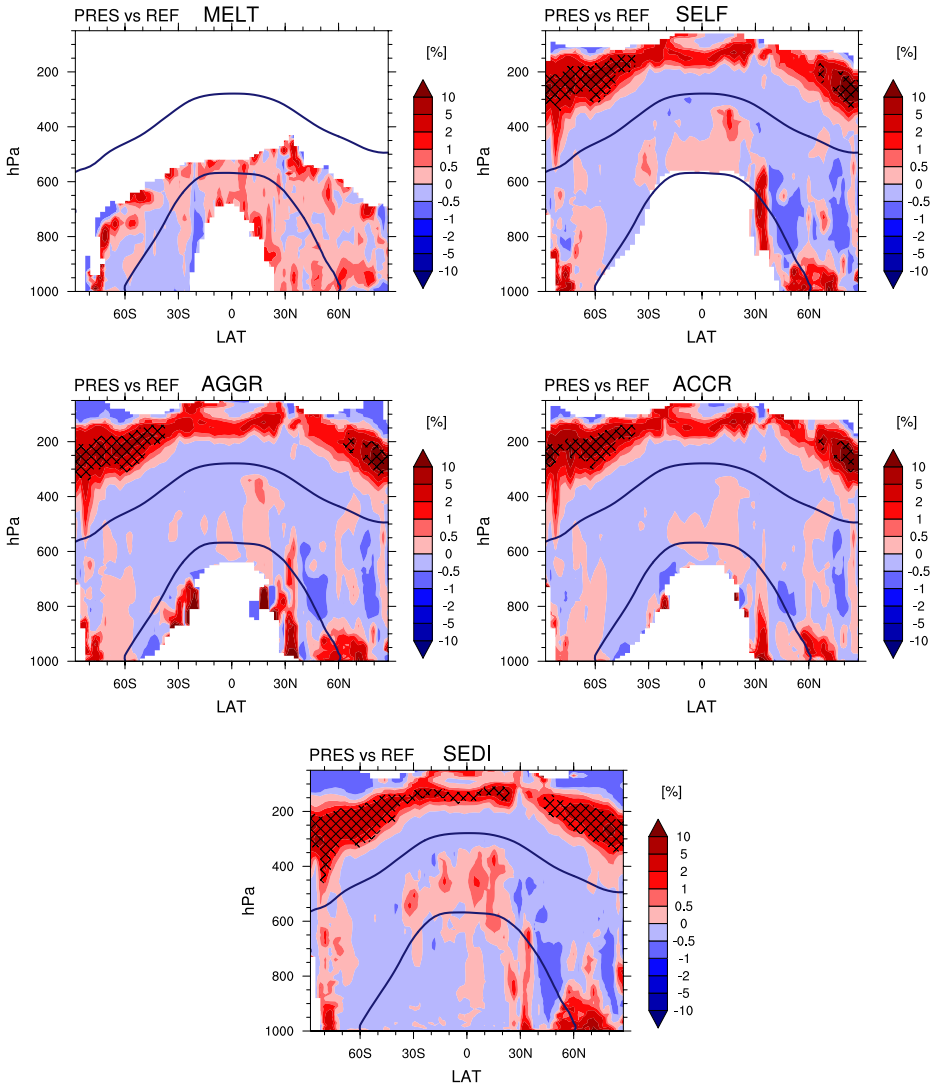

Figure S4. Relative percentage changes of the tendencies associated to the IC sinks in cold clouds in PRES with respect to REF, computed where the tendencies in REF are $> 10^{-5}\mathrm{m}^{-3}\mathrm{s}^{-1}$. The hatched pattern indicates areas with a significance level of 70%. The isotherms (solid line) at 0°C and -35°C are annual means in REF. (Note that SEDI here takes into account only negative values.)

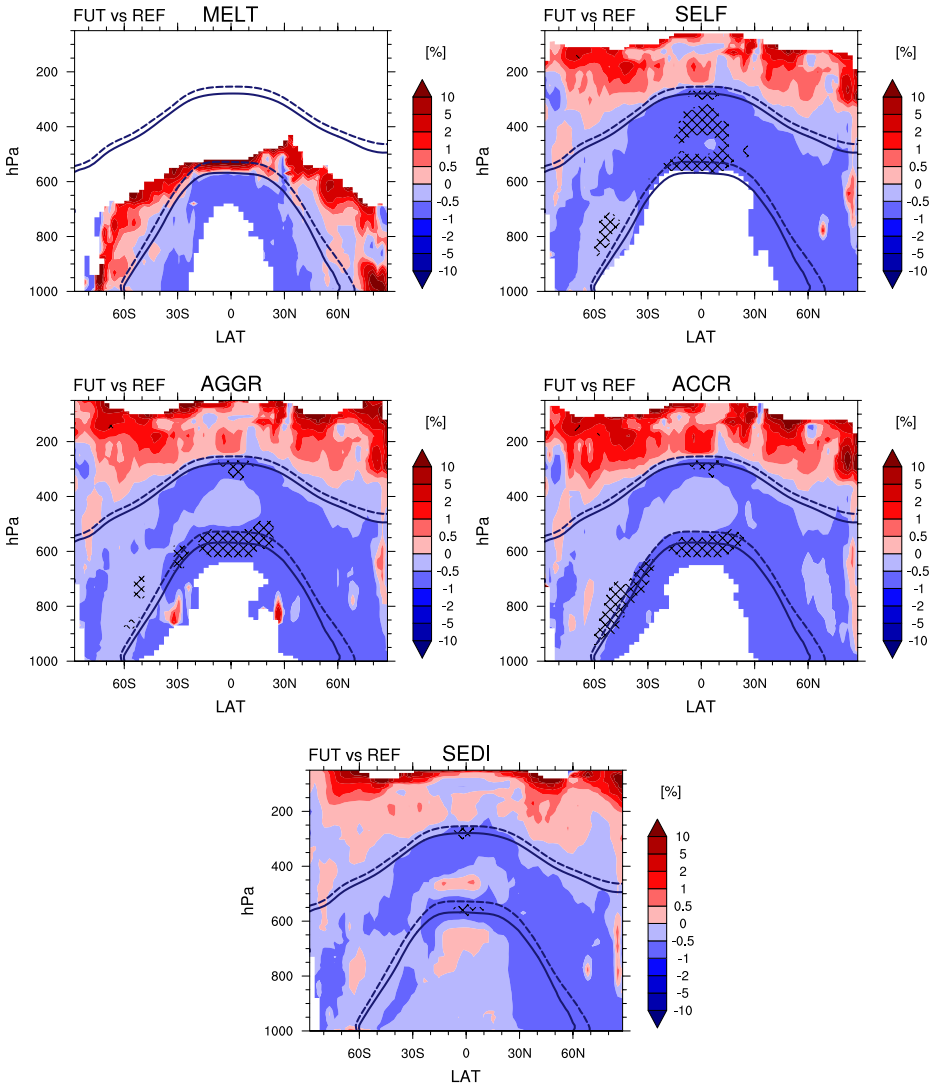

Figure S5. Relative percentage changes of the tendencies associated to the IC sinks in cold clouds in FUT with respect to REF, computed where the tendencies in REF are $> 10^{-5}\mathrm{m}^{-3}\mathrm{s}^{-1}$. The hatched pattern indicates areas with a significance level of 70%. The isotherms at 0°C and -35°C are annual means in REF (solid lines) and in FUT (dashed lines). (Note that SEDI here takes into account only negative values.)