Supplementary materials

S1 Climate Analysis

S1.1 Rainfall

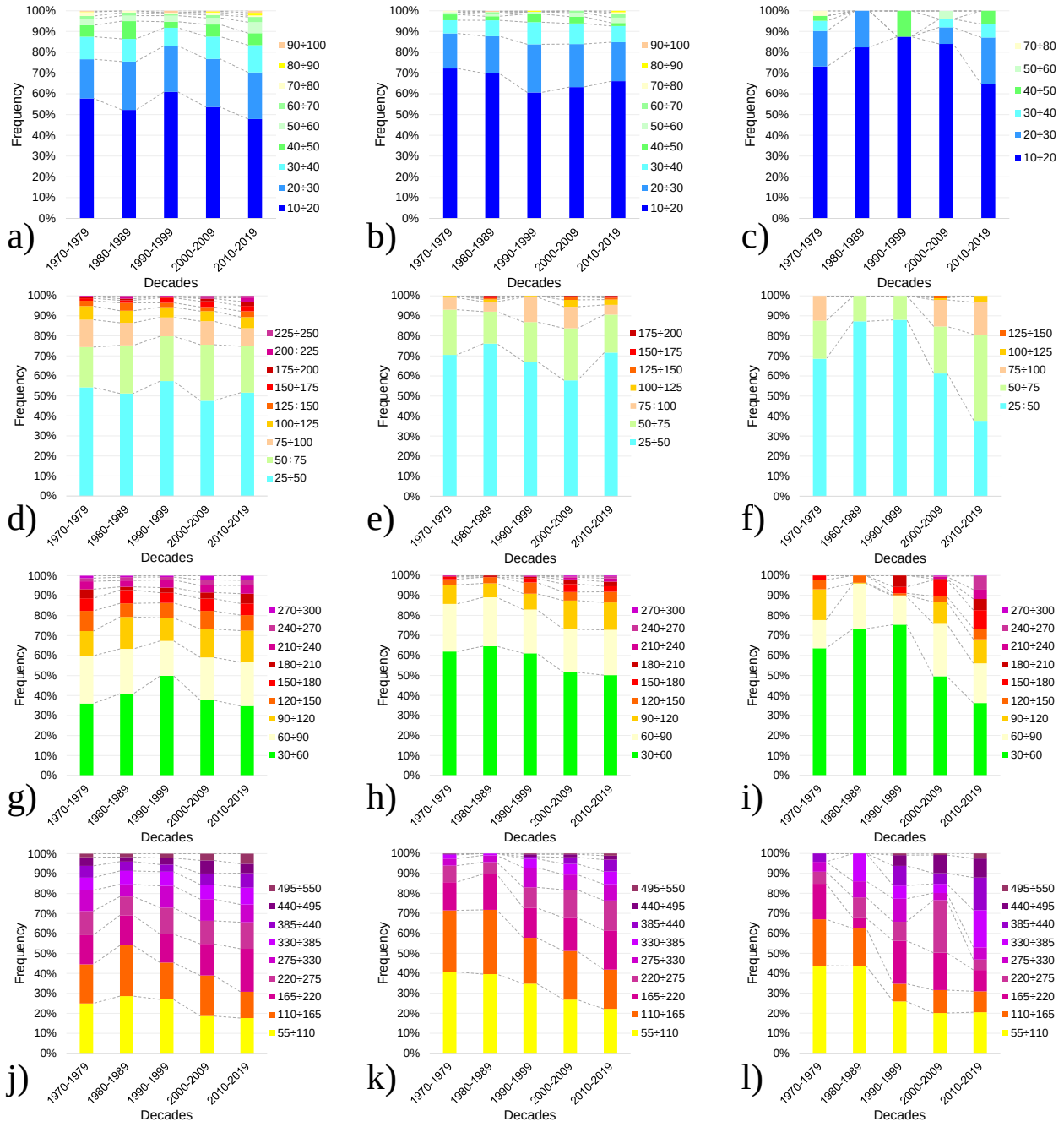
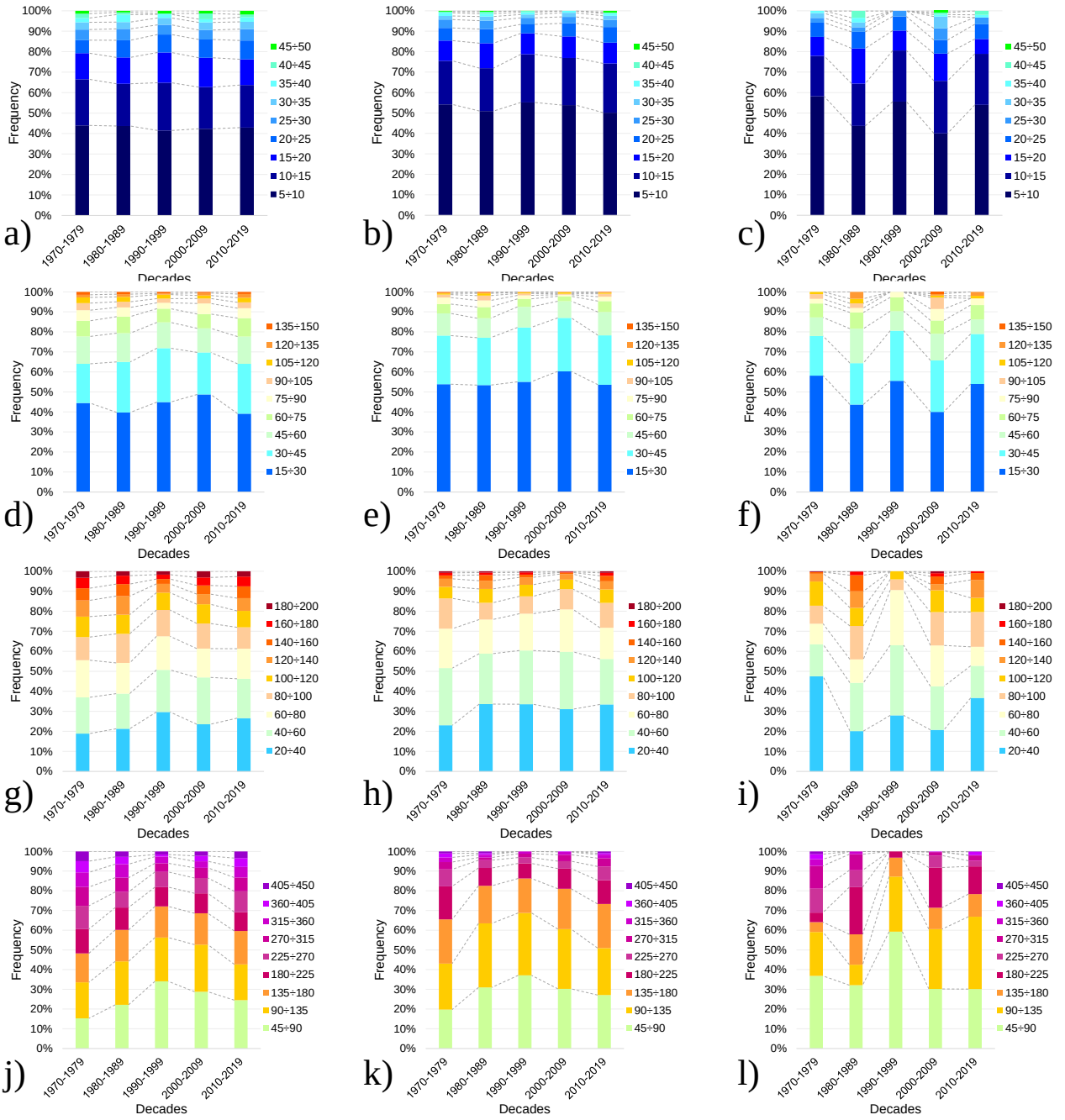
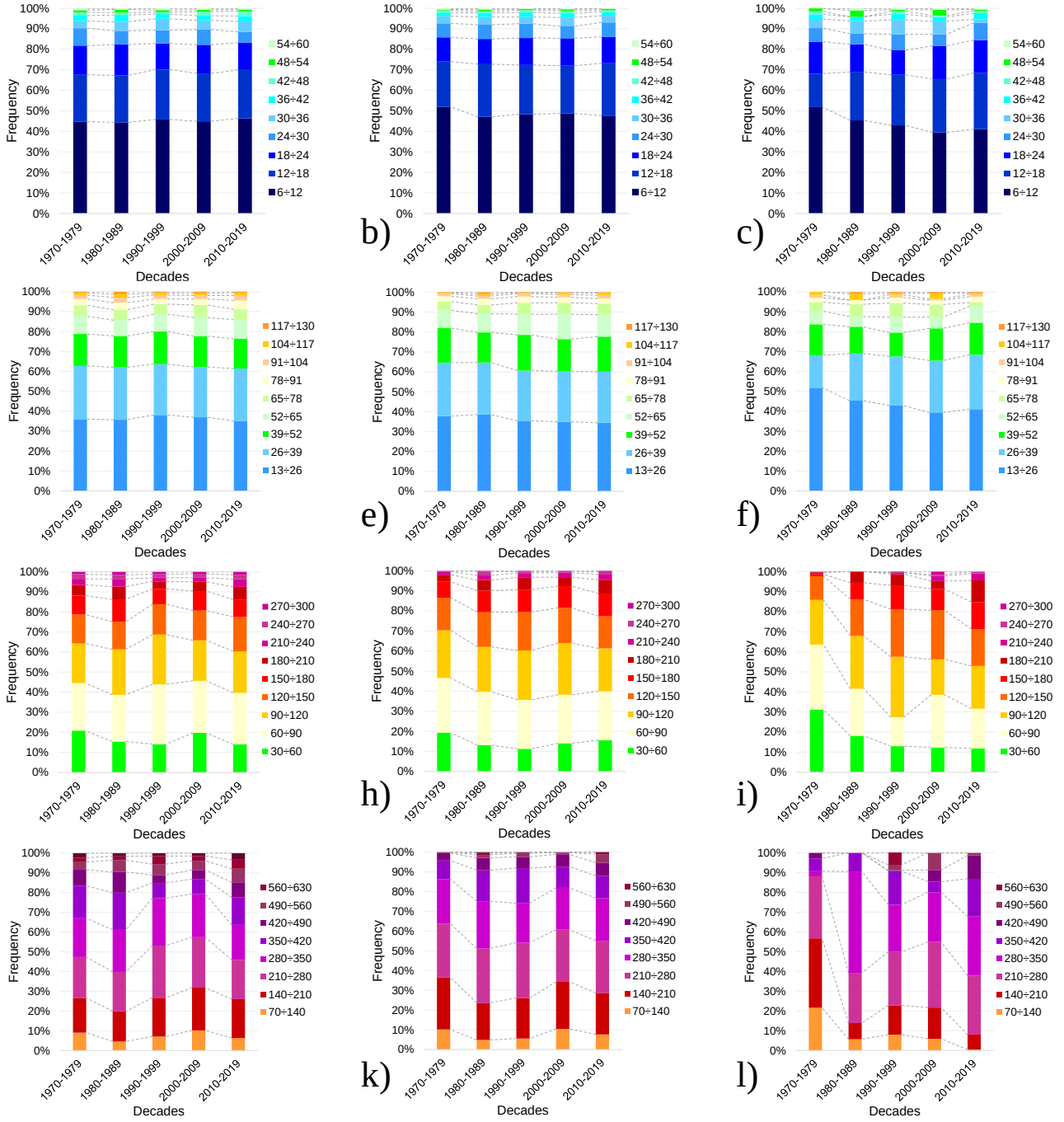


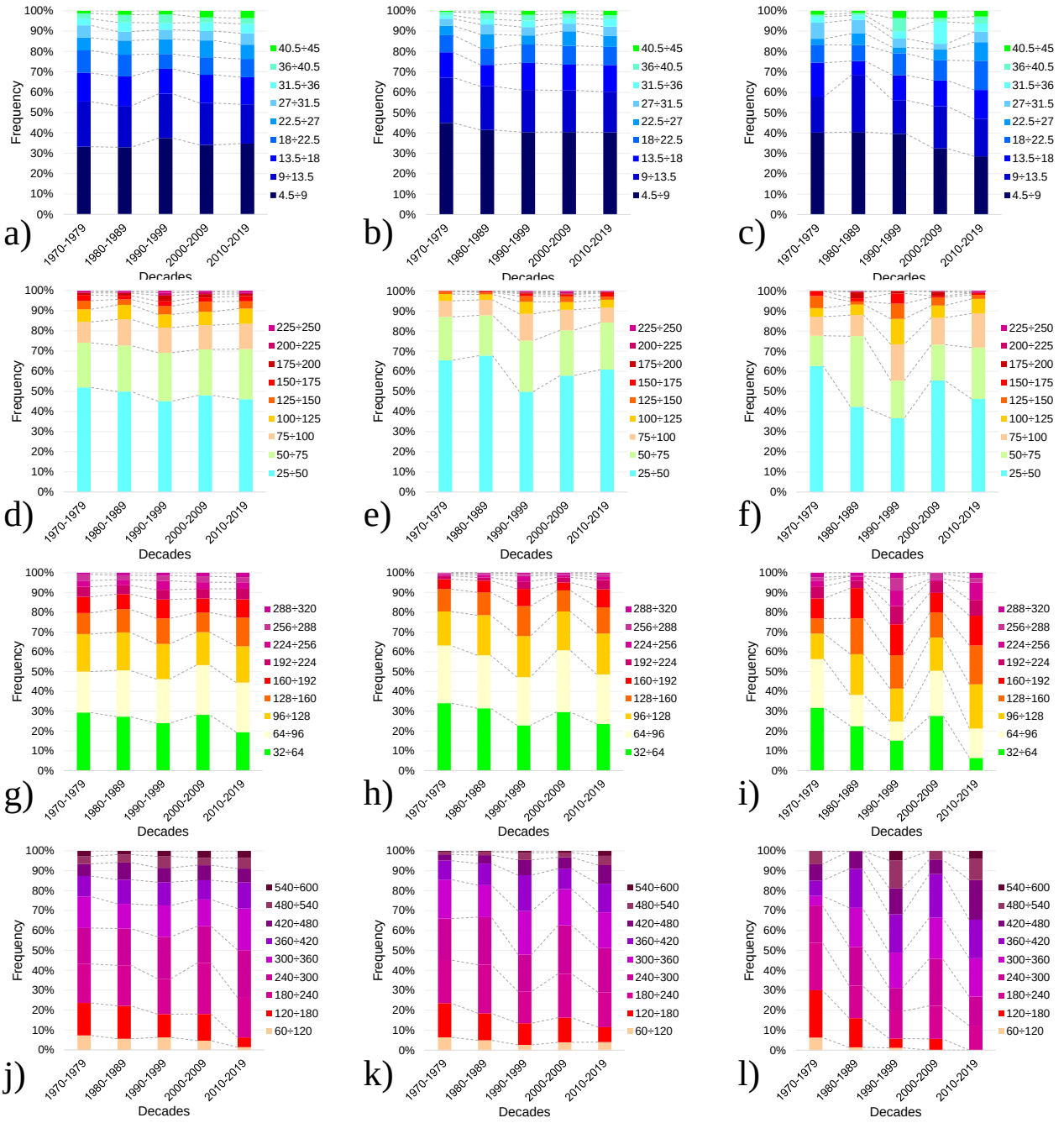
Fig. S1 Frequency of rainfall during winter season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.



10 **Fig. S2 Frequency of rainfall during spring season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.**



15 **Fig. S3 Frequency of rainfall during summer season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.**



20 **Fig. S4 Frequency of rainfall during autumn season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.**

S1.2 Air mean temperature

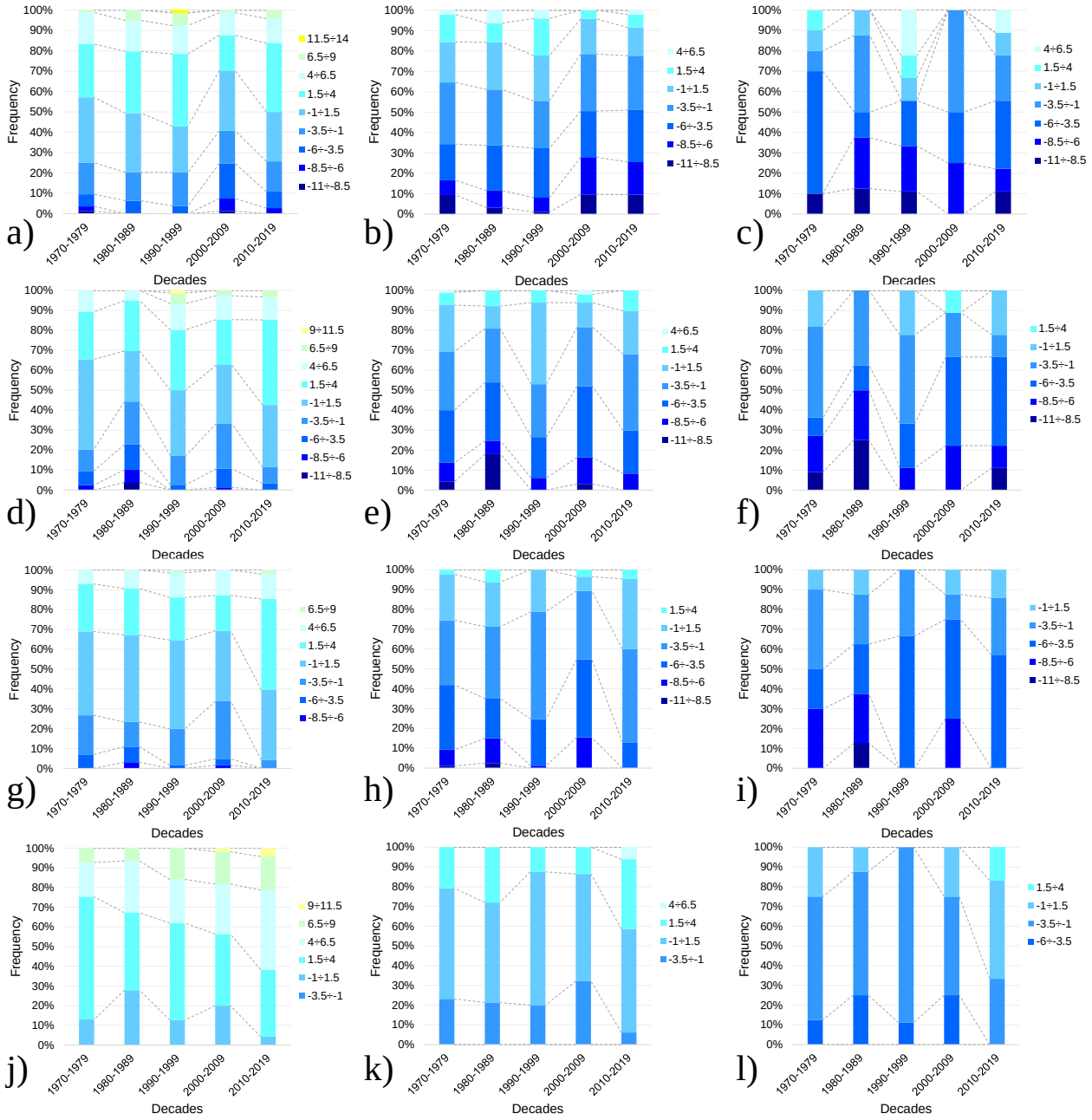


Fig. S5 Frequency of air mean temperature during winter season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

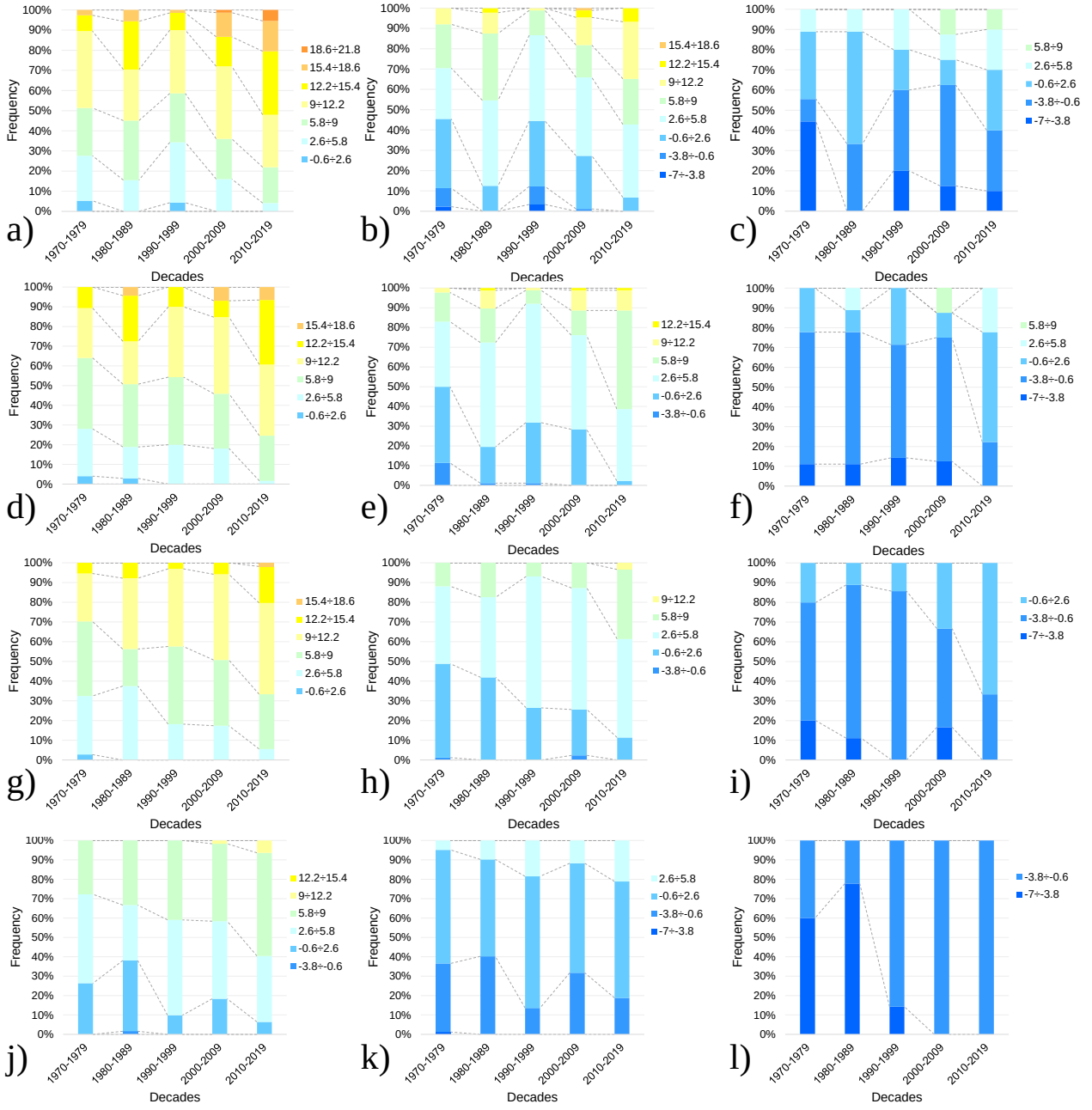


Fig. S6 Frequency of air mean temperature during spring season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

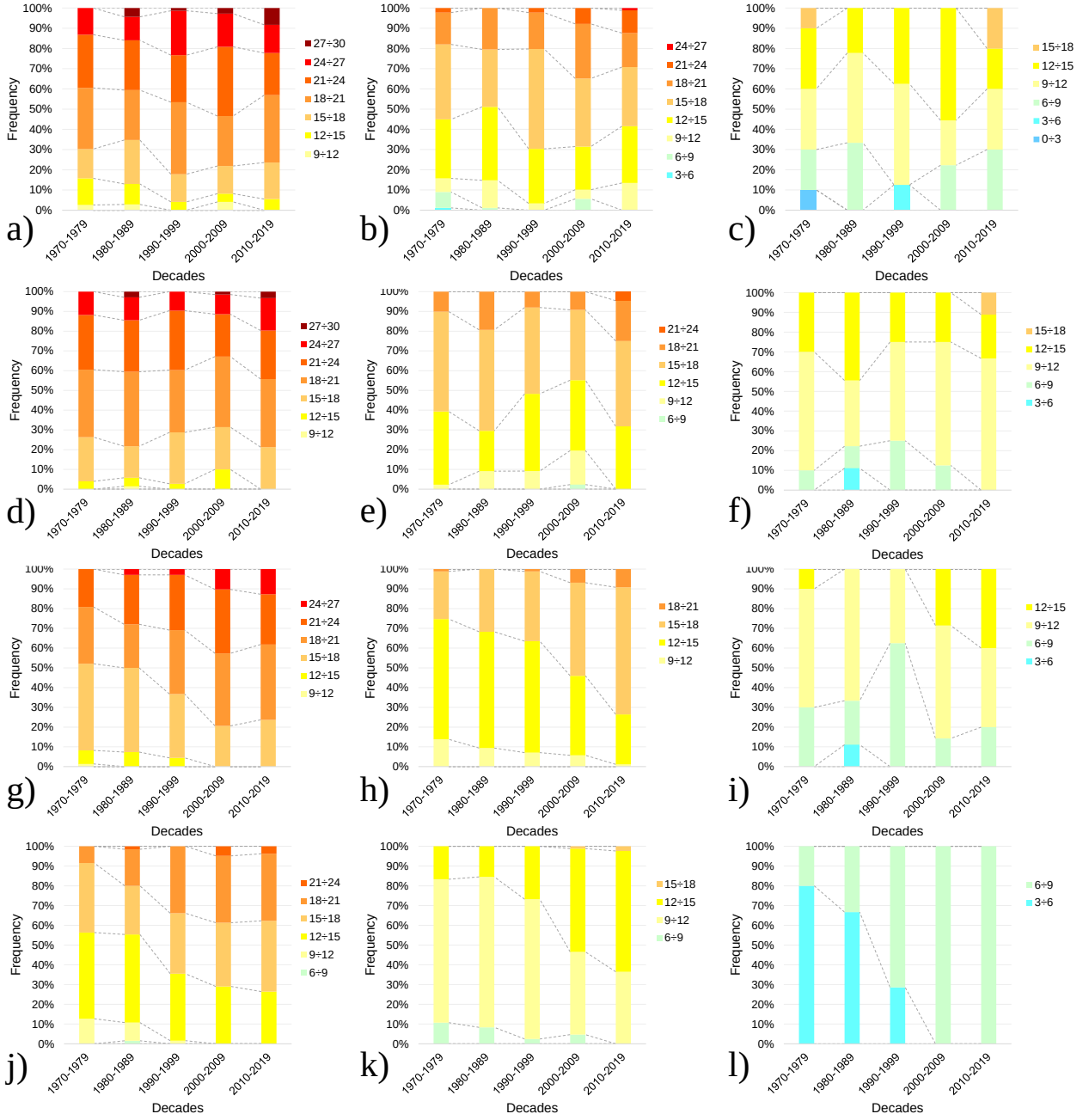


Fig. S7 Frequency of air mean temperature during summer season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

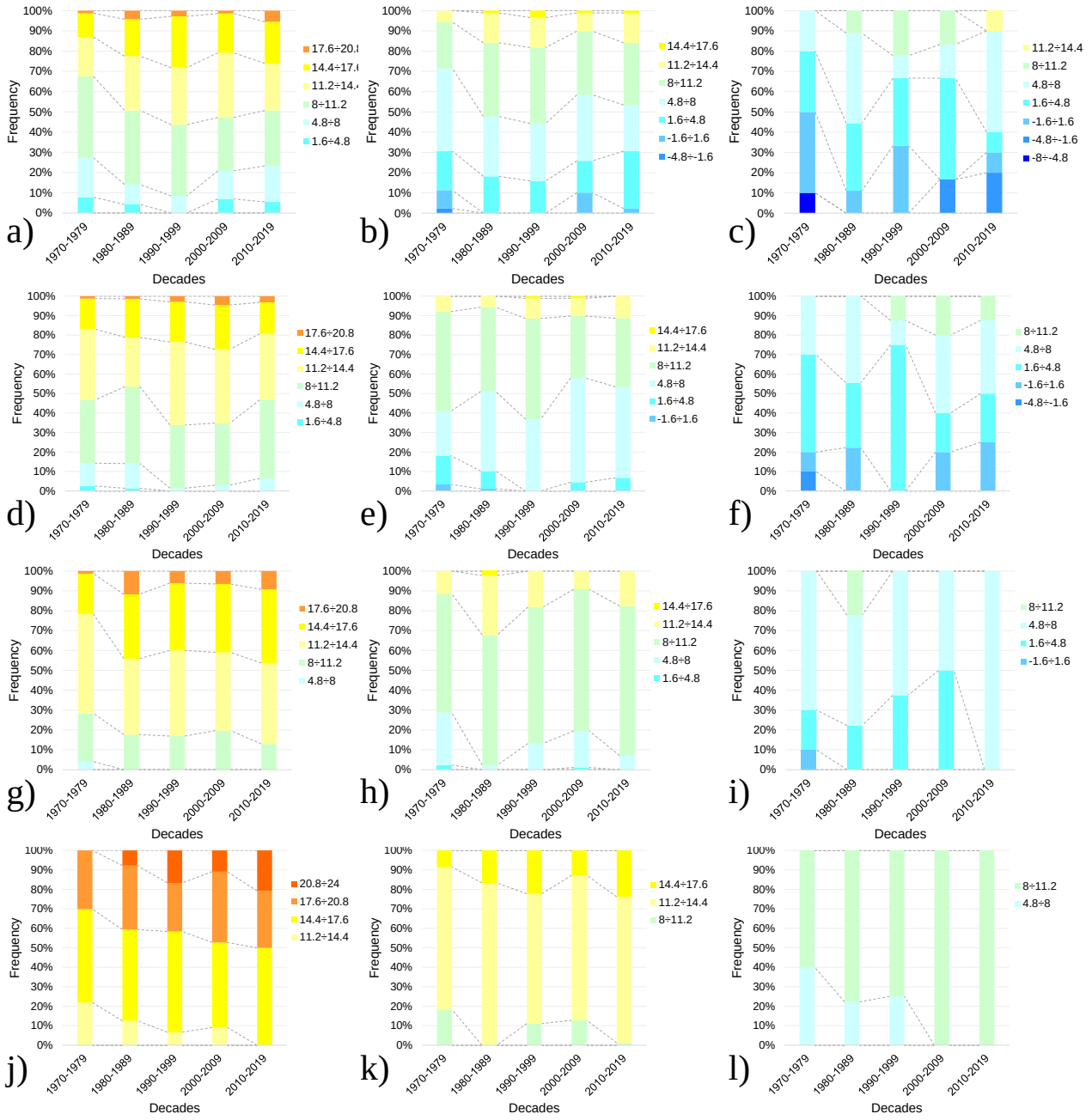


Fig. S8 Frequency of air mean temperature during autumn season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

S1.3 Temperature variation

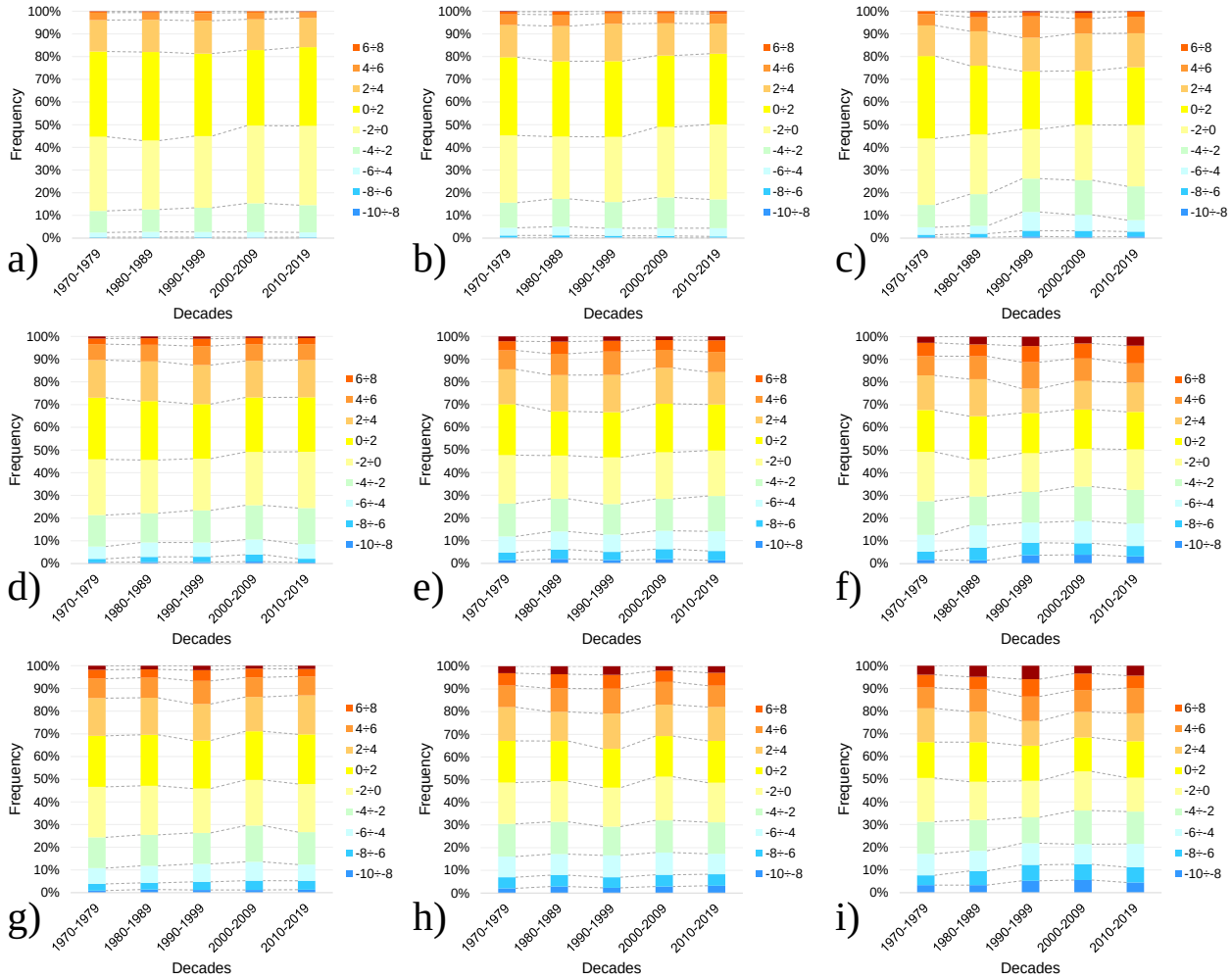


Fig. S9 Frequency of temperature variation during winter season with different aggregation scale and for different altitude. (a) below 1000m and Sa=1, (b) between 1000m-2000m and Sa=1, (c) above 2000m and Sa=1, (d) below 1000m and Sa=3, (e) between 1000m-2000m and Sa=3, (f) above 2000m and Sa=3, (g) below 1000m and Sa=6, (h) between 1000m-2000m and Sa=6, (i) above 2000m and Sa=6.

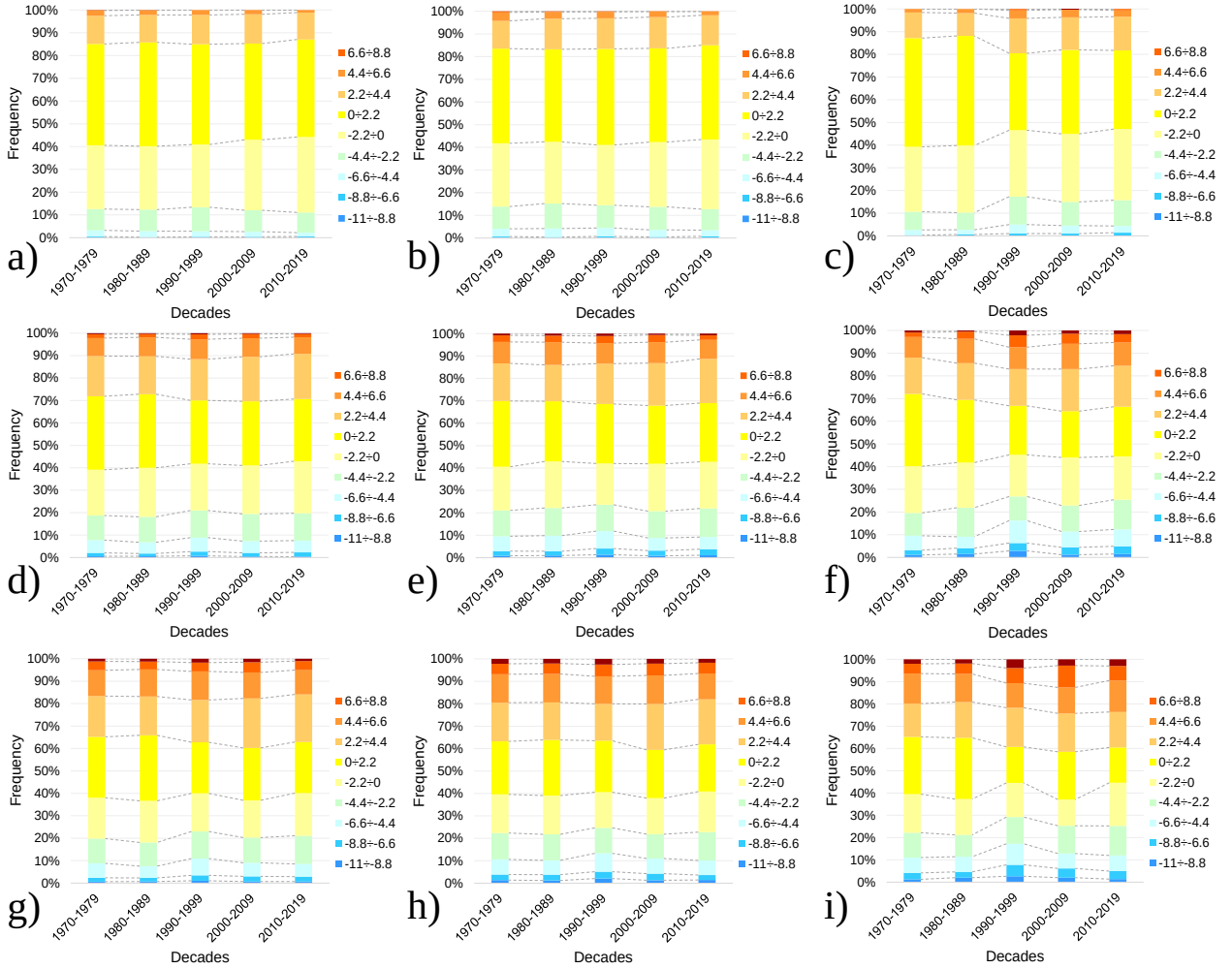


Fig. S10 Frequency of temperature variation during spring season with different aggregation scale and for different altitude. (a) below 1000m and Sa=1, (b) between 1000m-2000m and Sa=1, (c) above 2000m and Sa=1, (d) below 1000m and Sa=3, (e) between 1000m-2000m and Sa=3, (f) above 2000m and Sa=3, (g) below 1000m and Sa=6, (h) between 1000m-2000m and Sa=6, (i) above 2000m and Sa=6.

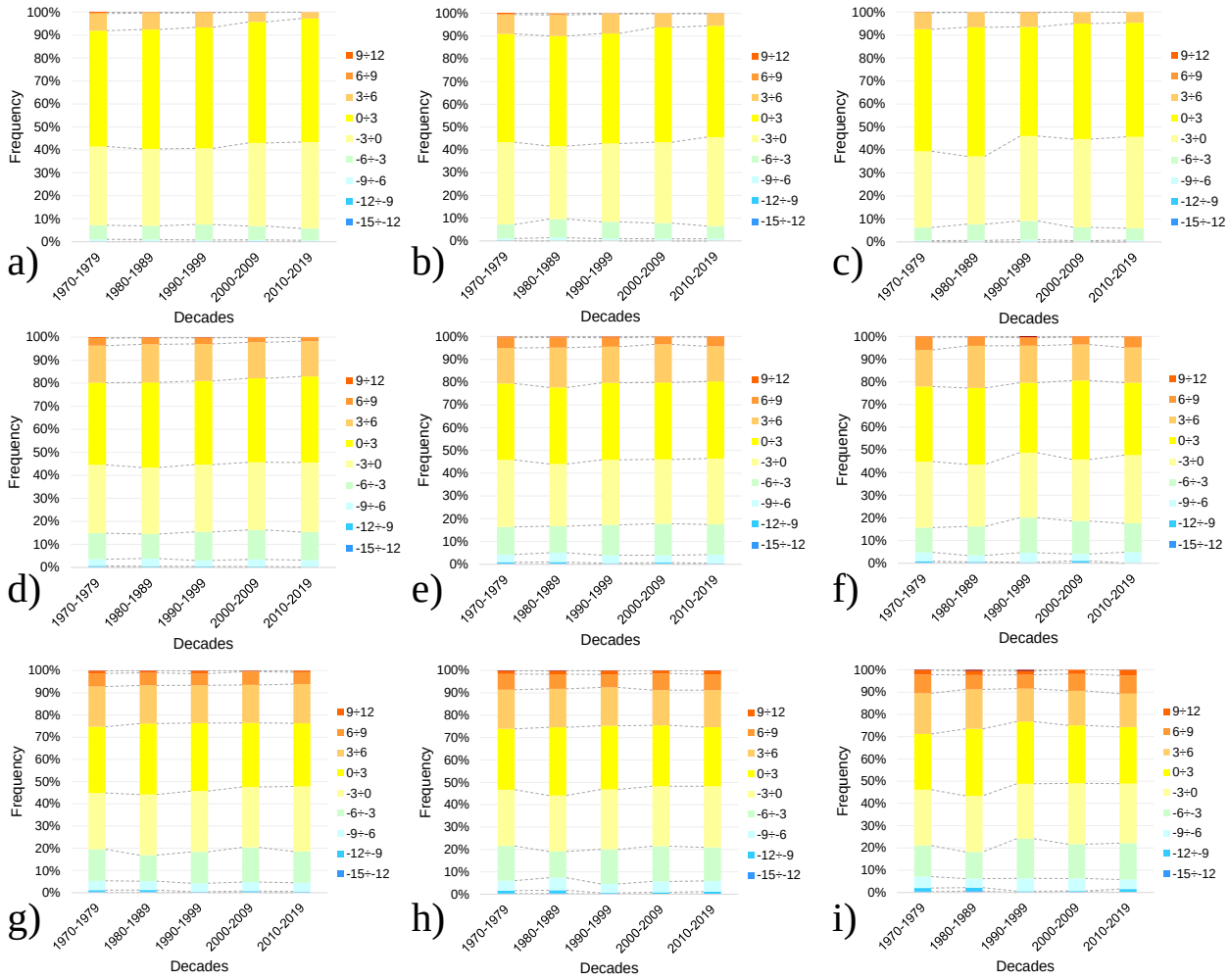


Fig. S11 Frequency of temperature variation during summer season with different aggregation scale and for different altitude. (a) below 1000m and Sa=1, (b) between 1000m-2000m and Sa=1, (c) above 2000m and Sa=1, (d) below 1000m and Sa=3, (e) between 1000m-2000m and Sa=3, (f) above 2000m and Sa=3, (g) below 1000m and Sa=6, (h) between 1000m-2000m and Sa=6, (i) above 2000m and Sa=6.

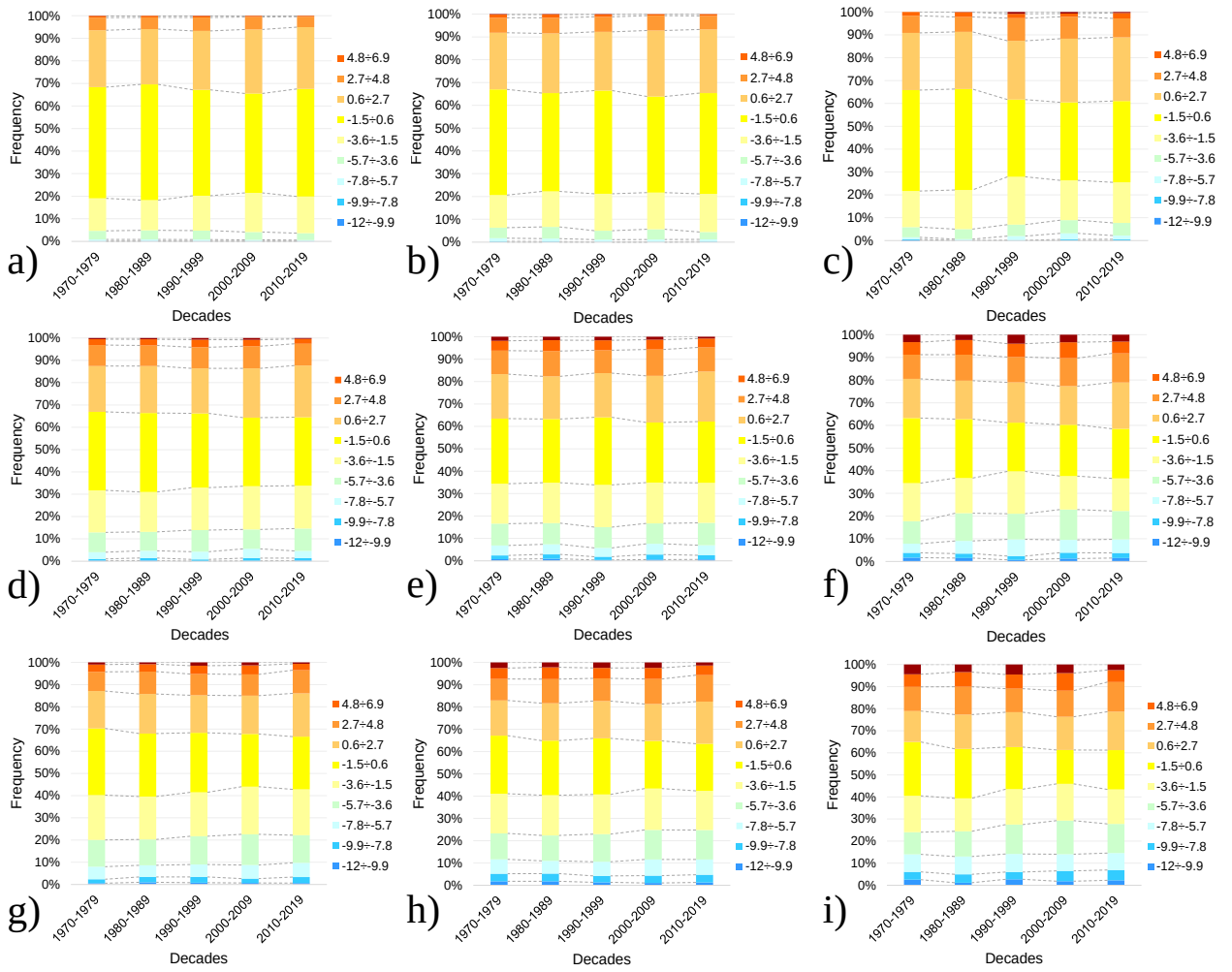


Fig. S12 Frequency of temperature variation during autumn season with different aggregation scale and for different altitude. (a) below 1000m and Sa=1, (b) between 1000m-2000m and Sa=1, (c) above 2000m and Sa=1, (d) below 1000m and Sa=3, (e) between 1000m-2000m and Sa=3, (f) above 2000m and Sa=3, (g) below 1000m and Sa=6, (h) between 1000m-2000m and Sa=6, (i) above 2000m and Sa=6.

S1.4 Temperature amplitude

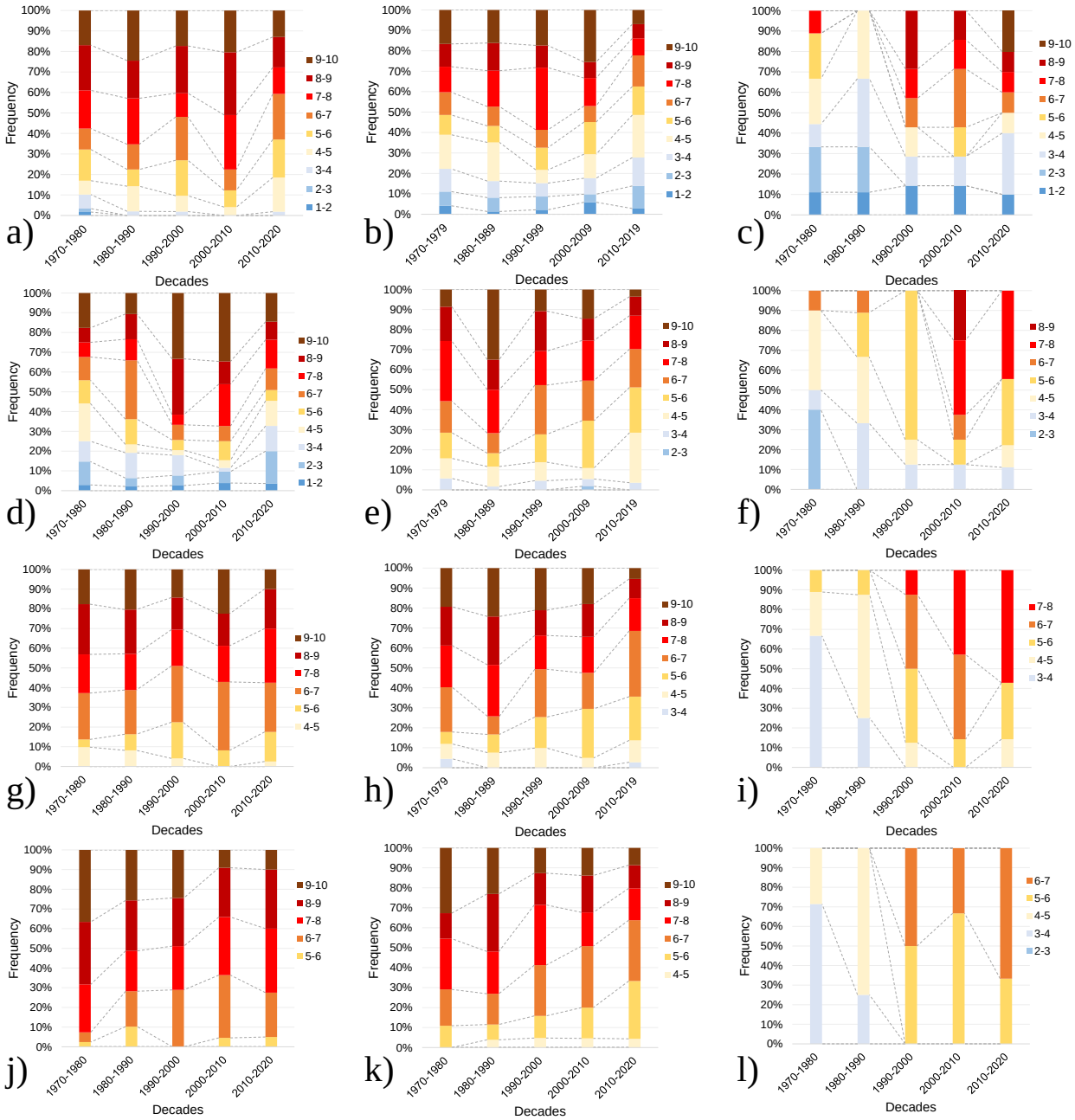


Fig. S13 Frequency of temperature amplitude during winter season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

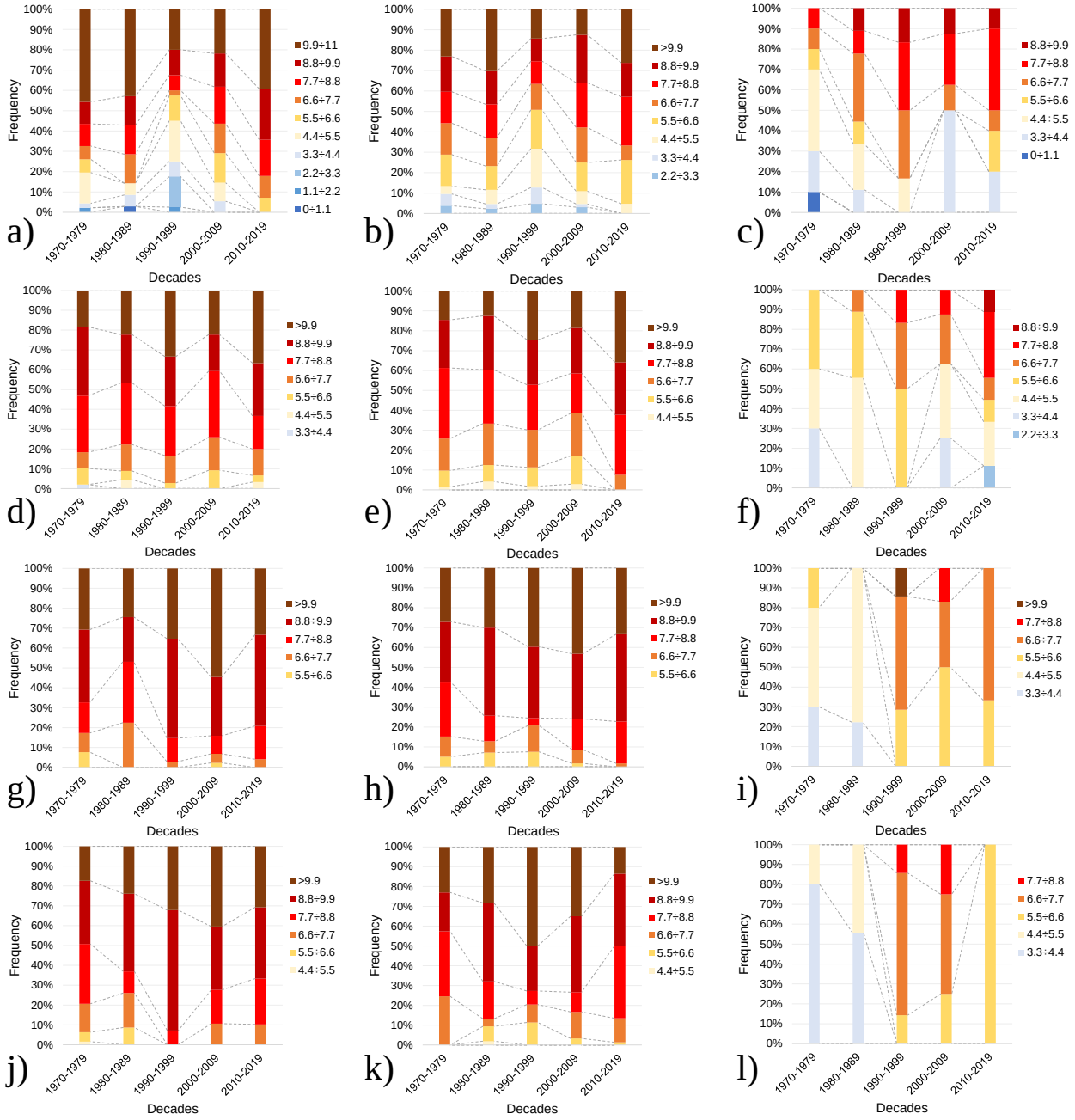


Fig. S14 Frequency of temperature amplitude during spring season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

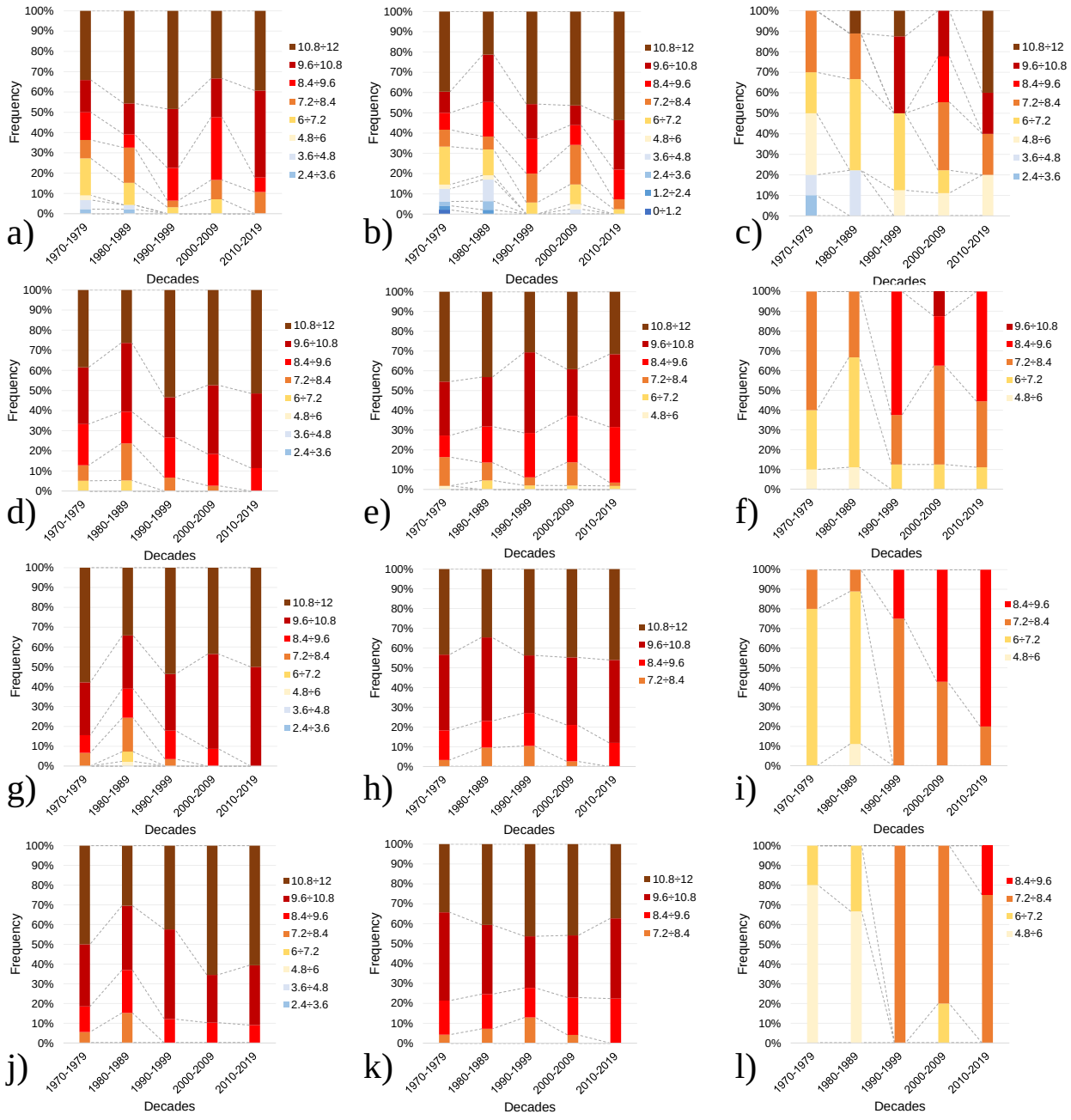


Fig. S15 Frequency of temperature amplitude during summer season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

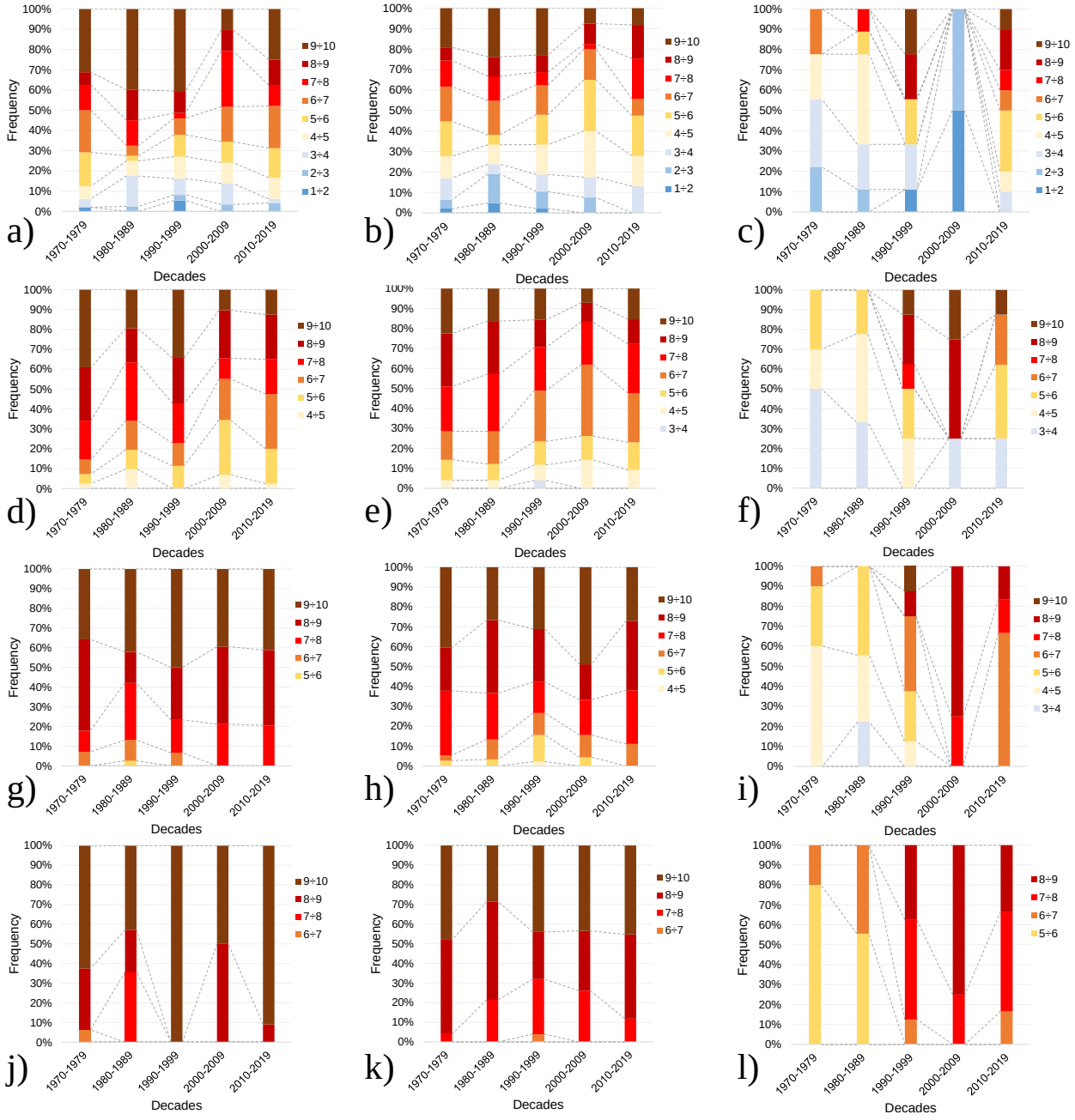


Fig. S16 Frequency of temperature amplitude during autumn season with different aggregation scale and for different altitude. (a) below 1000m and Sa=0, (b) between 1000m-2000m and Sa=0, (c) above 2000m and Sa=0, (d) below 1000m and Sa=7, (e) between 1000m-2000m and Sa=7, (f) above 2000m and Sa=7, (g) below 1000m and Sa=30, (h) between 1000m-2000m and Sa=30, (i) above 2000m and Sa=30, (j) below 1000m and Sa=90, (k) between 1000m-2000m and Sa=90, (l) above 2000m and Sa=90.

S1.5 Freeze-thaw

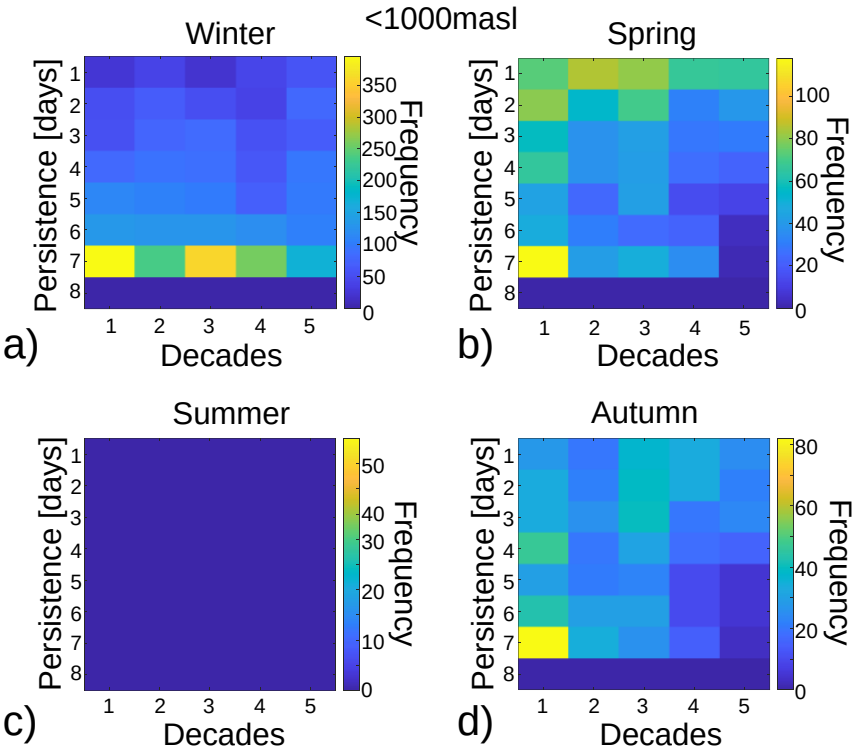
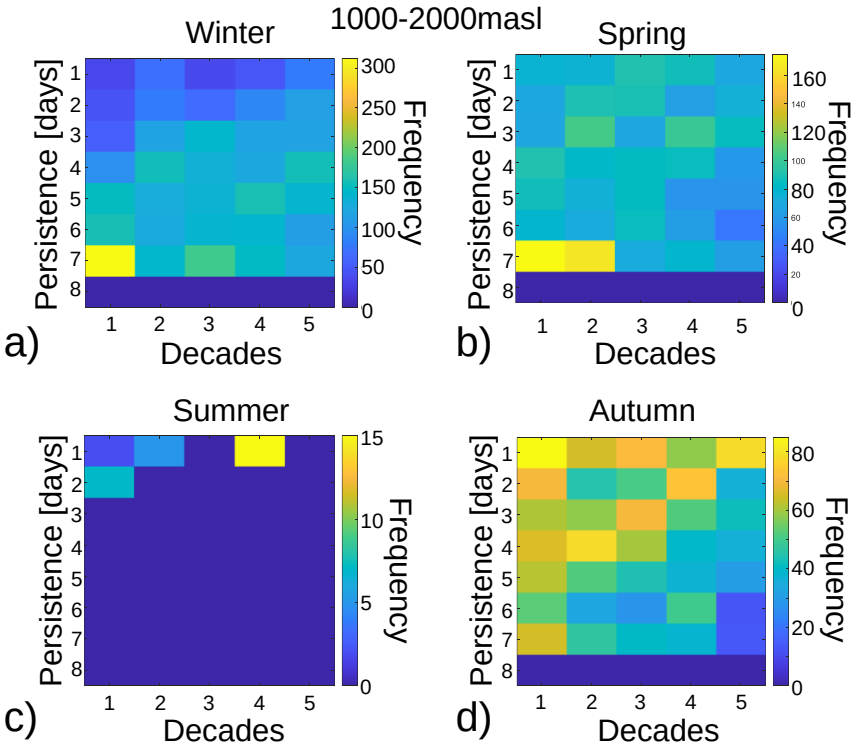


Fig. S17 Heatmaps of freeze-thaw frequency below 1000m: (a) winter; (b) spring; (c) summer and (d) autumn.



95 **Fig. S18 Heatmaps of freeze-thaw frequency between 1000-2000m: (a) winter; (b) spring; (c) summer and (d) autumn.**

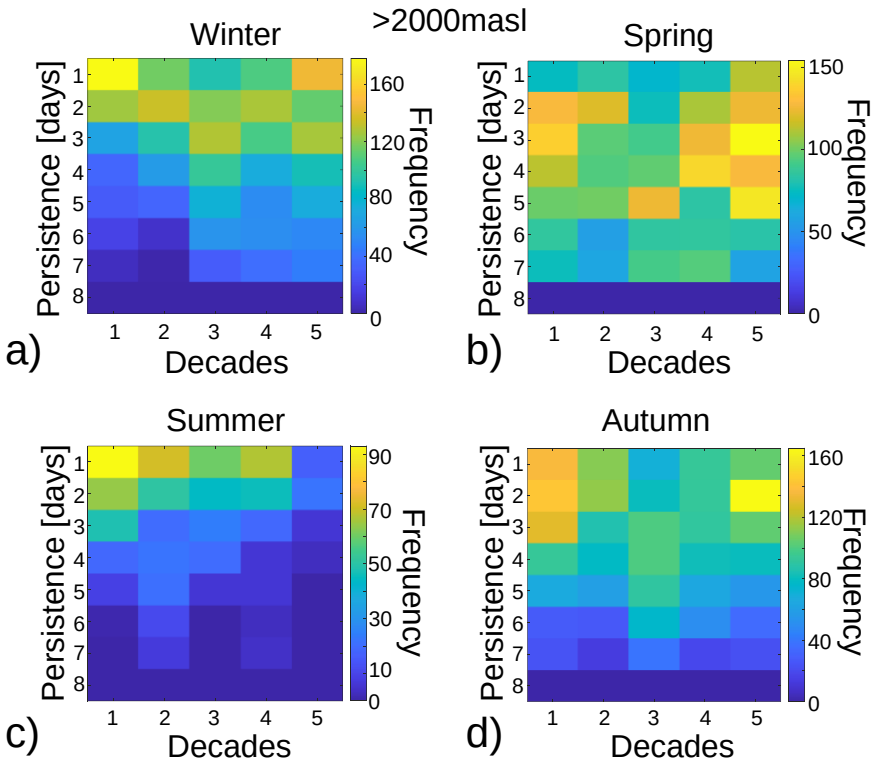


Fig. S19 Heatmaps of freeze-thaw frequency above 2000m: (a) winter; (b) spring; (c) summer and (d) autumn.

S1.6 Icing

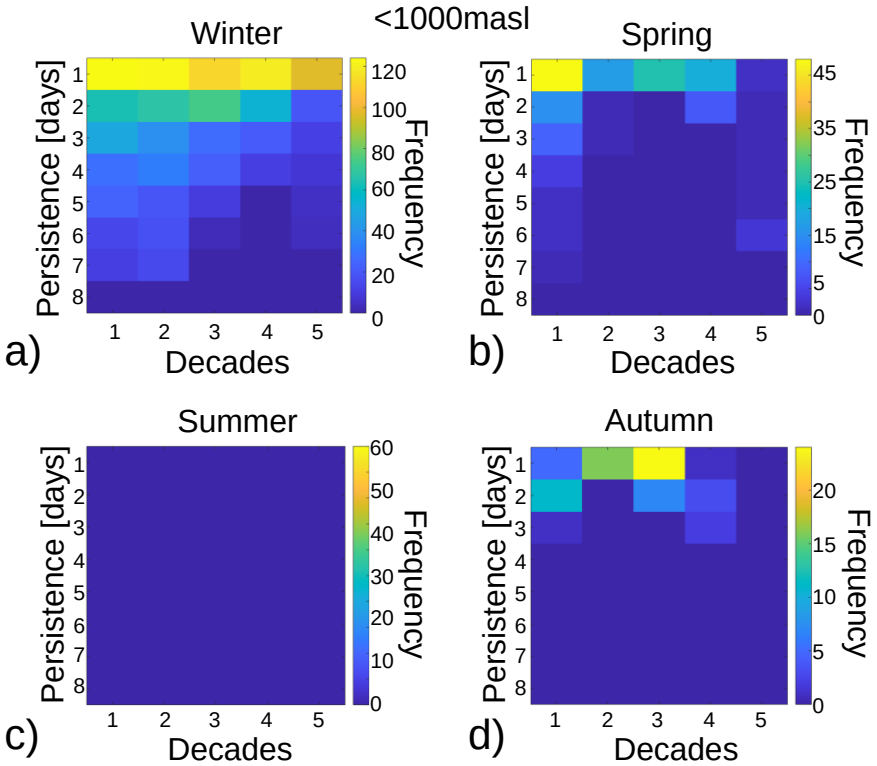


Fig. S20 Heatmaps of icing frequency below 1000m: (a) winter; (b) spring; (c) summer and (d) autumn.

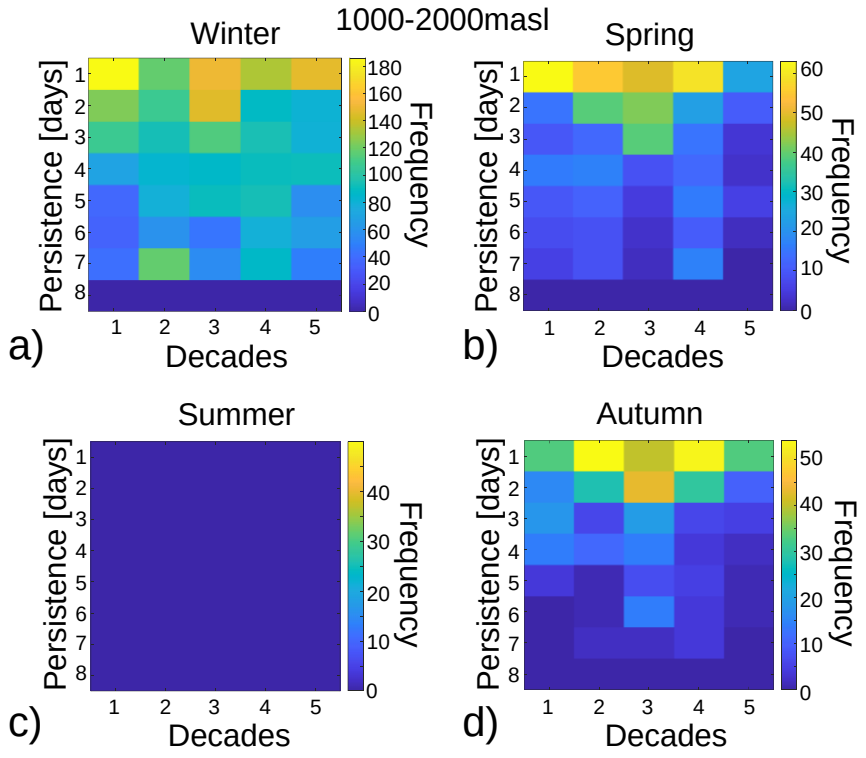


Fig. S21 Heatmaps of icing frequency between 1000-2000m: (a) winter; (b) spring; (c) summer and (d) autumn.

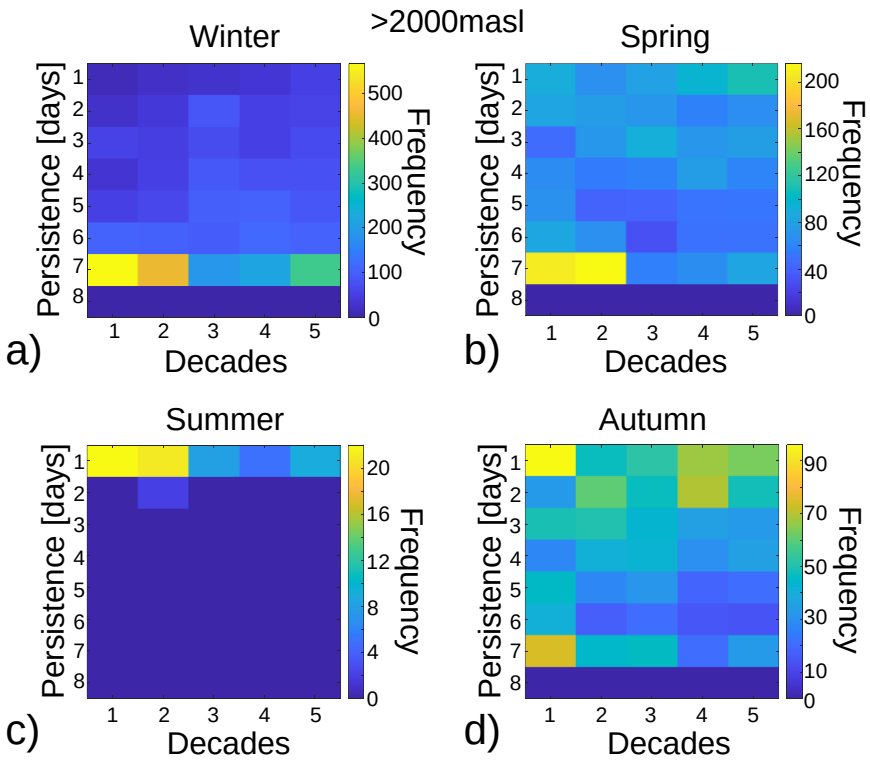
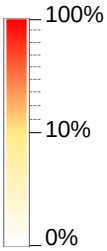


Fig. S22 Heatmaps of icing frequency above 2000m: (a) winter; (b) spring; (c) summer and (d) autumn.

S2 Rockfalls and climate variables

S2.1 Rainfall

	Rain [mm]	<1000m					1000-2000m					>2000m				
	0÷10	0.0%	0.6%	0.9%	4.5%	4.2%	-	0.1%	0.1%	1.3%	1.0%	-	-	0.0%	-	0.1%
	10÷20	0.0%	1.0%	1.0%	3.3%	5.5%	-	0.5%	0.0%	0.5%	1.6%	-	-	0.0%	-	0.0%
	20÷30	0.0%	0.0%	0.0%	6.7%	3.8%	-	0.0%	0.0%	4.4%	3.8%	-	-	0.0%	-	0.0%
	30÷40	0.0%	0.0%	0.0%	7.3%	5.7%	-	0.0%	0.0%	0.0%	2.9%	-	-	0.0%	-	0.0%
Sa=0	40÷50	0.0%	27.3%	0.0%	5.3%	7.1%	-	0.0%	0.0%	10.5%	0.0%	-	-	0.0%	-	0.0%
	50÷60	0.0%	0.0%	0.0%	9.1%	25.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	60÷70	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	70÷80	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	80÷90	-	0.0%	-	-	0.0%	-	0.0%	-	-	0.0%	-	-	-	-	0.0%
	90÷100	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%
	0÷25	0.0%	0.7%	1.1%	4.6%	4.0%	-	0.1%	0.2%	1.2%	0.9%	-	-	0.0%	-	0.2%
	25÷50	0.0%	0.1%	0.4%	2.4%	3.0%	-	0.2%	0.0%	0.8%	1.0%	-	-	0.0%	-	0.1%
	50÷75	0.3%	1.8%	0.0%	2.5%	5.6%	-	0.0%	0.0%	0.8%	1.3%	-	-	0.0%	-	0.0%
	75÷100	0.0%	1.5%	2.3%	13.4%	9.8%	-	0.0%	0.0%	2.8%	2.1%	-	-	0.0%	-	0.0%
Sa=7	100÷125	0.0%	0.0%	0.0%	11.2%	4.5%	-	0.0%	0.0%	8.2%	3.0%	-	-	0.0%	-	0.0%
	125÷150	0.0%	4.8%	0.0%	16.7%	7.4%	-	4.8%	0.0%	6.7%	3.7%	-	-	0.0%	-	0.0%
	150÷175	0.0%	0.0%	0.0%	13.3%	26.7%	-	0.0%	0.0%	0.0%	13.3%	-	-	0.0%	-	0.0%
	175÷200	0.0%	0.0%	0.0%	7.7%	11.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	200÷225	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	225÷250	-	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	-	-	-	-	0.0%
	0÷30	0.0%	1.2%	1.0%	9.8%	4.4%	-	0.2%	0.2%	1.4%	0.6%	-	-	0.2%	-	0.6%
	30÷60	0.0%	0.9%	2.3%	5.1%	7.2%	-	0.2%	0.3%	0.7%	1.7%	-	-	0.0%	-	0.4%
	60÷90	0.0%	0.5%	0.7%	3.3%	3.0%	-	0.0%	0.2%	0.9%	0.9%	-	-	0.0%	-	0.0%
	90÷120	0.0%	0.7%	0.4%	3.0%	2.2%	-	0.2%	0.0%	0.9%	1.0%	-	-	0.0%	-	0.0%
Sa=30	120÷150	0.0%	0.6%	0.4%	4.3%	1.5%	-	0.3%	0.0%	2.1%	0.0%	-	-	0.0%	-	0.0%
	150÷180	0.0%	0.9%	0.0%	1.1%	3.7%	-	0.0%	0.0%	1.4%	1.7%	-	-	0.0%	-	0.0%
	180÷210	0.0%	0.0%	0.6%	1.7%	3.5%	-	0.0%	0.0%	0.8%	0.5%	-	-	0.0%	-	0.0%
	210÷240	1.6%	0.0%	0.0%	5.6%	4.7%	-	0.0%	0.0%	3.3%	0.8%	-	-	0.0%	-	0.0%
	240÷270	0.0%	0.0%	1.3%	7.9%	7.8%	-	0.0%	0.0%	3.2%	2.0%	-	-	0.0%	-	0.0%
	270÷300	0.0%	0.0%	0.0%	11.4%	27.6%	-	0.0%	0.0%	0.0%	3.4%	-	-	0.0%	-	0.0%
	0÷55	-	2.2%	0.0%	10.8%	0.0%	-	0.0%	0.0%	2.7%	10.0%	-	-	0.0%	-	0.0%
	55÷110	0.0%	1.4%	4.1%	2.6%	3.9%	-	0.0%	0.4%	0.0%	0.8%	-	-	0.0%	-	0.8%
	110÷165	0.0%	0.8%	0.8%	5.4%	2.6%	-	0.0%	0.2%	0.5%	1.5%	-	-	0.2%	-	0.0%
	165÷220	0.0%	1.1%	0.5%	6.3%	2.7%	-	0.2%	0.2%	0.7%	0.0%	-	-	0.0%	-	0.4%
Sa=90	220÷275	0.0%	0.9%	0.2%	3.7%	2.3%	-	0.0%	0.0%	2.4%	0.8%	-	-	0.0%	-	0.0%
	275÷330	0.0%	0.6%	0.9%	1.9%	3.1%	-	0.2%	0.0%	0.7%	0.5%	-	-	0.0%	-	0.2%
	330÷385	0.0%	0.1%	0.5%	0.9%	0.8%	-	0.1%	0.2%	0.5%	0.6%	-	-	0.0%	-	0.0%
	385÷440	0.3%	0.2%	0.6%	3.8%	3.4%	-	0.0%	0.0%	1.1%	0.6%	-	-	0.0%	-	0.2%
	440÷495	0.0%	0.5%	0.7%	1.5%	4.7%	-	0.0%	0.0%	0.0%	1.5%	-	-	0.0%	-	0.0%
	495÷550	0.0%	0.0%	0.8%	2.6%	6.2%	-	6.7%	0.0%	4.3%	0.6%	-	-	0.0%	-	0.0%
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5



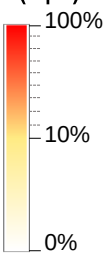
	Rain [mm]	<1000m					1000-2000m					>2000m				
	0÷5	0.1%	0.5%	0.8%	3.4%	4.3%	0.1%	0.2%	0.5%	2.3%	2.7%	-	-	0.0%	0.2%	0.2%
	5÷10	0.0%	0.3%	1.6%	5.9%	6.9%	0.0%	0.0%	0.3%	3.4%	8.0%	-	-	0.0%	0.0%	1.1%
	10÷15	0.0%	0.0%	1.5%	9.2%	3.8%	0.0%	0.0%	1.5%	2.3%	1.3%	-	-	0.0%	0.0%	0.0%
	15÷20	0.0%	0.0%	3.3%	4.9%	6.3%	1.4%	1.5%	0.0%	3.7%	2.1%	-	-	0.0%	0.0%	0.0%
Sa=0	20÷25	1.8%	0.0%	5.6%	0.0%	4.3%	0.0%	0.0%	2.8%	1.9%	4.3%	-	-	0.0%	0.0%	0.0%
	25÷30	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%	0.0%	0.0%	5.6%	6.1%	-	-	0.0%	0.0%	0.0%
	30÷35	0.0%	0.0%	0.0%	3.6%	4.2%	0.0%	0.0%	0.0%	0.0%	4.2%	-	-	0.0%	0.0%	0.0%
	35÷40	0.0%	0.0%	0.0%	7.7%	9.1%	0.0%	0.0%	0.0%	0.0%	27.3%	-	-	0.0%	0.0%	0.0%
	40÷45	0.0%	0.0%	0.0%	8.3%	14.3%	0.0%	14.3%	0.0%	0.0%	14.3%	-	-	0.0%	0.0%	14.3%
	45÷50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	-	-	0.0%	0.0%	0.0%
	0÷15	0.2%	0.2%	0.6%	2.6%	3.7%	0.1%	0.1%	0.6%	1.4%	2.4%	-	-	0.0%	0.1%	0.1%
	15÷30	0.0%	0.7%	0.9%	4.4%	4.3%	0.1%	0.0%	0.2%	3.0%	2.5%	-	-	0.1%	0.1%	0.8%
	30÷45	0.0%	0.2%	2.2%	5.1%	4.6%	0.2%	0.4%	0.7%	2.7%	3.8%	-	-	0.0%	0.2%	0.2%
	45÷60	0.0%	0.4%	0.8%	4.4%	8.5%	0.0%	0.7%	0.4%	4.8%	6.0%	-	-	0.0%	0.0%	0.3%
Sa=7	60÷75	0.0%	2.1%	2.1%	6.0%	2.5%	0.0%	0.7%	0.7%	2.2%	2.0%	-	-	0.0%	0.0%	0.5%
	75÷90	1.0%	1.2%	3.0%	6.0%	5.3%	0.0%	0.0%	1.0%	2.0%	4.3%	-	-	0.0%	1.0%	1.1%
	90÷105	0.0%	1.5%	0.0%	7.8%	5.4%	0.0%	1.5%	0.0%	9.4%	8.1%	-	-	0.0%	0.0%	0.0%
	105÷120	0.0%	0.0%	0.0%	6.7%	7.9%	0.0%	0.0%	0.0%	5.0%	10.5%	-	-	0.0%	0.0%	2.6%
	120÷135	0.0%	0.0%	6.7%	0.0%	17.6%	0.0%	0.0%	6.7%	0.0%	23.5%	-	-	0.0%	0.0%	0.0%
	135÷150	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	7.1%	-	-	0.0%	0.0%	0.0%
	0÷20	0.0%	0.0%	0.6%	2.2%	2.1%	0.0%	0.0%	1.5%	3.0%	0.5%	-	-	0.0%	0.0%	0.0%
	20÷40	0.4%	0.9%	0.3%	4.4%	3.7%	0.0%	0.0%	0.0%	1.2%	4.0%	-	-	0.0%	0.0%	0.3%
	40÷60	0.0%	0.2%	0.8%	5.3%	9.3%	0.2%	0.5%	0.0%	2.8%	3.4%	-	-	0.0%	0.0%	0.3%
	60÷80	0.0%	0.2%	1.8%	4.4%	5.4%	0.0%	0.0%	0.5%	1.9%	3.5%	-	-	0.0%	0.3%	0.3%
Sa=30	80÷100	0.4%	0.0%	1.4%	4.6%	4.6%	0.2%	0.0%	0.5%	2.7%	3.3%	-	-	0.0%	0.4%	0.2%
	100÷120	0.2%	0.5%	0.9%	4.0%	3.4%	0.0%	0.2%	0.5%	3.2%	4.1%	-	-	0.0%	0.0%	0.6%
	120÷140	0.0%	1.1%	0.9%	3.4%	6.2%	0.0%	0.4%	0.3%	1.8%	4.8%	-	-	0.0%	0.0%	0.2%
	140÷160	0.0%	0.3%	1.7%	3.8%	4.8%	0.3%	0.3%	0.4%	2.4%	3.1%	-	-	0.4%	0.3%	0.3%
	160÷180	0.0%	0.0%	2.5%	5.5%	3.0%	0.0%	0.0%	2.5%	4.1%	3.0%	-	-	0.0%	0.0%	0.4%
	180÷200	0.0%	0.0%	0.8%	3.3%	3.8%	0.0%	0.0%	0.8%	3.3%	1.5%	-	-	0.0%	0.0%	0.0%
	0÷45	-	-	0.0%	25.0%	-	-	-	1.9%	12.5%	-	-	-	0.0%	0.0%	-
	45÷90	0.0%	0.7%	1.6%	3.9%	7.8%	0.0%	0.0%	0.5%	2.4%	7.8%	-	-	0.0%	0.0%	0.0%
	90÷135	0.0%	0.7%	2.1%	11.7%	6.3%	0.0%	0.0%	2.5%	7.4%	3.8%	-	-	0.0%	0.0%	0.6%
	135÷180	0.4%	0.7%	2.6%	10.0%	12.2%	0.0%	0.2%	0.4%	5.0%	5.5%	-	-	0.0%	0.4%	0.6%
Sa=90	180÷225	0.3%	0.4%	2.0%	9.8%	11.0%	0.0%	0.2%	1.4%	6.3%	7.9%	-	-	0.0%	0.4%	0.8%
	225÷270	0.0%	0.6%	1.4%	5.3%	10.6%	0.4%	0.2%	0.6%	3.6%	7.3%	-	-	0.0%	0.0%	1.3%
	270÷315	0.2%	0.7%	0.7%	2.5%	4.7%	0.0%	0.5%	0.7%	1.7%	3.4%	-	-	0.0%	0.4%	0.2%
	315÷360	0.2%	0.5%	0.2%	3.1%	1.8%	0.0%	0.0%	0.0%	1.6%	2.8%	-	-	0.0%	0.0%	0.0%
	360÷405	0.0%	0.2%	0.0%	0.7%	1.6%	0.0%	0.3%	0.0%	1.0%	0.6%	-	-	0.2%	0.0%	0.2%
	405÷450	0.0%	0.0%	0.0%	2.8%	1.1%	0.0%	0.3%	0.0%	1.9%	1.4%	-	-	0.0%	0.3%	0.3%
b)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

P(R|M)
100%
10%
0%

110

	Rain [mm]	<1000m					1000-2000m					>2000m				
	0÷6	0.1%	0.4%	0.9%	2.7%	2.7%	0.0%	0.2%	0.5%	2.0%	2.3%	-	0.1%	0.2%	0.6%	1.0%
	6÷12	0.0%	1.5%	0.7%	7.2%	6.3%	0.0%	0.4%	0.7%	4.1%	4.3%	-	0.0%	0.0%	0.7%	1.4%
	12÷18	0.0%	0.0%	2.0%	7.3%	7.7%	0.0%	0.0%	1.0%	4.8%	4.2%	-	0.0%	0.0%	2.4%	1.4%
	18÷24	0.0%	2.9%	1.7%	6.3%	1.5%	0.0%	0.0%	0.0%	3.8%	7.4%	-	0.0%	0.0%	0.0%	1.5%
Sa=0	24÷30	0.0%	2.6%	0.0%	6.7%	4.8%	0.0%	0.0%	3.1%	11.1%	2.4%	-	0.0%	3.1%	0.0%	2.4%
	30÷36	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	5.3%	0.0%	7.7%	-	0.0%	0.0%	0.0%	0.0%
	36÷42	0.0%	0.0%	16.7%	11.8%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	42÷48	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	48÷54	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	54÷60	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	0÷13	0.1%	0.1%	0.1%	0.8%	0.6%	0.0%	0.1%	0.2%	0.6%	0.7%	-	0.0%	0.0%	0.3%	0.4%
	13÷26	0.0%	0.3%	0.4%	2.8%	3.0%	0.0%	0.7%	0.7%	2.8%	4.1%	-	0.1%	0.1%	1.0%	2.2%
	26÷39	0.0%	1.0%	1.7%	5.0%	7.1%	0.0%	0.0%	0.6%	2.7%	2.9%	-	0.2%	0.0%	0.7%	1.7%
	39÷52	0.0%	1.5%	3.4%	7.3%	5.1%	0.0%	0.0%	0.8%	4.2%	4.0%	-	0.0%	0.8%	1.2%	1.2%
Sa=7	52÷65	0.5%	0.5%	2.9%	9.9%	4.0%	0.0%	0.0%	0.6%	9.4%	3.6%	-	0.0%	0.6%	1.5%	1.1%
	65÷78	0.8%	1.9%	3.5%	11.1%	6.1%	0.8%	0.9%	1.7%	8.3%	7.6%	-	0.0%	0.0%	0.7%	0.8%
	78÷91	0.0%	0.0%	0.0%	2.5%	7.5%	0.0%	1.6%	3.8%	1.3%	5.0%	-	0.0%	1.3%	1.3%	1.3%
	91÷104	0.0%	3.4%	3.3%	1.9%	4.7%	0.0%	1.7%	0.0%	0.0%	3.1%	-	0.0%	3.3%	0.0%	1.6%
	104÷117	0.0%	2.9%	10.0%	5.4%	5.6%	0.0%	0.0%	0.0%	0.0%	5.6%	-	0.0%	0.0%	0.0%	0.0%
	117÷130	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	0÷30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	30÷60	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.5%	1.3%	0.2%	-	0.0%	0.0%	0.0%	0.0%
	60÷90	0.0%	0.3%	0.2%	2.8%	2.1%	0.0%	0.0%	1.0%	2.1%	2.1%	-	0.2%	0.2%	0.9%	1.1%
	90÷120	0.4%	0.7%	1.6%	3.6%	3.8%	0.0%	0.0%	0.4%	1.8%	3.7%	-	0.0%	0.3%	0.4%	1.8%
Sa=30	120÷150	0.0%	0.9%	1.6%	3.9%	6.3%	0.1%	0.9%	1.2%	2.8%	4.9%	-	0.0%	0.4%	1.3%	1.8%
	150÷180	0.0%	1.9%	2.9%	9.5%	5.7%	0.0%	0.9%	0.5%	5.7%	2.5%	-	0.3%	0.0%	1.1%	1.5%
	180÷210	0.0%	0.7%	3.7%	5.8%	3.0%	0.0%	0.0%	0.0%	7.5%	3.5%	-	0.0%	0.6%	0.8%	2.5%
	210÷240	0.0%	0.0%	1.0%	7.8%	9.4%	0.0%	0.0%	1.0%	5.6%	8.7%	-	0.0%	0.0%	1.1%	0.0%
	240÷270	0.0%	0.0%	1.3%	1.6%	0.0%	0.0%	0.0%	0.0%	3.2%	3.9%	-	0.0%	0.0%	0.0%	0.0%
	270÷300	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	0÷70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	70÷140	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	140÷210	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	210÷280	0.1%	0.1%	0.2%	2.7%	1.7%	0.0%	0.0%	0.6%	1.9%	1.2%	-	0.1%	0.4%	0.8%	0.7%
Sa=90	280÷350	0.0%	0.7%	1.6%	5.2%	5.8%	0.1%	0.2%	0.5%	3.9%	4.0%	-	0.0%	0.3%	0.9%	2.1%
	350÷420	0.0%	0.9%	2.8%	5.0%	5.5%	0.0%	0.3%	1.5%	3.3%	5.1%	-	0.0%	0.3%	0.8%	1.5%
	420÷490	0.3%	1.9%	0.8%	2.3%	4.1%	0.0%	1.6%	0.4%	3.5%	4.1%	-	0.3%	0.0%	1.2%	1.0%
	490÷560	0.0%	0.0%	0.0%	10.6%	0.5%	0.0%	0.0%	0.0%	5.6%	1.0%	-	0.0%	0.0%	0.6%	2.1%
	560÷630	0.0%	-	0.0%	2.7%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	630÷700	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
c)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

P(R|M)



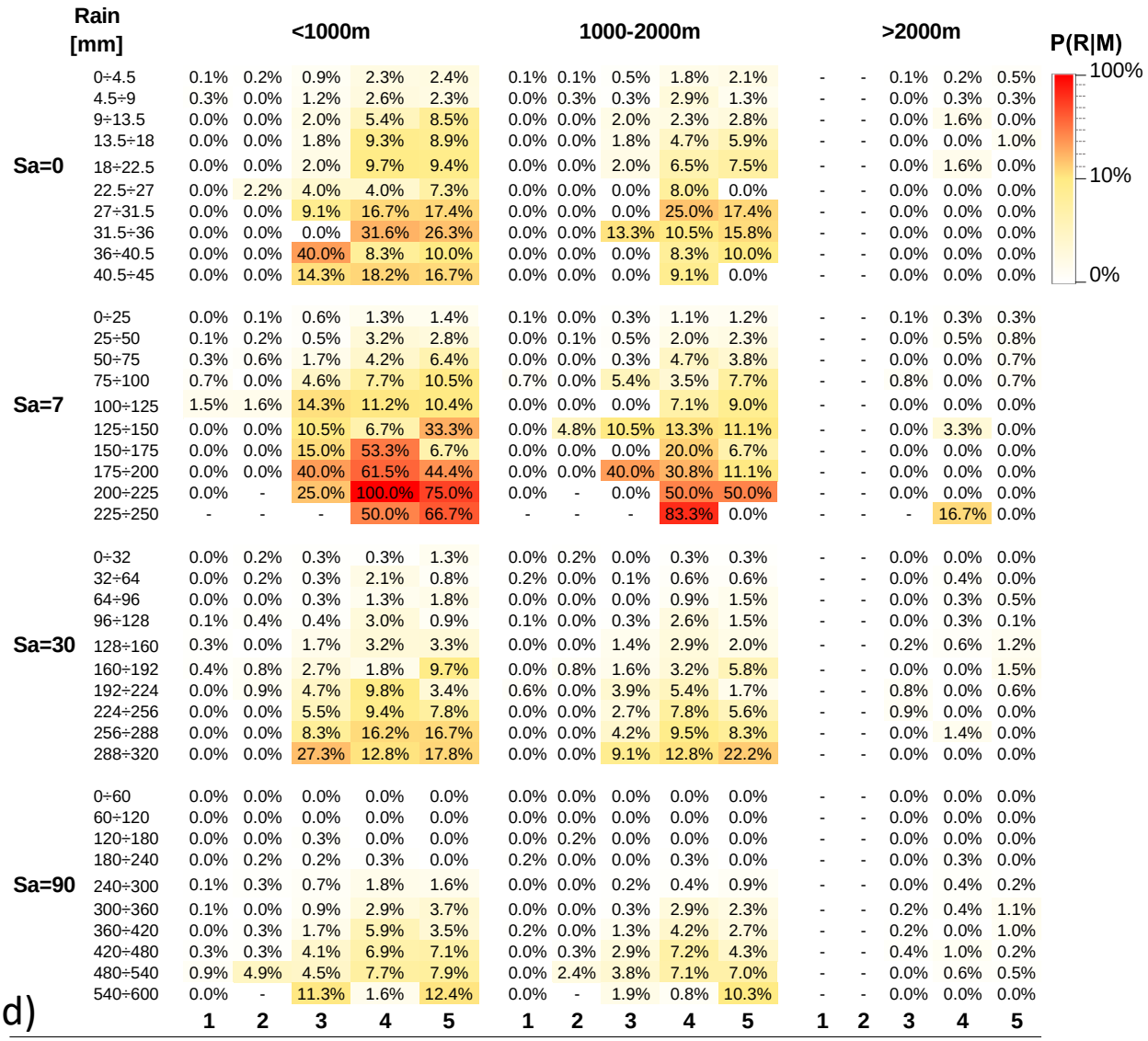
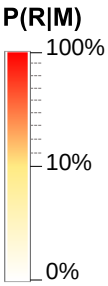


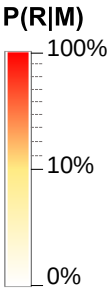
Fig. S23 Conditional probability, P(R|M), calculated with Bayesian's method of rainfalls with different aggregation scales Sa (0, 7, 30, 90) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.2 Air mean temperature

	T [°C]	<1000m					1000-2000m					>2000m				
	-11÷-8.5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-8.5÷-6	0.0%	4.8%	0.0%	0.0%	4.2%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-6÷-3.5	0.0%	0.0%	2.9%	17.0%	6.7%	-	0.0%	0.0%	4.3%	0.0%	-	-	0.0%	-	1.3%
	-3.5÷-1	0.4%	2.7%	2.0%	11.0%	16.0%	-	0.7%	0.4%	2.6%	2.3%	-	-	0.0%	-	0.0%
Sa=0	-1÷1.5	0.0%	2.2%	1.6%	14.5%	12.5%	-	0.2%	0.5%	3.3%	3.6%	-	-	0.0%	-	0.3%
	1.5÷4	0.0%	0.9%	3.3%	13.4%	14.0%	-	0.4%	0.0%	4.2%	3.6%	-	-	0.0%	-	0.2%
	4÷6.5	0.0%	1.0%	0.6%	3.6%	3.3%	-	0.0%	0.3%	2.5%	1.9%	-	-	0.3%	-	0.3%
	6.5÷9	0.0%	0.0%	0.3%	0.3%	0.0%	-	0.0%	0.0%	0.3%	0.0%	-	-	0.0%	-	0.0%
	9÷11.5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.2%	-	-	0.0%	-	0.0%
	11.5÷14	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-11÷-8.5	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	-8.5÷-6	0.0%	0.0%	0.0%	0.0%	11.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-6÷-3.5	0.0%	3.6%	3.1%	9.8%	7.0%	-	1.2%	0.0%	0.0%	1.8%	-	-	0.0%	-	0.0%
	-3.5÷-1	0.0%	1.7%	3.3%	11.7%	13.6%	-	0.0%	0.0%	2.3%	1.4%	-	-	0.0%	-	0.0%
Sa=7	-1÷1.5	0.2%	2.1%	2.9%	19.6%	17.3%	-	0.6%	0.4%	5.3%	3.6%	-	-	0.0%	-	0.3%
	1.5÷4	0.0%	1.6%	1.5%	11.0%	11.9%	-	0.2%	0.3%	4.1%	4.6%	-	-	0.0%	-	0.7%
	4÷6.5	0.0%	0.0%	0.3%	2.0%	1.8%	-	0.0%	0.0%	1.5%	0.9%	-	-	0.0%	-	0.0%
	6.5÷9	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.3%	0.0%	0.0%	-	-	0.3%	-	0.0%
	9÷11.5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	11.5÷14	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-11÷-8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-8.5÷-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-6÷-3.5	0.0%	11.1%	10.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	7.7%	-	-	0.0%	-	0.0%
	-3.5÷-1	0.4%	2.9%	5.7%	17.5%	19.6%	-	0.4%	0.9%	0.5%	2.8%	-	-	0.0%	-	0.0%
Sa=30	-1÷1.5	0.0%	1.3%	3.1%	18.9%	16.9%	-	0.3%	0.3%	5.9%	4.7%	-	-	0.2%	-	0.2%
	1.5÷4	0.0%	1.5%	0.0%	6.7%	7.6%	-	0.6%	0.0%	3.4%	2.2%	-	-	0.0%	-	0.7%
	4÷6.5	0.0%	0.0%	0.0%	2.9%	1.0%	-	0.0%	0.0%	1.7%	0.7%	-	-	0.0%	-	0.0%
	6.5÷9	0.0%	0.0%	0.0%	0.0%	0.5%	-	0.0%	0.0%	0.0%	0.2%	-	-	0.0%	-	0.0%
	9÷11.5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	11.5÷14	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-11÷-8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-8.5÷-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-6÷-3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-3.5÷-1	0.0%	2.3%	10.5%	14.3%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sa=90	-1÷1.5	0.2%	1.8%	2.2%	12.9%	9.6%	-	0.2%	0.5%	3.8%	3.1%	-	-	0.2%	-	0.2%
	1.5÷4	0.0%	1.1%	1.2%	8.8%	9.5%	-	0.0%	0.2%	1.7%	2.7%	-	-	0.0%	-	0.0%
	4÷6.5	0.0%	0.5%	1.3%	6.6%	6.9%	-	0.5%	0.0%	2.0%	1.7%	-	-	0.0%	-	0.2%
	6.5÷9	0.0%	0.6%	0.5%	5.1%	3.9%	-	0.3%	0.0%	3.3%	0.6%	-	-	0.0%	-	0.6%
	9÷11.5	0.0%	0.0%	0.0%	1.7%	1.1%	-	0.0%	0.0%	1.2%	0.9%	-	-	0.0%	-	0.0%
	11.5÷14	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5



	T [°C]	<1000m					1000-2000m					>2000m				
	-7÷-3.8	1.3%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-3.8÷-0.6	0.3%	0.5%	0.0%	0.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-0.6÷2.6	0.0%	0.2%	0.4%	1.9%	3.6%	0.0%	0.2%	0.5%	0.8%	0.4%	-	-	0.0%	0.0%	0.2%
	2.6÷5.8	0.2%	0.8%	2.1%	7.9%	7.2%	0.4%	0.2%	0.4%	4.1%	4.3%	-	-	0.0%	0.0%	0.2%
Sa=0	5.8÷9	0.0%	1.6%	2.4%	11.5%	8.8%	0.0%	0.9%	1.5%	7.0%	9.5%	-	-	0.0%	0.0%	0.5%
	9÷12.2	0.0%	0.0%	2.4%	6.3%	7.5%	0.0%	0.5%	1.2%	3.6%	6.7%	-	-	0.0%	0.7%	0.8%
	12.2÷15.4	0.0%	0.4%	0.2%	1.6%	5.7%	0.2%	0.0%	0.2%	2.3%	3.3%	-	-	0.2%	0.0%	0.6%
	15.4÷18.6	0.2%	0.0%	0.0%	0.4%	1.5%	0.0%	0.0%	0.2%	1.1%	1.3%	-	-	0.0%	0.4%	0.2%
	18.6÷21.8	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	-	-	0.0%	0.0%	0.0%
	21.8÷25	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-7÷-3.8	1.7%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-3.8÷-0.6	0.3%	0.3%	0.0%	0.9%	0.0%	0.0%	0.3%	0.0%	0.6%	0.0%	-	-	0.0%	0.0%	0.0%
	-0.6÷2.6	0.1%	0.3%	0.3%	2.0%	3.7%	0.3%	0.0%	0.0%	0.4%	0.4%	-	-	0.0%	0.0%	0.0%
	2.6÷5.8	0.0%	0.5%	2.4%	6.1%	8.9%	0.0%	0.2%	1.3%	3.7%	4.2%	-	-	0.0%	0.0%	0.2%
Sa=7	5.8÷9	0.0%	2.0%	3.0%	14.7%	8.5%	0.2%	1.4%	1.4%	8.3%	9.6%	-	-	0.0%	0.0%	0.9%
	9÷12.2	0.2%	0.2%	1.6%	5.1%	8.3%	0.0%	0.0%	1.2%	4.1%	7.9%	-	-	0.0%	0.7%	0.6%
	12.2÷15.4	0.0%	0.2%	0.4%	2.3%	5.0%	0.0%	0.0%	0.4%	2.3%	3.2%	-	-	0.2%	0.4%	0.8%
	15.4÷18.6	0.0%	0.0%	0.0%	0.2%	0.6%	0.0%	0.0%	0.0%	0.2%	0.6%	-	-	0.0%	0.0%	0.0%
	18.6÷21.8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	21.8÷25	-	0.0%	-	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	-	-	-	0.0%	0.0%
	-7÷-3.8	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	-	-	0.0%	-	0.0%
	-3.8÷-0.6	0.6%	0.0%	0.0%	1.6%	3.0%	0.3%	0.3%	0.0%	1.3%	0.0%	-	-	0.0%	0.0%	0.0%
	-0.6÷2.6	0.1%	0.7%	0.6%	4.4%	5.8%	0.1%	0.1%	0.2%	1.8%	2.1%	-	-	0.0%	0.0%	0.0%
	2.6÷5.8	0.0%	0.7%	2.4%	10.0%	7.7%	0.0%	0.7%	1.8%	6.8%	6.3%	-	-	0.0%	0.0%	1.3%
Sa=30	5.8÷9	0.2%	1.4%	3.1%	11.0%	8.1%	0.2%	0.7%	1.5%	4.9%	7.9%	-	-	0.0%	0.2%	0.2%
	9÷12.2	0.0%	0.3%	1.4%	2.6%	8.9%	0.0%	0.0%	0.9%	3.7%	7.5%	-	-	0.0%	0.5%	1.2%
	12.2÷15.4	0.0%	0.2%	0.0%	0.8%	1.7%	0.0%	0.0%	0.0%	0.8%	1.4%	-	-	0.0%	0.4%	0.0%
	15.4÷18.6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.2%	0.0%	0.0%
	18.6÷21.8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	21.8÷25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-7÷-3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-3.8÷-0.6	3.3%	1.1%	0.9%	13.0%	17.2%	1.1%	0.4%	0.0%	5.2%	0.0%	-	-	0.0%	0.0%	0.0%
	-0.6÷2.6	0.0%	0.8%	2.2%	10.1%	9.4%	0.1%	0.5%	1.0%	6.3%	6.1%	-	-	0.0%	0.2%	0.7%
	2.6÷5.8	0.2%	1.4%	2.5%	7.9%	9.4%	0.2%	0.8%	1.5%	4.2%	7.3%	-	-	0.0%	0.0%	0.6%
Sa=90	5.8÷9	0.0%	0.2%	1.1%	3.2%	8.3%	0.0%	0.0%	0.6%	3.7%	7.5%	-	-	0.0%	0.9%	0.8%
	9÷12.2	0.0%	0.0%	0.0%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.4%	-	-	0.0%	0.0%	0.0%
	12.2÷15.4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	15.4÷18.6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.2%	0.0%	0.0%
	18.6÷21.8	-	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%
	21.8÷25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



	T [°C]	<1000m					1000-2000m					>2000m				
	0÷3	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3÷6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6÷9	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.2%	0.0%	0.0%	0.0%
	9÷12	0.0%	0.5%	0.6%	1.7%	1.0%	0.2%	0.3%	0.4%	0.7%	0.6%	-	0.0%	0.2%	0.2%	0.2%
Sa=0	12÷15	0.0%	1.1%	1.4%	5.8%	7.0%	0.0%	0.6%	1.4%	4.5%	4.5%	-	0.0%	0.5%	0.6%	0.9%
	15÷18	0.2%	1.4%	3.0%	9.8%	9.0%	0.0%	0.4%	1.5%	6.7%	6.3%	-	0.0%	0.4%	1.3%	2.1%
	18÷21	0.0%	1.1%	3.1%	9.0%	8.2%	0.0%	1.1%	1.4%	7.4%	9.8%	-	0.4%	0.3%	3.2%	5.6%
	21÷24	0.0%	0.0%	4.7%	8.9%	7.8%	0.0%	0.0%	2.3%	5.0%	8.7%	-	0.0%	0.0%	1.0%	4.3%
	24÷27	-	0.0%	-	16.7%	0.0%	-	0.0%	-	0.0%	0.0%	-	0.0%	-	0.0%	0.0%
	27÷30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0÷3	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3÷6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.3%	0.0%	0.0%	0.0%
	6÷9	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9÷12	0.2%	0.3%	0.2%	0.0%	0.2%	0.0%	0.5%	0.0%	0.0%	0.4%	-	0.0%	0.2%	0.3%	0.0%
Sa=7	12÷15	0.0%	1.4%	1.8%	3.7%	5.6%	0.2%	0.0%	1.4%	2.6%	2.6%	-	0.0%	0.4%	0.2%	0.9%
	15÷18	0.0%	0.7%	3.7%	10.1%	9.0%	0.0%	0.5%	1.5%	8.1%	7.8%	-	0.0%	0.7%	2.0%	2.6%
	18÷21	0.0%	2.5%	2.5%	12.3%	10.1%	0.0%	1.6%	1.8%	8.7%	9.9%	-	0.4%	0.0%	2.0%	5.5%
	21÷24	0.0%	0.0%	0.0%	7.9%	11.3%	0.0%	0.0%	5.9%	0.0%	12.7%	-	0.0%	0.0%	4.8%	4.2%
	24÷27	-	-	-	100.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-
	27÷30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0÷3	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3÷6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.3%	0.0%	0.0%	0.0%
	6÷9	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9÷12	0.0%	0.9%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.9%	-	0.0%	0.3%	0.0%	0.2%
Sa=30	12÷15	0.0%	1.8%	3.1%	6.1%	5.8%	0.0%	0.6%	1.7%	4.7%	3.3%	-	0.0%	0.4%	0.9%	1.3%
	15÷18	0.0%	0.9%	3.0%	7.9%	6.0%	0.2%	0.6%	0.9%	6.4%	7.1%	-	0.2%	0.6%	1.4%	2.8%
	18÷21	0.0%	0.6%	0.9%	11.7%	13.1%	0.0%	1.1%	2.7%	7.4%	10.1%	-	0.0%	0.0%	2.9%	4.5%
	21÷24	-	-	-	26.1%	-	-	-	-	4.3%	-	-	-	-	0.0%	-
	24÷27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27÷30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0÷3	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.2%	0.0%	0.0%	0.0%
	3÷6	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6÷9	0.2%	1.5%	0.4%	0.7%	1.6%	0.0%	0.0%	0.7%	1.2%	0.9%	-	0.0%	0.2%	0.5%	0.2%
	9÷12	0.0%	1.4%	2.5%	7.0%	7.3%	0.0%	0.9%	1.3%	5.3%	5.9%	-	0.0%	0.2%	1.0%	1.4%
Sa=90	12÷15	0.0%	1.0%	1.8%	6.0%	5.2%	0.0%	0.6%	1.0%	5.0%	4.8%	-	0.0%	0.2%	0.8%	2.2%
	15÷18	0.0%	0.1%	1.7%	6.8%	5.5%	0.2%	0.3%	0.8%	4.3%	5.0%	-	0.1%	0.4%	1.6%	2.5%
	18÷21	-	-	0.0%	5.8%	7.9%	-	-	0.0%	1.0%	5.0%	-	-	0.0%	0.0%	2.2%
	21÷24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24÷27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27÷30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)

100%

10%

0%

120

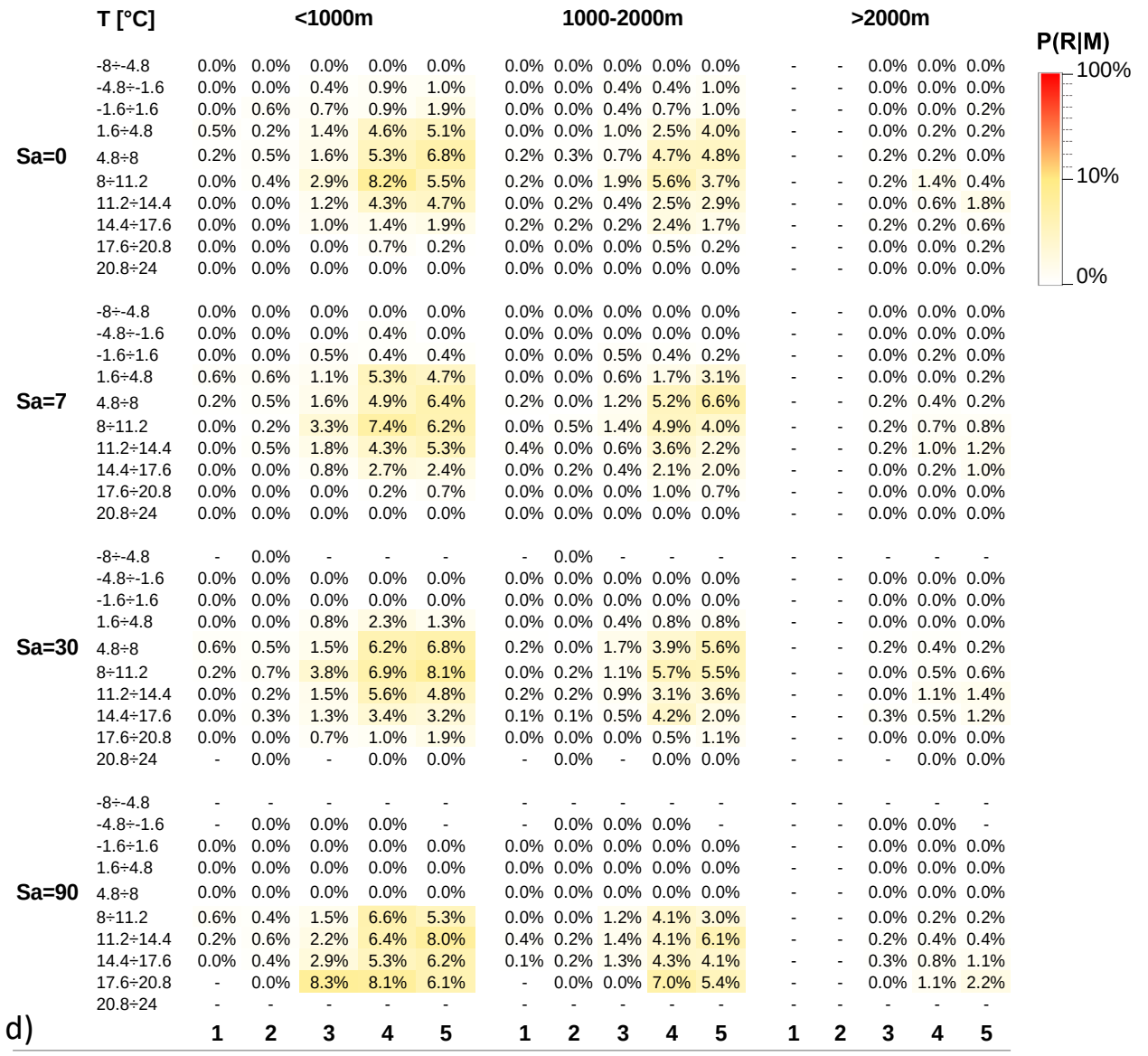
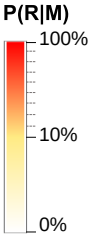


Fig. S24 Conditional probability, P(R|M), calculated with Bayesian's method of mean temperatures with different aggregation scales Sa (0, 7, 30, 90) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.3 Temperature variation

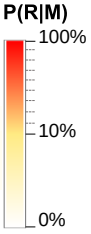
	ΔT (°C)	<1000m					1000-2000m					>2000m				
Sa=1	-10÷-8	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%
	-8÷-6	0.0%	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%
	-6÷-4	0.0%	0.0%	0.0%	4.2%	2.2%	-	0.0%	0.0%	4.2%	0.0%	-	-	0.0%	-	0.0%
	-4÷-2	0.0%	0.9%	0.0%	5.3%	6.2%	-	0.0%	0.0%	1.4%	0.7%	-	-	0.0%	-	0.4%
	-2÷0	0.1%	0.7%	1.0%	5.4%	4.9%	-	0.3%	0.2%	1.3%	1.4%	-	-	0.1%	-	0.1%
	0÷2	0.0%	0.6%	0.9%	3.6%	3.6%	-	0.0%	0.1%	1.2%	0.9%	-	-	0.0%	-	0.1%
	2÷4	0.0%	1.4%	1.2%	4.7%	3.5%	-	0.7%	0.0%	2.1%	1.5%	-	-	0.0%	-	0.0%
	4÷6	0.0%	0.0%	0.0%	0.0%	5.3%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	6÷8	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%
	8÷10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=3	-10÷-8	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-8÷-6	0.0%	0.0%	0.0%	3.0%	2.4%	-	0.0%	0.0%	1.5%	0.0%	-	-	0.0%	-	0.0%
	-6÷-4	0.0%	1.1%	0.5%	5.6%	3.6%	-	0.0%	0.0%	2.8%	0.9%	-	-	0.0%	-	0.9%
	-4÷-2	0.0%	0.6%	0.4%	4.8%	4.5%	-	0.4%	0.2%	1.5%	1.3%	-	-	0.2%	-	0.0%
	-2÷0	0.1%	0.5%	0.8%	4.5%	5.0%	-	0.1%	0.3%	1.0%	1.5%	-	-	0.0%	-	0.1%
	0÷2	0.0%	0.5%	1.1%	4.8%	4.1%	-	0.1%	0.0%	1.2%	1.1%	-	-	0.0%	-	0.1%
	2÷4	0.0%	1.2%	1.2%	3.6%	3.6%	-	0.2%	0.0%	1.5%	0.3%	-	-	0.0%	-	0.0%
	4÷6	0.0%	1.3%	1.0%	3.3%	4.8%	-	0.0%	0.0%	1.4%	1.0%	-	-	0.0%	-	0.0%
	6÷8	0.0%	0.0%	0.0%	14.8%	6.3%	-	0.0%	0.0%	0.0%	6.3%	-	-	0.0%	-	0.0%
	8÷10	0.0%	0.0%	0.0%	20.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sa=6	-10÷-8	0.0%	0.0%	0.0%	3.3%	1.9%	-	0.0%	0.0%	6.7%	0.0%	-	-	0.0%	-	0.0%
	-8÷-6	0.0%	0.0%	0.9%	4.3%	0.9%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	-6÷-4	0.0%	1.4%	1.0%	4.6%	3.4%	-	0.5%	0.0%	1.6%	0.7%	-	-	0.0%	-	0.3%
	-4÷-2	0.2%	0.6%	0.7%	4.8%	3.6%	-	0.0%	0.2%	0.9%	0.9%	-	-	0.0%	-	0.2%
	-2÷0	0.0%	0.4%	0.5%	3.7%	4.3%	-	0.1%	0.4%	1.0%	1.3%	-	-	0.1%	-	0.0%
	0÷2	0.0%	0.5%	0.8%	4.6%	4.1%	-	0.1%	0.0%	2.0%	1.3%	-	-	0.0%	-	0.3%
	2÷4	0.0%	0.7%	0.7%	4.5%	6.5%	-	0.2%	0.0%	1.4%	1.0%	-	-	0.0%	-	0.0%
	4÷6	0.0%	1.8%	1.8%	5.1%	3.5%	-	0.4%	0.0%	1.0%	1.9%	-	-	0.0%	-	0.0%
	6÷8	0.0%	1.1%	2.9%	3.5%	4.5%	-	0.0%	0.0%	0.9%	0.9%	-	-	0.0%	-	0.0%
	8÷10	0.0%	5.9%	2.4%	4.2%	9.7%	-	0.0%	0.0%	4.2%	3.2%	-	-	0.0%	-	0.0%
a)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



	ΔT (°C)	<1000m					1000-2000m					>2000m				
	-11÷-8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-8.8÷-6.6	0.0%	-	-	-	0.0%	0.0%	-	-	-	0.0%	-	-	-	-	0.0%
	-6.6÷-4.4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	-	-	0.0%	0.0%	0.0%
	-4.4÷-2.2	0.0%	0.0%	0.5%	4.4%	4.6%	0.0%	0.0%	1.8%	1.7%	5.5%	-	-	0.0%	0.0%	0.0%
Sa=1	-2.2÷0	0.0%	0.4%	1.1%	3.9%	3.6%	0.1%	0.1%	0.8%	2.2%	2.8%	-	-	0.0%	0.1%	0.3%
	0÷2.2	0.2%	0.5%	1.0%	3.7%	5.0%	0.1%	0.3%	0.2%	2.7%	3.6%	-	-	0.1%	0.2%	0.4%
	2.2÷4.4	0.0%	0.0%	0.6%	4.1%	8.9%	0.0%	1.1%	0.6%	2.3%	2.8%	-	-	0.0%	0.0%	0.5%
	4.4÷6.6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	6.6÷8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8.8÷11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-11÷-8.8	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-8.8÷-6.6	0.0%	0.0%	0.0%	2.2%	6.4%	0.0%	0.0%	2.3%	2.2%	6.4%	-	-	0.0%	0.0%	0.0%
	-6.6÷-4.4	0.0%	0.0%	0.6%	2.8%	5.9%	0.0%	0.0%	0.6%	1.7%	2.2%	-	-	0.0%	0.0%	0.5%
	-4.4÷-2.2	0.0%	0.2%	1.5%	5.3%	4.3%	0.0%	0.0%	1.3%	3.0%	3.6%	-	-	0.0%	0.2%	0.4%
Sa=3	-2.2÷0	0.0%	0.7%	0.9%	3.7%	4.2%	0.0%	0.2%	0.2%	1.4%	3.8%	-	-	0.1%	0.1%	0.2%
	0÷2.2	0.1%	0.4%	0.7%	3.4%	3.7%	0.1%	0.3%	0.3%	2.6%	3.2%	-	-	0.0%	0.1%	0.5%
	2.2÷4.4	0.6%	0.4%	1.6%	4.2%	6.3%	0.4%	0.4%	0.9%	3.3%	3.3%	-	-	0.0%	0.0%	0.2%
	4.4÷6.6	0.0%	0.0%	0.6%	3.7%	4.8%	0.0%	0.0%	0.6%	3.7%	1.8%	-	-	0.0%	1.2%	0.6%
	6.6÷8.8	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	8.8÷11	0.0%	0.0%	0.0%	-	20.0%	0.0%	0.0%	0.0%	-	0.0%	-	-	0.0%	-	0.0%
	-11÷-8.8	0.0%	0.0%	0.0%	10.0%	4.2%	0.0%	0.0%	0.0%	5.0%	4.2%	-	-	0.0%	0.0%	0.0%
	-8.8÷-6.6	0.0%	0.0%	0.0%	2.4%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	-6.6÷-4.4	0.0%	1.6%	0.4%	4.1%	3.9%	0.0%	0.0%	1.5%	3.3%	2.7%	-	-	0.0%	0.4%	0.0%
	-4.4÷-2.2	0.0%	0.2%	1.6%	2.2%	3.8%	0.0%	0.2%	0.7%	1.7%	4.0%	-	-	0.2%	0.0%	0.3%
Sa=6	-2.2÷0	0.0%	0.4%	1.2%	3.7%	3.8%	0.0%	0.0%	0.4%	1.3%	3.1%	-	-	0.0%	0.0%	0.1%
	0÷2.2	0.2%	0.4%	0.6%	4.3%	5.0%	0.2%	0.3%	0.2%	2.1%	3.3%	-	-	0.0%	0.2%	0.4%
	2.2÷4.4	0.2%	0.5%	1.2%	4.2%	5.3%	0.0%	0.5%	0.8%	4.3%	3.8%	-	-	0.0%	0.3%	1.0%
	4.4÷6.6	0.0%	0.4%	0.8%	4.7%	6.5%	0.0%	0.4%	0.8%	3.1%	3.9%	-	-	0.0%	0.0%	0.0%
	6.6÷8.8	0.0%	0.0%	1.2%	6.9%	4.6%	1.4%	0.0%	0.0%	0.0%	2.3%	-	-	0.0%	0.0%	0.0%
	8.8÷11	11.1%	0.0%	4.8%	4.5%	0.0%	0.0%	0.0%	0.0%	13.6%	0.0%	-	-	0.0%	0.0%	0.0%
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)
100%
10%
0%

	ΔT (°C)	<1000m					1000-2000m					>2000m				
	-15÷-12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-12÷-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-9÷-6	0.0%	-	-	-	0.0%	0.0%	-	-	-	14.3%	-	-	-	-	0.0%
	-6÷-3	0.0%	0.0%	0.0%	4.1%	0.9%	0.0%	0.0%	1.1%	0.0%	6.0%	-	0.0%	0.0%	0.0%	0.9%
Sa=1	-3÷0	0.1%	0.6%	0.7%	3.8%	3.6%	0.1%	0.2%	0.6%	2.4%	2.4%	-	0.1%	0.2%	0.6%	1.2%
	0÷3	0.1%	0.5%	1.2%	3.0%	3.1%	0.0%	0.3%	0.5%	2.6%	2.8%	-	0.1%	0.2%	0.7%	1.1%
	3÷6	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6÷9	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%
	9÷12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12÷15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-15÷-12	0.0%	-	-	-	0.0%	0.0%	-	-	-	0.0%	-	-	-	-	0.0%
	-12÷-9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	-	0.0%	0.0%	0.0%	0.0%
	-9÷-6	0.0%	3.6%	0.0%	6.6%	8.0%	0.0%	0.0%	1.4%	2.6%	0.0%	-	0.0%	1.4%	1.3%	2.3%
	-6÷-3	0.3%	0.3%	1.2%	5.9%	3.6%	0.3%	0.5%	0.7%	3.6%	2.9%	-	0.0%	0.2%	0.5%	0.5%
Sa=3	-3÷0	0.1%	0.7%	0.9%	3.1%	3.2%	0.0%	0.2%	0.6%	2.4%	3.0%	-	0.1%	0.2%	0.7%	1.0%
	0÷3	0.0%	0.3%	1.1%	3.1%	3.1%	0.0%	0.3%	0.4%	1.8%	2.4%	-	0.1%	0.1%	0.6%	1.4%
	3÷6	0.3%	0.5%	0.7%	2.0%	2.8%	0.0%	0.0%	0.4%	2.9%	3.2%	-	0.0%	0.0%	0.9%	1.1%
	6÷9	0.0%	0.0%	0.0%	3.1%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9÷12	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	-	0.0%
	12÷15	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-
	-15÷-12	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	-12÷-9	0.0%	0.0%	0.0%	0.0%	9.5%	0.0%	0.0%	4.3%	5.9%	9.5%	-	0.0%	0.0%	0.0%	4.8%
	-9÷-6	0.0%	0.7%	0.0%	4.3%	3.9%	0.0%	0.0%	0.7%	0.7%	3.9%	-	0.0%	0.7%	0.0%	0.7%
	-6÷-3	0.0%	1.1%	1.3%	5.3%	4.2%	0.0%	0.4%	0.6%	3.1%	3.1%	-	0.0%	0.2%	0.7%	0.9%
Sa=6	-3÷0	0.0%	0.4%	0.8%	2.7%	3.0%	0.1%	0.3%	0.6%	2.5%	2.9%	-	0.1%	0.1%	0.5%	0.9%
	0÷3	0.2%	0.6%	1.0%	3.6%	2.9%	0.0%	0.2%	0.4%	2.6%	2.2%	-	0.1%	0.2%	1.1%	0.9%
	3÷6	0.0%	0.2%	1.2%	2.7%	2.7%	0.0%	0.4%	0.2%	1.1%	2.6%	-	0.0%	0.2%	0.4%	1.7%
	6÷9	0.0%	0.0%	0.0%	1.6%	3.8%	0.0%	0.0%	1.5%	4.8%	2.3%	-	0.0%	0.0%	0.0%	2.3%
	9÷12	12.5%	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	12÷15	-	0.0%	-	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	-	0.0%	-	0.0%	0.0%
c)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



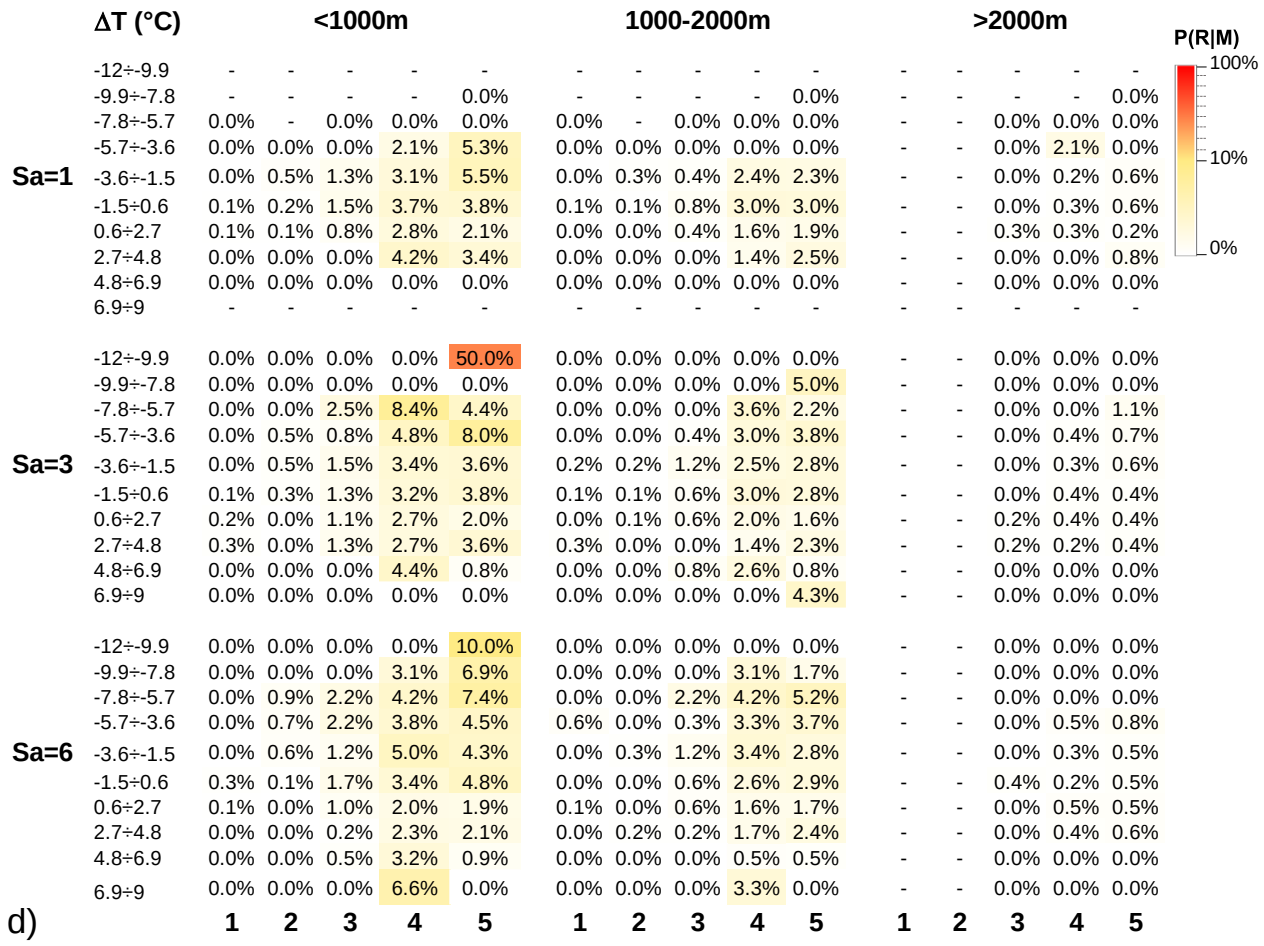
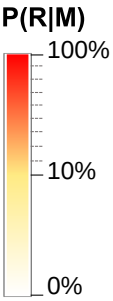


Fig. S25 Conditional probability, P(R|M), calculated with Bayesian's method of temperature variations with different aggregation scales Sa (1, 3, 6) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.4 Temperature amplitude

	T [°C]	<1000m					1000-2000m					>2000m				
Sa=0	0÷1	0.0%	0.7%	0.9%	4.5%	4.3%	-	0.1%	0.1%	1.4%	1.1%	-	-	0.0%	-	0.1%
	1÷2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2÷3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3÷4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4÷5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5÷6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6÷7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7÷8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8÷9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9÷10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=7	0÷1	0.0%	0.2%	0.4%	3.1%	4.5%	-	0.2%	0.0%	1.1%	1.5%	-	-	0.0%	-	0.0%
	1÷2	0.0%	0.4%	0.6%	4.6%	3.8%	-	0.2%	0.0%	2.0%	1.0%	-	-	0.0%	-	0.0%
	2÷3	0.0%	0.0%	1.0%	6.6%	4.7%	-	0.0%	0.0%	2.3%	0.9%	-	-	0.0%	-	0.0%
	3÷4	0.4%	0.4%	1.8%	5.8%	6.3%	-	0.0%	0.0%	2.4%	0.8%	-	-	0.0%	-	0.4%
	4÷5	0.0%	0.7%	2.2%	5.8%	3.2%	-	0.0%	0.0%	0.5%	0.6%	-	-	0.0%	-	0.0%
	5÷6	0.0%	0.0%	1.5%	5.7%	4.9%	-	1.1%	0.0%	3.3%	2.4%	-	-	0.0%	-	0.0%
	6÷7	0.0%	0.0%	2.4%	2.6%	4.5%	-	0.0%	0.0%	0.0%	2.3%	-	-	0.0%	-	0.0%
	7÷8	0.0%	0.0%	0.0%	4.9%	6.4%	-	0.0%	0.0%	2.4%	0.0%	-	-	0.0%	-	0.0%
	8÷9	0.0%	0.0%	3.4%	0.0%	0.0%	-	0.0%	0.0%	3.6%	0.0%	-	-	0.0%	-	0.0%
	9÷10	0.0%	0.0%	0.0%	6.7%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sa=30	0÷1	0.0%	0.7%	1.0%	5.1%	4.8%	-	0.2%	0.0%	1.5%	2.1%	-	-	0.0%	-	0.0%
	1÷2	0.0%	0.0%	0.9%	4.9%	5.0%	-	0.0%	0.0%	2.2%	1.4%	-	-	0.0%	-	0.3%
	2÷3	0.0%	0.9%	1.6%	4.3%	2.4%	-	0.6%	0.0%	1.8%	0.3%	-	-	0.0%	-	0.0%
	3÷4	0.0%	0.8%	1.6%	8.0%	7.9%	-	0.0%	0.0%	1.3%	0.8%	-	-	0.0%	-	0.0%
	4÷5	0.6%	1.1%	0.5%	3.3%	2.7%	-	0.0%	0.0%	2.3%	1.6%	-	-	0.0%	-	0.0%
	5÷6	0.0%	0.0%	1.5%	4.4%	1.5%	-	0.0%	0.0%	1.8%	0.0%	-	-	0.0%	-	0.0%
	6÷7	0.0%	1.3%	2.6%	4.6%	4.6%	-	0.0%	1.3%	0.0%	1.1%	-	-	1.3%	-	0.0%
	7÷8	0.0%	0.0%	0.0%	2.0%	0.0%	-	0.0%	0.0%	0.0%	1.8%	-	-	0.0%	-	0.0%
	8÷9	0.0%	0.0%	0.0%	0.0%	7.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	9÷10	0.0%	0.0%	0.0%	15.4%	0.0%	-	0.0%	0.0%	0.0%	5.9%	-	-	0.0%	-	0.0%
Sa=90	0÷1	0.0%	1.1%	0.7%	5.2%	2.7%	-	0.3%	0.0%	1.2%	1.3%	-	-	0.0%	-	0.3%
	1÷2	0.0%	0.3%	1.4%	4.3%	1.6%	-	0.0%	0.0%	1.0%	1.9%	-	-	0.0%	-	0.0%
	2÷3	0.0%	0.6%	0.4%	2.1%	3.0%	-	0.0%	0.0%	0.4%	0.4%	-	-	0.0%	-	0.0%
	3÷4	0.0%	1.2%	0.9%	4.5%	5.9%	-	0.0%	0.0%	1.6%	1.4%	-	-	0.0%	-	0.5%
	4÷5	0.6%	0.5%	1.0%	4.8%	3.3%	-	0.0%	0.5%	1.6%	0.0%	-	-	0.5%	-	0.0%
	5÷6	0.0%	0.0%	0.6%	2.4%	1.2%	-	0.0%	0.0%	1.6%	1.2%	-	-	0.0%	-	0.0%
	6÷7	0.0%	1.2%	0.0%	4.3%	3.0%	-	0.0%	0.0%	0.9%	0.0%	-	-	0.0%	-	0.0%
	7÷8	0.0%	0.0%	0.0%	4.0%	0.0%	-	0.0%	0.0%	1.3%	1.2%	-	-	0.0%	-	0.0%
	8÷9	0.0%	0.0%	4.0%	0.0%	1.5%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	9÷10	0.0%	0.0%	0.0%	4.0%	3.7%	-	0.0%	0.0%	4.0%	0.0%	-	-	0.0%	-	0.0%
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5



135

	T [°C]	<1000m					1000-2000m					>2000m				
	0÷1.1	0.1%	0.4%	1.0%	3.8%	4.6%	0.1%	0.2%	0.5%	2.4%	3.3%	-	-	0.0%	0.1%	0.3%
	1.1÷2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.2÷3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.3÷4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=0	4.4÷5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5.5÷6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6.6÷7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7.7÷8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8.8÷9.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.9÷11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0÷1.1	0.0%	0.8%	0.2%	2.9%	3.3%	0.0%	0.0%	0.4%	3.1%	4.2%	-	-	0.2%	0.2%	0.2%
	1.1÷2.2	0.0%	0.4%	0.8%	2.1%	4.9%	0.2%	0.0%	0.8%	2.9%	1.5%	-	-	0.0%	0.5%	0.5%
	2.2÷3.3	0.3%	0.3%	1.3%	3.0%	3.1%	0.3%	0.6%	0.3%	1.4%	2.3%	-	-	0.0%	0.3%	0.6%
	3.3÷4.4	0.0%	0.5%	0.4%	5.0%	6.4%	0.0%	0.5%	0.4%	4.6%	2.3%	-	-	0.0%	0.0%	0.0%
Sa=7	4.4÷5.5	0.7%	0.0%	1.2%	4.3%	10.4%	0.0%	0.0%	1.2%	1.9%	3.9%	-	-	0.0%	0.0%	0.0%
	5.5÷6.6	0.0%	0.0%	0.9%	5.5%	4.1%	0.0%	0.0%	0.9%	5.5%	4.1%	-	-	0.0%	0.0%	0.8%
	6.6÷7.7	0.0%	0.0%	0.0%	5.3%	10.8%	0.0%	3.1%	0.0%	1.8%	6.2%	-	-	0.0%	0.0%	1.5%
	7.7÷8.8	0.0%	0.0%	0.0%	11.4%	16.1%	0.0%	0.0%	0.0%	5.7%	9.7%	-	-	0.0%	0.0%	3.2%
	8.8÷9.9	0.0%	0.0%	0.0%	11.8%	23.1%	0.0%	0.0%	0.0%	0.0%	7.7%	-	-	0.0%	0.0%	0.0%
	9.9÷11	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	0÷1.1	0.0%	0.4%	1.2%	5.1%	4.6%	0.2%	0.0%	0.5%	2.0%	3.6%	-	-	0.0%	0.0%	0.0%
	1.1÷2.2	0.0%	0.0%	0.3%	3.2%	3.0%	0.2%	0.5%	0.0%	1.7%	3.3%	-	-	0.0%	0.7%	0.5%
	2.2÷3.3	0.0%	0.9%	0.3%	5.6%	2.3%	0.0%	0.0%	0.3%	2.9%	2.0%	-	-	0.0%	0.3%	0.3%
	3.3÷4.4	0.0%	0.0%	0.0%	3.2%	4.4%	0.0%	0.0%	0.9%	2.0%	2.7%	-	-	0.0%	0.4%	0.9%
Sa=30	4.4÷5.5	0.0%	0.0%	0.5%	3.3%	6.1%	0.6%	1.3%	0.5%	2.7%	3.9%	-	-	0.0%	0.0%	0.0%
	5.5÷6.6	1.3%	1.0%	0.8%	5.4%	9.1%	0.0%	0.0%	1.7%	3.2%	1.8%	-	-	0.0%	0.0%	0.9%
	6.6÷7.7	0.0%	0.0%	1.6%	5.1%	11.7%	0.0%	0.0%	0.0%	5.1%	1.3%	-	-	0.0%	0.0%	0.0%
	7.7÷8.8	0.0%	0.0%	3.5%	6.9%	6.1%	0.0%	0.0%	0.0%	20.7%	6.1%	-	-	0.0%	0.0%	0.0%
	8.8÷9.9	0.0%	0.0%	0.0%	4.8%	28.6%	0.0%	0.0%	0.0%	4.8%	0.0%	-	-	0.0%	0.0%	0.0%
	9.9÷11	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	0÷1.1	0.0%	0.0%	0.9%	5.9%	2.8%	0.0%	0.5%	0.0%	1.4%	2.8%	-	-	-	-	-
	1.1÷2.2	0.0%	0.5%	0.6%	4.2%	5.6%	0.0%	0.0%	0.3%	3.0%	5.3%	-	-	0.0%	0.0%	0.0%
	2.2÷3.3	0.0%	0.9%	1.9%	4.0%	6.8%	0.0%	0.3%	0.4%	4.0%	0.4%	-	-	0.0%	0.6%	0.0%
	3.3÷4.4	0.0%	0.8%	0.0%	4.9%	6.7%	0.0%	0.0%	1.7%	4.1%	7.1%	-	-	0.0%	0.0%	1.4%
Sa=90	4.4÷5.5	0.6%	0.5%	2.0%	6.2%	7.9%	0.0%	0.0%	0.5%	1.7%	6.4%	-	-	0.0%	0.8%	0.0%
	5.5÷6.6	0.8%	0.0%	0.0%	5.5%	6.9%	0.0%	0.9%	0.0%	3.9%	3.1%	-	-	0.0%	0.0%	1.5%
	6.6÷7.7	0.0%	1.4%	0.9%	9.9%	12.6%	1.1%	0.0%	0.0%	11.9%	8.4%	-	-	0.0%	0.0%	1.5%
	7.7÷8.8	0.0%	0.0%	0.0%	3.8%	5.8%	0.0%	2.5%	0.0%	3.8%	2.3%	-	-	0.0%	0.0%	0.0%
	8.8÷9.9	0.0%	0.0%	5.6%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	13.3%	-	-	0.0%	1.9%	0.0%
	9.9÷11	0.0%	0.0%	0.0%	11.1%	11.8%	0.0%	0.0%	5.3%	11.1%	11.8%	-	-	0.0%	0.0%	0.0%
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

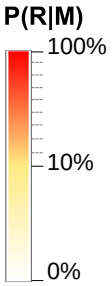
P(R|M)

100%

10%

0%

	0÷1.2	0.1%	0.5%	0.9%	3.4%	3.2%	0.0%	0.2%	0.5%	2.4%	2.7%	-	0.1%	0.2%	0.6%	1.1%
	1.2÷2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.4÷3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.6÷4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=0	4.8÷6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6÷7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7.2÷8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8.4÷9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9.6÷10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10.8÷12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0÷1.2	0.2%	0.3%	1.1%	4.4%	3.0%	0.0%	0.2%	0.9%	2.1%	2.2%	-	0.0%	0.2%	1.0%	0.8%
	1.2÷2.4	0.2%	0.2%	0.9%	4.0%	2.7%	0.0%	0.2%	0.7%	2.9%	2.3%	-	0.0%	0.0%	0.9%	1.6%
	2.4÷3.6	0.0%	0.6%	1.0%	3.4%	2.4%	0.0%	0.0%	0.0%	2.7%	2.7%	-	0.0%	0.0%	0.3%	1.2%
	3.6÷4.8	0.0%	0.0%	0.8%	2.4%	3.8%	0.0%	0.5%	0.4%	1.2%	2.4%	-	0.0%	0.0%	1.2%	1.4%
Sa=7	4.8÷6	0.8%	0.0%	0.6%	1.3%	4.3%	0.0%	0.0%	0.0%	0.6%	0.0%	-	0.0%	0.0%	0.0%	1.8%
	6÷7.2	0.0%	0.0%	0.0%	4.5%	2.0%	0.0%	1.6%	0.0%	2.2%	2.0%	-	0.0%	1.0%	0.0%	0.0%
	7.2÷8.4	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	4.3%	-	0.0%	0.0%	0.0%	0.0%
	8.4÷9.6	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	3.6%	4.5%
	9.6÷10.8	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10.8÷12	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	0÷1.2	0.2%	0.6%	1.1%	4.1%	3.9%	0.0%	0.2%	0.4%	2.0%	2.0%	-	0.0%	0.6%	0.8%	1.5%
	1.2÷2.4	0.0%	0.4%	0.2%	5.5%	2.8%	0.0%	0.0%	1.2%	3.7%	1.2%	-	0.0%	0.0%	0.7%	1.4%
	2.4÷3.6	0.0%	0.6%	1.6%	3.6%	1.5%	0.0%	0.6%	0.3%	1.8%	2.6%	-	0.0%	0.3%	0.3%	0.3%
	3.6÷4.8	0.0%	0.4%	0.4%	2.3%	2.6%	0.0%	0.4%	0.0%	1.1%	3.5%	-	0.0%	0.0%	1.5%	1.8%
Sa=30	4.8÷6	0.7%	0.7%	1.2%	1.3%	3.0%	0.0%	0.7%	0.6%	3.3%	2.4%	-	0.0%	0.0%	0.0%	1.2%
	6÷7.2	0.0%	0.0%	1.2%	0.0%	0.9%	0.0%	0.0%	2.4%	0.0%	0.9%	-	0.0%	0.0%	0.0%	0.0%
	7.2÷8.4	0.0%	0.0%	0.0%	3.9%	7.8%	0.0%	0.0%	0.0%	2.0%	0.0%	-	0.0%	0.0%	3.9%	0.0%
	8.4÷9.6	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9.6÷10.8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10.8÷12	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	0÷1.2	0.2%	0.0%	0.8%	3.8%	3.2%	0.0%	0.2%	1.1%	2.3%	3.0%	-	0.2%	0.3%	1.3%	2.4%
	1.2÷2.4	0.0%	0.8%	1.2%	4.5%	3.1%	0.0%	0.3%	0.9%	3.6%	3.4%	-	0.0%	0.0%	0.8%	1.7%
	2.4÷3.6	0.0%	0.3%	1.4%	2.2%	3.1%	0.0%	0.6%	0.4%	3.2%	1.7%	-	0.0%	0.4%	0.6%	1.0%
	3.6÷4.8	0.0%	0.8%	0.4%	4.8%	5.7%	0.0%	0.0%	0.8%	2.4%	5.3%	-	0.0%	0.4%	0.8%	0.4%
Sa=90	4.8÷6	0.7%	1.1%	1.4%	2.5%	3.6%	0.0%	0.5%	0.5%	1.9%	4.6%	-	0.0%	0.5%	1.3%	2.0%
	6÷7.2	0.0%	0.0%	1.5%	4.4%	4.2%	0.0%	0.0%	0.0%	0.7%	5.0%	-	0.0%	0.0%	0.0%	1.7%
	7.2÷8.4	0.0%	0.0%	0.0%	5.6%	1.0%	0.0%	0.0%	1.0%	2.8%	2.0%	-	0.0%	0.0%	2.8%	4.0%
	8.4÷9.6	0.0%	0.0%	0.0%	0.0%	6.4%	0.0%	0.0%	0.0%	0.0%	2.1%	-	0.0%	0.0%	0.0%	2.1%
	9.6÷10.8	0.0%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	4.5%	3.2%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10.8÷12	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



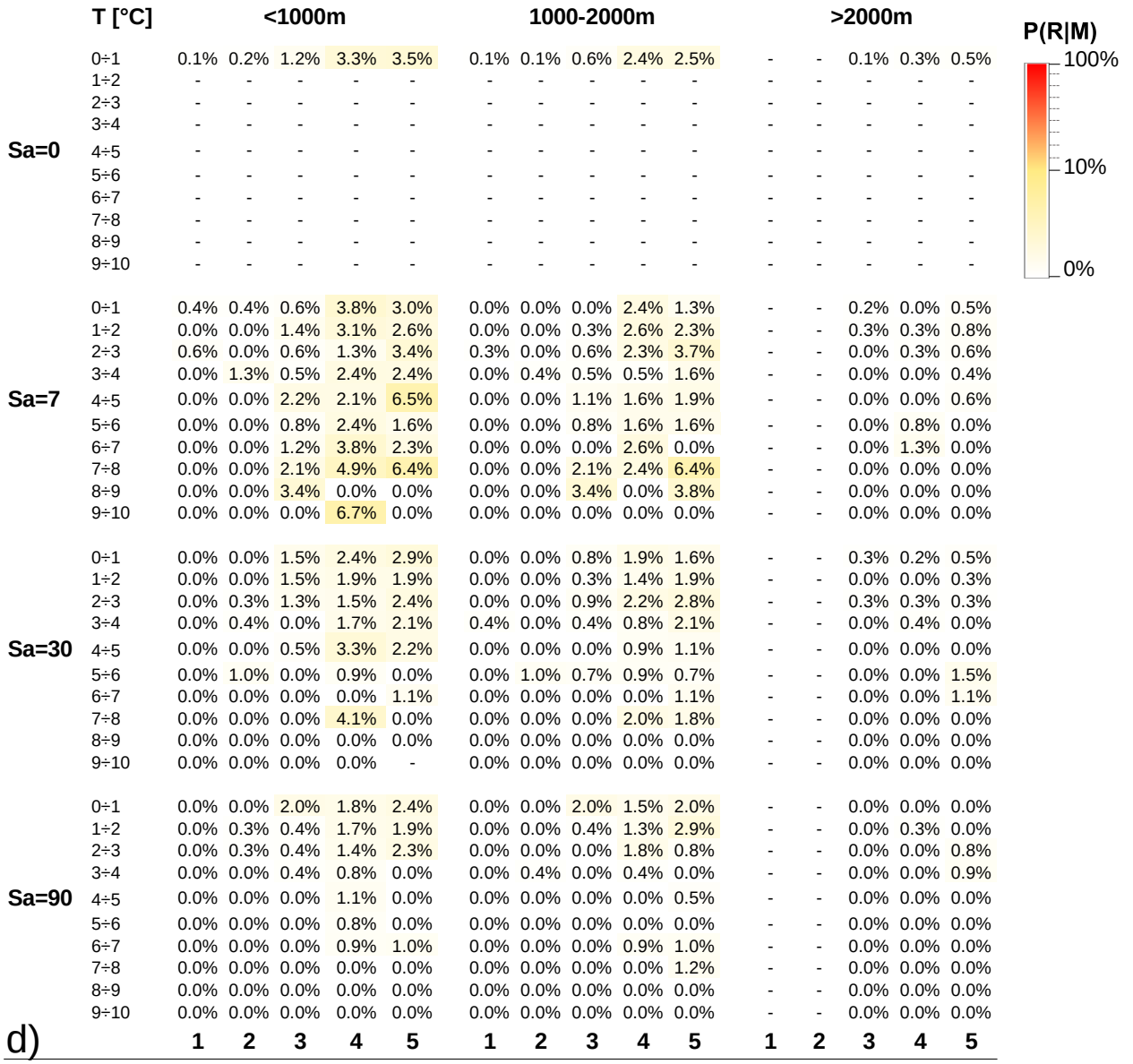
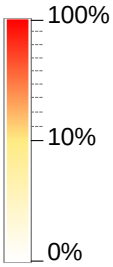


Fig. S26 Conditional probability, P(R|M), calculated with Bayesian's method of temperature amplitudes with different aggregation scales Sa (0, 7, 30, 90) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.5 Freeze-Thaw cycle

S2.5.1 Maximum

	FT [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.7%	0.8%	4.0%	4.2%	-	0.1%	0.1%	1.2%	1.1%	-	-	0.0%	-	0.1%
	1	0.0%	0.7%	2.5%	11.3%	8.9%	-	0.7%	0.0%	4.2%	0.0%	-	-	0.0%	-	0.0%
Sa=7	0	0.0%	0.5%	0.7%	3.4%	3.9%	-	0.1%	0.1%	1.2%	1.1%	-	-	0.0%	-	0.1%
	1	0.0%	2.5%	2.8%	12.1%	18.5%	-	1.6%	0.0%	3.4%	3.1%	-	-	0.0%	-	0.0%
	2	0.0%	2.4%	4.7%	11.9%	6.3%	-	0.0%	0.0%	5.0%	0.0%	-	-	0.0%	-	0.0%
	3	0.0%	5.9%	3.5%	18.5%	14.3%	-	0.0%	0.0%	0.0%	14.3%	-	-	0.0%	-	0.0%
	4	0.0%	0.0%	0.0%	17.6%	9.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	5	0.0%	5.9%	2.8%	20.6%	7.1%	-	0.0%	0.0%	2.9%	0.0%	-	-	0.0%	-	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	7	0.0%	0.0%	0.0%	0.0%	8.3%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sa=30	0	0.0%	0.3%	0.1%	1.6%	3.2%	-	0.1%	0.0%	0.9%	0.9%	-	-	0.0%	-	0.1%
	1	0.0%	3.7%	3.5%	12.9%	8.8%	-	0.7%	0.0%	3.8%	2.6%	-	-	0.0%	-	0.9%
	2	0.5%	0.0%	1.3%	7.1%	11.1%	-	0.0%	0.0%	1.2%	2.5%	-	-	0.0%	-	0.0%
	3	0.0%	2.2%	4.6%	23.7%	11.1%	-	0.0%	0.0%	1.3%	11.1%	-	-	0.0%	-	0.0%
	4	0.0%	2.5%	6.1%	14.7%	26.7%	-	1.3%	1.2%	4.4%	6.7%	-	-	0.0%	-	0.0%
	5	0.0%	0.0%	3.9%	24.1%	18.8%	-	0.0%	1.6%	8.6%	1.4%	-	-	0.0%	-	0.0%
	6	0.0%	0.0%	5.0%	26.7%	41.2%	-	0.0%	0.0%	0.0%	11.8%	-	-	0.0%	-	0.0%
	7	0.0%	0.0%	0.0%	27.7%	5.6%	-	0.0%	0.0%	8.5%	0.0%	-	-	0.0%	-	0.0%
	8	0.0%	0.0%	0.0%	11.1%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	9	0.0%	3.3%	0.0%	12.5%	25.0%	-	0.0%	3.4%	0.0%	0.0%	-	-	3.4%	-	0.0%
	10	0.0%	12.5%	0.0%	13.5%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	11	0.0%	0.0%	0.0%	22.7%	0.0%	-	0.0%	0.0%	4.5%	0.0%	-	-	0.0%	-	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	13	0.0%	0.0%	0.0%	5.3%	7.1%	-	0.0%	0.0%	0.0%	7.1%	-	-	0.0%	-	0.0%
	14	0.0%	15.4%	12.5%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	15	0.0%	-	20.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	16	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	17	-	-	50.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	18	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	19	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5



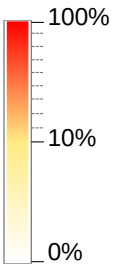
	FT [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.5%	1.0%	3.9%	4.7%	0.1%	0.2%	0.6%	2.5%	3.4%	-	-	0.0%	0.1%	0.3%
	1	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=7	0	0.1%	0.5%	1.1%	4.1%	4.8%	0.1%	0.2%	0.6%	2.7%	3.5%	-	-	0.0%	0.2%	0.3%
	1	0.0%	0.0%	0.0%	2.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=30	0	0.1%	0.4%	1.1%	3.7%	4.6%	0.1%	0.3%	0.6%	2.5%	3.4%	-	-	0.0%	0.2%	0.4%
	1	0.0%	0.0%	0.0%	2.9%	6.1%	0.0%	0.0%	0.5%	2.4%	6.1%	-	-	0.0%	0.0%	0.0%
	2	0.0%	1.8%	0.0%	10.7%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.8%	0.0%	11.1%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	3.7%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	5	0.0%	5.4%	0.8%	1.7%	10.1%	0.0%	0.0%	0.0%	0.0%	2.9%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	2.5%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	6.4%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	-	-	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	-	-	0.0%	0.0%	0.0%
	9	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	10	3.6%	0.0%	0.0%	8.1%	0.0%	3.6%	0.0%	0.0%	5.4%	0.0%	-	-	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	-	-	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	5.3%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	15	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	16	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	17	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	18	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	19	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

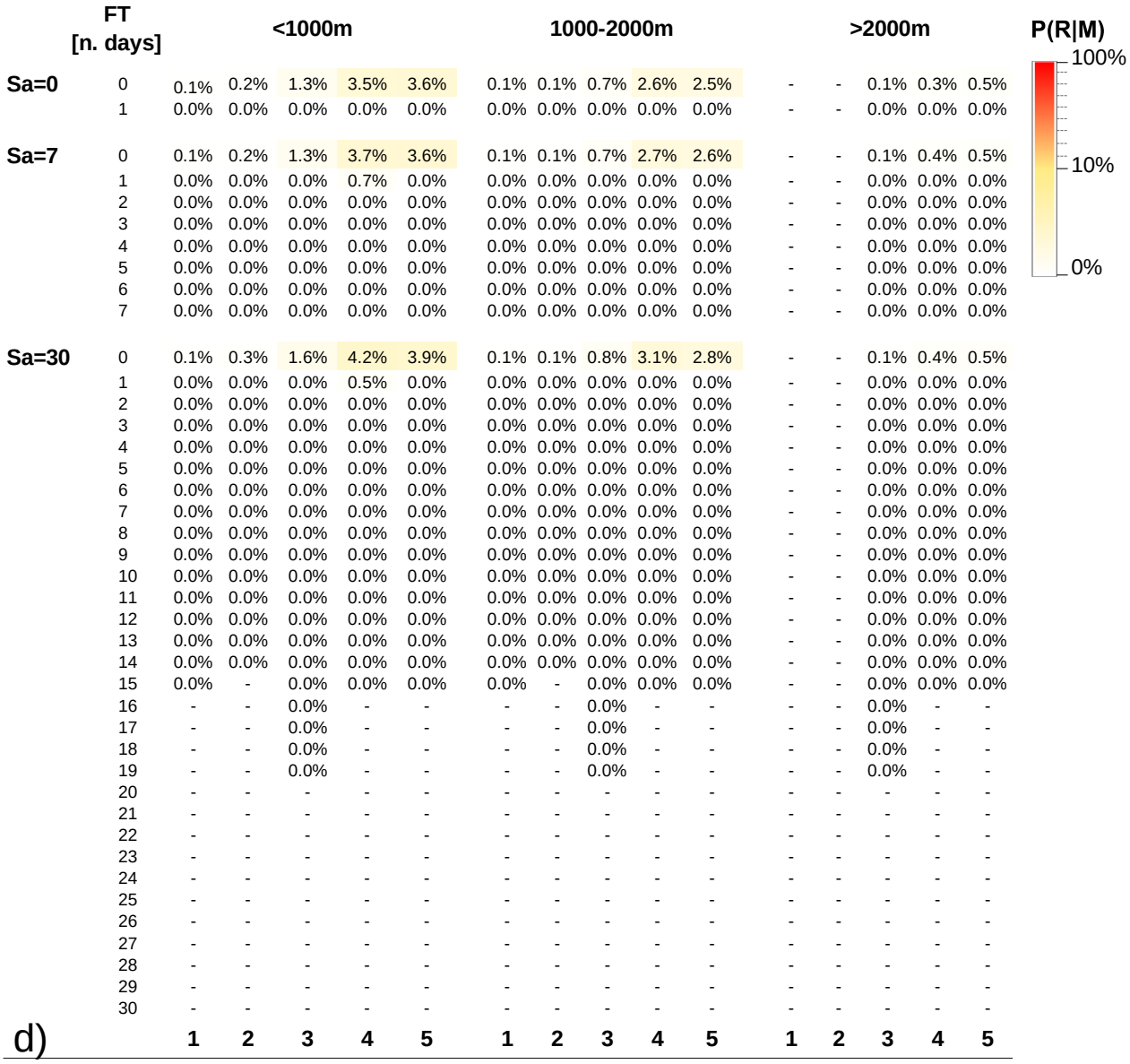
P(R|M)
100%
10%
0%

145

	FT [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.5%	1.0%	3.6%	3.3%	0.0%	0.3%	0.6%	2.6%	2.7%	-	0.1%	0.2%	0.7%	1.1%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=7	0	0.1%	0.6%	1.0%	3.8%	3.4%	0.0%	0.3%	0.6%	2.7%	2.8%	-	0.1%	0.2%	0.7%	1.1%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=30	0	0.1%	0.6%	1.2%	4.4%	3.6%	0.0%	0.3%	0.7%	3.1%	3.0%	-	0.1%	0.2%	0.8%	1.2%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	15	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	16	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	17	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	18	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	19	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)





	FT [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.2%	1.3%	3.5%	3.6%	0.1%	0.1%	0.7%	2.6%	2.5%	-	-	0.1%	0.3%	0.5%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=7	0	0.1%	0.2%	1.3%	3.7%	3.6%	0.1%	0.1%	0.7%	2.7%	2.6%	-	-	0.1%	0.4%	0.5%
	1	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=30	0	0.1%	0.3%	1.6%	4.2%	3.9%	0.1%	0.1%	0.8%	3.1%	2.8%	-	-	0.1%	0.4%	0.5%
	1	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	15	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	16	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	17	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	18	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	19	-	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Fig. S27 Conditional probability, P(R|M), calculated with Bayesian's method of freeze-thaw cycle maximum case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

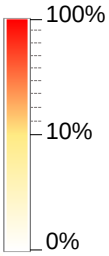
S2.5.2 Medium calculated time-series

	FT [n. days]	1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.1%	0.0%	0.3%	0.7%	-	0.0%	0.0%	0.1%	0.2%	-	-	0.0%	-	0.0%
	1	0.0%	1.6%	1.0%	10.3%	9.8%	-	0.2%	0.2%	3.2%	2.9%	-	-	0.2%	-	0.4%
Sa=7	0	0.0%	0.0%	0.0%	0.0%	0.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	1	0.0%	0.8%	0.0%	0.9%	0.9%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	2	0.0%	0.9%	0.0%	0.7%	1.6%	-	0.0%	0.0%	2.2%	0.0%	-	-	0.0%	-	0.0%
	3	0.0%	0.9%	0.0%	5.4%	7.1%	-	0.0%	0.0%	1.4%	4.0%	-	-	0.0%	-	0.0%
	4	0.0%	1.7%	0.7%	11.6%	8.0%	-	0.9%	0.7%	1.4%	1.8%	-	-	0.7%	-	0.0%
	5	0.0%	1.5%	2.6%	6.7%	12.3%	-	0.0%	0.0%	2.5%	4.9%	-	-	0.0%	-	0.0%
	6	0.0%	1.4%	0.0%	11.1%	10.0%	-	0.7%	0.0%	1.3%	3.8%	-	-	0.0%	-	0.0%
	7	0.0%	1.2%	1.9%	13.2%	13.4%	-	0.0%	0.0%	5.0%	2.6%	-	-	0.0%	-	1.0%
Sa=30	0	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	2	0.0%	0.0%	0.0%	0.0%	1.7%	-	0.0%	0.0%	0.0%	0.6%	-	-	0.0%	-	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	6	0.0%	0.0%	0.0%	2.6%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	7	0.0%	0.0%	0.0%	0.0%	3.0%	-	0.0%	0.0%	1.4%	0.0%	-	-	0.0%	-	0.0%
	8	0.0%	0.0%	0.0%	2.9%	2.3%	-	0.0%	0.0%	5.7%	0.0%	-	-	0.0%	-	0.0%
	9	0.0%	2.0%	0.0%	1.0%	0.0%	-	0.0%	0.0%	3.1%	0.0%	-	-	0.0%	-	0.0%
	10	0.0%	2.4%	0.0%	10.5%	5.4%	-	0.0%	0.0%	2.6%	2.7%	-	-	0.0%	-	0.0%
	11	0.0%	0.0%	0.0%	3.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	12	0.0%	0.0%	0.0%	1.8%	3.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	13	0.0%	0.0%	0.0%	4.5%	9.1%	-	0.0%	0.0%	0.0%	6.1%	-	-	0.0%	-	0.0%
	14	0.0%	0.0%	0.0%	0.0%	10.5%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	15	0.0%	0.0%	0.0%	3.7%	2.9%	-	0.0%	0.0%	0.0%	2.9%	-	-	0.0%	-	0.0%
	16	0.0%	2.9%	2.4%	7.9%	8.3%	-	2.9%	0.0%	2.6%	2.8%	-	-	0.0%	-	0.0%
	17	0.0%	3.9%	0.0%	7.1%	12.5%	-	0.0%	0.0%	0.0%	5.0%	-	-	0.0%	-	0.0%
	18	0.0%	0.0%	0.0%	3.1%	6.0%	-	0.0%	0.0%	3.1%	0.0%	-	-	0.0%	-	0.0%
	19	0.0%	0.0%	2.0%	3.4%	4.4%	-	0.0%	0.0%	3.4%	1.5%	-	-	0.0%	-	0.0%
	20	0.0%	0.0%	2.8%	6.1%	9.2%	-	2.4%	0.0%	6.1%	6.2%	-	-	0.0%	-	0.0%
	21	0.0%	1.9%	2.0%	5.1%	18.5%	-	0.0%	0.0%	2.6%	9.3%	-	-	0.0%	-	0.0%
	22	0.0%	0.0%	4.0%	2.2%	15.4%	-	0.0%	0.0%	6.7%	3.8%	-	-	0.0%	-	0.0%
	23	0.0%	5.1%	4.6%	14.8%	19.5%	-	0.0%	1.5%	2.5%	1.2%	-	-	0.0%	-	0.0%
	24	0.0%	2.2%	0.0%	20.9%	13.3%	-	2.2%	0.0%	7.5%	4.8%	-	-	0.0%	-	0.0%
	25	0.0%	1.7%	1.7%	19.0%	12.9%	-	0.0%	0.0%	3.6%	4.7%	-	-	0.0%	-	0.0%
	26	0.0%	0.8%	5.2%	17.5%	15.7%	-	0.0%	0.0%	6.7%	5.9%	-	-	0.0%	-	1.0%
	27	0.0%	2.8%	0.9%	22.2%	8.5%	-	0.0%	0.9%	4.2%	0.0%	-	-	0.9%	-	0.8%
	28	1.4%	1.0%	2.0%	14.8%	14.3%	-	0.0%	0.0%	5.6%	3.6%	-	-	0.0%	-	1.2%
	29	0.0%	0.9%	0.0%	9.6%	21.4%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	30	0.0%	0.8%	3.8%	11.2%	9.6%	-	0.4%	0.8%	1.7%	1.0%	-	-	0.0%	-	1.0%
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

P(R|M)
100%
10%
0%

	FT [n. days]	1000m					1000-2000m					>2000m				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Sa=0	0	0.1%	0.5%	1.2%	3.8%	4.5%	0.0%	0.2%	0.6%	2.7%	4.3%	-	-	0.0%	0.2%	0.5%
	1	0.2%	0.5%	1.2%	6.9%	6.7%	0.2%	0.5%	1.0%	3.8%	2.5%	-	-	0.0%	0.0%	0.0%
Sa=7	0	0.0%	0.4%	0.8%	2.6%	3.8%	0.0%	0.2%	0.5%	2.0%	3.5%	-	-	0.1%	0.3%	0.4%
	1	0.0%	0.8%	1.9%	12.1%	14.7%	0.0%	1.5%	0.6%	8.6%	11.0%	-	-	0.0%	0.0%	0.9%
	2	2.0%	2.7%	1.2%	11.9%	8.1%	0.0%	0.9%	0.0%	8.2%	6.5%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	2.7%	8.1%	6.3%	1.0%	0.9%	2.7%	3.4%	5.6%	-	-	0.0%	0.0%	0.8%
	4	0.0%	0.0%	3.7%	11.6%	9.7%	0.0%	0.0%	1.5%	4.3%	8.0%	-	-	0.0%	0.0%	0.9%
	5	0.0%	0.7%	2.0%	7.6%	4.9%	0.0%	0.0%	0.0%	6.7%	2.5%	-	-	0.0%	0.0%	0.6%
	6	0.7%	0.0%	1.8%	2.6%	3.1%	0.0%	0.0%	0.6%	2.6%	2.5%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.3%	0.7%	2.4%	4.5%	0.6%	0.0%	0.7%	0.8%	0.7%	-	-	0.0%	0.0%	0.0%
Sa=30	0	0.0%	0.1%	0.1%	0.8%	1.4%	0.0%	0.0%	0.1%	0.9%	1.4%	-	-	0.1%	0.2%	0.1%
	1	0.0%	0.0%	2.7%	2.4%	14.1%	0.0%	0.8%	0.0%	3.6%	9.4%	-	-	0.0%	0.0%	0.0%
	2	0.0%	3.7%	0.0%	7.3%	8.4%	0.0%	1.9%	0.0%	12.2%	9.0%	-	-	0.0%	0.0%	1.1%
	3	0.0%	1.5%	0.0%	7.8%	11.4%	0.0%	0.0%	0.0%	4.7%	5.7%	-	-	0.0%	0.0%	2.9%
	4	0.0%	2.7%	0.0%	10.2%	9.9%	0.0%	2.7%	4.8%	6.1%	6.2%	-	-	0.0%	0.0%	1.2%
	5	0.0%	0.0%	6.1%	9.5%	9.4%	0.0%	0.0%	2.4%	2.4%	7.1%	-	-	0.0%	0.0%	0.0%
	6	1.5%	3.1%	2.4%	7.7%	11.4%	1.5%	0.0%	0.0%	10.3%	10.2%	-	-	0.0%	0.0%	0.0%
	7	0.0%	1.7%	6.3%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	-	-	0.0%	1.4%	0.0%
	8	0.0%	0.0%	0.0%	5.7%	7.0%	0.0%	0.0%	0.0%	2.9%	7.0%	-	-	0.0%	0.0%	0.0%
	9	0.0%	0.0%	3.9%	6.2%	7.1%	0.0%	0.0%	2.6%	7.2%	7.1%	-	-	0.0%	0.0%	0.0%
	10	0.0%	0.0%	4.3%	7.9%	0.0%	0.0%	0.0%	0.0%	2.6%	5.4%	-	-	0.0%	0.0%	0.0%
	11	0.0%	0.0%	4.7%	12.1%	0.0%	0.0%	0.0%	2.3%	0.0%	2.7%	-	-	0.0%	0.0%	2.7%
	12	0.0%	0.0%	11.1%	1.8%	12.1%	0.0%	0.0%	0.0%	3.5%	9.1%	-	-	0.0%	0.0%	3.0%
	13	0.0%	0.0%	0.0%	2.3%	9.1%	0.0%	0.0%	0.0%	2.3%	6.1%	-	-	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	20.4%	10.5%	0.0%	0.0%	0.0%	8.2%	10.5%	-	-	0.0%	0.0%	0.0%
	15	0.0%	0.0%	2.1%	9.3%	14.7%	0.0%	2.3%	2.1%	3.7%	2.9%	-	-	0.0%	0.0%	0.0%
	16	0.0%	0.0%	0.0%	10.5%	8.3%	0.0%	0.0%	2.4%	10.5%	8.3%	-	-	0.0%	0.0%	0.0%
	17	0.0%	2.0%	0.0%	7.1%	5.0%	0.0%	2.0%	1.8%	3.6%	7.5%	-	-	0.0%	0.0%	2.5%
	18	0.0%	0.0%	2.0%	3.1%	8.0%	0.0%	2.3%	2.0%	6.3%	8.0%	-	-	0.0%	0.0%	0.0%
	19	0.0%	0.0%	2.0%	13.8%	17.6%	0.0%	0.0%	0.0%	10.3%	13.2%	-	-	0.0%	0.0%	0.0%
	20	0.0%	0.0%	1.4%	12.1%	4.6%	0.0%	0.0%	1.4%	9.1%	1.5%	-	-	0.0%	0.0%	0.0%
	21	0.0%	3.7%	2.0%	12.8%	7.4%	0.0%	0.0%	0.0%	5.1%	3.7%	-	-	0.0%	0.0%	0.0%
	22	1.2%	0.0%	6.0%	8.9%	11.5%	0.0%	1.9%	4.0%	8.9%	1.9%	-	-	0.0%	0.0%	0.0%
	23	0.0%	0.0%	0.0%	1.2%	6.1%	0.0%	0.0%	1.5%	0.0%	3.7%	-	-	0.0%	0.0%	1.2%
	24	0.0%	0.0%	2.5%	9.0%	4.8%	1.2%	0.0%	0.0%	4.5%	4.8%	-	-	0.0%	0.0%	1.2%
	25	1.3%	1.7%	1.7%	3.6%	4.7%	1.3%	0.0%	1.7%	6.0%	2.4%	-	-	0.0%	0.0%	0.0%
	26	0.0%	0.8%	0.0%	5.0%	6.9%	0.0%	0.0%	0.0%	1.7%	0.0%	-	-	0.0%	0.0%	0.0%
	27	0.0%	0.0%	1.8%	2.1%	2.5%	0.0%	0.0%	0.9%	0.7%	0.0%	-	-	0.0%	0.0%	0.0%
	28	0.0%	1.0%	0.0%	2.8%	4.8%	0.0%	0.0%	0.0%	2.8%	0.0%	-	-	0.0%	0.0%	0.0%
	29	0.8%	0.0%	0.0%	4.1%	2.4%	0.0%	0.0%	0.0%	1.4%	0.0%	-	-	0.0%	0.0%	0.0%
	30	0.0%	0.4%	0.0%	2.6%	1.9%	0.0%	0.4%	0.0%	0.9%	1.0%	-	-	0.0%	0.0%	0.0%

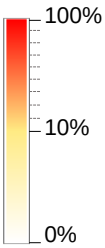
P(R|M)

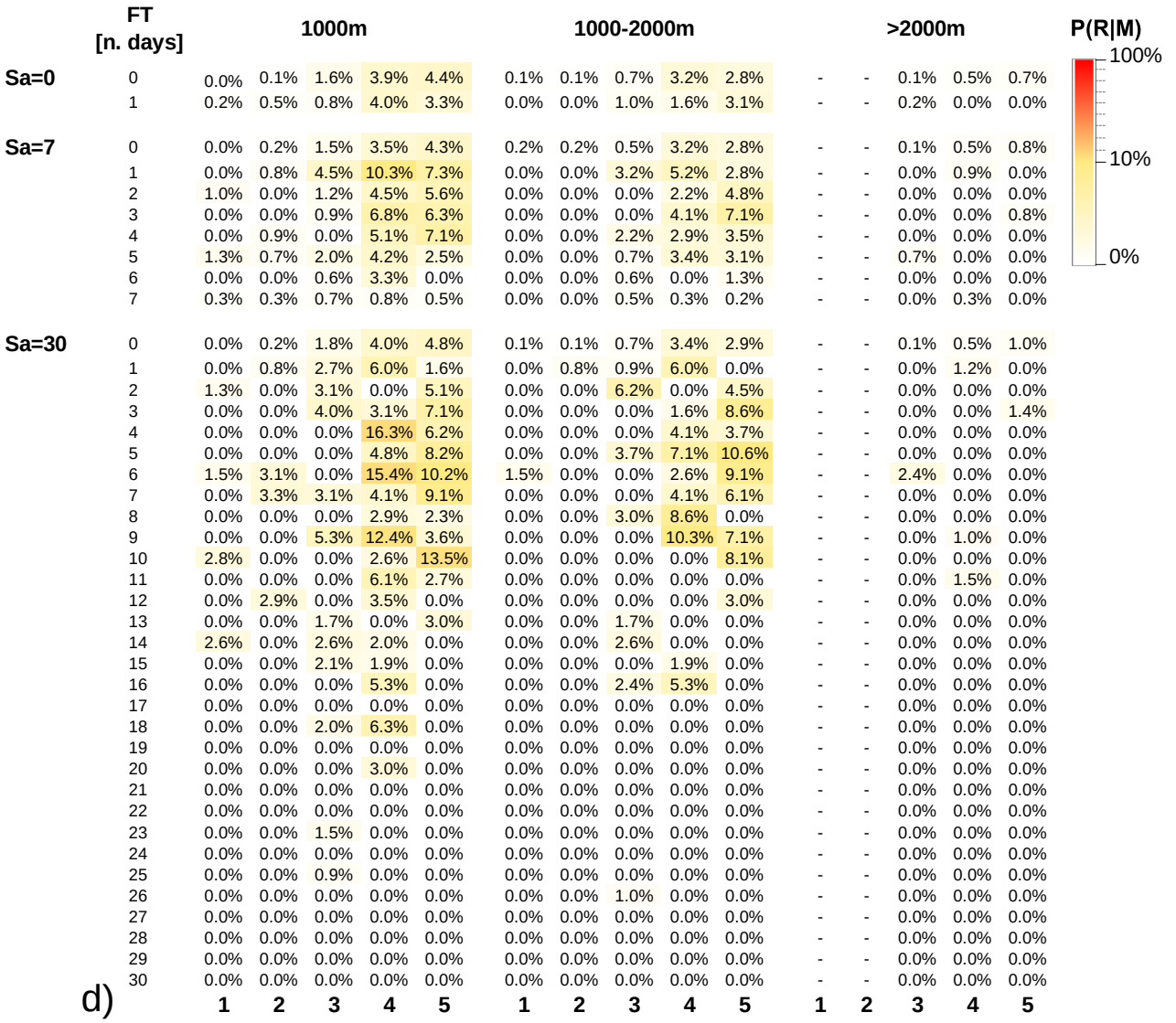


b)

	FT [n. days]	1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.9%	1.6%	5.3%	4.9%	0.0%	0.4%	0.9%	3.8%	4.1%	-	0.1%	0.3%	1.0%	1.7%
	1	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=7	0	0.0%	1.0%	1.9%	6.2%	5.6%	0.1%	0.5%	1.1%	4.4%	4.7%	-	0.1%	0.3%	1.2%	1.9%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.9%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=30	0	0.0%	1.2%	2.3%	7.3%	7.0%	0.1%	0.6%	1.3%	5.2%	5.9%	-	0.1%	0.4%	1.4%	2.4%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	15	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	17	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	18	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	2.3%	0.0%	0.0%	0.0%
	19	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	20	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	21	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	22	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	23	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	24	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	25	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	26	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)





	FT [n. days]	1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.1%	1.6%	3.9%	4.4%	0.1%	0.1%	0.7%	3.2%	2.8%	-	-	0.1%	0.5%	0.7%
	1	0.2%	0.5%	0.8%	4.0%	3.3%	0.0%	0.0%	1.0%	1.6%	3.1%	-	-	0.2%	0.0%	0.0%
Sa=7	0	0.0%	0.2%	1.5%	3.5%	4.3%	0.2%	0.2%	0.5%	3.2%	2.8%	-	-	0.1%	0.5%	0.8%
	1	0.0%	0.8%	4.5%	10.3%	7.3%	0.0%	0.0%	3.2%	5.2%	2.8%	-	-	0.0%	0.9%	0.0%
	2	1.0%	0.0%	1.2%	4.5%	5.6%	0.0%	0.0%	0.0%	2.2%	4.8%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.9%	6.8%	6.3%	0.0%	0.0%	0.0%	4.1%	7.1%	-	-	0.0%	0.0%	0.8%
	4	0.0%	0.9%	0.0%	5.1%	7.1%	0.0%	0.0%	2.2%	2.9%	3.5%	-	-	0.0%	0.0%	0.0%
	5	1.3%	0.7%	2.0%	4.2%	2.5%	0.0%	0.0%	0.7%	3.4%	3.1%	-	-	0.7%	0.0%	0.0%
	6	0.0%	0.0%	0.6%	3.3%	0.0%	0.0%	0.0%	0.6%	0.0%	1.3%	-	-	0.0%	0.0%	0.0%
	7	0.3%	0.3%	0.7%	0.8%	0.5%	0.0%	0.0%	0.5%	0.3%	0.2%	-	-	0.0%	0.3%	0.0%
Sa=30	0	0.0%	0.2%	1.8%	4.0%	4.8%	0.1%	0.1%	0.7%	3.4%	2.9%	-	-	0.1%	0.5%	1.0%
	1	0.0%	0.8%	2.7%	6.0%	1.6%	0.0%	0.8%	0.9%	6.0%	0.0%	-	-	0.0%	1.2%	0.0%
	2	1.3%	0.0%	3.1%	0.0%	5.1%	0.0%	0.0%	6.2%	0.0%	4.5%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	4.0%	3.1%	7.1%	0.0%	0.0%	0.0%	1.6%	8.6%	-	-	0.0%	0.0%	1.4%
	4	0.0%	0.0%	0.0%	16.3%	6.2%	0.0%	0.0%	0.0%	4.1%	3.7%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	4.8%	8.2%	0.0%	0.0%	3.7%	7.1%	10.6%	-	-	0.0%	0.0%	0.0%
	6	1.5%	3.1%	0.0%	15.4%	10.2%	1.5%	0.0%	0.0%	2.6%	9.1%	-	-	2.4%	0.0%	0.0%
	7	0.0%	3.3%	3.1%	4.1%	9.1%	0.0%	0.0%	0.0%	4.1%	6.1%	-	-	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	2.9%	2.3%	0.0%	0.0%	3.0%	8.6%	0.0%	-	-	0.0%	0.0%	0.0%
	9	0.0%	0.0%	5.3%	12.4%	3.6%	0.0%	0.0%	0.0%	10.3%	7.1%	-	-	0.0%	1.0%	0.0%
	10	2.8%	0.0%	0.0%	2.6%	13.5%	0.0%	0.0%	0.0%	0.0%	8.1%	-	-	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	6.1%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	1.5%	0.0%
	12	0.0%	2.9%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	-	-	0.0%	0.0%	0.0%
	13	0.0%	0.0%	1.7%	0.0%	3.0%	0.0%	0.0%	1.7%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	14	2.6%	0.0%	2.6%	2.0%	0.0%	0.0%	0.0%	2.6%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	15	0.0%	0.0%	2.1%	1.9%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	-	-	0.0%	0.0%	0.0%
	16	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	2.4%	5.3%	0.0%	-	-	0.0%	0.0%	0.0%
	17	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	18	0.0%	0.0%	2.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	19	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	20	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	21	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	22	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	23	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	24	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	25	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	26	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	d)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

155

Fig. S28 Conditional probability, P(R|M), calculated with Bayesian's method of freeze-thaw cycle medium case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.5.3 Minimum calculated time-series

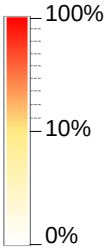
	FT [n. days]	1000m					1000-2000m					>2000m					P(R|M)
Sa=0	0	0.0%	0.9%	1.3%	6.9%	6.5%	-	0.2%	0.2%	1.7%	1.4%	-	-	0.0%	-	0.1%	100%
	1	0.0%	0.3%	0.5%	1.4%	1.5%	-	0.0%	0.0%	1.3%	0.8%	-	-	0.0%	-	0.1%	
Sa=7	0	0.1%	1.0%	1.7%	8.9%	8.7%	-	0.3%	0.2%	2.0%	1.5%	-	-	0.0%	-	0.1%	
	1	0.0%	1.0%	1.0%	4.4%	1.4%	-	0.0%	0.3%	2.7%	0.6%	-	-	0.0%	-	0.0%	
	2	0.0%	0.5%	0.3%	3.4%	2.0%	-	0.0%	0.0%	1.3%	2.0%	-	-	0.0%	-	0.3%	
	3	0.0%	0.0%	0.9%	1.6%	3.2%	-	0.0%	0.0%	0.6%	1.6%	-	-	0.0%	-	0.0%	
	4	0.0%	0.5%	0.7%	0.0%	0.4%	-	0.0%	0.0%	0.4%	0.4%	-	-	0.0%	-	0.4%	
	5	0.0%	0.0%	0.0%	0.5%	2.0%	-	0.0%	0.0%	1.0%	1.2%	-	-	0.0%	-	0.0%	
	6	0.0%	0.0%	0.0%	0.0%	0.5%	-	0.0%	0.0%	0.0%	0.5%	-	-	0.0%	-	0.0%	
	7	0.0%	0.0%	0.0%	0.0%	0.6%	-	0.0%	0.3%	0.0%	0.3%	-	-	0.3%	-	0.0%	
Sa=30	0	0.1%	1.9%	2.7%	13.4%	14.5%	-	0.5%	0.3%	2.0%	2.6%	-	-	0.0%	-	0.0%	
	1	0.0%	0.0%	3.0%	9.1%	1.3%	-	0.0%	0.6%	2.4%	0.3%	-	-	0.0%	-	0.0%	
	2	0.0%	1.4%	2.5%	10.0%	7.5%	-	0.0%	0.0%	2.9%	1.5%	-	-	0.0%	-	0.0%	
	3	0.0%	0.0%	2.1%	8.8%	5.4%	-	0.0%	0.0%	2.1%	1.4%	-	-	0.0%	-	0.0%	
	4	0.0%	0.0%	2.6%	2.7%	4.7%	-	0.0%	0.0%	1.1%	0.7%	-	-	0.0%	-	0.7%	
	5	0.0%	0.7%	1.1%	1.6%	10.2%	-	0.0%	0.0%	0.8%	4.0%	-	-	0.0%	-	0.6%	
	6	0.0%	0.0%	0.0%	4.7%	2.1%	-	0.0%	0.0%	4.1%	1.4%	-	-	0.0%	-	0.7%	
	7	0.0%	0.7%	0.0%	0.9%	3.7%	-	0.0%	0.9%	0.0%	2.2%	-	-	0.9%	-	0.0%	
	8	0.0%	0.0%	0.0%	1.7%	5.8%	-	0.6%	0.0%	0.8%	0.8%	-	-	0.0%	-	0.8%	
	9	0.0%	2.3%	0.0%	1.6%	1.1%	-	0.0%	0.0%	0.8%	0.0%	-	-	0.0%	-	0.0%	
	10	0.0%	0.0%	0.0%	0.0%	1.0%	-	0.0%	0.0%	0.9%	0.0%	-	-	0.0%	-	0.0%	
	11	0.0%	0.0%	0.0%	1.0%	0.0%	-	0.0%	0.0%	1.0%	2.4%	-	-	0.0%	-	0.0%	
	12	0.0%	0.0%	0.0%	0.0%	1.0%	-	0.0%	0.0%	0.0%	1.0%	-	-	0.0%	-	0.0%	
	13	0.0%	0.0%	0.0%	1.6%	1.0%	-	0.0%	0.0%	1.6%	0.0%	-	-	0.0%	-	0.0%	
	14	0.0%	0.0%	0.0%	0.9%	0.0%	-	0.0%	0.0%	1.9%	0.0%	-	-	0.0%	-	0.0%	
	15	0.0%	0.0%	0.0%	1.1%	0.0%	-	0.0%	0.0%	1.1%	1.2%	-	-	0.0%	-	0.0%	
	16	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	17	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	18	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	19	0.0%	0.0%	0.0%	1.2%	2.1%	-	0.0%	0.0%	0.0%	1.1%	-	-	0.0%	-	0.0%	
	20	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.1%	1.1%	-	-	0.0%	-	0.0%	
	21	0.0%	0.0%	0.0%	1.9%	1.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	22	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.0%	0.0%	-	-	0.0%	-	0.0%	
	23	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	24	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	25	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	26	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	27	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	28	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	29	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	
	30	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	0%
a)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	

160

	FT [n. days]	1000m					1000-2000m					>2000m					P(R|M)
Sa=0	0	0.1%	0.5%	0.7%	2.5%	2.9%	0.1%	0.2%	0.3%	1.4%	1.6%	-	-	0.0%	0.0%	0.1%	100%
	1	0.1%	0.5%	0.9%	5.8%	6.9%	0.0%	0.2%	0.8%	3.8%	4.5%	-	-	0.0%	0.1%	0.4%	
Sa=7	0	0.2%	0.3%	0.3%	1.7%	2.6%	0.1%	0.2%	0.2%	0.6%	0.8%	-	-	0.0%	0.0%	0.0%	
	1	0.0%	0.5%	0.0%	4.4%	3.3%	0.0%	0.8%	0.3%	3.2%	3.0%	-	-	0.0%	0.2%	0.3%	
	2	0.0%	0.3%	1.4%	4.7%	6.8%	0.0%	0.0%	0.3%	3.7%	4.1%	-	-	0.0%	0.0%	0.0%	
	3	0.4%	1.1%	0.6%	5.8%	3.9%	0.0%	0.4%	0.3%	2.9%	2.3%	-	-	0.0%	0.0%	0.0%	
	4	0.0%	0.5%	2.0%	8.1%	4.4%	0.4%	0.5%	1.0%	3.3%	5.2%	-	-	0.0%	0.0%	0.8%	
	5	0.0%	1.0%	3.2%	3.3%	7.7%	0.0%	0.0%	1.4%	1.4%	4.9%	-	-	0.0%	0.0%	0.4%	
	6	0.0%	0.6%	0.8%	4.0%	7.0%	0.0%	0.0%	0.4%	6.2%	7.0%	-	-	0.4%	0.6%	2.5%	
	7	0.0%	0.0%	1.3%	6.1%	7.5%	0.0%	0.0%	1.5%	4.8%	6.1%	-	-	0.0%	0.6%	0.3%	
Sa=30	0	0.3%	0.4%	0.0%	2.2%	2.0%	0.1%	0.1%	0.0%	0.9%	0.2%	-	-	0.0%	0.0%	0.0%	
	1	0.0%	0.4%	0.0%	1.0%	2.3%	0.2%	1.2%	0.0%	1.0%	1.6%	-	-	0.0%	0.5%	0.0%	
	2	0.0%	0.3%	0.0%	4.1%	3.0%	0.0%	0.0%	0.0%	2.5%	3.5%	-	-	0.0%	0.0%	0.0%	
	3	0.0%	0.0%	0.7%	3.1%	3.2%	0.0%	0.0%	0.0%	2.6%	1.4%	-	-	0.0%	0.0%	0.0%	
	4	0.0%	0.0%	0.6%	4.9%	16.1%	0.0%	0.6%	0.6%	2.2%	6.0%	-	-	0.0%	0.0%	0.0%	
	5	0.0%	0.0%	1.1%	4.8%	1.1%	0.0%	0.0%	0.0%	2.4%	0.6%	-	-	0.0%	0.0%	0.0%	
	6	0.0%	1.3%	0.9%	3.6%	1.4%	0.6%	0.0%	0.0%	1.8%	2.1%	-	-	0.0%	0.0%	0.7%	
	7	0.0%	0.0%	0.9%	6.8%	5.1%	0.0%	0.0%	0.0%	3.4%	2.2%	-	-	0.0%	0.0%	0.0%	
	8	0.0%	0.0%	0.0%	2.5%	0.8%	0.0%	0.0%	0.0%	3.3%	0.8%	-	-	0.0%	0.0%	0.8%	
	9	0.0%	0.8%	1.6%	5.5%	2.2%	0.0%	0.8%	0.8%	1.6%	2.2%	-	-	0.0%	0.0%	1.1%	
	10	0.0%	1.9%	2.0%	4.7%	1.0%	0.0%	0.6%	2.0%	2.8%	1.0%	-	-	0.0%	0.0%	0.0%	
	11	0.0%	0.8%	0.7%	4.0%	0.0%	0.0%	0.0%	0.7%	2.0%	1.2%	-	-	0.0%	0.0%	0.0%	
	12	0.9%	0.0%	1.7%	4.0%	0.0%	0.0%	0.0%	0.8%	4.0%	0.0%	-	-	0.0%	0.0%	0.0%	
	13	0.0%	1.1%	1.0%	3.3%	2.0%	0.0%	0.0%	2.0%	2.4%	2.0%	-	-	0.0%	0.0%	0.0%	
	14	0.0%	0.0%	2.2%	8.5%	2.4%	0.0%	0.0%	0.7%	3.8%	4.0%	-	-	0.0%	0.0%	0.0%	
	15	0.0%	0.0%	1.9%	6.8%	4.8%	0.0%	0.0%	0.0%	1.1%	3.6%	-	-	0.0%	0.0%	1.2%	
	16	0.0%	0.0%	4.9%	6.5%	8.2%	0.0%	0.0%	0.7%	2.2%	7.1%	-	-	0.0%	0.0%	0.0%	
	17	0.0%	1.1%	1.5%	3.7%	7.5%	0.0%	0.0%	0.0%	2.5%	4.7%	-	-	0.0%	0.0%	0.9%	
	18	0.0%	1.6%	0.8%	4.8%	5.0%	0.0%	1.6%	0.0%	1.2%	4.2%	-	-	0.0%	1.2%	0.0%	
	19	0.0%	1.6%	1.9%	1.2%	8.5%	0.0%	0.0%	4.8%	1.2%	5.3%	-	-	0.0%	1.2%	0.0%	
	20	0.0%	0.0%	0.9%	4.3%	5.6%	0.0%	0.0%	0.0%	6.4%	7.9%	-	-	0.9%	0.0%	1.1%	
	21	0.0%	0.0%	1.3%	1.9%	9.2%	0.0%	0.0%	2.6%	3.8%	6.9%	-	-	0.0%	0.0%	2.3%	
	22	0.0%	0.0%	0.0%	2.1%	8.7%	0.0%	0.0%	0.0%	4.2%	13.0%	-	-	0.0%	1.0%	0.0%	
	23	0.0%	0.0%	0.0%	6.1%	7.0%	0.0%	0.0%	0.0%	0.0%	14.1%	-	-	0.0%	0.0%	0.0%	
	24	0.0%	0.0%	2.5%	2.7%	14.6%	0.0%	0.0%	2.5%	2.7%	12.4%	-	-	0.0%	0.0%	1.1%	
	25	0.0%	0.0%	2.3%	2.9%	11.8%	0.0%	0.0%	0.0%	5.9%	7.9%	-	-	0.0%	0.0%	1.3%	
	26	0.0%	0.0%	0.0%	7.7%	27.0%	0.0%	0.0%	0.0%	7.7%	8.1%	-	-	0.0%	0.0%	5.4%	
	27	0.0%	0.0%	0.0%	0.0%	15.8%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	
	28	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%	0.0%	4.3%	8.3%	0.0%	-	-	0.0%	0.0%	0.0%	
	29	0.0%	-	0.0%	5.3%	0.0%	0.0%	-	0.0%	21.1%	0.0%	-	-	0.0%	5.3%	0.0%	
	30	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	6.3%	0.0%	-	-	0.0%	0.0%	0.0%	0%
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	

	FT [n. days]	1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.4%	0.9%	3.5%	4.1%	0.0%	0.2%	0.7%	2.6%	3.4%	-	0.1%	0.0%	0.7%	1.5%
	1	0.1%	0.8%	1.0%	4.7%	2.9%	0.1%	0.5%	0.5%	3.1%	1.9%	-	0.0%	0.4%	0.7%	0.7%
Sa=7	0	0.1%	0.5%	1.0%	3.4%	4.5%	0.0%	0.2%	0.8%	2.2%	4.0%	-	0.1%	0.0%	0.8%	1.5%
	1	0.0%	0.8%	0.6%	4.2%	5.0%	0.0%	0.3%	0.6%	4.0%	2.8%	-	0.0%	0.3%	1.0%	1.9%
	2	0.0%	0.0%	1.0%	6.3%	3.7%	0.3%	0.5%	0.7%	3.9%	3.1%	-	0.0%	0.3%	0.5%	0.7%
	3	0.4%	0.0%	0.9%	3.6%	3.2%	0.0%	0.4%	0.3%	2.6%	1.9%	-	0.0%	0.0%	0.0%	1.6%
	4	0.0%	1.8%	0.7%	4.9%	2.0%	0.0%	0.0%	1.0%	3.7%	2.8%	-	0.0%	0.3%	1.2%	1.2%
	5	0.0%	0.5%	1.8%	2.4%	0.4%	0.0%	0.5%	0.4%	2.4%	0.4%	-	0.0%	0.4%	0.0%	0.4%
	6	0.0%	0.0%	1.3%	2.3%	2.0%	0.0%	0.0%	0.4%	1.7%	2.5%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.8%	0.3%	0.9%	0.0%	0.0%	0.0%	0.3%	0.9%	-	0.0%	0.5%	0.6%	0.0%
Sa=30	0	0.1%	0.2%	0.2%	2.0%	5.2%	0.0%	0.0%	0.7%	0.4%	4.2%	-	0.1%	0.0%	0.2%	1.6%
	1	0.0%	0.0%	0.6%	3.4%	9.4%	0.0%	0.0%	1.2%	1.0%	7.1%	-	0.0%	0.0%	0.5%	2.3%
	2	0.0%	0.0%	0.0%	4.6%	3.5%	0.0%	0.3%	0.0%	1.2%	2.0%	-	0.0%	0.0%	1.7%	1.5%
	3	0.0%	0.9%	2.8%	4.6%	3.6%	0.7%	0.9%	0.7%	1.0%	2.7%	-	0.0%	0.0%	0.5%	2.7%
	4	0.0%	0.0%	0.0%	5.4%	1.3%	0.0%	1.1%	0.0%	5.4%	1.3%	-	0.0%	0.0%	1.1%	0.7%
	5	0.9%	0.7%	2.2%	6.3%	1.7%	0.0%	0.0%	0.0%	6.0%	0.6%	-	0.0%	2.2%	1.6%	0.0%
	6	0.0%	0.0%	1.9%	4.1%	1.4%	0.0%	0.0%	0.0%	2.4%	2.1%	-	0.6%	0.0%	0.0%	1.4%
	7	0.0%	0.7%	0.9%	5.1%	0.7%	0.0%	0.0%	0.9%	6.8%	1.5%	-	0.0%	0.0%	1.7%	0.0%
	8	0.0%	0.6%	0.6%	6.6%	0.8%	0.0%	0.6%	0.6%	4.1%	0.0%	-	0.0%	0.6%	0.8%	0.0%
	9	0.0%	0.8%	3.1%	1.6%	1.1%	0.0%	0.0%	2.3%	4.7%	1.1%	-	0.0%	1.6%	0.0%	0.0%
	10	0.0%	0.6%	1.3%	4.7%	0.0%	0.0%	0.6%	0.0%	2.8%	5.2%	-	0.0%	0.0%	0.9%	1.0%
	11	0.0%	1.6%	3.5%	3.0%	1.2%	0.0%	0.0%	0.0%	4.0%	3.5%	-	0.0%	0.0%	2.0%	0.0%
	12	0.9%	1.0%	0.0%	2.4%	4.1%	0.0%	0.0%	0.0%	0.8%	4.1%	-	0.0%	0.0%	0.0%	0.0%
	13	0.0%	0.0%	1.0%	4.9%	5.9%	0.0%	0.0%	0.0%	3.3%	4.0%	-	0.0%	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	2.8%	4.0%	0.0%	0.0%	1.5%	0.9%	1.6%	-	0.0%	0.0%	0.0%	0.8%
	15	0.0%	0.0%	1.3%	0.0%	3.6%	0.0%	0.0%	0.6%	1.1%	2.4%	-	0.0%	0.0%	0.0%	0.0%
	16	0.0%	2.3%	0.0%	2.2%	3.1%	0.0%	0.0%	0.7%	4.3%	0.0%	-	0.0%	0.0%	0.0%	3.1%
	17	0.0%	2.3%	0.7%	3.7%	2.8%	0.0%	0.0%	0.0%	3.7%	0.0%	-	0.0%	0.0%	0.0%	0.9%
	18	0.0%	0.0%	1.6%	1.2%	2.5%	0.0%	0.0%	0.8%	2.4%	4.2%	-	0.0%	0.0%	0.0%	1.7%
	19	0.0%	1.6%	1.0%	4.9%	1.1%	0.0%	1.6%	1.0%	1.2%	5.3%	-	0.0%	0.0%	1.2%	0.0%
	20	0.0%	0.0%	1.7%	3.2%	0.0%	0.0%	1.9%	0.0%	1.1%	3.4%	-	0.0%	0.0%	1.1%	3.4%
	21	0.0%	4.1%	1.3%	0.0%	3.4%	0.0%	0.0%	1.3%	1.9%	1.1%	-	0.0%	0.0%	0.0%	1.1%
	22	0.0%	0.0%	1.2%	0.0%	2.9%	0.0%	0.0%	1.2%	3.1%	1.4%	-	0.0%	0.0%	1.0%	0.0%
	23	0.0%	0.0%	0.0%	1.5%	2.8%	0.0%	0.0%	0.0%	1.5%	1.4%	-	0.0%	1.6%	1.5%	0.0%
	24	0.0%	0.0%	0.0%	2.7%	1.1%	0.0%	0.0%	0.0%	2.7%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	25	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	1.3%
	26	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	29	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	30	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)



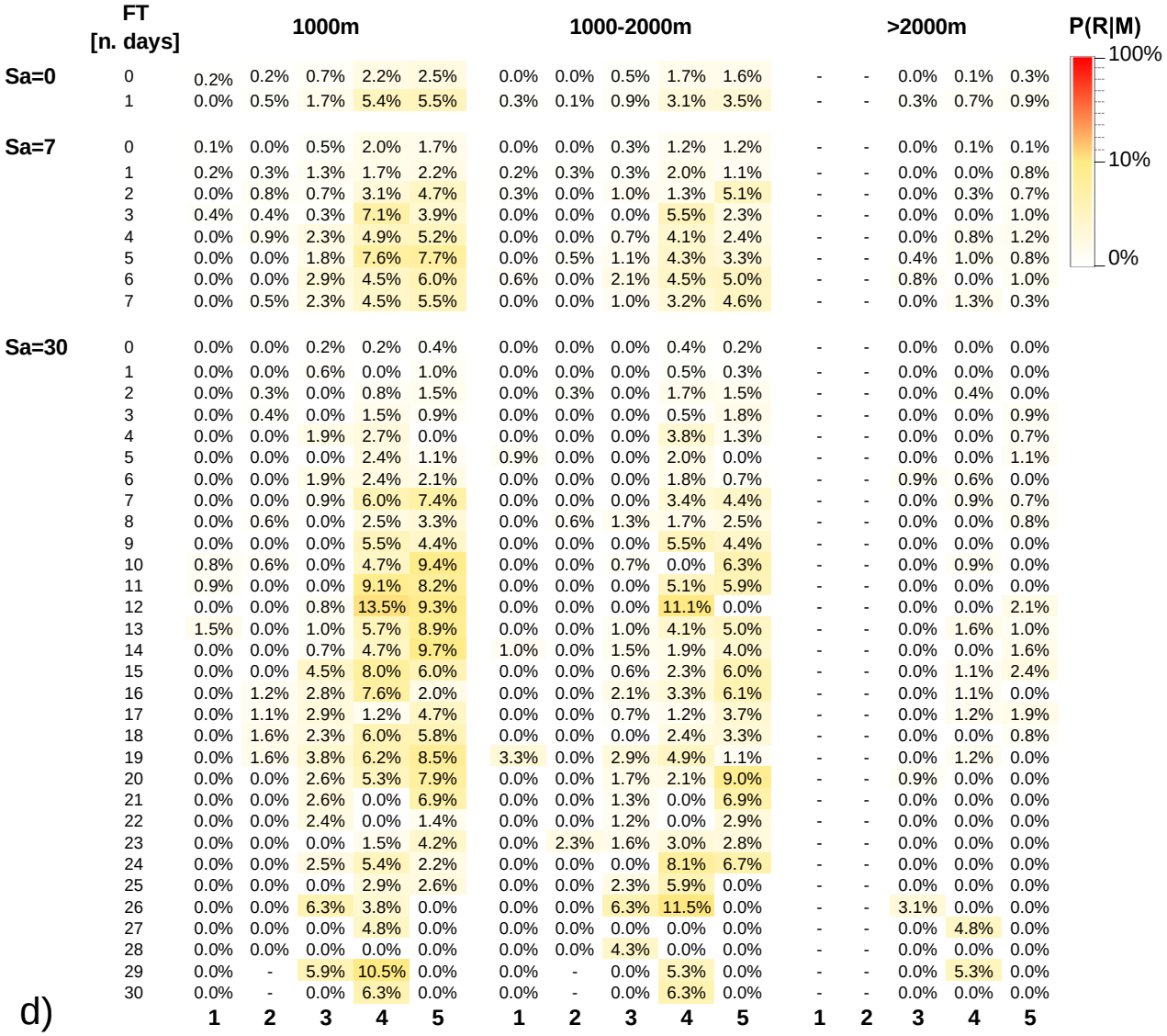
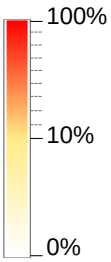


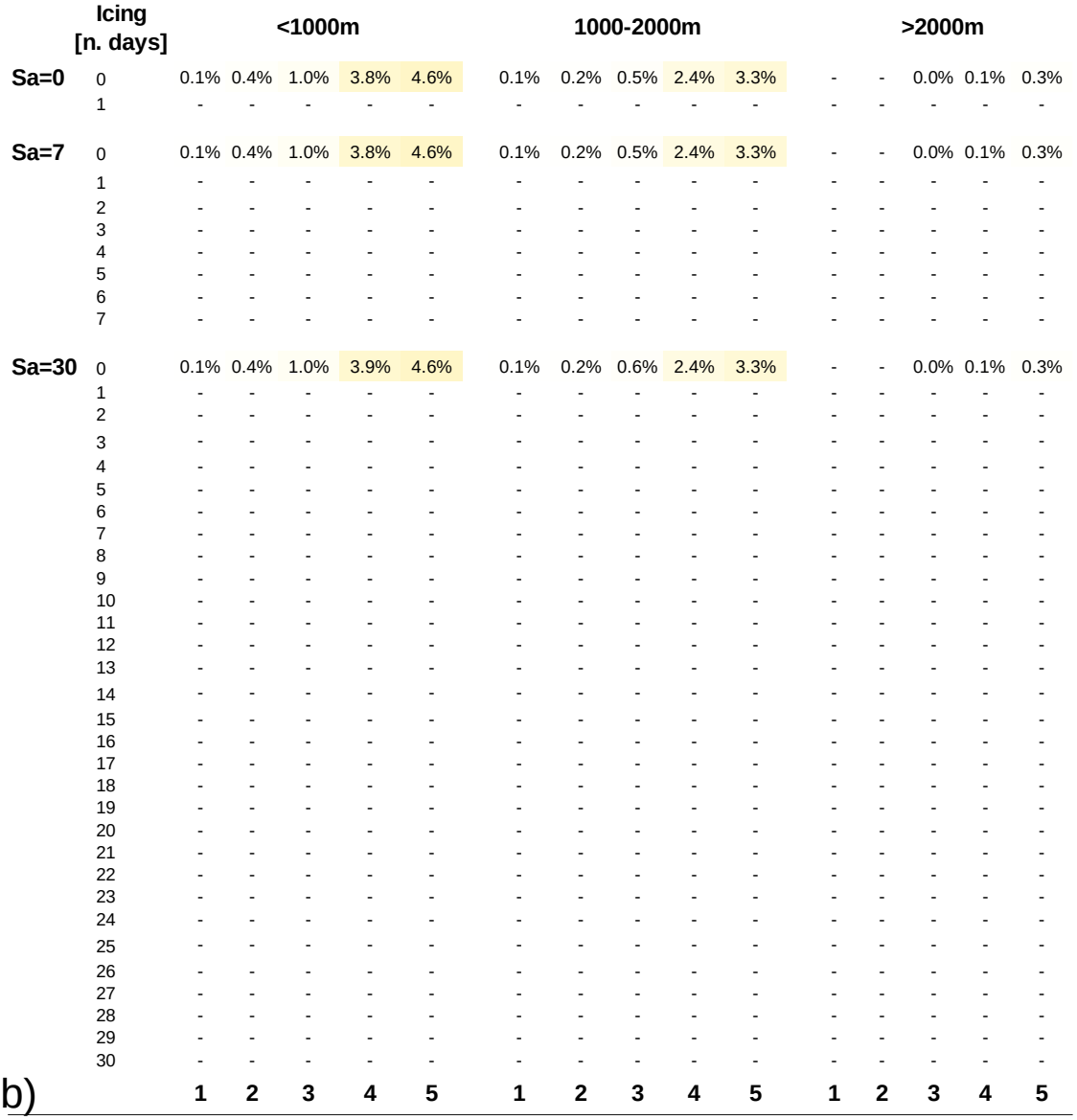
Fig. S29 Conditional probability, P(R|M), calculated with Bayesian's method of freeze-thaw cycle minimum case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.6 Icing

S2.6.1 Maximum calculated time-series

	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.7%	0.9%	4.5%	4.3%	-	0.1%	0.1%	1.3%	1.1%	-	-	0.0%	-	0.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=7	0	0.0%	0.7%	0.9%	4.5%	4.3%	-	0.1%	0.1%	1.3%	1.1%	-	-	0.0%	-	0.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=30	0	0.0%	0.7%	0.9%	4.5%	4.2%	-	0.1%	0.1%	1.4%	1.1%	-	-	0.0%	-	0.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

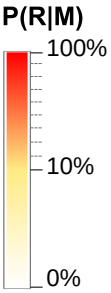



Icing [n. days]
<1000m
1000-2000m
>2000m
P(R|M)
100%
10%
0%
Sa=0
Sa=7
Sa=30
0 0.1% 0.4% 1.0% 3.8% 4.6% 0.1% 0.2% 0.5% 2.4% 3.3% - - 0.0% 0.1% 0.3%
1 - - - - - - - - - - - - - - -
2 - - - - - - - - - - - - - - -
3 - - - - - - - - - - - - - - -
4 - - - - - - - - - - - - - - -
5 - - - - - - - - - - - - - - -
6 - - - - - - - - - - - - - - -
7 - - - - - - - - - - - - - - -
0 0.1% 0.4% 1.0% 3.8% 4.6% 0.1% 0.2% 0.5% 2.4% 3.3% - - 0.0% 0.1% 0.3%
1 - - - - - - - - - - - - - - -
2 - - - - - - - - - - - - - - -
3 - - - - - - - - - - - - - - -
4 - - - - - - - - - - - - - - -
5 - - - - - - - - - - - - - - -
6 - - - - - - - - - - - - - - -
7 - - - - - - - - - - - - - - -
8 - - - - - - - - - - - - - - -
9 - - - - - - - - - - - - - - -
10 - - - - - - - - - - - - - - -
11 - - - - - - - - - - - - - - -
12 - - - - - - - - - - - - - - -
13 - - - - - - - - - - - - - - -
14 - - - - - - - - - - - - - - -
15 - - - - - - - - - - - - - - -
16 - - - - - - - - - - - - - - -
17 - - - - - - - - - - - - - - -
18 - - - - - - - - - - - - - - -
19 - - - - - - - - - - - - - - -
20 - - - - - - - - - - - - - - -
21 - - - - - - - - - - - - - - -
22 - - - - - - - - - - - - - - -
23 - - - - - - - - - - - - - - -
24 - - - - - - - - - - - - - - -
25 - - - - - - - - - - - - - - -
26 - - - - - - - - - - - - - - -
27 - - - - - - - - - - - - - - -
28 - - - - - - - - - - - - - - -
29 - - - - - - - - - - - - - - -
30 - - - - - - - - - - - - - - -
0 0.1% 0.4% 1.0% 3.9% 4.6% 0.1% 0.2% 0.6% 2.4% 3.3% - - 0.0% 0.1% 0.3%
1 - - - - - - - - - - - - - - -
2 - - - - - - - - - - - - - - -
3 - - - - - - - - - - - - - - -
4 - - - - - - - - - - - - - - -
5 - - - - - - - - - - - - - - -
6 - - - - - - - - - - - - - - -
7 - - - - - - - - - - - - - - -
8 - - - - - - - - - - - - - - -
9 - - - - - - - - - - - - - - -
10 - - - - - - - - - - - - - - -
11 - - - - - - - - - - - - - - -
12 - - - - - - - - - - - - - - -
13 - - - - - - - - - - - - - - -
14 - - - - - - - - - - - - - - -
15 - - - - - - - - - - - - - - -
16 - - - - - - - - - - - - - - -
17 - - - - - - - - - - - - - - -
18 - - - - - - - - - - - - - - -
19 - - - - - - - - - - - - - - -
20 - - - - - - - - - - - - - - -
21 - - - - - - - - - - - - - - -
22 - - - - - - - - - - - - - - -
23 - - - - - - - - - - - - - - -
24 - - - - - - - - - - - - - - -
25 - - - - - - - - - - - - - - -
26 - - - - - - - - - - - - - - -
27 - - - - - - - - - - - - - - -
28 - - - - - - - - - - - - - - -
29 - - - - - - - - - - - - - - -
30 - - - - - - - - - - - - - - -
1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

b)

170

	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.5%	0.9%	3.4%	3.2%	0.0%	0.2%	0.5%	2.4%	2.7%	-	0.1%	0.2%	0.6%	1.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=7	0	0.1%	0.5%	0.9%	3.4%	3.2%	0.0%	0.2%	0.5%	2.4%	2.7%	-	0.1%	0.2%	0.6%	1.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sa=30	0	0.1%	0.5%	0.9%	3.4%	3.2%	0.0%	0.2%	0.6%	2.4%	2.7%	-	0.1%	0.2%	0.6%	1.1%
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



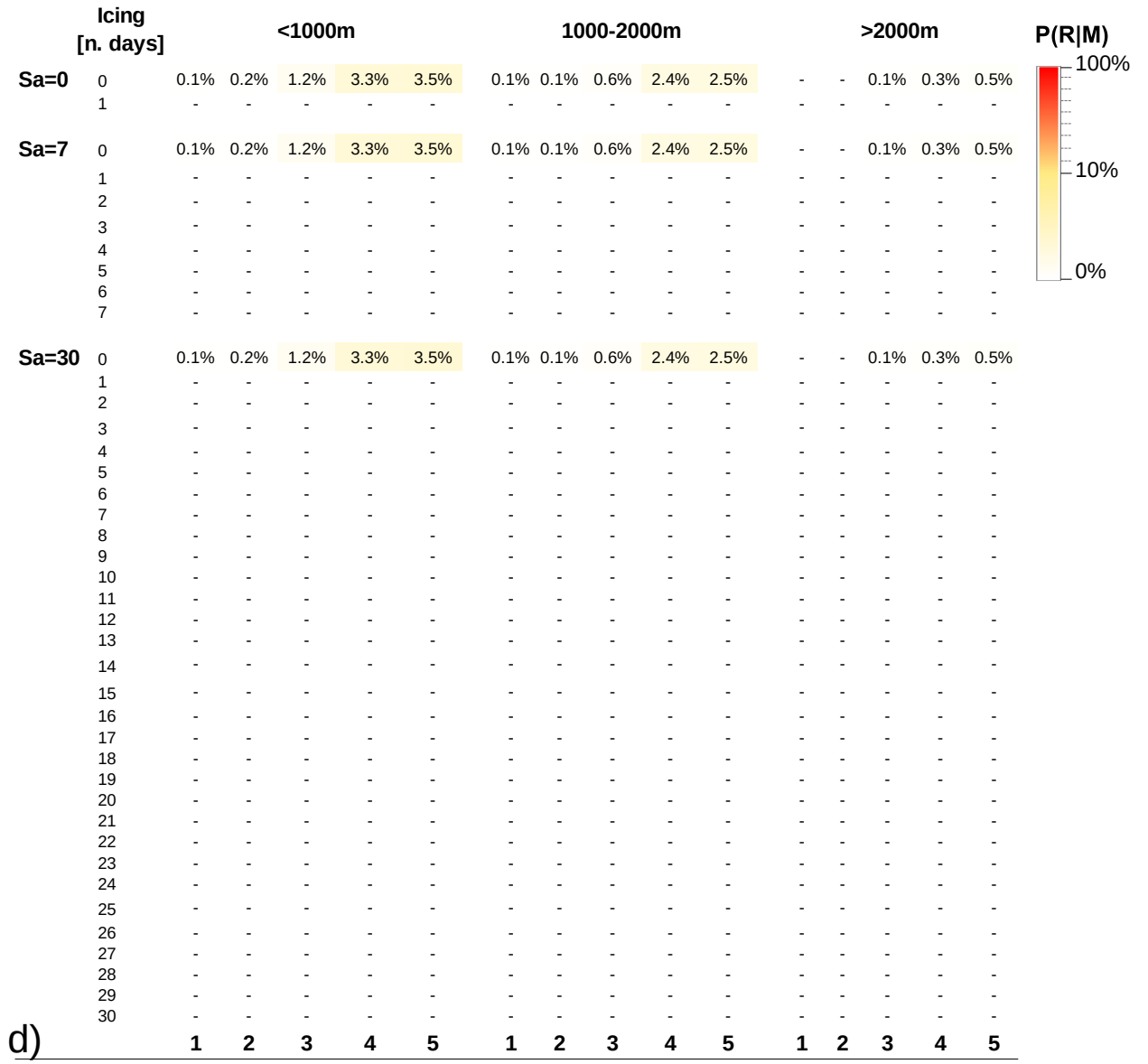
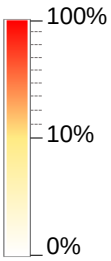


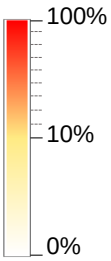
Fig. S30 Conditional probability, P(R|M), calculated with Bayesian's method of icing maximum case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.6.2 Medium calculated time-series

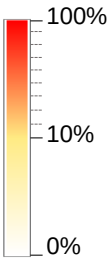
	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.6%	0.9%	4.2%	4.2%	-	0.1%	0.1%	1.3%	1.1%	-	-	0.0%	-	0.1%
	1	0.0%	3.2%	1.8%	13.9%	6.5%	-	1.1%	0.0%	1.7%	0.8%	-	-	0.0%	-	0.0%
Sa=7	0	0.0%	0.5%	0.7%	3.6%	3.5%	-	0.1%	0.1%	1.2%	1.0%	-	-	0.0%	-	0.1%
	1	0.0%	1.3%	3.2%	9.5%	12.9%	-	0.0%	0.0%	3.8%	2.6%	-	-	0.0%	-	0.0%
	2	0.0%	4.9%	3.7%	19.0%	16.9%	-	0.0%	0.0%	3.8%	1.5%	-	-	0.0%	-	0.0%
	3	0.0%	2.7%	2.2%	15.7%	13.2%	-	0.0%	0.0%	0.0%	3.8%	-	-	0.0%	-	0.0%
	4	0.0%	0.0%	6.9%	17.4%	5.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	5	0.0%	0.0%	0.0%	30.8%	12.5%	-	4.5%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	6	0.0%	6.3%	0.0%	11.1%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	7	0.0%	11.1%	0.0%	0.0%	12.5%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
Sa=30	0	0.0%	0.4%	0.2%	1.8%	2.2%	-	0.1%	0.0%	0.8%	0.7%	-	-	0.0%	-	0.1%
	1	0.0%	0.8%	3.9%	10.9%	9.9%	-	0.8%	0.8%	3.3%	1.0%	-	-	0.0%	-	0.0%
	2	0.0%	0.0%	3.9%	21.1%	15.1%	-	0.0%	0.5%	8.4%	1.6%	-	-	0.0%	-	0.0%
	3	0.0%	1.6%	0.0%	16.5%	18.7%	-	0.0%	0.0%	4.5%	3.3%	-	-	0.0%	-	0.0%
	4	3.6%	0.0%	3.4%	18.2%	13.6%	-	0.0%	0.0%	2.3%	3.2%	-	-	0.0%	-	0.0%
	5	0.0%	2.3%	1.5%	24.7%	7.0%	-	0.0%	0.0%	5.4%	0.0%	-	-	0.0%	-	0.0%
	6	0.0%	2.3%	9.3%	15.4%	21.6%	-	0.0%	1.3%	0.0%	2.7%	-	-	0.0%	-	0.0%
	7	0.0%	0.0%	0.0%	18.5%	0.0%	-	0.0%	0.0%	0.0%	7.1%	-	-	0.0%	-	0.0%
	8	0.0%	8.7%	8.3%	0.0%	9.7%	-	4.3%	0.0%	0.0%	6.5%	-	-	0.0%	-	0.0%
	9	0.0%	6.1%	0.0%	40.0%	16.7%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	10	0.0%	0.0%	0.0%	0.0%	20.0%	-	0.0%	0.0%	0.0%	20.0%	-	-	0.0%	-	0.0%
	11	0.0%	20.0%	0.0%	0.0%	41.7%	-	0.0%	0.0%	0.0%	8.3%	-	-	0.0%	-	0.0%
	12	0.0%	0.0%	16.7%	-	6.3%	-	0.0%	0.0%	-	6.3%	-	-	0.0%	-	0.0%
	13	0.0%	0.0%	-	-	0.0%	-	0.0%	-	-	0.0%	-	-	-	-	0.0%
	14	0.0%	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	15	-	22.2%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	16	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	17	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	18	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	19	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	20	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	21	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	22	-	18.2%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

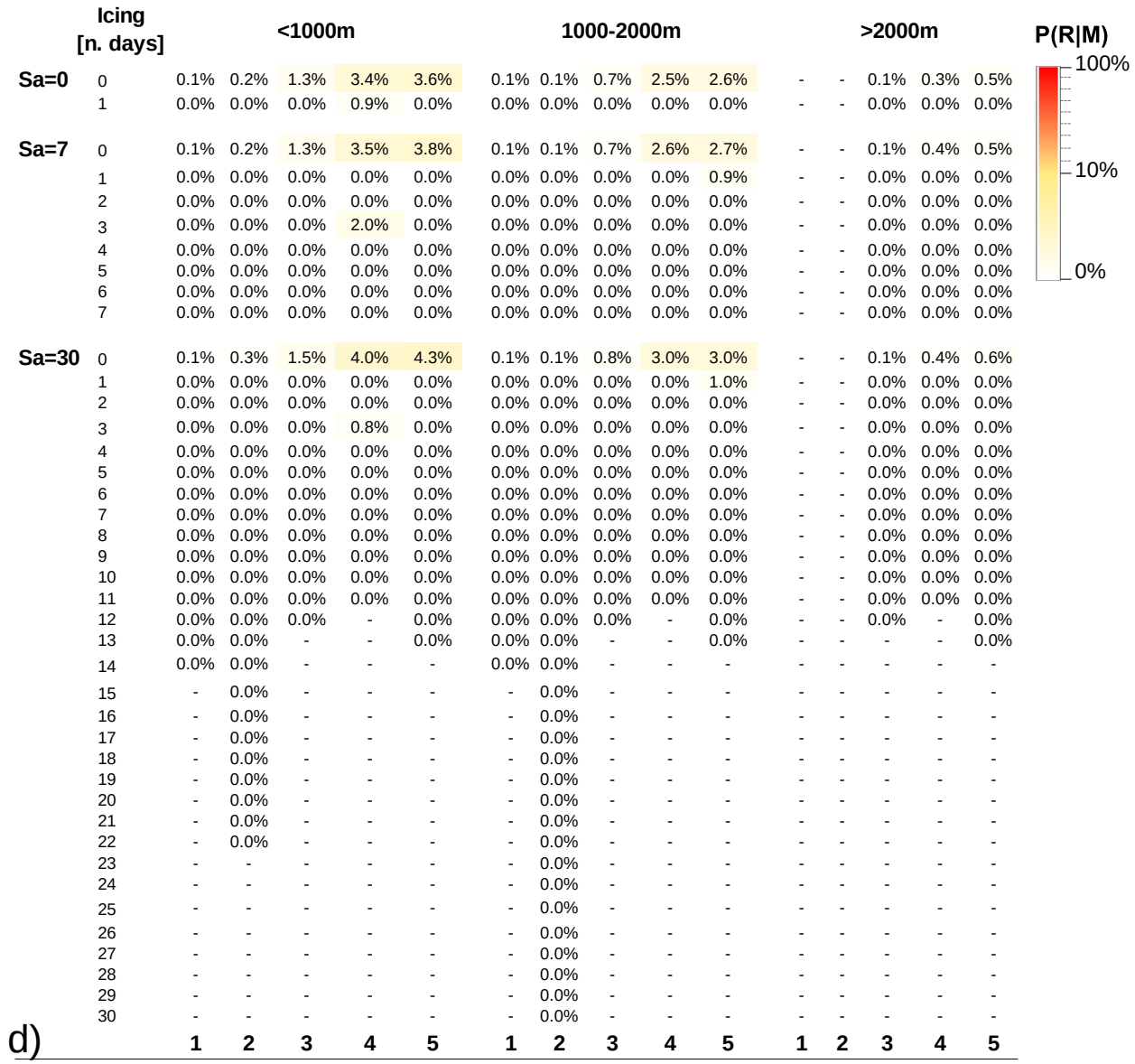


	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.5%	1.0%	4.0%	4.8%	0.1%	0.2%	0.6%	2.5%	3.5%	-	-	0.0%	0.1%	0.3%
	1	1.4%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=7	0	0.1%	0.5%	1.1%	4.0%	4.9%	0.1%	0.2%	0.6%	2.6%	3.6%	-	-	0.0%	0.1%	0.4%
	1	0.0%	0.0%	0.0%	2.9%	0.9%	0.0%	0.0%	0.0%	1.9%	0.0%	-	-	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	2.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	7	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
Sa=30	0	0.1%	0.5%	1.1%	3.9%	4.5%	0.1%	0.3%	0.7%	2.4%	3.6%	-	-	0.0%	0.2%	0.4%
	1	0.0%	0.0%	0.8%	9.8%	4.0%	0.0%	0.0%	0.0%	7.7%	1.0%	-	-	0.0%	0.0%	0.0%
	2	0.0%	1.7%	0.5%	1.1%	8.7%	0.0%	0.0%	0.0%	0.0%	5.6%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	-	-	0.0%	0.0%	0.0%
	4	0.0%	0.0%	1.7%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.8%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	14.0%	0.0%	0.0%	0.0%	0.0%	5.3%	-	-	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	-	-	0.0%	0.0%	0.0%
	7	4.1%	0.0%	5.6%	0.0%	21.4%	2.0%	0.0%	0.0%	0.0%	3.6%	-	-	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	-	6.3%	0.0%	0.0%	0.0%	-	0.0%	-	-	0.0%	-	0.0%
	13	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	-	-	-	0.0%
	14	0.0%	0.0%	-	-	-	0.0%	0.0%	-	-	-	-	-	-	-	-
	15	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	16	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	17	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	18	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	19	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	20	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	21	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	22	-	0.0%	-	-	-	-	0.0%	-	-	-	-	-	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.5%	1.0%	3.5%	3.3%	0.0%	0.3%	0.6%	2.5%	2.8%	-	0.1%	0.2%	0.7%	1.1%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=7	0	0.1%	0.6%	1.0%	3.7%	3.5%	0.0%	0.3%	0.6%	2.6%	2.9%	-	0.1%	0.2%	0.7%	1.2%
	1	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=30	0	0.1%	0.6%	1.2%	4.1%	3.9%	0.0%	0.3%	0.7%	3.0%	3.3%	-	0.1%	0.2%	0.8%	1.3%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	12	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	-	0.0%
	13	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%	-	-	0.0%
	14	0.0%	0.0%	-	-	-	0.0%	0.0%	-	-	-	-	0.0%	-	-	-
	15	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	16	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	17	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	18	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	19	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	20	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	21	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	22	-	0.0%	-	-	-	-	0.0%	-	-	-	-	0.0%	-	-	-
	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**



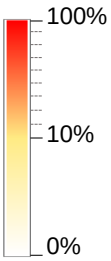


180

Fig. S31 Conditional probability, P(R|M), calculated with Bayesian's method of icing medium case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.

S2.6.3 Minimum calculated time-series

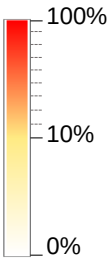
	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.0%	0.1%	0.1%	0.1%	0.3%	-	0.0%	0.1%	0.1%	0.2%	-	-	0.1%	-	0.0%
	1	0.0%	0.4%	1.1%	3.5%	2.8%	-	0.2%	0.0%	2.3%	1.6%	-	-	0.0%	-	0.2%
Sa=7	0	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	1	0.0%	0.0%	0.0%	0.0%	0.6%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	2	0.0%	0.0%	0.0%	0.0%	1.3%	-	0.0%	0.9%	0.8%	0.6%	-	-	0.9%	-	0.0%
	3	0.0%	0.0%	0.0%	0.9%	0.8%	-	0.0%	0.0%	0.0%	0.8%	-	-	0.0%	-	0.0%
	4	0.0%	0.0%	0.0%	1.9%	4.6%	-	0.0%	0.0%	2.8%	4.6%	-	-	0.0%	-	0.0%
	5	0.0%	0.9%	1.3%	0.7%	3.6%	-	0.0%	0.0%	0.7%	0.7%	-	-	0.0%	-	0.7%
	6	0.0%	0.7%	2.8%	4.5%	3.2%	-	0.0%	0.0%	1.3%	2.6%	-	-	0.0%	-	0.0%
	7	0.0%	1.4%	1.4%	8.5%	5.7%	-	0.6%	0.3%	3.9%	2.2%	-	-	0.0%	-	0.3%
Sa=30	0	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	1	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	2	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	5	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	2.8%	0.0%	-	-	0.0%	-	0.0%
	7	0.0%	0.0%	0.0%	1.9%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	8	0.0%	0.0%	0.0%	0.0%	1.4%	-	0.0%	0.0%	1.3%	0.0%	-	-	0.0%	-	0.0%
	9	0.0%	0.0%	0.0%	1.8%	0.0%	-	0.0%	0.0%	0.0%	1.6%	-	-	0.0%	-	0.0%
	10	0.0%	0.0%	0.0%	0.0%	4.1%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	11	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	12	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	1.9%	-	-	0.0%	-	0.0%
	13	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	15	0.0%	0.0%	0.0%	2.9%	0.0%	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	16	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	1.9%	-	-	0.0%	-	0.0%
	17	0.0%	0.0%	0.0%	4.0%	0.0%	-	0.0%	0.0%	2.0%	0.0%	-	-	0.0%	-	0.0%
	18	0.0%	0.0%	0.0%	2.7%	2.9%	-	0.0%	0.0%	4.0%	0.0%	-	-	0.0%	-	0.0%
	19	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.8%	0.0%	-	-	0.0%	-	0.0%
	20	0.0%	0.0%	0.0%	1.5%	5.3%	-	0.0%	0.0%	1.5%	7.9%	-	-	0.0%	-	0.0%
	21	0.0%	4.6%	0.0%	0.0%	0.0%	-	0.0%	0.0%	4.1%	0.0%	-	-	0.0%	-	0.0%
	22	0.0%	0.0%	0.0%	5.9%	4.8%	-	2.3%	0.0%	1.5%	2.4%	-	-	0.0%	-	0.0%
	23	0.0%	2.3%	0.0%	2.9%	6.3%	-	0.0%	0.0%	1.4%	0.0%	-	-	0.0%	-	1.6%
	24	0.0%	1.4%	0.0%	2.0%	12.8%	-	0.0%	0.0%	2.0%	4.3%	-	-	0.0%	-	0.0%
	25	0.0%	0.0%	1.3%	6.8%	10.7%	-	0.0%	1.3%	5.7%	4.8%	-	-	1.3%	-	1.2%
	26	0.0%	2.0%	1.8%	5.7%	4.5%	-	0.0%	0.0%	3.8%	1.8%	-	-	0.0%	-	0.0%
	27	0.0%	0.0%	1.8%	9.6%	11.1%	-	0.0%	0.0%	2.1%	6.2%	-	-	0.0%	-	2.5%
	28	0.0%	0.0%	4.8%	13.6%	11.6%	-	0.0%	0.0%	4.5%	1.8%	-	-	0.0%	-	0.0%
	29	0.0%	2.5%	2.5%	15.6%	6.3%	-	0.0%	0.0%	1.8%	1.3%	-	-	0.0%	-	0.0%
	30	0.0%	0.9%	4.2%	15.5%	19.7%	-	0.9%	0.5%	4.9%	4.2%	-	-	0.0%	-	0.0%
a)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5



185

	Icing [n. days]	<1000m					1000-2000m					>2000m				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Sa=0	0	0.1%	0.2%	0.9%	2.1%	3.4%	0.1%	0.1%	0.5%	1.9%	3.4%	-	-	0.1%	0.2%	0.4%
	1	0.0%	0.6%	1.1%	9.8%	8.7%	0.0%	0.2%	1.1%	4.9%	5.3%	-	-	0.0%	0.0%	0.4%
Sa=7	0	0.0%	0.1%	0.6%	1.1%	2.7%	0.0%	0.0%	0.3%	1.2%	2.6%	-	-	0.1%	0.3%	0.3%
	1	0.0%	0.0%	0.4%	4.4%	9.9%	0.0%	0.0%	1.2%	5.5%	6.4%	-	-	0.0%	0.0%	0.6%
	2	0.7%	0.0%	0.9%	7.5%	5.8%	0.0%	0.0%	0.9%	3.0%	6.5%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	1.4%	6.9%	8.3%	0.0%	0.8%	1.4%	3.4%	5.8%	-	-	0.0%	0.0%	2.5%
	4	0.0%	0.9%	5.8%	8.4%	8.3%	0.0%	0.9%	2.2%	4.7%	7.4%	-	-	0.0%	0.0%	0.0%
	5	0.0%	2.7%	2.6%	15.4%	5.0%	1.1%	0.0%	0.6%	6.6%	5.0%	-	-	0.0%	0.0%	0.7%
	6	0.0%	2.1%	1.4%	7.6%	7.7%	0.0%	1.4%	0.7%	6.4%	3.9%	-	-	0.0%	0.0%	0.0%
	7	0.0%	0.8%	1.1%	8.5%	8.3%	0.0%	0.6%	0.6%	5.5%	5.1%	-	-	0.0%	0.3%	0.3%
Sa=30	0	0.0%	0.1%	0.0%	0.2%	0.7%	0.0%	0.0%	0.1%	0.2%	0.7%	-	-	0.1%	0.1%	0.1%
	1	0.0%	0.0%	0.0%	1.2%	5.8%	0.0%	0.0%	0.0%	4.1%	5.3%	-	-	0.0%	0.6%	0.5%
	2	0.0%	0.0%	0.9%	2.5%	2.5%	0.0%	0.0%	0.0%	0.8%	2.5%	-	-	0.0%	0.0%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	4.0%	-	-	0.0%	0.0%	2.0%
	4	0.0%	0.0%	2.4%	1.4%	6.4%	0.0%	0.0%	0.0%	1.4%	2.1%	-	-	0.0%	0.0%	0.0%
	5	0.0%	0.0%	1.2%	0.0%	10.7%	0.0%	0.0%	0.0%	4.3%	1.3%	-	-	0.0%	0.0%	1.3%
	6	0.0%	0.0%	2.0%	5.6%	8.7%	0.0%	0.0%	4.1%	2.8%	3.5%	-	-	0.0%	0.0%	1.7%
	7	0.0%	0.0%	0.0%	1.9%	9.1%	0.0%	0.0%	2.0%	5.6%	12.7%	-	-	0.0%	1.9%	1.8%
	8	0.0%	0.0%	2.8%	1.3%	8.6%	0.0%	1.9%	0.0%	0.0%	8.6%	-	-	0.0%	0.0%	0.0%
	9	0.0%	0.0%	3.3%	1.8%	8.1%	0.0%	0.0%	0.0%	1.8%	19.4%	-	-	0.0%	0.0%	0.0%
	10	0.0%	1.6%	0.0%	3.7%	14.3%	0.0%	0.0%	0.0%	3.7%	4.1%	-	-	0.0%	0.0%	0.0%
	11	0.0%	1.9%	4.3%	6.1%	0.0%	0.0%	0.0%	4.3%	12.1%	5.7%	-	-	0.0%	0.0%	0.0%
	12	0.0%	0.0%	1.7%	6.3%	5.6%	0.0%	0.0%	5.2%	4.8%	13.0%	-	-	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	10.8%	13.9%	0.0%	0.0%	1.7%	0.0%	5.6%	-	-	0.0%	2.7%	0.0%
	14	0.0%	0.0%	1.3%	5.4%	8.6%	0.0%	0.0%	0.0%	2.7%	5.7%	-	-	0.0%	0.0%	0.0%
	15	2.6%	0.0%	6.9%	8.8%	16.3%	0.0%	0.0%	0.0%	0.0%	14.3%	-	-	0.0%	0.0%	2.0%
	16	0.0%	0.0%	7.4%	12.2%	13.2%	0.0%	0.0%	0.0%	4.1%	3.8%	-	-	0.0%	0.0%	1.9%
	17	0.0%	5.3%	5.6%	12.0%	6.1%	0.0%	0.0%	3.7%	2.0%	12.1%	-	-	0.0%	0.0%	0.0%
	18	0.0%	3.4%	1.9%	12.0%	0.0%	0.0%	0.0%	1.9%	6.7%	0.0%	-	-	0.0%	0.0%	0.0%
	19	0.0%	0.0%	0.0%	3.6%	2.6%	0.0%	2.0%	1.5%	3.6%	2.6%	-	-	0.0%	0.0%	0.0%
	20	0.0%	2.1%	3.2%	7.7%	0.0%	0.0%	0.0%	0.0%	6.2%	2.6%	-	-	0.0%	0.0%	0.0%
	21	0.0%	1.5%	4.2%	12.2%	2.9%	0.0%	1.5%	2.8%	6.1%	2.9%	-	-	0.0%	0.0%	0.0%
	22	0.0%	0.0%	3.1%	13.2%	2.4%	0.0%	0.0%	4.6%	8.8%	0.0%	-	-	0.0%	0.0%	0.0%
	23	0.0%	0.0%	1.4%	15.9%	1.6%	0.0%	0.0%	0.0%	11.6%	3.1%	-	-	0.0%	0.0%	1.6%
	24	0.0%	1.4%	0.0%	14.0%	4.3%	1.5%	0.0%	0.0%	8.0%	4.3%	-	-	0.0%	0.0%	2.1%
	25	0.0%	1.0%	2.6%	5.7%	14.3%	0.0%	1.0%	0.0%	3.4%	3.6%	-	-	0.0%	0.0%	0.0%
	26	0.0%	0.0%	0.0%	5.7%	8.2%	0.0%	0.0%	0.0%	1.9%	4.5%	-	-	0.0%	0.0%	0.9%
	27	0.0%	0.0%	3.6%	8.5%	6.2%	0.0%	0.0%	1.8%	4.3%	2.5%	-	-	0.0%	0.0%	0.0%
	28	0.0%	1.6%	0.0%	6.8%	10.7%	0.0%	2.4%	0.0%	2.3%	7.1%	-	-	0.0%	0.0%	0.0%
	29	0.0%	0.0%	1.3%	2.8%	8.9%	0.0%	0.0%	0.0%	2.8%	3.8%	-	-	0.0%	0.0%	0.0%
	30	0.3%	0.4%	0.0%	5.8%	4.2%	0.3%	0.0%	0.0%	3.4%	4.2%	-	-	0.0%	0.5%	0.0%

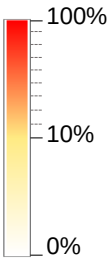
P(R|M)

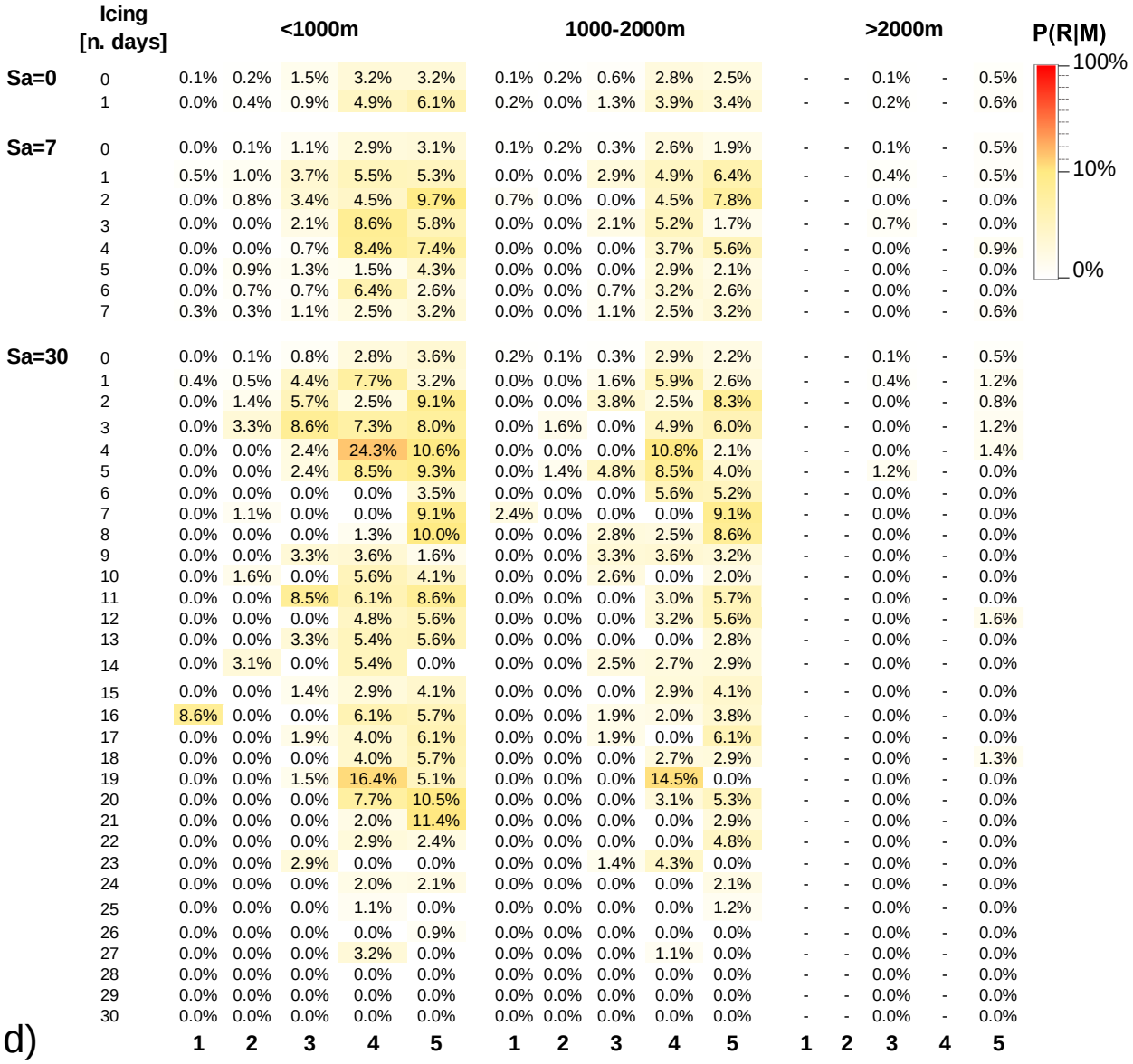


b)

	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.7%	1.0%	1.7%	6.3%	5.7%	0.1%	0.4%	1.0%	4.6%	4.7%	-	0.1%	0.3%	1.2%	1.9%
	1	0.2%	0.2%	0.0%	0.6%	0.0%	0.0%	0.2%	0.2%	0.2%	0.2%	-	0.0%	0.0%	0.2%	0.0%
Sa=7	0	0.8%	1.2%	2.0%	7.4%	6.6%	0.1%	0.5%	1.1%	5.6%	5.5%	-	0.1%	0.4%	1.4%	2.3%
	1	0.0%	0.0%	0.8%	1.6%	1.2%	0.0%	1.0%	0.8%	0.0%	1.2%	-	0.0%	0.0%	0.0%	0.0%
	2	0.6%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	-	0.0%	0.0%	1.5%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	4	0.0%	0.9%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.7%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	7	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	-	0.0%	0.0%	0.0%	0.0%
Sa=30	0	0.8%	1.0%	2.3%	9.8%	8.1%	0.1%	0.7%	1.3%	7.0%	6.7%	-	0.1%	0.4%	1.8%	2.9%
	1	0.5%	1.5%	2.8%	4.1%	4.7%	0.0%	1.0%	1.2%	3.6%	4.7%	-	0.0%	0.8%	1.2%	2.1%
	2	3.3%	1.4%	0.9%	1.7%	4.1%	0.0%	0.0%	0.9%	3.3%	3.3%	-	0.0%	0.0%	0.8%	0.0%
	3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.2%	0.0%
	4	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	5	0.0%	0.0%	0.0%	2.1%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	6	0.9%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	-	0.0%	0.0%	0.0%	0.0%
	7	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	1.9%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	11	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	12	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	13	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	15	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	16	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	17	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	18	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	19	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	20	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	21	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	22	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	23	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	24	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	25	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	26	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	27	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%
	30	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.4%	0.0%	0.0%	0.0%
C)		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**

P(R|M)





	Icing [n. days]	<1000m					1000-2000m					>2000m				
Sa=0	0	0.1%	0.2%	1.5%	3.2%	3.2%	0.1%	0.2%	0.6%	2.8%	2.5%	-	-	0.1%	-	0.5%
	1	0.0%	0.4%	0.9%	4.9%	6.1%	0.2%	0.0%	1.3%	3.9%	3.4%	-	-	0.2%	-	0.6%
Sa=7	0	0.0%	0.1%	1.1%	2.9%	3.1%	0.1%	0.2%	0.3%	2.6%	1.9%	-	-	0.1%	-	0.5%
	1	0.5%	1.0%	3.7%	5.5%	5.3%	0.0%	0.0%	2.9%	4.9%	6.4%	-	-	0.4%	-	0.5%
	2	0.0%	0.8%	3.4%	4.5%	9.7%	0.7%	0.0%	0.0%	4.5%	7.8%	-	-	0.0%	-	0.0%
	3	0.0%	0.0%	2.1%	8.6%	5.8%	0.0%	0.0%	2.1%	5.2%	1.7%	-	-	0.7%	-	0.0%
	4	0.0%	0.0%	0.7%	8.4%	7.4%	0.0%	0.0%	0.0%	3.7%	5.6%	-	-	0.0%	-	0.9%
	5	0.0%	0.9%	1.3%	1.5%	4.3%	0.0%	0.0%	0.0%	2.9%	2.1%	-	-	0.0%	-	0.0%
	6	0.0%	0.7%	0.7%	6.4%	2.6%	0.0%	0.0%	0.7%	3.2%	2.6%	-	-	0.0%	-	0.0%
	7	0.3%	0.3%	1.1%	2.5%	3.2%	0.0%	0.0%	1.1%	2.5%	3.2%	-	-	0.0%	-	0.6%
Sa=30	0	0.0%	0.1%	0.8%	2.8%	3.6%	0.2%	0.1%	0.3%	2.9%	2.2%	-	-	0.1%	-	0.5%
	1	0.4%	0.5%	4.4%	7.7%	3.2%	0.0%	0.0%	1.6%	5.9%	2.6%	-	-	0.4%	-	1.2%
	2	0.0%	1.4%	5.7%	2.5%	9.1%	0.0%	0.0%	3.8%	2.5%	8.3%	-	-	0.0%	-	0.8%
	3	0.0%	3.3%	8.6%	7.3%	8.0%	0.0%	1.6%	0.0%	4.9%	6.0%	-	-	0.0%	-	1.2%
	4	0.0%	0.0%	2.4%	24.3%	10.6%	0.0%	0.0%	0.0%	10.8%	2.1%	-	-	0.0%	-	1.4%
	5	0.0%	0.0%	2.4%	8.5%	9.3%	0.0%	1.4%	4.8%	8.5%	4.0%	-	-	1.2%	-	0.0%
	6	0.0%	0.0%	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	5.6%	5.2%	-	-	0.0%	-	0.0%
	7	0.0%	1.1%	0.0%	0.0%	9.1%	2.4%	0.0%	0.0%	0.0%	9.1%	-	-	0.0%	-	0.0%
	8	0.0%	0.0%	0.0%	1.3%	10.0%	0.0%	0.0%	2.8%	2.5%	8.6%	-	-	0.0%	-	0.0%
	9	0.0%	0.0%	3.3%	3.6%	1.6%	0.0%	0.0%	3.3%	3.6%	3.2%	-	-	0.0%	-	0.0%
	10	0.0%	1.6%	0.0%	5.6%	4.1%	0.0%	0.0%	2.6%	0.0%	2.0%	-	-	0.0%	-	0.0%
	11	0.0%	0.0%	8.5%	6.1%	8.6%	0.0%	0.0%	0.0%	3.0%	5.7%	-	-	0.0%	-	0.0%
	12	0.0%	0.0%	0.0%	4.8%	5.6%	0.0%	0.0%	0.0%	3.2%	5.6%	-	-	0.0%	-	1.6%
	13	0.0%	0.0%	3.3%	5.4%	5.6%	0.0%	0.0%	0.0%	0.0%	2.8%	-	-	0.0%	-	0.0%
	14	0.0%	3.1%	0.0%	5.4%	0.0%	0.0%	0.0%	2.5%	2.7%	2.9%	-	-	0.0%	-	0.0%
	15	0.0%	0.0%	1.4%	2.9%	4.1%	0.0%	0.0%	0.0%	2.9%	4.1%	-	-	0.0%	-	0.0%
	16	8.6%	0.0%	0.0%	6.1%	5.7%	0.0%	0.0%	1.9%	2.0%	3.8%	-	-	0.0%	-	0.0%
	17	0.0%	0.0%	1.9%	4.0%	6.1%	0.0%	0.0%	1.9%	0.0%	6.1%	-	-	0.0%	-	0.0%
	18	0.0%	0.0%	0.0%	4.0%	5.7%	0.0%	0.0%	0.0%	2.7%	2.9%	-	-	0.0%	-	1.3%
	19	0.0%	0.0%	1.5%	16.4%	5.1%	0.0%	0.0%	0.0%	14.5%	0.0%	-	-	0.0%	-	0.0%
	20	0.0%	0.0%	0.0%	7.7%	10.5%	0.0%	0.0%	0.0%	3.1%	5.3%	-	-	0.0%	-	0.0%
	21	0.0%	0.0%	0.0%	2.0%	11.4%	0.0%	0.0%	0.0%	0.0%	2.9%	-	-	0.0%	-	0.0%
	22	0.0%	0.0%	0.0%	2.9%	2.4%	0.0%	0.0%	0.0%	0.0%	4.8%	-	-	0.0%	-	0.0%
	23	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	1.4%	4.3%	0.0%	-	-	0.0%	-	0.0%
	24	0.0%	0.0%	0.0%	2.0%	2.1%	0.0%	0.0%	0.0%	0.0%	2.1%	-	-	0.0%	-	0.0%
	25	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	-	-	0.0%	-	0.0%
	26	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	27	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	-	-	0.0%	-	0.0%
	28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	-	0.0%
d)		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Fig. S32 Conditional probability, P(R|M), calculated with Bayesian's method of icing minimum case with different aggregation scales Sa (0, 7, 30) and for different altitudes (<1000m, 1000m-2000m, >2000m) for 5 decades (1=1970-1979; 2=1980-1989; 3=1990-1999; 4=2000-2009; 5=2010-2019). (a) winter; (b) spring; (c) summer (d) autumn.