

Snow cover analysis for the avalanche risk management of the Provincia Autonoma di Trento

ALPsolut S.r.l.

1 Data

Data from 53 Manual Weather Stations (Modello 1 stations, MWS) located in the *Provincia Autonoma di Trento* were used for this analysis (**Table 1**). These data range from winter season 1981/82) to 2017/18 (only the CARESER MWS has data since the winter season 1934-35).

For each MWS we considered the daily values of:

1. snow height, HS ;
2. difference in snow height between the previous consecutive 3 days, ΔHS_3 .

For each MWS, every winter season was analyzed independently. In order to preserve as many measurements days as possible. HS data gaps shorter than two days were filled by performing linear interpolations. Winter seasons with less then 50 available days were discarded. The available winter seasons for each MWS relative to HS and ΔHS_3 data are shown in **Table 3** and **Table 5** respectively.

Finally, for each selected winter season maximum values of HS and ΔHS_3 were calculated. These values are shown in **Table 2** and **Table 4** respectively.

1.1 Manual Weather Stations

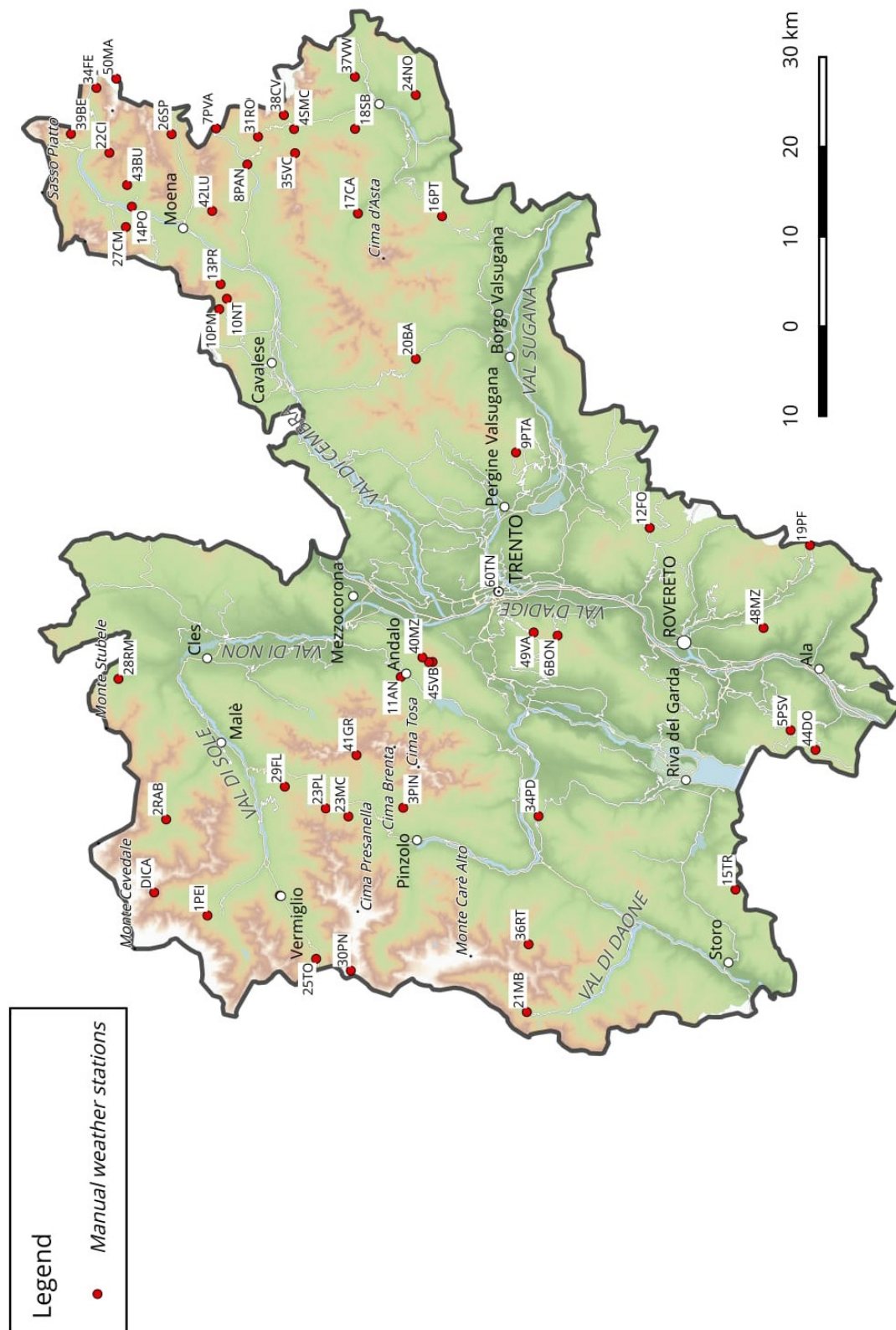


Figure 1: Map of the *Provincia Autonoma di Trento* with the 53 MWS available for this work.

Table 1: list of the MWS with the respective micro-climatic (**MICRO AREA**) and macro-climatic (**MACRO AREA**) areas identified for this work (cfr. **Section 2 Regional analysis**).

CODE	STATION NAME	AREA NAME	MICRO AREA	MACRO AREA
6BON	VIOTE	BONDONE STIVO PAGANELLA	B+A+F	S
49VA	VASON	BONDONE STIVO PAGANELLA	B+A+F	S
60TN	TRENTO PIAZZA DANTE	BONDONE STIVO PAGANELLA	B+A+F	S
45VB	PAGANELLA VALLE BIANCA	BONDONE STIVO PAGANELLA	B+A+F	S
40PA	PAGANELLA	BONDONE STIVO PAGANELLA	B+A+F	S
40MZ	PAGANELLA - Malga Zambana	BONDONE STIVO PAGANELLA	B+A+F	S
11AN	ANDALO	BONDONE STIVO PAGANELLA	B+A+F	S
15TR	TREMALZO	ADAMELLO SUD - TREMALZO	B+A+F	S
34PD	P DURONE	ADAMELLO SUD - TREMALZO	B+A+F	S
36RT	Rif. TRIVENA	ADAMELLO SUD - TREMALZO	B+A+F	S
21MB	BISSINA	ADAMELLO SUD - TREMALZO	B+A+F	S
3PIN	PINZOLO	BRENTA TONALE	BRENTA	S
41GR	GROSTE	BRENTA TONALE	BRENTA	S
30PN	PRESENA	BRENTA TONALE	BRENTA	S
23MC	CAMPIGLIO	BRENTA TONALE	BRENTA	S
23PL	PRADALAGO	BRENTA TONALE	BRENTA	S
25TO	P TONALE	BRENTA TONALE	BRENTA	S
29FL	FOLGARIDA	BRENTA TONALE	BRENTA	S
46VE	VERMIGLIO	BRENTA TONALE	BRENTA	S
1PEI	PEJO	SOLE, PEJO E RABBI RUMO	SOLE	N
2RAB	RABBI	SOLE, PEJO E RABBI RUMO	SOLE	N
28RM	RUMO	SOLE, PEJO E RABBI RUMO	SOLE	N
10NT	PAMPEAGO NA.	VALLE DI FIEMME FASSA	FIEMME	N
13PR	PREDAZZO	VALLE DI FIEMME FASSA	FIEMME	N
10PM	PAMPEAGO	VALLE DI FIEMME FASSA	FIEMME	N
42LU	LUSIA	VALLE DI FIEMME FASSA	FIEMME	N
26SP	P S.PELLEGRINO	VALLE DI FIEMME FASSA	FIEMME	N
14PO	POZZA DI FASSA	VALLE DI FIEMME FASSA	FIEMME	N
43BU	BUFFAURE	VALLE DI FIEMME FASSA	FIEMME	N
27CM	CIAMPEDIE	VALLE DI FIEMME FASSA	FIEMME	N
50MA	MARMOLADA	VALLE DI FIEMME FASSA	FIEMME	N
22CI	CIAMPAC	VALLE DI FIEMME FASSA	FIEMME	N
34FE	P FEDAIA	VALLE DI FIEMME FASSA	FIEMME	N
39BE	BELVEDERE - SAS BECE	VALLE DI FIEMME FASSA	FIEMME	N
9PTA	PANAROTTA	LAGORAI PRIMIERO	LAGORAI	S
16PT	P BROCON	LAGORAI PRIMIERO	LAGORAI	S
20BA	M BAESSA	LAGORAI PRIMIERO	LAGORAI	S
24NO	VAL NOANA	LAGORAI PRIMIERO	LAGORAI	S
17CA	CAORIA	LAGORAI PRIMIERO	LAGORAI	S
18SB	CANAL SAN BOVO	LAGORAI PRIMIERO	LAGORAI	S
37VW	WELSPERG	LAGORAI PRIMIERO	LAGORAI	S
35VC	CIGOLERA	LAGORAI PRIMIERO	LAGORAI	S
4SMC	S. MARTINO	LAGORAI PRIMIERO	LAGORAI	S
38CV	COL VERDE	LAGORAI PRIMIERO	LAGORAI	S
31RO	P ROLLE	LAGORAI PRIMIERO	LAGORAI	S
8PAN	PANEVEGGIO	VALLE DI FIEMME FASSA	FIEMME	N
7PVA	P VALLES	LAGORAI PRIMIERO	LAGORAI	S
44DO	DOSSIOLI	PREALPI PICC DOLOMITI FOLGARIA	B+A+F	S
19PF	VALLARSA	PREALPI PICC DOLOMITI FOLGARIA	B+A+F	S
5PSV	P S.VALENTINO	PREALPI PICC DOLOMITI FOLGARIA	B+A+F	S
48MZ	MALGA ZUGNA	PREALPI PICC DOLOMITI FOLGARIA	B+A+F	S
12FO	FOLGARIA	PREALPI PICC DOLOMITI FOLGARIA	B+A+F	S
DICA	CARESER	SOLE, PEJO E RABBI RUMO	SOLE	N

1.2 *HS* data

Table 2: Maximum seasonal values of *HS* (MAX) for every MWS. Only MWS with at least 1-winter season data (47) are shown.

station_name	COD	elevation	1934-1935	1935-1936	1936-1937	1937-1938	1938-1939	1939-1940	1940-1941
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	-999	400	400	106	210	150	320

station_name	COD	elevation	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	1947-1948
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	112	190	65	240	291	283	275

station_name	COD	elevation	1948-1949	1949-1950	1950-1951	1951-1952	1952-1953	1953-1954	1954-1955
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	102	240	400	131	123	195	204

station_name	COD	elevation	1955-1956	1956-1957	1957-1958	1958-1959	1959-1960	1960-1961	1961-1962
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	170	110	370	242	400	250	380

station_name	COD	elevation	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	346	300	268	190	290	165	210

station_name	COD	elevation	1969-1970	1970-1971	1971-1972	1972-1973	1973-1974	1974-1975	1975-1976
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	294	215	210	95	230	310	97

station_name	COD	elevation	1976-1977	1977-1978	1978-1979	1979-1980	1980-1981	1981-1982	1982-1983
VIOTE	6BON	1495	-999	-999	-999	-999	-999	106	54
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	80	53
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	148	98
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	120	70
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	105	90
RABBI	2RAB	1335	-999	-999	-999	-999	-999	46	36
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	98	66
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	76	64
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	59	30
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	125	125
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	135
P BROCON	16PT	1608	-999	-999	-999	-999	-999	72	83
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	88	47
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	51	49
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	155	180
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	115	42
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	88	58
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	69	76
CARESER	DICA	2600	315	215	260	195	173	200	285

station_name	COD	elevation	1983-1984	1984-1985	1985-1986	1986-1987	1987-1988	1988-1989	1989-1990
VIOTE	6BON	1495	165	156	220	145	64	88	28
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	115	115	157	78	38	-999	17
TREMALZO	15TR	1550	198	200	220	230	-999	-999	50
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	250	315	310	235	200	-999	66
PINZOLO	3PIN	1500	170	193	176	160	125	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	300
CAMPIGLIO	23MC	2015	185	197	220	148	159	-999	-999
P TONALE	25TO	1880	-999	-999	192	180	156	108	65
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	167	168	155	137	125	96	68
RABBI	2RAB	1335	104	101	173	110	66	-999	21
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	132	119	125	71	24	30	31
PAMPEAGO	10PM	1760	148	135	200	145	90	-999	50
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	158	130	-999	-999
POZZA DI FASSA	14PO	1385	104	65	100	68	45	52	27
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	220	155	180	159	120	95	63
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	200	210	233	200	162	-999	-999
P BROCON	16PT	1608	220	160	165	150	95	-999	75
M BAESSA	20BA	1320	-999	90	140	100	35	-999	40
VAL NOANA	24NO	1020	-999	120	130	108	47	-999	40
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	165	130	163	132	101	-999	51
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	140	92	145	92	65	93	55
P VALLES	7PVA	2045	240	215	253	208	170	126	88
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	210	133	215	160	57	-999	74
P S.VALENTINO	5PSV	1320	163	149	165	162	53	-999	60
FOLGARIA	12FO	1360	159	160	194	152	67	-999	46
CARESER	DICA	2600	234	207	310	163	172	250	225

station_name	COD	elevation	1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997
VIOTE	6BON	1495	86	72	43	70	66	109	81
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	96	24	23	72	42	67	54
TREMALZO	15TR	1550	117	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	38
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	174	138	119	190	135	-999	150
PINZOLO	3PIN	1500	95	108	47	85	78	96	75
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	325	345	340	315	-999	275
CAMPIGLIO	23MC	2015	156	105	92	141	94	-999	130
P TONALE	25TO	1880	150	131	110	142	116	117	156
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	145	115	77	128	97	96	135
RABBI	2RAB	1335	100	70	39	57	50	53	56
RUMO	28RM	1100	85	-999	-999	53	-999	17	41
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	22	30	33	46	62	65
PAMPEAGO	10PM	1760	125	87	64	100	83	63	90
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	101	62	90	115	95	96	116
POZZA DI FASSA	14PO	1385	83	38	16	52	60	44	58
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	115	-999	92	88	74	87
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	144	164	114	102	95	81	125
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	158	144	115	113	107	-999	114
P BROCON	16PT	1608	132	95	50	112	91	-999	100
M BAESSA	20BA	1320	98	29	36	44	50	57	47
VAL NOANA	24NO	1020	88	30	35	65	52	46	50
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	102
S. MARTINO	4SMC	1465	149	89	56	108	81	79	72
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	120	-999	108
PANEVEGGIO	8PAN	1535	108	57	35	93	68	50	42
P VALLES	7PVA	2045	192	180	117	135	92	103	145
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	98	40	-999	-999	55	84	50
P S.VALENTINO	5PSV	1320	65	43	30	66	54	88	52
FOLGARIA	12FO	1360	106	31	55	54	68	65	45
CARESER	DICA	2600	270	173	123	194	125	110	253

station_name	COD	elevation	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
VIOTE	6BON	1495	67	74	68	64	-999	37	189
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	29	52	44	47	15	34	100
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	42	80	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	150	-999	165	-999	-999	232
BISSINA	21MB	1780	154	134	116	226	120	98	240
PINZOLO	3PIN	1500	59	90	-999	66	88	53	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	300	310	290	400	198	345	380
CAMPIGLIO	23MC	2015	136	120	150	307	112	119	250
P TONALE	25TO	1880	111	124	95	213	110	140	192
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	94	113	74	190	77	94	151
RABBI	2RAB	1335	47	77	49	33	46	28	100
RUMO	28RM	1100	37	40	28	27	-999	21	70
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	52	88	60	47	50	37	97
PAMPEAGO	10PM	1760	67	121	90	78	70	40	133
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	87	120	55	135	71	75	182
POZZA DI FASSA	14PO	1385	37	47	32	40	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	95	100	122	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	100	89	133	185	82	83	158
P FEDAIA	34FE	2100	85	-999	-999	260	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	160	120	135	184	-999	-999	-999
P BROCON	16PT	1608	70	101	-999	61	49	56	195
M BAESSA	20BA	1320	27	95	33	37	-999	14	90
VAL NOANA	24NO	1020	27	70	37	32	33	33	118
WELSPERG	37VW	1040	-999	-999	24	30	12	18	82
CIGOLERA	35VC	1880	106	112	71	-999	83	-999	162
S. MARTINO	4SMC	1465	68	91	55	56	47	52	110
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	89	-999
P ROLLE	31RO	2012	135	99	80	230	80	90	190
PANEVEGGIO	8PAN	1535	35	80	40	40	52	46	94
P VALLES	7PVA	2045	140	137	92	222	100	110	230
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	24	130	51	33	-999	-999	183
P S.VALENTINO	5PSV	1320	53	81	30	46	-999	38	163
FOLGARIA	12FO	1360	62	85	50	-999	-999	-999	187
CARESER	DICA	2600	151	175	-999	-999	-999	-999	-999

station_name	COD	elevation	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
VIOTE	6BON	1495	70	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	85	99	310	170	172
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	107	159	283	165	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	178
PAGANELLA - Malga Zambana	40MZ	1798	-999	156	-999	115	-999	165	-999
ANDALO	11AN	1047	43	88	23	48	-999	66	51
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	70	108	-999	-999	-999
BISSINA	21MB	1780	101	182	85	160	327	175	190
PINZOLO	3PIN	1500	58	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	190	213
PRESENA	30PN	2735	165	260	227	310	400	343	392
CAMPIGLIO	23MC	2015	88	160	92	188	276	200	235
P TONALE	25TO	1880	93	158	91	153	255	162	207
FOLGARIDA	29FL	1890	-999	-999	85	146	268	190	192
PEJO	1PEI	1985	63	111	70	125	205	140	135
RABBI	2RAB	1335	46	93	41	54	186	83	35
RUMO	28RM	1100	21	83	-999	-999	105	-999	-999
PAMPEAGO NA.	10NT	2080	91	140	136	128	232	183	185
PREDAZZO	13PR	1675	60	86	52	65	150	70	47
PAMPEAGO	10PM	1760	70	100	67	75	170	94	60
LUSIA	42LU	2050	-999	142	138	130	211	172	166
P S.PELLEGRINO	26SP	1980	90	112	105	110	218	142	136
POZZA DI FASSA	14PO	1385	36.5	72	35	47	103	45	35
BUFFAURE	43BU	2060	-999	110	110	87	270	111	105
CIAMPEDIE	27CM	1975	-999	90	-999	-999	-999	-999	88
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	77	120	123	119	178	158	158
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	84	120	162	107	-999	195	177
PANAROTTA	9PTA	1775	120	140	150	106	-999	155	158
P BROCON	16PT	1608	106	102	68	100	210	101	59
M BAESSA	20BA	1320	50	84	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	63	110	21	48	135	56	25
WELSPERG	37VW	1040	71	69	20	26	78	45	20
CIGOLERA	35VC	1880	80	143	120	128	255	162	142
S. MARTINO	4SMC	1465	65	105	64	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	110	-999	-999	-999
P ROLLE	31RO	2012	82	138	123	157	270	188	197
PANEVEGGIO	8PAN	1535	46	95	48	63	143	65	33
P VALLES	7PVA	2045	88	127	152	146	275	180	215
DOSSIOLI	44DO	1430	-999	160	-999	93	219	98	-999
VALLARSA	19PF	1170	135	180	-999	66	-999	125	125
P S.VALENTINO	5PSV	1320	63	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	155	-999	-999	-999	88	-999
CARESER	DICA	2600	-999	-999	-999	-999	-999	-999	-999

station_name	COD	elevation	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
VIOTE	6BON	1495	43	101	204	68	125	43	82
VASON	49VA	1670	52	162	275	79	170	-999	132
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	45	277	295	90	118	-999	145
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	37	85	116	34	52	27	46
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	64	150	286	124	175	75	169
BISSINA	21MB	1780	68	170	338	135	177	95	186
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	62	180	310	195	150	63	178
PRESENA	30PN	2735	360	370	400	280	215	200	100
CAMPIGLIO	23MC	2015	77	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	71	171	287	131	168	81	165
FOLGARIDA	29FL	1890	70	192	308	145	169	103	174
PEJO	1PEI	1985	76	138	215	84	98	69	141
RABBI	2RAB	1335	40	61	164	55	61	25	82
RUMO	28RM	1100	-999	-999	98	-999	40	-999	58
PAMPEAGO NA.	10NT	2080	87	218	266	114	127	50	173
PREDAZZO	13PR	1675	52	120	-999	60	75	26	94
PAMPEAGO	10PM	1760	54	118	168	60	93	32	96
LUSIA	42LU	2050	74	196	287	112	140	66	178
P S.PELLEGRINO	26SP	1980	56	160	289	95	138	51	172
POZZA DI FASSA	14PO	1385	37	79	111	33	60	20	60
BUFFAURE	43BU	2060	56	147	200	58	102	45	115
CIAMPEDIE	27CM	1975	63	147	188	-999	116	-999	121
MARMOLADA	50MA	2925	-999	225	-999	183	-999	-999	-999
CIAMPAC	22CI	2145	100	171	225	115	139	55	174
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	98	240	255	119	154	91	158
PANAROTTA	9PTA	1775	70	205	270	100	-999	-999	152
P BROCON	16PT	1608	51	120	238	93	140	40	114
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	20	88	147	52	82	18	54
WELSPERG	37VW	1040	8	61	62	24	40	14	25
CIGOLERA	35VC	1880	52	205	348	95	176	76	199
S. MARTINO	4SMC	1465	-999	98	222	-999	118	-999	91
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	62	198	400	90	189	72	221
PANEVEGGIO	8PAN	1535	41	86	144	51	87	27	65
P VALLES	7PVA	2045	56	230	350	140	175	55	193
DOSSIOLI	44DO	1430	-999	129	194	-999	-999	-999	-999
VALLARSA	19PF	1170	52	-999	-999	100	125	-999	85
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	118	136	-999	-999	-999	61
CARESER	DICA	2600	-999	-999	-999	-999	-999	-999	-999

Table 3: For each MWS, the general *HS* information are provided: number of available seasons (*seasons*), mean values (MEAN), maximum values (MAX), minimum values (MIN), standard deviation (ST DEV), coefficient of variation (CV). Only MWS with at least 1 winter-season data (47) are shown.

station_name	COD	elevation	seasons	MEAN	MAX	MIN	ST DEV	CV
VIOTE	6BON	1495	30	92.93	220	28	50.50	0.54
VASON	49VA	1670	11	155.09	310	52	80.10	0.52
PAGANELLA VALLE BIANCA	45VB	1861	4	178.50	283	107	74.38	0.42
PAGANELLA	40PA	1790	7	164.00	295	45	93.31	0.57
PAGANELLA - Malga Zambana	40MZ	1798	3	145.33	165	115	26.65	0.18
ANDALO	11AN	1047	35	59.09	157	15	33.35	0.56
TREMALZO	15TR	1550	8	157.63	230	50	64.85	0.41
P DURONE	34PD	1007	3	53.33	80	38	23.18	0.43
Rif. TRIVENA	36RT	1650	12	147.33	286	64	66.20	0.45
BISSINA	21MB	1780	33	174.52	338	66	73.15	0.42
PINZOLO	3PIN	1500	20	100.60	193	47	43.62	0.43
GROSTE	41GR	2265	9	171.22	310	62	75.94	0.44
PRESENA	30PN	2735	27	301.67	400	100	77.40	0.26
CAMPIGLIO	23MC	2015	26	159.12	307	77	61.04	0.38
P TONALE	25TO	1880	33	145.48	287	65	50.10	0.34
FOLGARIDA	29FL	1890	12	170.17	308	70	69.38	0.41
PEJO	1PEI	1985	37	118.03	215	63	39.17	0.33
RABBI	2RAB	1335	36	69.11	186	21	40.12	0.58
RUMO	28RM	1100	16	51.50	105	17	28.65	0.56
PAMPEAGO NA.	10NT	2080	14	152.14	266	50	60.53	0.40
PREDAZZO	13PR	1675	35	66.91	150	22	33.21	0.50
PAMPEAGO	10PM	1760	36	93.78	200	32	38.80	0.41
LUSIA	42LU	2050	13	154.77	287	66	58.32	0.38
P S.PELLEGRINO	26SP	1980	30	118.73	289	51	51.02	0.43
POZZA DI FASSA	14PO	1385	34	53.84	111	16	24.48	0.45
BUFFAURE	43BU	2060	13	116.62	270	45	61.23	0.53
CIAMPEDIE	27CM	1975	15	105.73	188	63	31.12	0.29
MARMOLADA	50MA	2925	2	204.00	225	183	29.70	0.15
CIAMPAC	22CI	2145	37	129.97	225	55	41.27	0.32
P FEDAIA	34FE	2100	2	172.50	260	85	123.74	0.72
BELVEDERE - SAS BECE	39BE	2121	13	150.77	255	84	55.04	0.37
PANAROTTA	9PTA	1775	27	152.44	270	70	45.26	0.30
P BROCON	16PT	1608	34	108.06	238	40	51.09	0.47
M BAESSA	20BA	1320	20	59.80	140	14	33.01	0.55
VAL NOANA	24NO	1020	33	63.03	147	18	37.26	0.59
WELSPERG	37VW	1040	19	38.37	82	8	24.39	0.64
CIGOLERA	35VC	1880	20	140.85	348	52	71.03	0.50
S. MARTINO	4SMC	1465	29	94.93	222	47	41.81	0.44
COL VERDE	38CV	1877	2	99.50	110	89	14.85	0.15
P ROLLE	31RO	2012	23	153.00	400	62	79.51	0.52
PANEVEGGIO	8PAN	1535	37	70.70	145	27	33.24	0.47
P VALLES	7PVA	2045	37	162.49	350	55	63.93	0.39
DOSSIOLI	44DO	1430	6	148.83	219	93	51.35	0.35
VALLARSA	19PF	1170	27	101.77	215	24	54.77	0.54
P S.VALENTINO	5PSV	1320	22	80.45	165	30	47.01	0.58
FOLGARIA	12FO	1360	24	95.38	194	31	49.30	0.52
CARESER	DICA	2600	64	224.33	400	65	85.17	0.38

1.3 ΔHS_3 data

Table 4: Maximum seasonal values of ΔHS_3 (MAX) for every MWS. Only MWS with at least 1-winter season data (47) are shown.

station_name	COD	elevation	1934-1935	1935-1936	1936-1937	1937-1938	1938-1939	1939-1940	1940-1941
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	-999	101	57	45	100	41	125

station_name	COD	elevation	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	1947-1948
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	55	54	45	77	91	64	64

station_name	COD	elevation	1948-1949	1949-1950	1950-1951	1951-1952	1952-1953	1953-1954	1954-1955
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	57	65	93	55	91	78	57

station_name	COD	elevation	1955-1956	1956-1957	1957-1958	1958-1959	1959-1960	1960-1961	1961-1962
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	82	47	94	83	94	47	87

station_name	COD	elevation	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	65	63	59	58	130	40	107

station_name	COD	elevation	1969-1970	1970-1971	1971-1972	1972-1973	1973-1974	1974-1975	1975-1976
VIOTE	6BON	1495	-999	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	-999	-999
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	-999	-999
RABBI	2RAB	1335	-999	-999	-999	-999	-999	-999	-999
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	-999	-999
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	-999
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	-999
P BROCON	16PT	1608	-999	-999	-999	-999	-999	-999	-999
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	-999	-999
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	-999	-999
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	-999	-999
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	79	75	92	46	100	110	57

station_name	COD	elevation	1976-1977	1977-1978	1978-1979	1979-1980	1980-1981	1981-1982	1982-1983
VIOTE	6BON	1495	-999	-999	-999	-999	-999	43	54
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	-999	-999	-999	-999	-999	42	46
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	46	70
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	-999	-999	-999	-999	-999	-999	-999
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	38	31
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	-999
CAMPIGLIO	23MC	2015	-999	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	-999	-999	-999	-999	-999	-999	-999
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	-999	-999	-999	-999	-999	63	37
RABBI	2RAB	1335	-999	-999	-999	-999	-999	23	36
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	-999	-999	-999	-999	74	26
PAMPEAGO	10PM	1760	-999	-999	-999	-999	-999	15	28
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	-999	-999	-999	-999
POZZA DI FASSA	14PO	1385	-999	-999	-999	-999	-999	21	21
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	-999	-999	-999	-999	-999	-999	45
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	-999	-999	-999	-999	-999	-999	55
P BROCON	16PT	1608	-999	-999	-999	-999	-999	27	49
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	-999	-999	-999	-999	-999	-999	-999
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	-999	-999	-999	-999	-999	29	43
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	-999	-999	-999	-999	-999	21	39
P VALLES	7PVA	2045	-999	-999	-999	-999	-999	32	54
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	-999	-999	-999	-999	-999	35	29
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	39	52
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	23	64.5
CARESER	DICA	2600	98	100	96	71	115	145	90

station_name	COD	elevation	1983-1984	1984-1985	1985-1986	1986-1987	1987-1988	1988-1989	1989-1990
VIOTE	6BON	1495	45	92	106	58	40	88	28
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	43	78	114	45	19	-999	9
TREMALZO	15TR	1550	148	75	140	98	-999	-999	6
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	130	125	215	78	95	-999	37
PINZOLO	3PIN	1500	79	114	98	96	61	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	-999	-999	-999	-999	79
CAMPIGLIO	23MC	2015	73.5	106	119.5	61	54	-999	-999
P TONALE	25TO	1880	-999	-999	114	63	54	95	41
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	62	64	50	55	40	95	38
RABBI	2RAB	1335	59	81	140	39	22	-999	18
RUMO	28RM	1100	-999	-999	-999	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	67	84	11	34	9	30	4
PAMPEAGO	10PM	1760	88.5	91	153	45	33	-999	10
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	-999	-999	-999	46	50	-999	-999
POZZA DI FASSA	14PO	1385	61	47	74	35	18	52	12
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	-999	-999	-999	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	74	57	130	34	27	88	55
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	75	-999	157	148	47	-999	-999
P BROCON	16PT	1608	73	136	78	48	30	-999	32
M BAESSA	20BA	1320	-999	48	10	48	20	-999	34
VAL NOANA	24NO	1020	-999	98	88	62	21	-999	34
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	-999
S. MARTINO	4SMC	1465	83	96	117	46	39	-999	51
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	-999	-999	-999
PANEVEGGIO	8PAN	1535	75	64	112	35	23	93	55
P VALLES	7PVA	2045	103	125	197	70	66	125	85
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	115	55	48	67	57	-999	74
P S.VALENTINO	5PSV	1320	67	70	104.5	60	53	-999	55
FOLGARIA	12FO	1360	84	94	140	68	67	-999	42
CARESER	DICA	2600	126	195	164	63	70	89	50

station_name	COD	elevation	1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997
VIOTE	6BON	1495	34	57	38	52	28	44	38
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	25	5	23	31	29	29	38
TREMALZO	15TR	1550	36	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	32
Rif. TRIVENA	36RT	1650	-999	-999	-999	-999	-999	-999	-999
BISSINA	21MB	1780	58	94	64	110	29	-999	48.5
PINZOLO	3PIN	1500	43	22	47	68	24	41	38
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	-999	-999	120	60	76	-999	58
CAMPIGLIO	23MC	2015	39	-999	53	74	26	-999	59
P TONALE	25TO	1880	48	86.5	68	76	34	21	42
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	48	73	30	65	32	19	34
RABBI	2RAB	1335	30	66	39	31	25	17	36
RUMO	28RM	1100	33	-999	-999	37	-999	15	37
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	-999	20	16	17	20	20	29
PAMPEAGO	10PM	1760	30	65	48	29	26	23	42
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	20	15	44	50	28	25	33
POZZA DI FASSA	14PO	1385	29	18	8	16	23	22	26.5
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	39	-999	25	22	21	12
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	30	48	42	32	24	16	29
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	48	65	43	33	27	-999	35
P BROCON	16PT	1608	34	66	12	57	17	-999	33
M BAESSA	20BA	1320	44	14	-999	23	19	28	37
VAL NOANA	24NO	1020	29	30	35	21	20	23	38
WELSPERG	37VW	1040	-999	-999	-999	-999	-999	-999	-999
CIGOLERA	35VC	1880	-999	-999	-999	-999	-999	-999	4
S. MARTINO	4SMC	1465	44	77	37	58	30	24	38
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	-999	-999	-999	-999	29	-999	28
PANEVEGGIO	8PAN	1535	36	48	0	40	21	17	24
P VALLES	7PVA	2045	68.5	81	50	57	23	31	44
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	29	40	-999	-999	-999	41	33
P S.VALENTINO	5PSV	1320	23	43	23	28	24	61	33
FOLGARIA	12FO	1360	42	-999	47	34	26	30	30
CARESER	DICA	2600	66	79	81	84	62	35	100

station_name	COD	elevation	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
VIOTE	6BON	1495	49	52	58	34	-999	28	92
VASON	49VA	1670	-999	-999	-999	-999	-999	-999	-999
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	-999
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	11	47	22	20	15	34	59
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	14	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	69	-999	54	-999	-999	93
BISSINA	21MB	1780	71	57	87	59	64	35	90
PINZOLO	3PIN	1500	24	80	-999	28	73	48	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	-999	-999
PRESENA	30PN	2735	120	95	82	94	87	113	97
CAMPIGLIO	23MC	2015	26	36	55	57.5	72	39	80
P TONALE	25TO	1880	64	59	56	63	72	45	98
FOLGARIDA	29FL	1890	-999	-999	-999	-999	-999	-999	-999
PEJO	1PEI	1985	27	65	17	85	54	35	40
RABBI	2RAB	1335	32	50	31	24	38	21	51
RUMO	28RM	1100	25	31	26	23	-999	4	51
PAMPEAGO NA.	10NT	2080	-999	-999	-999	-999	-999	-999	-999
PREDAZZO	13PR	1675	36	55	44	31	45	35	32
PAMPEAGO	10PM	1760	25	63	72	45	50	40	39
LUSIA	42LU	2050	-999	-999	-999	-999	-999	-999	-999
P S.PELLEGRINO	26SP	1980	10	70	11	56.5	43	22	48
POZZA DI FASSA	14PO	1385	24	44	28	21	-999	-999	-999
BUFFAURE	43BU	2060	-999	-999	-999	-999	-999	-999	-999
CIAMPEDIE	27CM	1975	-999	45	50	29	-999	-999	-999
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	49	49	61	33	44	28	35
P FEDAIA	34FE	2100	40	-999	-999	55	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	-999	-999	-999	-999	-999	-999	-999
PANAROTTA	9PTA	1775	56	59	55	54	-999	-999	-999
P BROCON	16PT	1608	51	65	-999	38	34	31	67
M BAESSA	20BA	1320	20	87	28	19	-999	9	47
VAL NOANA	24NO	1020	25	47	12	23	19	28	53
WELSPERG	37VW	1040	-999	-999	19	22	-999	11	38
CIGOLERA	35VC	1880	70	80	21	-999	-999	-999	54
S. MARTINO	4SMC	1465	45	65	47	47	34	41	29
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	42	-999
P ROLLE	31RO	2012	64	30	35	75	42	46	40
PANEVEGGIO	8PAN	1535	32	54	24	40	52	39	31
P VALLES	7PVA	2045	71	82	82	60	52	44	72
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	9	58	21	-999	-999	-999	36
P S.VALENTINO	5PSV	1320	23.5	52	-999	24	-999	32	66
FOLGARIA	12FO	1360	25	70	15	-999	-999	-999	-999
CARESER	DICA	2600	68	36	-999	-999	-999	-999	-999

station_name	COD	elevation	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
VIOTE	6BON	1495	25	-999	-999	-999	-999	-999	-999
VASON	49VA	1670	-999	-999	35	34	75	56	72
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	30	43	80	53	-999
PAGANELLA	40PA	1790	-999	-999	-999	-999	-999	-999	43
PAGANELLA - Malga Zambana	40MZ	1798	-999	61	-999	43	-999	53	-999
ANDALO	11AN	1047	15	49	23	26	-999	30	8
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	-999	-999	38	42	-999	-999	-999
BISSINA	21MB	1780	53	74	60	64	102	70	65
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	-999	-999	-999	-999	-999	45	57
PRESENA	30PN	2735	77	90	80	42	90	90	126
CAMPIGLIO	23MC	2015	14	81	63	43	88	42	56
P TONALE	25TO	1880	50	89	80	74	73	47	57
FOLGARIDA	29FL	1890	-999	-999	63	36	65	50	56
PEJO	1PEI	1985	41	53	30	68	70	36	45
RABBI	2RAB	1335	9	53	41	30	71	28	21
RUMO	28RM	1100	5	53	-999	-999	24	-999	-999
PAMPEAGO NA.	10NT	2080	19	48	57	57	51	43	37
PREDAZZO	13PR	1675	9	32	35	33	40	39	15
PAMPEAGO	10PM	1760	10	41	42	44	103	38	27
LUSIA	42LU	2050	-999	47	65	72	98	47	38
P S.PELLEGRINO	26SP	1980	23	44	70	71	63	37	36
POZZA DI FASSA	14PO	1385	4	20	18	21	21	14	7
BUFFAURE	43BU	2060	-999	35	85	52	103	30	13
CIAMPEDIE	27CM	1975	-999	24	-999	-999	-999	-999	18
MARMOLADA	50MA	2925	-999	-999	-999	-999	-999	-999	-999
CIAMPAC	22CI	2145	7	36	68	63	42	32	23
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	17	32	56	52	-999	58	29
PANAROTTA	9PTA	1775	26	75	42	46	-999	33	43
P BROCON	16PT	1608	21	53	44	56	52	44	24
M BAESSA	20BA	1320	15	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	27	69	21	23	45	21	17
WELSPERG	37VW	1040	63	44	20	18	32	23	20
CIGOLERA	35VC	1880	20	48	77	84	66	49	36
S. MARTINO	4SMC	1465	20	54	39	-999	-999	-999	-999
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	31	47	80	83	62.5	49	44
PANEVEGGIO	8PAN	1535	15	35	48	29	56	27	15
P VALLES	7PVA	2045	34	63	72	83	82	48	45
DOSSIOLI	44DO	1430	-999	84	-999	40	-999	31	-999
VALLARSA	19PF	1170	35	-999	-999	29	-999	57	64
P S.VALENTINO	5PSV	1320	16	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	-999	-999	-999	-999	-999	-999	-999

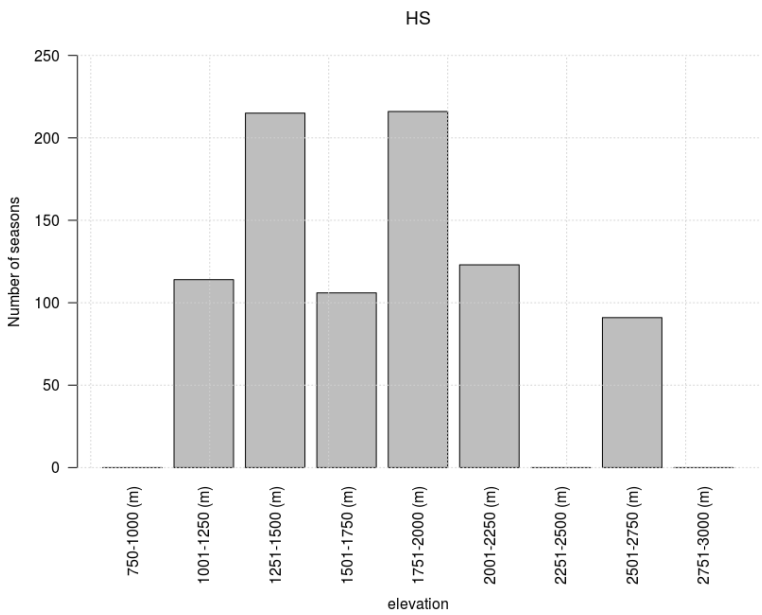
station_name	COD	elevation	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
VIOTE	6BON	1495	22	45	56	53	41	-999	30
VASON	49VA	1670	16	63	70	49	61	-999	29
PAGANELLA VALLE BIANCA	45VB	1861	-999	-999	-999	-999	-999	-999	-999
PAGANELLA	40PA	1790	10	68	72	25	-999	-999	21
PAGANELLA - Malga Zambana	40MZ	1798	-999	-999	-999	-999	-999	-999	-999
ANDALO	11AN	1047	29	48	40	29	38	27	9
TREMALZO	15TR	1550	-999	-999	-999	-999	-999	-999	-999
P DURONE	34PD	1007	-999	-999	-999	-999	-999	-999	-999
Rif. TRIVENA	36RT	1650	24.5	51	60	41	95	41	51
BISSINA	21MB	1780	40	65	80	73	78	42	40
PINZOLO	3PIN	1500	-999	-999	-999	-999	-999	-999	-999
GROSTE	41GR	2265	36	54	72	58	67	34	46
PRESENA	30PN	2735	110	100	90	65	90	90	35
CAMPIGLIO	23MC	2015	21	-999	-999	-999	-999	-999	-999
P TONALE	25TO	1880	43	65	72.5	63	73	49	36
FOLGARIDA	29FL	1890	39	50	85	78	67	44	32
PEJO	1PEI	1985	29	49	67	40	53	39	28
RABBI	2RAB	1335	17	45	76	38	41	25	32
RUMO	28RM	1100	-999	-999	55	-999	-999	-999	-999
PAMPEAGO NA.	10NT	2080	32	38	67	26	30	22	19
PREDAZZO	13PR	1675	20	41	-999	31	29	22	25
PAMPEAGO	10PM	1760	31	32	47	31	29	23	20
LUSIA	42LU	2050	24	36	67	45	39	41	36
P S.PELLEGRINO	26SP	1980	30	42	56	51	49	35	43
POZZA DI FASSA	14PO	1385	17	34	37	10	31	16	15
BUFFAURE	43BU	2060	29	39	75	30	37	25	21
CIAMPEDIE	27CM	1975	23	52	61	-999	33	-999	20
MARMOLADA	50MA	2925	-999	105	-999	41	-999	-999	-999
CIAMPAC	22CI	2145	36	44	57	40	34	24	27
P FEDAIA	34FE	2100	-999	-999	-999	-999	-999	-999	-999
BELVEDERE - SAS BECE	39BE	2121	38	38	57	39	42	34	31
PANAROTTA	9PTA	1775	18	48	57	-999	-999	-999	25.5
P BROCON	16PT	1608	14	40	55	49	64	37	29
M BAESSA	20BA	1320	-999	-999	-999	-999	-999	-999	-999
VAL NOANA	24NO	1020	13	48	79	34	42.5	14	21
WELSPERG	37VW	1040	4	28	30	18	29.5	13	12
CIGOLERA	35VC	1880	23	48	92	47	54	-999	28
S. MARTINO	4SMC	1465	-999	21	44	-999	-999	-999	15
COL VERDE	38CV	1877	-999	-999	-999	-999	-999	-999	-999
P ROLLE	31RO	2012	35	35	90	40	80	31	45
PANEVEGGIO	8PAN	1535	16	26	62	34	40	26	20
P VALLES	7PVA	2045	38	70	91	63	60	40	40
DOSSIOLI	44DO	1430	-999	-999	-999	-999	-999	-999	-999
VALLARSA	19PF	1170	22	-999	-999	-999	-999	-999	35
P S.VALENTINO	5PSV	1320	-999	-999	-999	-999	-999	-999	-999
FOLGARIA	12FO	1360	-999	-999	-999	-999	-999	-999	-999
CARESER	DICA	2600	-999	-999	-999	-999	-999	-999	-999

Table 5: For each MWS, the general ΔHS_3 information are provided: number of available winter seasons (*seasons*), mean values (MEAN), maximum values (MAX), minimum values (MIN), standard deviation (ST DEV), coefficient of variation (CV). Only MWS with at least 1 winter-season data (47) are shown.

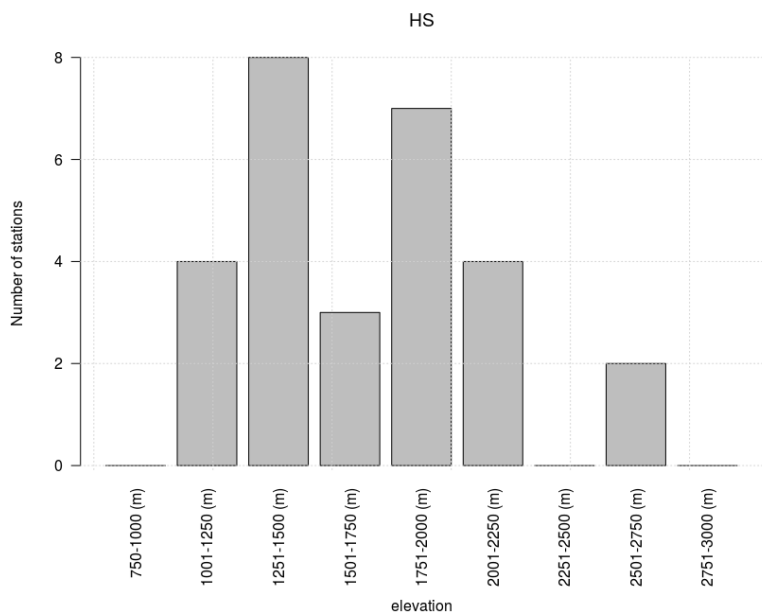
station_name	COD	elevation	seasons	MEAN	MAX	MIN	ST DEV	CV
VIOTE	6BON	1495	29	49.33	106	22	21.29	0.43
VASON	49VA	1670	11	50.91	75	16	19.76	0.39
PAGANELLA VALLE BIANCA	45VB	1861	4	51.50	80	30	21.21	0.41
PAGANELLA	40PA	1790	6	39.89	72	10	25.66	0.64
PAGANELLA - Malga Zambana	40MZ	1798	3	52.33	61	43	9.02	0.17
ANDALO	11AN	1047	35	33.01	114	5	21.09	0.64
TREMALZO	15TR	1550	8	77.38	148	6	49.55	0.64
P DURONE	34PD	1007	2	23.00	32	14	12.73	0.55
Rif. TRIVENA	36RT	1650	12	54.96	95	24.5	21.49	0.39
BISSINA	21MB	1780	33	74.32	215	29	35.28	0.47
PINZOLO	3PIN	1500	19	55.42	114	22	27.97	0.50
GROSTE	41GR	2265	9	52.11	72	34	13.01	0.25
PRESENA	30PN	2735	26	86.78	126	35	22.35	0.26
CAMPIGLIO	23MC	2015	25	57.58	119.5	14	25.66	0.45
P TONALE	25TO	1880	33	62.76	114	21	20.21	0.32
FOLGARIDA	29FL	1890	12	55.42	85	32	16.66	0.30
PEJO	1PEI	1985	37	48.00	95	17	18.11	0.38
RABBI	2RAB	1335	36	39.89	140	9	24.27	0.61
RUMO	28RM	1100	14	29.93	55	4	16.06	0.54
PAMPEAGO NA.	10NT	2080	14	39.00	67	19	15.36	0.39
PREDAZZO	13PR	1675	35	31.71	84	4	17.66	0.56
PAMPEAGO	10PM	1760	36	43.85	153	10	28.48	0.65
LUSIA	42LU	2050	13	50.38	98	24	19.91	0.40
P S.PELLEGRINO	26SP	1980	30	40.72	71	10	16.92	0.42
POZZA DI FASSA	14PO	1385	34	25.46	74	4	15.39	0.60
BUFFAURE	43BU	2060	13	44.15	103	13	27.10	0.61
CIAMPEDIE	27CM	1975	15	31.60	61	12	14.51	0.46
MARMOLADA	50MA	2925	2	73.00	105	41	45.25	0.62
CIAMPAC	22CI	2145	36	43.42	130	7	22.34	0.51
P FEDAIA	34FE	2100	2	47.50	55	40	10.61	0.22
BELVEDERE - SAS BECE	39BE	2121	13	40.23	58	17	12.44	0.31
PANAROTTA	9PTA	1775	25	54.85	157	18	32.84	0.60
P BROCON	16PT	1608	34	45.88	136	12	23.30	0.51
M BAESSA	20BA	1320	18	30.59	87	9	19.20	0.63
VAL NOANA	24NO	1020	33	35.95	98	12	21.90	0.61
WELSPERG	37VW	1040	18	24.69	63	4	13.77	0.56
CIGOLERA	35VC	1880	18	50.06	92	4	24.88	0.50
S. MARTINO	4SMC	1465	28	46.89	117	15	23.14	0.49
COL VERDE	38CV	1877	1	42.00	42	42	-999	-999
P ROLLE	31RO	2012	23	49.64	90	28	19.73	0.40
PANEVEGGIO	8PAN	1535	37	38.49	112	0	22.33	0.58
P VALLES	7PVA	2045	37	67.66	197	23	32.35	0.48
DOSSIOLI	44DO	1430	3	51.67	84	31	28.36	0.55
VALLARSA	19PF	1170	22	45.00	115	9	22.72	0.50
P S.VALENTINO	5PSV	1320	21	45.25	104.5	16	21.90	0.48
FOLGARIA	12FO	1360	17	53.03	140	15	32.22	0.61
CARESER	DICA	2600	64	79.89	195	35	30.60	0.38

1.4 Preliminary Analysis

1.4.1 *HS* distribution versus elevation

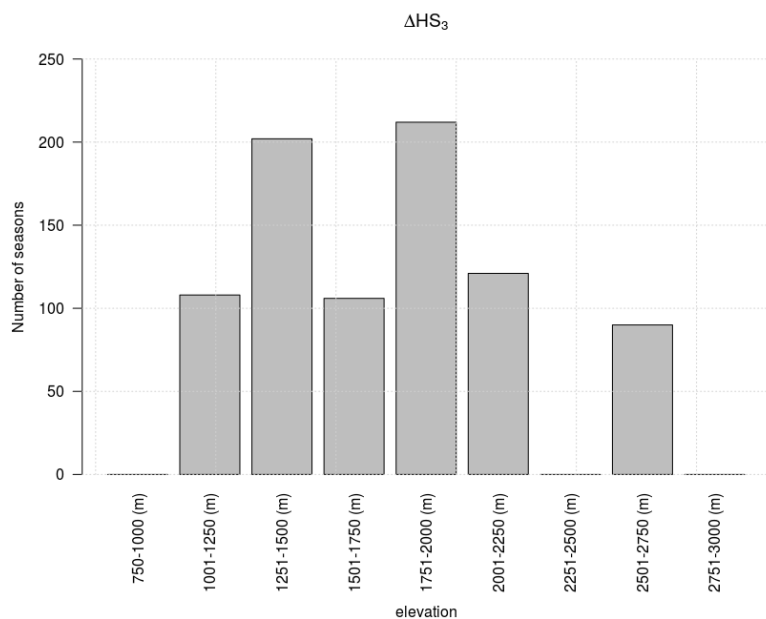


Graph 1: number of available winter seasons (for the *HS* variable) for each elevation band. All the available winter seasons have been taken into account, not only the ones coming from the MWS with more than 17 years data.

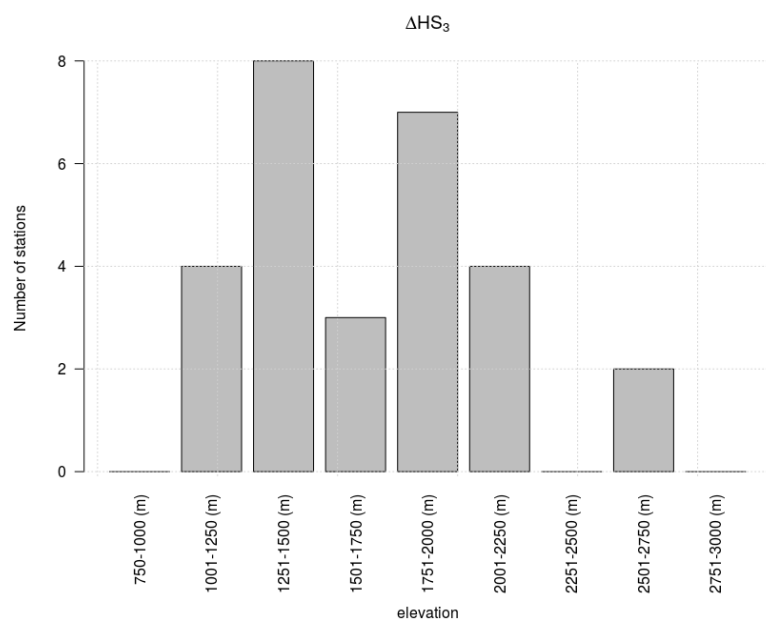


Graph 2: number of available elevation band (for the *HS* variable). All the available winter seasons have been taken into account, not only the ones coming from the MWS with more than 17 years data.

1.4.2 ΔHS_3 distribution versus elevation



Graph 3: number of available winter seasons (for the ΔHS_3 variable) for each elevation band. All the available winter seasons have been taken into account, not only the ones coming from the MWS with more than 17 years data.



Graph 4: number of available elevation band (for the ΔHS_3 variable). All the available winter seasons have been taken into account, not only the ones coming from the MWS with more than 17 years data.

2 Regional Analysis

The area of the *Provincia Autonoma di Trento* was divided into different climatic areas following two different approaches. The first allowed to split the area into two large sub-regions: North and South. With the second one, the Province was split into 5 sub-regions. Both the approaches are presented in this work since both have strong and weak points.

A) Division by 2 MACRO AREAS: this approach provides stronger statistics because of the consistent number of MWS for each climatic area. On the other hand, this subdivision does not allow to evaluate the micro-climatic differences characterizing smaller areas (e.g. snow cover differences between Valle di Fassa and the Lagorai mountain range) (**Fig. 2**).

- | | |
|-----------------|-----------------|
| 1) North | North Trentino; |
| 2) South | South Trentino; |

B) Division by 5 MICRO AREAS: this approach allows a finer division of the area concerning the differences between micro-climatic characteristics. On the other hand, the statistics are weaker compared to the previous approach because of the smaller number of MWS available for each climatic area (**Fig. 2**).

- | | |
|-------------------|--|
| 1) B+A+F | Bondone Stivo Paganella +
Adamello sud – Tremalzo +
Prealpi – Piccole Dolomiti – Folgaria; |
| 2) BRENTA | Brenta – Tonale; |
| 3) FIEMME | Valle di Fiemme e Fassa; |
| 4) LAGORAI | Lagorai – Primiero; |
| 5) SOLE | Val di Sole – Pejo – Rabbi – Rumo. |

In **Table 3** the correspondences between the MWS and the related area are reported, the column **MACRO AREA** represents the first approach (North – South division); the column **MACRO AREA** represents the second approach (division in 5 micro-areas).

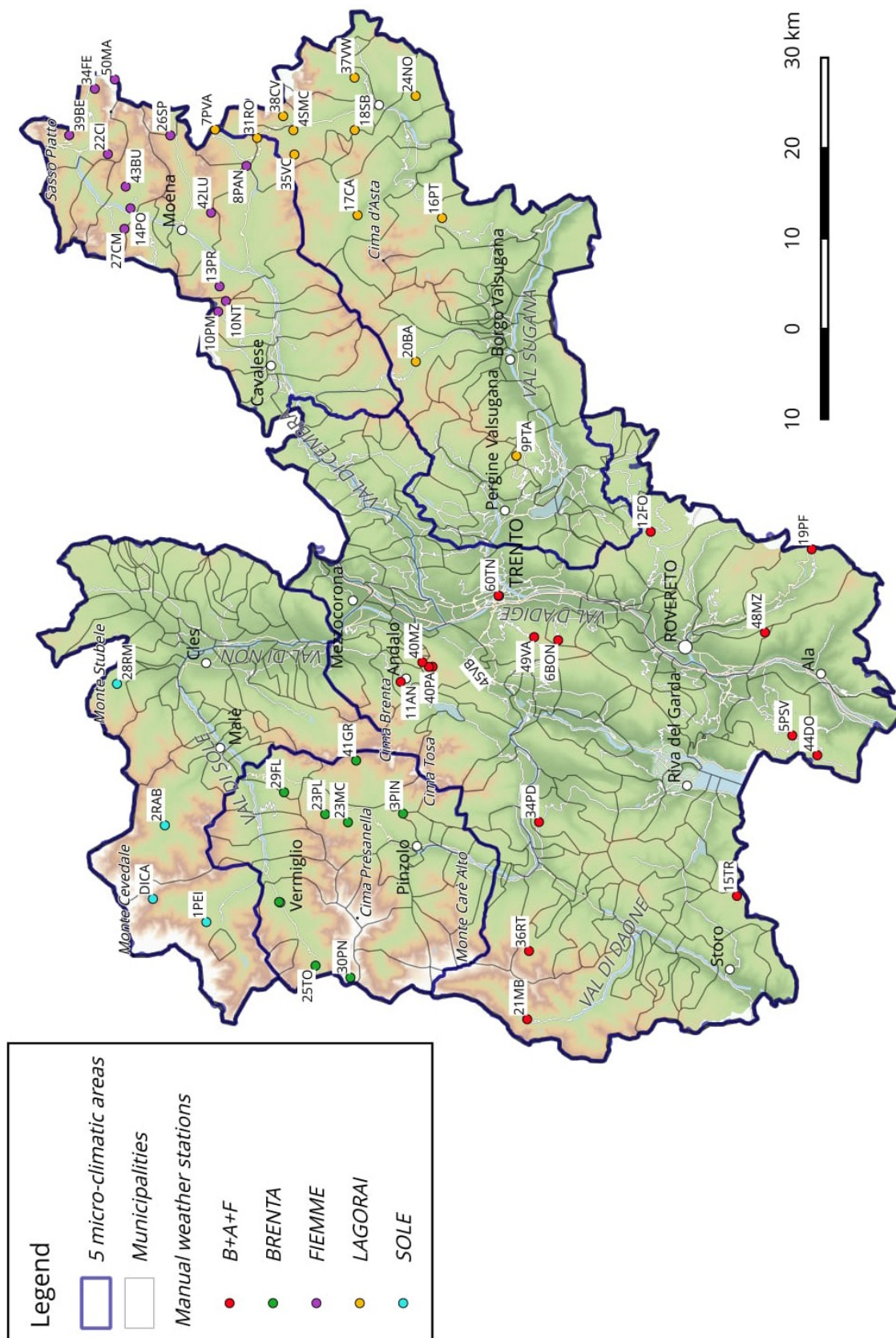
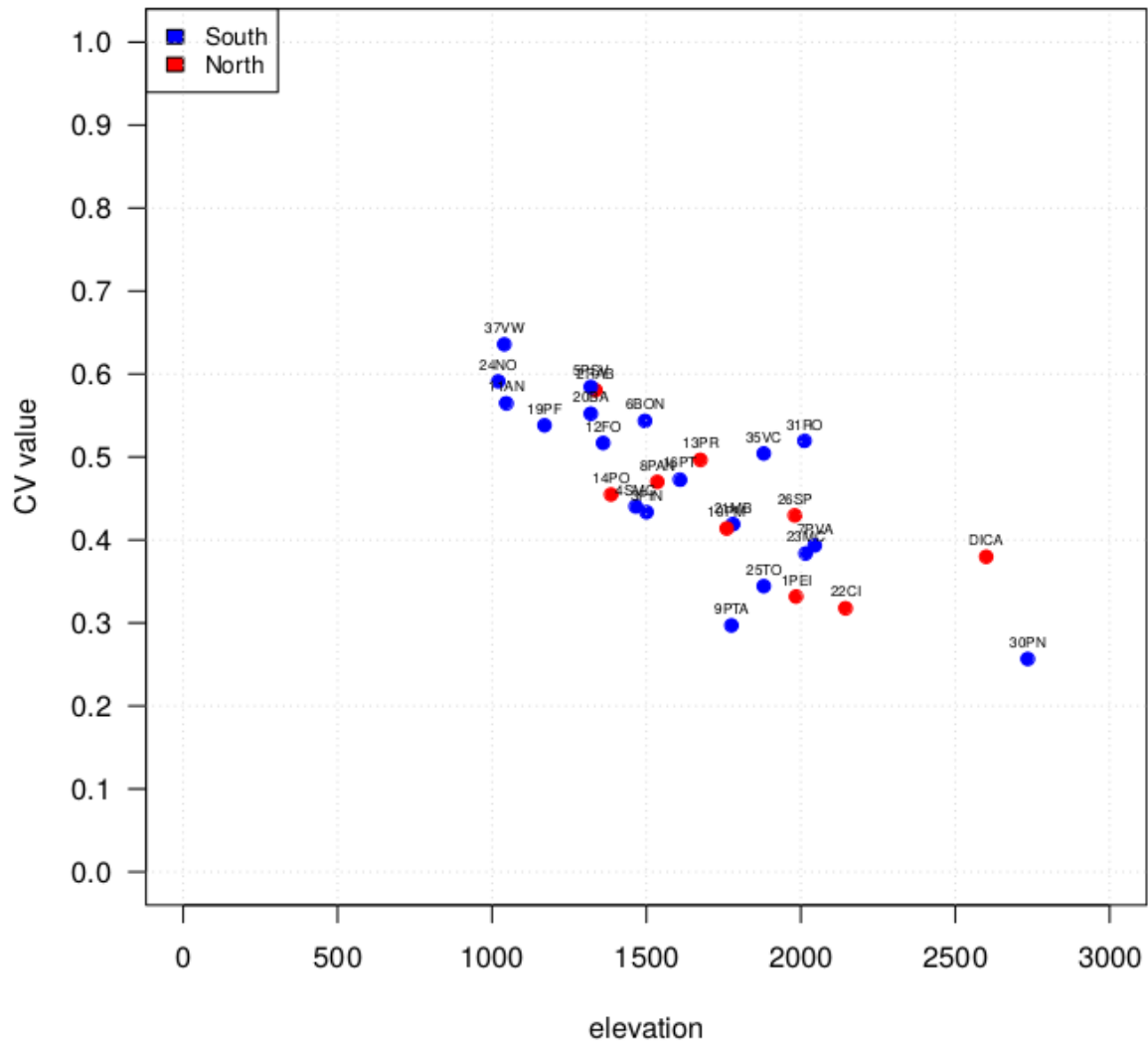
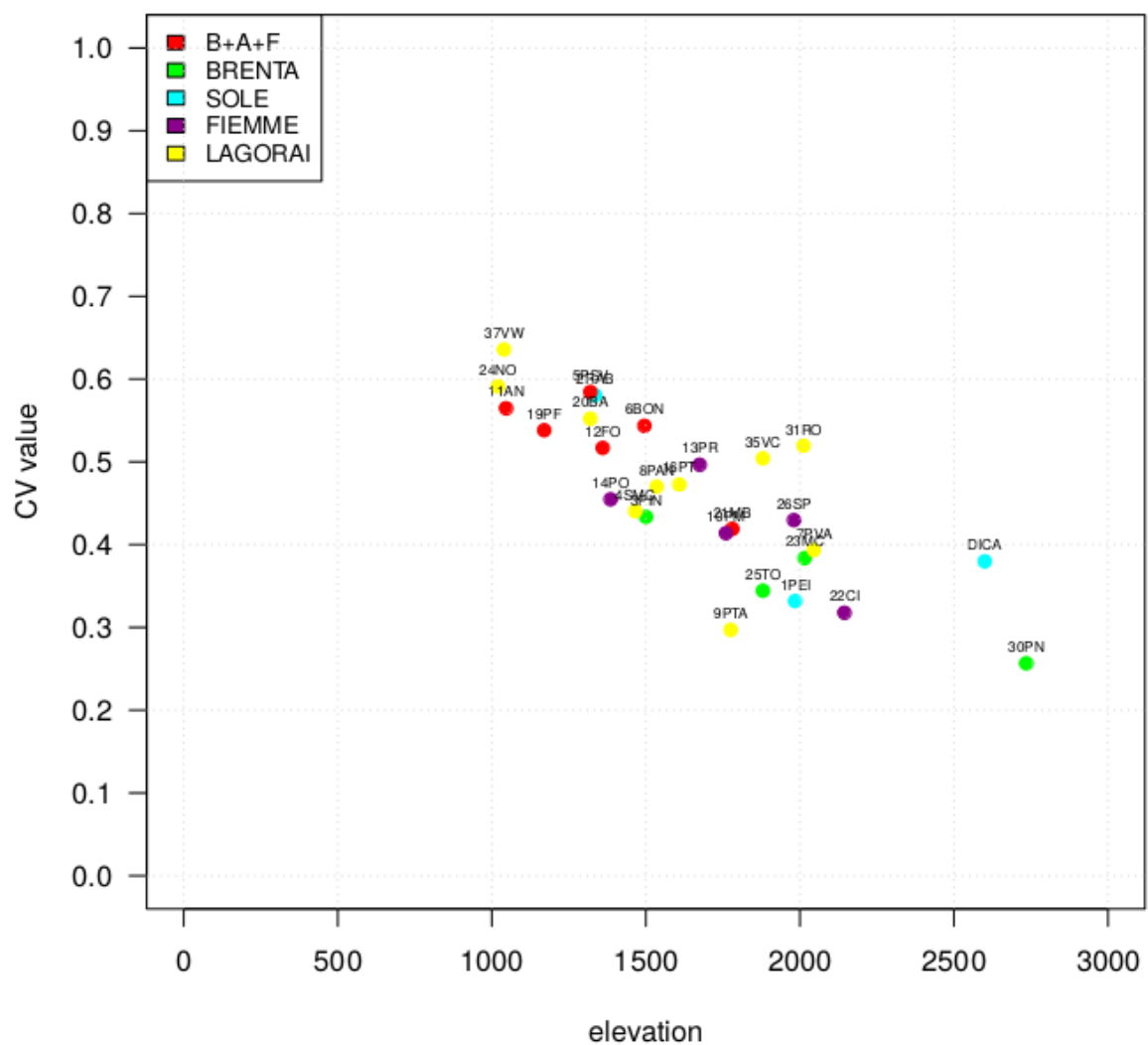


Figure 3: Area of the *Provincia Autonoma di Trento* split into 5 micro-areas. The respective MWS are showed as well: Bondone – Stivo – Paganella + Adamello Sud – Tremalzo + Prealpi – Piccole Dolomiti – Folgaria (**B+A+F**); Brenta – Tonale (**BRENTA**); Valle di Fiemme e Fassa (**FIEMME**); Lagorai – Primiero (**LAGORAI**); Val di Sole – Peio – Rabbi – Rumo (**SOLE**).

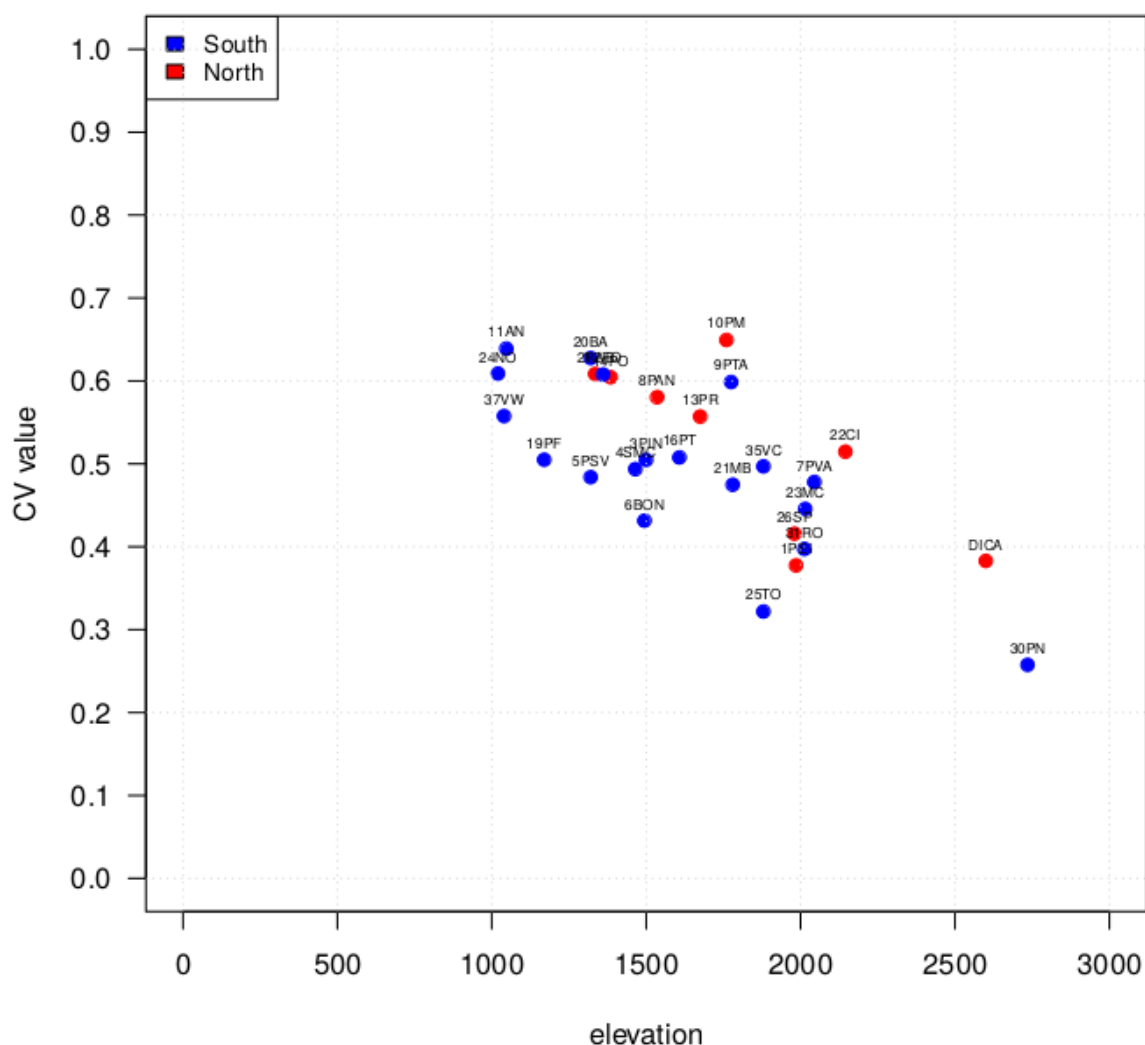
2.1 CV analysis (HS and ΔHS_3)



Graph 5: for each MWS, the CV (coefficient of variation) values of the HS variable are plotted referred to the respective elevation. Only MWS with at least 17-winter season data (28) are shown. Colors represent the 2 MWS macro-areas: **North** and **South**.

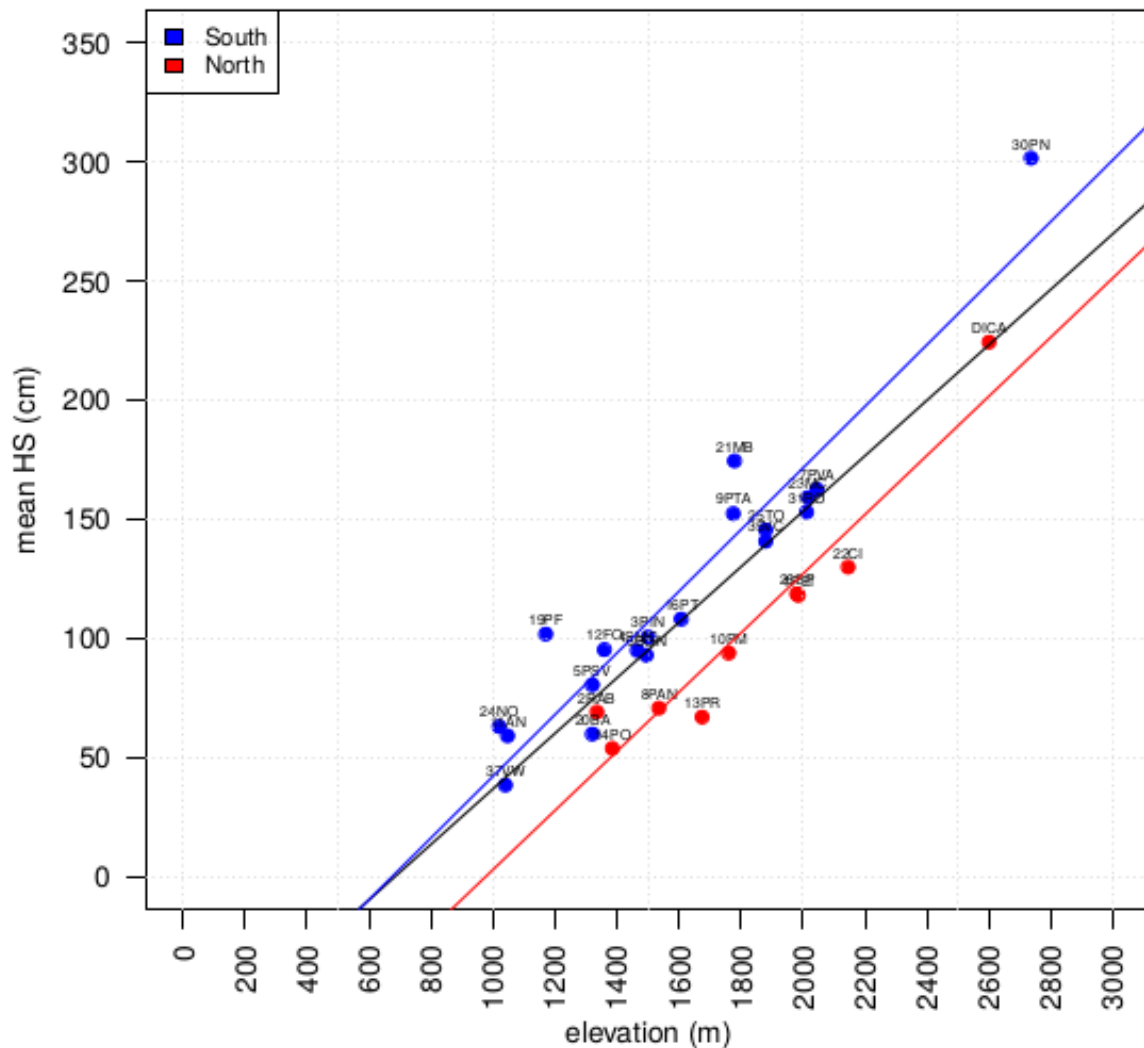


Graph 6: for each MWS, the CV (coefficient of variation) values of the *HS* variable are plotted referred to the respective elevation. Only MWS with at least 17-winter season data (28) are shown. Colors represent the 5 MWS micro-areas.



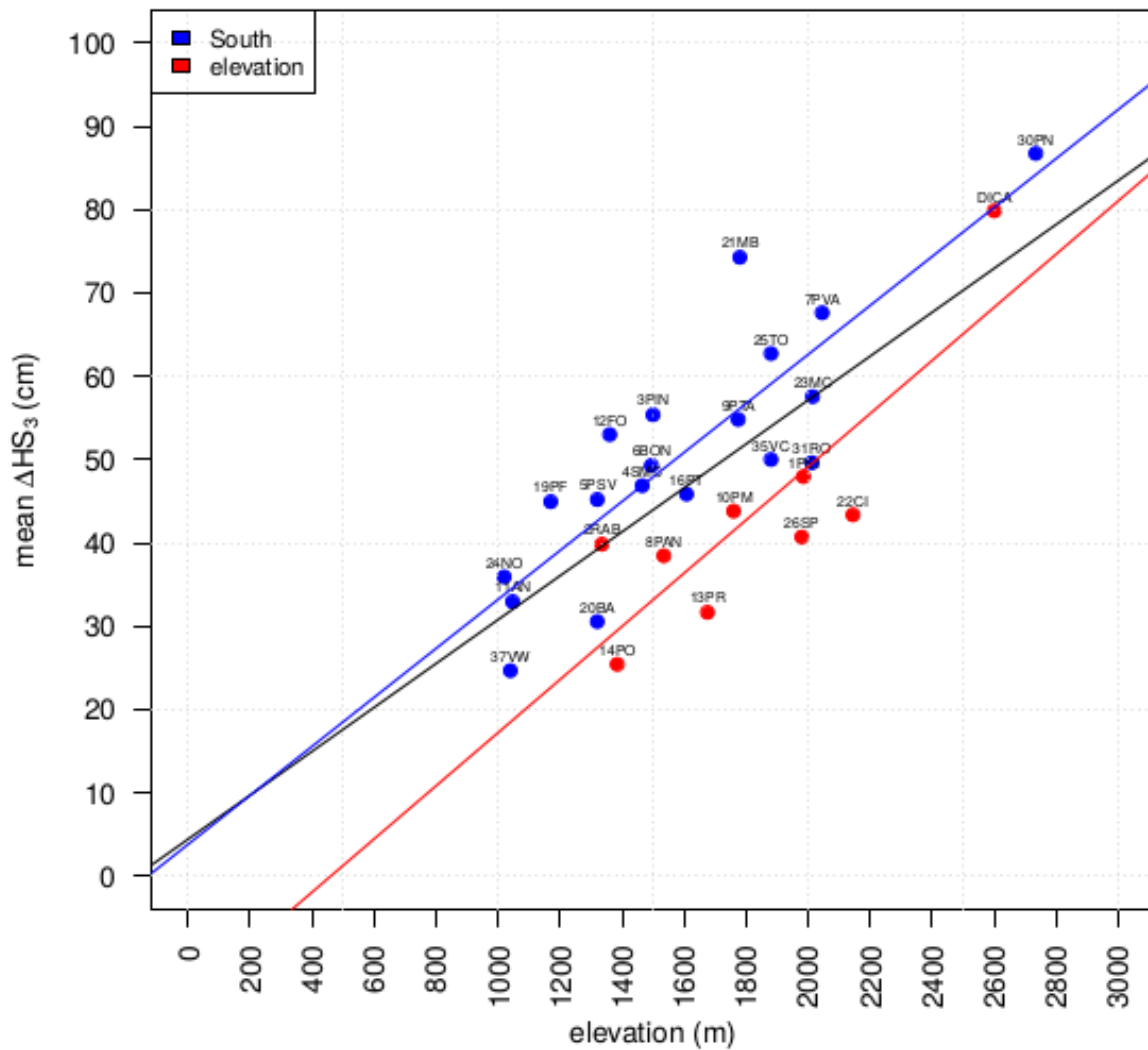
Graph 7: for each MWS, the CV (coefficient of variation) values of the ΔHS_3 variable are plotted referred to the respective elevation. Only MWS with at least 17-winter season data (28) are shown. Colors represent the 2 MWS macro-areas: **North** and **South**.

2.2 Analysis of the mean value of HS and ΔHS_3 versus elevation



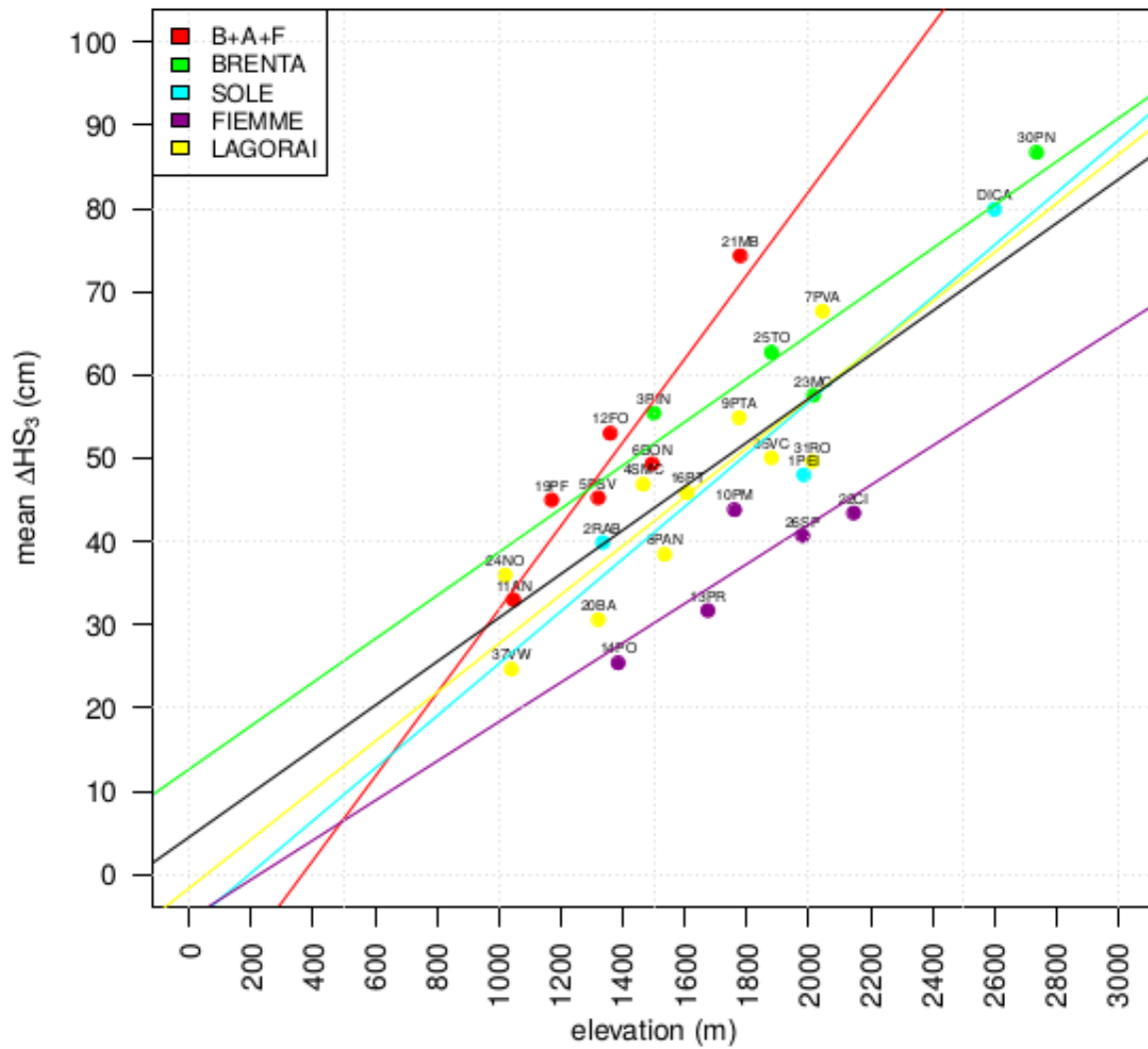
Graph 9: for each MWS with at least 17-winter season data, the mean value of the yearly HS maximum values is plotted versus the respective MWS elevation. Colors represent the 2 MWS macro-areas: **North** and **South**. The 3 straight lines are the linear regression on the whole dataset (black) and on the 2 different subsets. For every subset and for the whole dataset R^2 , the values are reported.

$$R_{TOT}^2 = 0.7818; \quad R_{NORD}^2 = 0.8989; \quad R_{SUD}^2 = 0.9153$$



Graph 11: for each MWS with at least 17-winter season data, the mean value of the yearly ΔHS_3 maximum values is plotted versus the respective MWS elevation. Colors represent the 2 MWS macro-areas: **North** and **South**. The 3 straight lines are the linear regression on the whole dataset (black) and on the 2 different subsets. For every subset and for the whole dataset R^2 , the values are reported.

$$R_{TOT}^2 = 0.5545; \quad R_{NORD}^2 = 0.7114; \quad R_{SUD}^2 = 0.7256$$



Graph 12: for each MWS with at least 17-winter season data, the mean value of the yearly ΔHS_3 maximum values is plotted versus the respective MWS elevation. Colors represent the 5 MWS micro-areas. The 6 straight lines are the linear regression on the whole dataset (black) and on the 5 different subsets. For every subset and for the whole dataset R^2 , the values are reported.

$R^2_{TOT} = 0.5545$	$R^2_{B+A+F} = 0.8883$
$R^2_{BRENTA} = 0.8712$	$R^2_{SOLE} = 0.8846$
$R^2_{FIEMME} = 0.5761$	$R^2_{LAGORAI} = 0.7623$

2.3 GEV Analysis

2.3.1 Method

The regional analysis were performed by applying the *index flood procedure* consisting of the combination of the Generalized Extreme Value distribution (**GEV**) and, to calculate the probabilistic distribution parameters, the *station year* approach.

For each MWS dataset of ΔHS_3 yearly maximum values and for each MWS dataset of HS yearly maximum values, the following normalization was performed:

$$y_{year} = \frac{x_{year}}{\mu_{stat}} \quad (1)$$

where:

x_{year} = is the maximum ΔHS_3 or HS value for a given year

μ_{stat} = is the MWS yearly maximums ΔHS_3 or HS mean value

Then all the normalized data were collected within a unique *regional* dataset (nrows = $N = \sum_i^M N_i$ where N_i = nrows of i-th station dataset, and M is the number of MWS), and the sample L-moments of the dataset was calculated:

$$\begin{aligned} l_1 &= b_0 \\ l_2 &= 2b_1 - b_0 \\ l_3 &= 6b_2 - 6b_1 + b_0 \end{aligned} \quad \text{where} \quad b_r = \frac{1}{N} \sum_{j=r+1}^N \frac{(j-1) \cdots (j-r)}{(n-1) \cdots (n-r)} y_j$$

thus, to calculate the GEV distribution parameters (k, α, u):

$$k = 7.8590C + 2.9554C^2 \quad (2)$$

where

$$C = \frac{2}{3 + \frac{l_3}{l_2}} - \frac{\ln 2}{\ln 3} \quad (3)$$

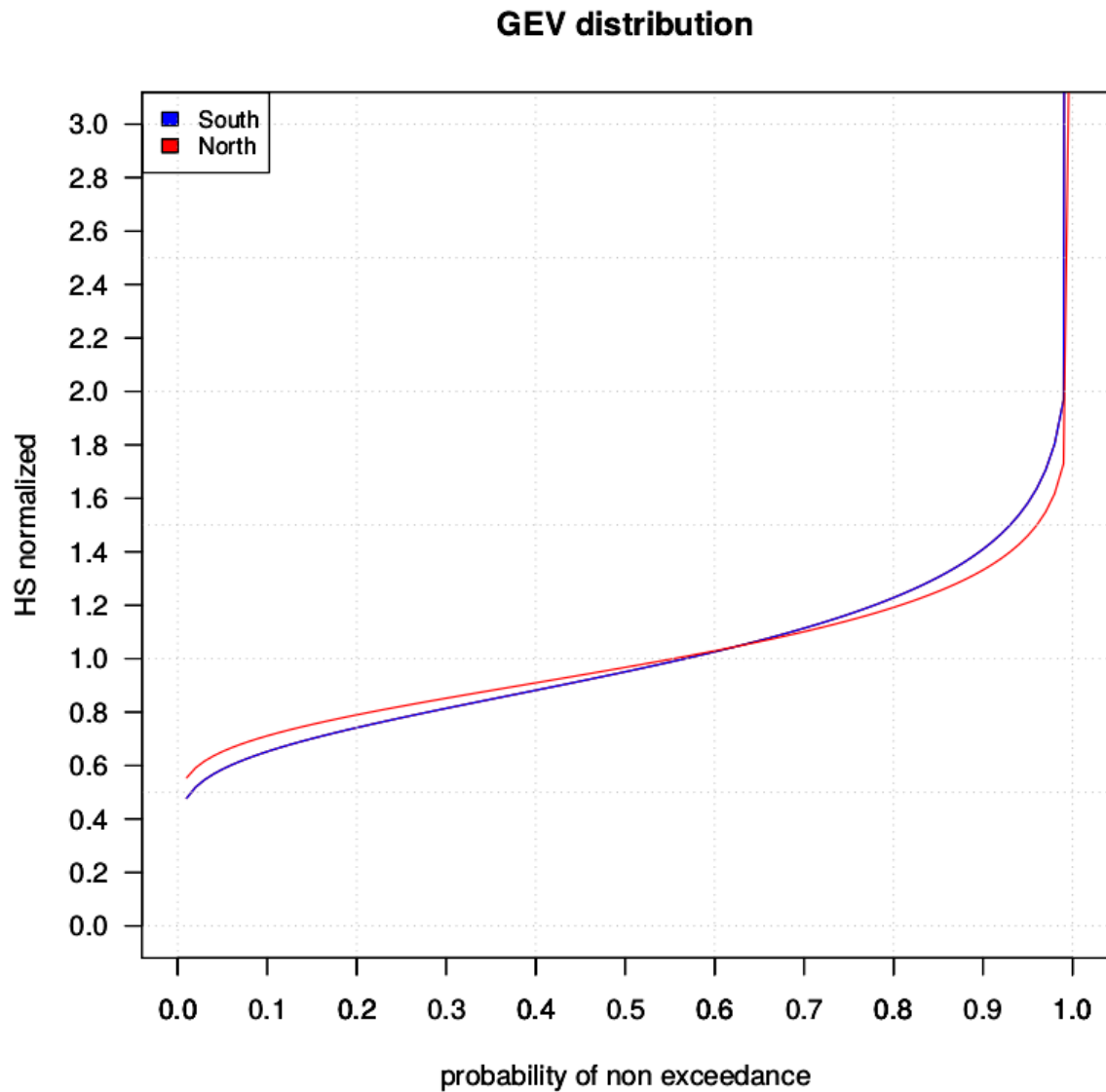
$$\alpha = \frac{kl_2}{(1 - 2^{-k})\Gamma(1 + k)} \quad (4)$$

$$u = l_1 + \frac{\alpha}{k} (\Gamma(1 + k) - 1) \quad (5)$$

Finally, the inverse GEV distribution formula was applied:

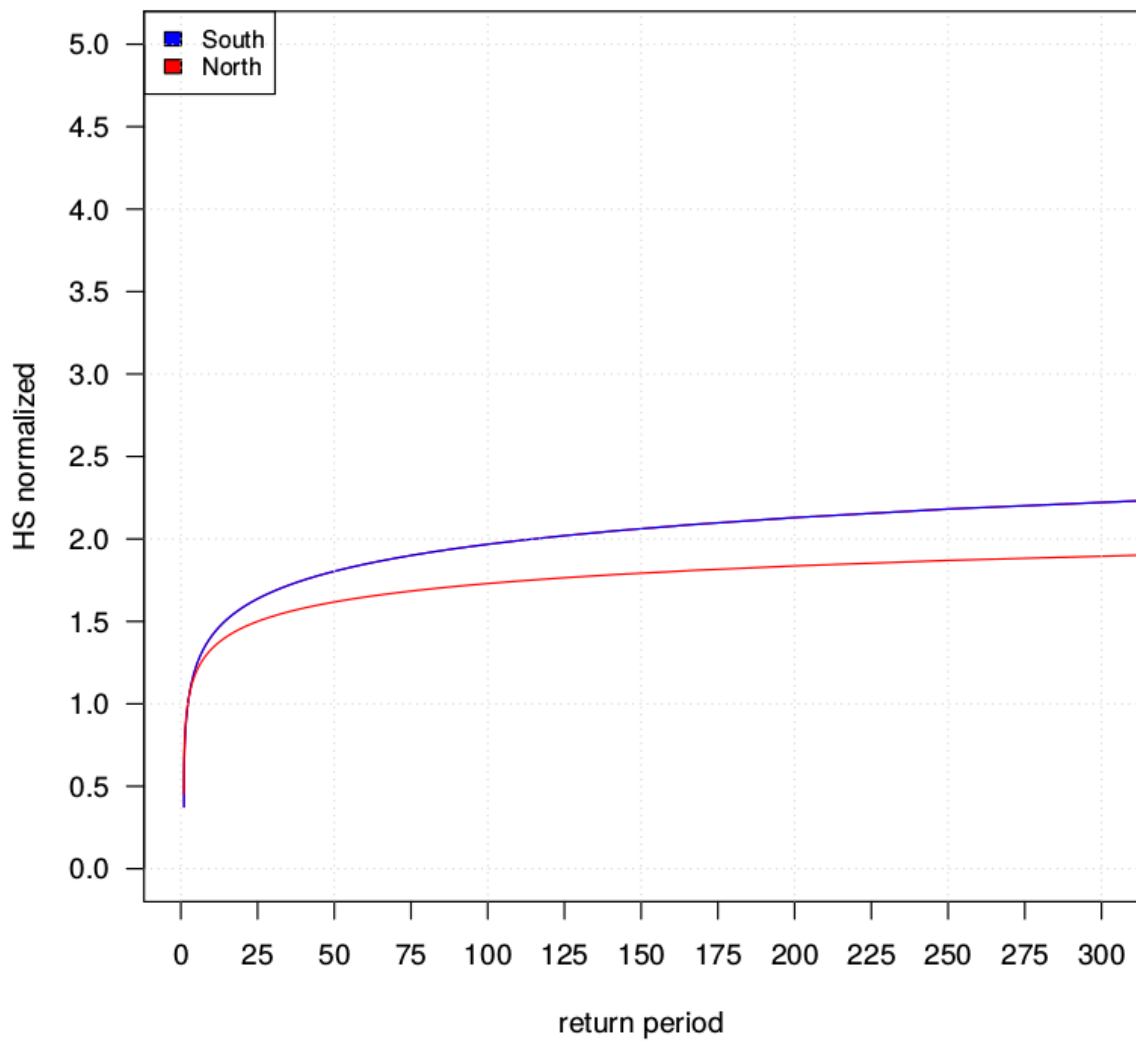
$$G(p) = u + \frac{\alpha}{k} [1 - (-\ln(p))] \quad (6)$$

2.3.2 HS and ΔHS_3 GEV distributions



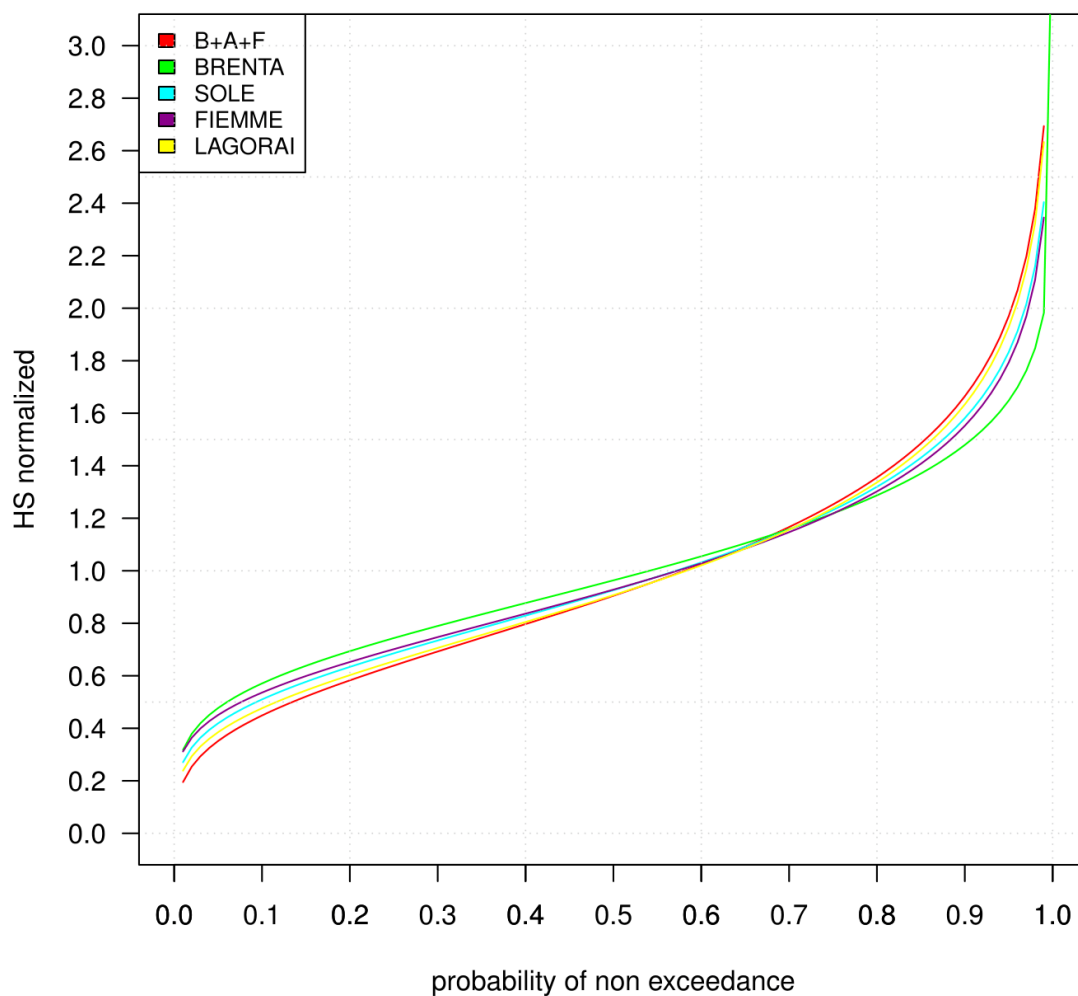
Graph 13: p (probability of non-exceedance) versus $G(p)$ (HS normalized values). Colors represent the two macro-areas: **North** and **South**.

GEV distribution



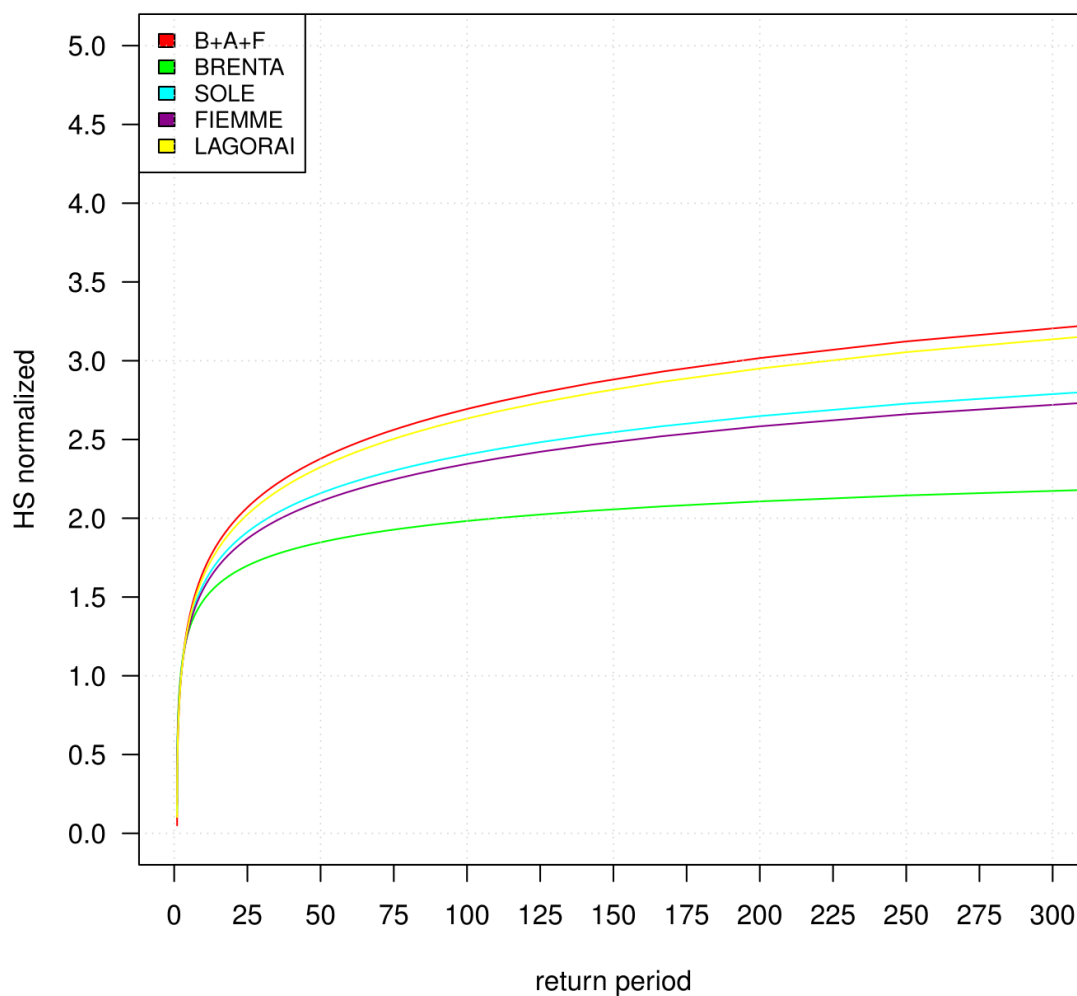
Graph 14: t (return time) versus $G(1 - \frac{1}{t})$ (HS normalized values). Colors represent the two macro-areas: **North** and **South**.

GEV distribution



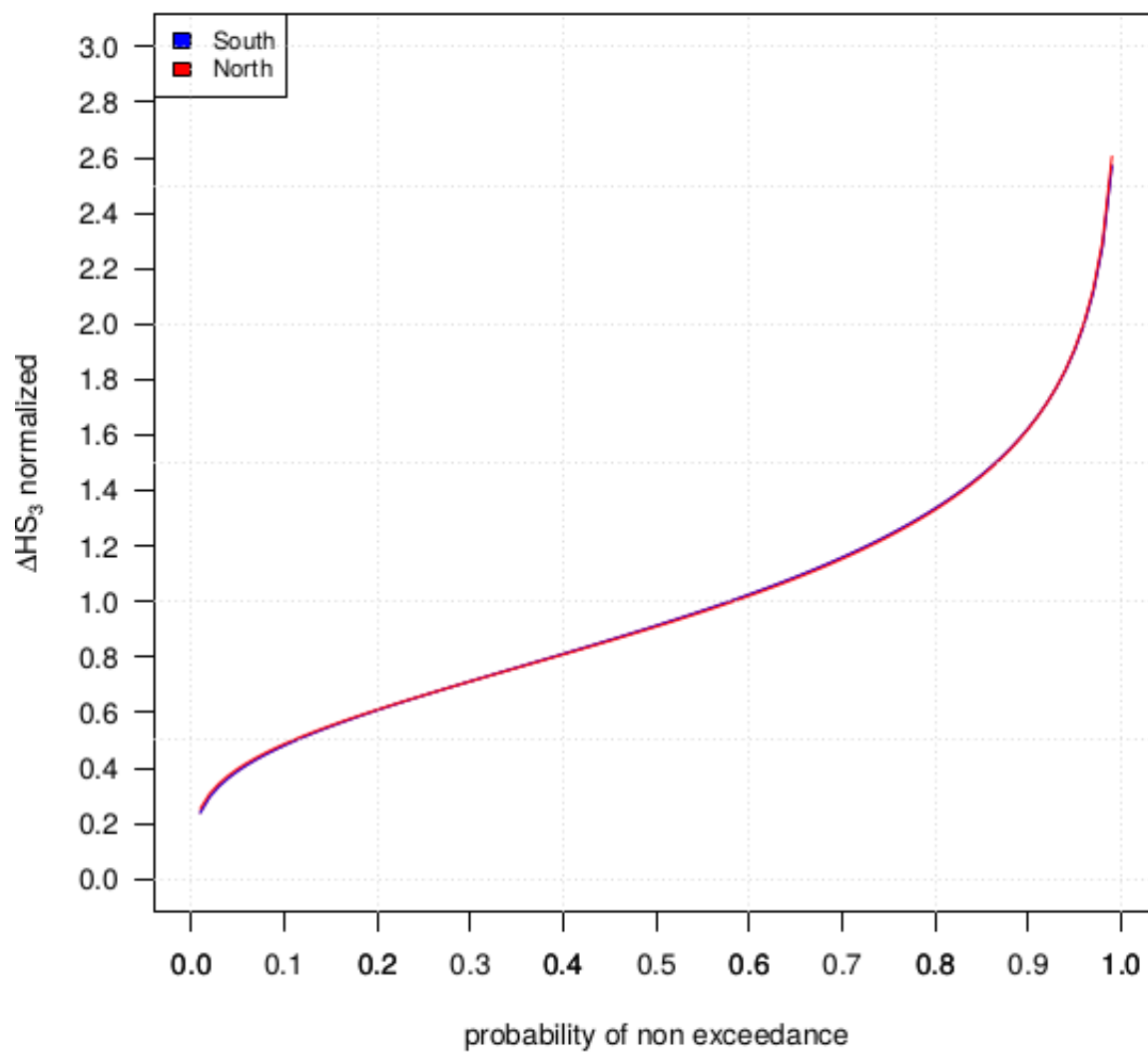
Graph 15: p (probability of non-exceedance) versus $G(p)$ (HS normalized values). Colors represent the 5 different MWS micro-climatic areas.

GEV distribution

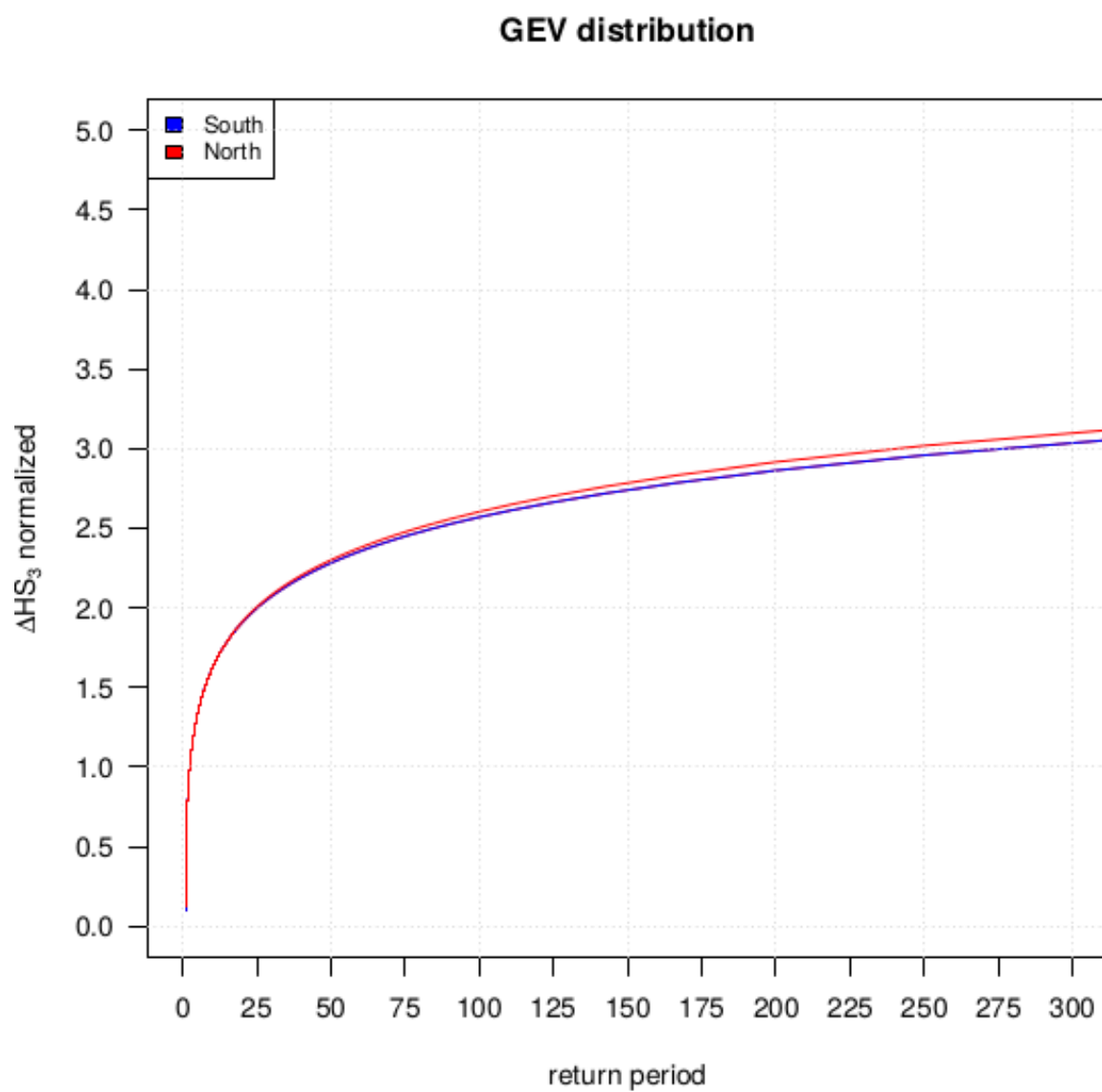


Graph 16: t (return time) versus $G(1 - \frac{1}{t})$ (HS normalized values). Colors represent the 5 MWS micro-climatic areas.

GEV distribution

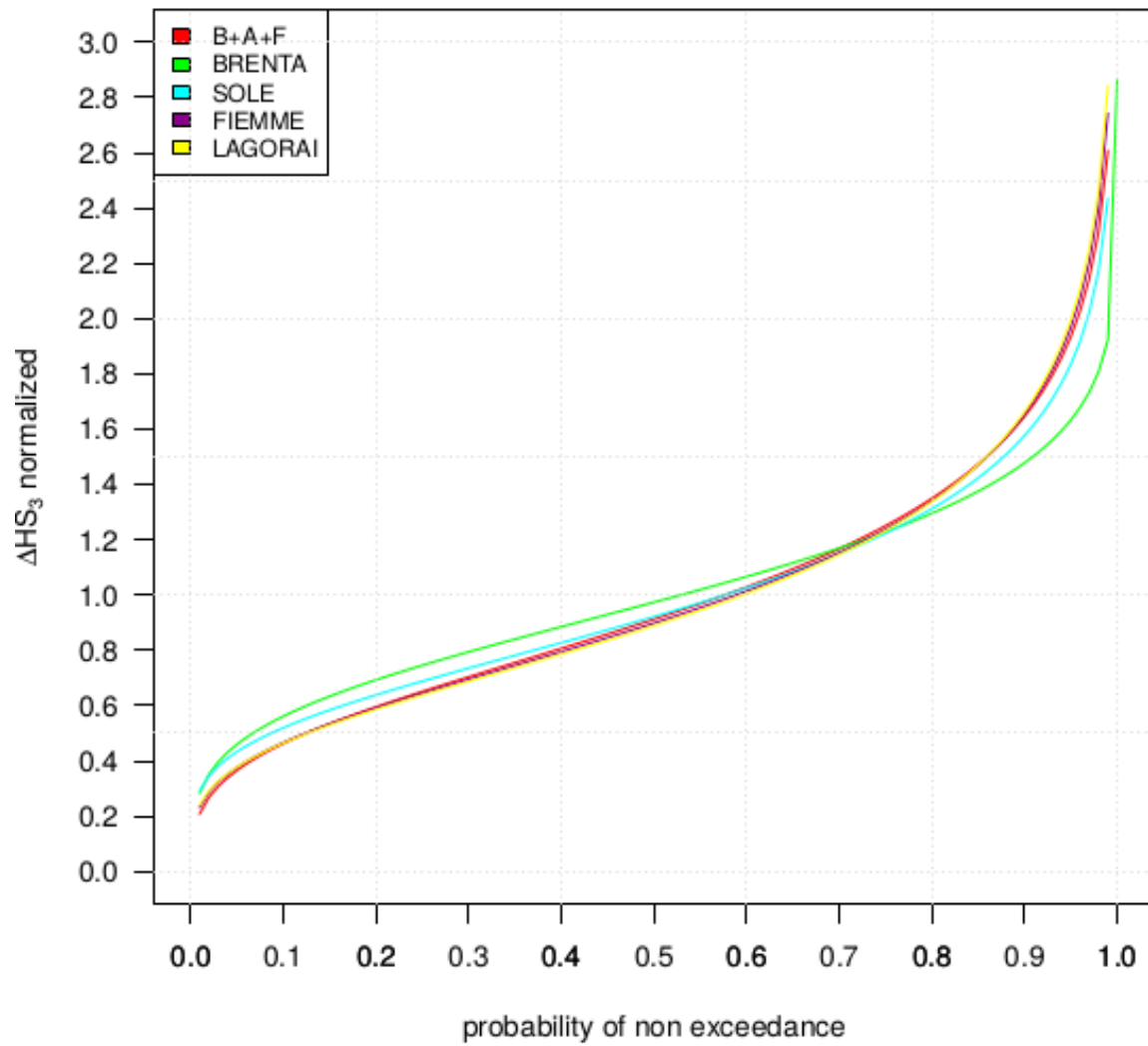


Graph 17: p (probability of non-exceedance) versus $G(p)$ (ΔHS_3 normalized values). Colors represent the 2 MWS macro-areas: **North** and **South**.



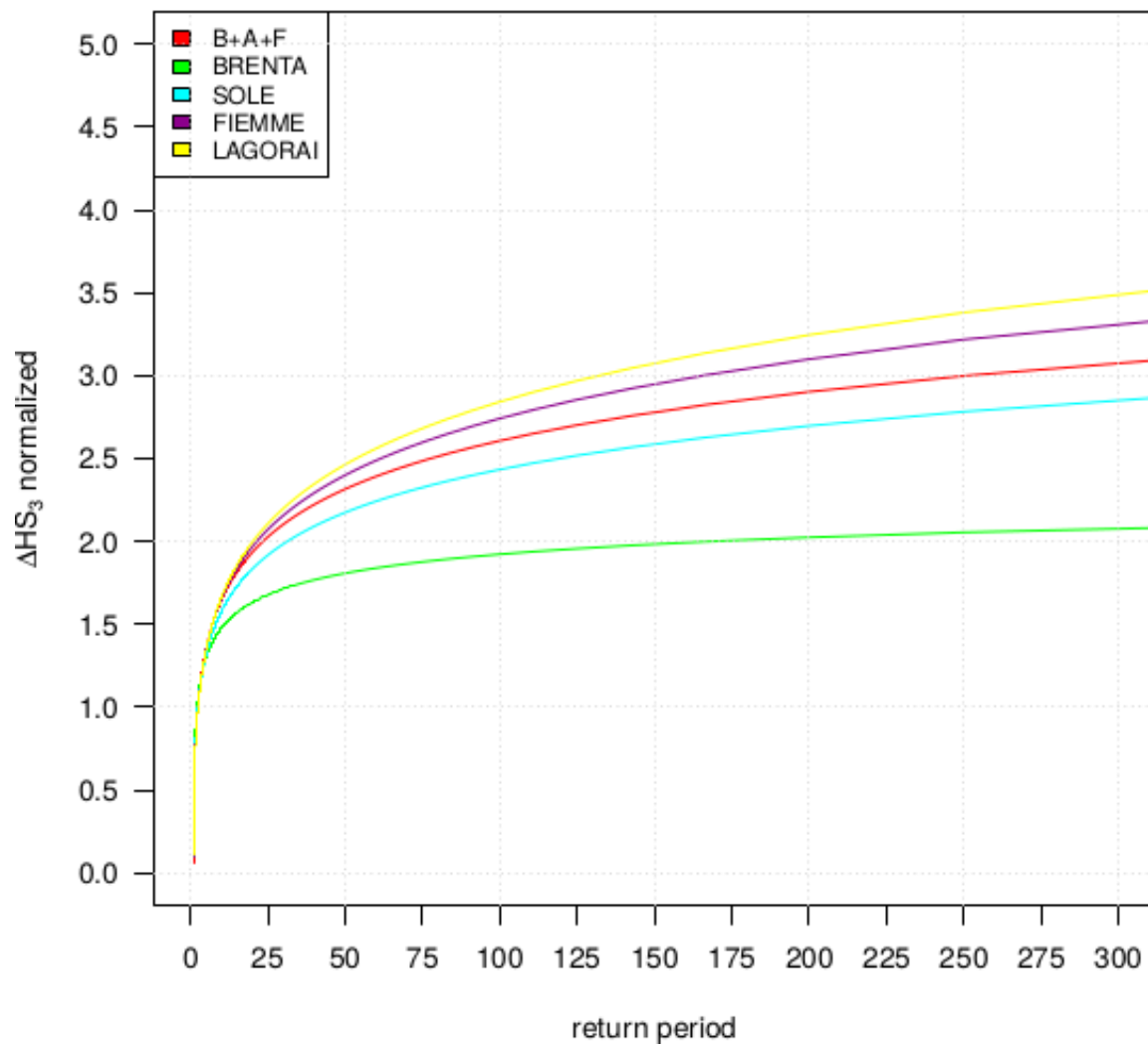
Graph 18: t (return time) versus $G(1 - \frac{1}{t})$ (ΔHS_3 normalized values). Colors represent the 2 MWS macro-areas: **North** and **South**.

GEV distribution



Graph 19: p (probability of non-exceedance) versus $G(p)$ (ΔHS_3 normalized values). Colors represent the 5 MWS micro-climatic areas.

GEV distribution



Graph 20: t (return time) versus $G(1 - \frac{1}{t})$ (ΔHS_3 normalized values). Colors represent the 5 MWS micro-climatic areas.

2.3.3 Return time tables for ΔHS_3

1. By using the least squares equations, showed in **Graphs 9, Graphs 10, Graphs 11, Graphs 12** the expected ΔHS_3 and HS mean values can be derived at different elevations (**Table 6, Table 8, Table 10, Table 12, Table 14, Table 16, Table 18**);
2. The return time period values (**Table 7, Table 9, Table 11, Table 13, Table 15, Table 17, Table 19**) were calculated by using i) the inverse of Equation (1); ii) the expected values calculated at point 1); the inverse GEV distribution equation (Equation (6)) with the relative 3-tuple of parameters (α , k , u).

Table 6: *HS* mean values (cm) for the macro-area **North** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	2.88	15.31	27.73	40.16	52.58	65.01	77.43	89.86	102.28	114.71	127.13
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	139.56	151.99	164.41	176.84	189.26	201.69	214.11	226.54	238.96	251.39	

Table 7: expected *HS* values (cm) for the macro-area **North** in function of different return periods and elevations.

	years								
	5	10	20	30	50	100	150	200	300
1000	3.4	3.8	4.2	4.4	4.6	5	5.1	5.3	5.4
1100	18.2	20.4	22.3	23.4	24.7	26.4	27.3	28	28.9
1200	33.1	36.9	40.4	42.4	44.7	47.8	49.5	50.7	52.3
1300	47.9	53.5	58.6	61.4	64.8	69.2	71.7	73.4	75.8
1400	62.7	70	76.7	80.4	84.8	90.6	93.9	96.1	99.2
1500	77.5	86.5	94.8	99.4	104.9	112.1	116.1	118.9	122.7
1600	92.3	103.1	112.9	118.4	124.9	133.5	138.3	141.6	146.1
1700	107.1	119.6	131	137.3	145	154.9	160.4	164.3	169.6
1800	121.9	136.2	149.2	156.3	165	176.3	182.6	187	193
1900	136.8	152.7	167.3	175.3	185.1	197.7	204.8	209.7	216.5
2000	151.6	169.3	185.4	194.3	205.1	219.1	227	232.4	239.9
2100	166.4	185.8	203.5	213.3	225.2	240.6	249.2	255.1	263.4
2200	181.2	202.3	221.6	232.3	245.2	262	271.4	277.9	286.8
2300	196	218.9	239.7	251.3	265.3	283.4	293.5	300.6	310.3
2400	210.8	235.4	257.9	270.3	285.3	304.8	315.7	323.3	333.7
2500	225.6	252	276	289.3	305.4	326.2	337.9	346	357.2
2600	240.4	268.5	294.1	308.3	325.4	347.6	360.1	368.7	380.6
2700	255.3	285	312.2	327.3	345.5	369.1	382.3	391.4	404
2800	270.1	301.6	330.3	346.3	365.5	390.5	404.5	414.2	427.5
2900	284.9	318.1	348.5	365.3	385.6	411.9	426.7	436.9	450.9
3000	299.7	334.7	366.6	384.2	405.6	433.3	448.8	459.6	474.4

From **Table 7**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 14.8\text{cm}, \quad \Delta(10years) = 16.6\text{cm}, \quad \Delta(20years) = 18.1\text{cm},$$

$$\Delta(30years) = 19\text{cm}, \quad \Delta(50years) = 20.1\text{cm}, \quad \Delta(100years) = 21.4\text{cm},$$

$$\Delta(150years) = 22.2\text{cm}, \quad \Delta(200years) = 22.7\text{cm}, \quad \Delta(300years) = 23.5\text{cm}.$$

Table 8: *HS* mean values (cm) for the macro-area **South** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	42.09	55.03	67.98	80.92	93.86	106.81	119.75	132.70	145.64	158.58	171.53
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	184.47	197.42	210.36	223.31	236.25	249.19	262.14	275.08	288.03	300.97	

Table 9: expected *HS* values (cm) for the macro-area **South** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	51.7	59.5	66.8	71	76.3	83.3	87.4	90.3	94.4
	1100	67.6	77.7	87.4	92.9	99.8	109	114.3	118.1	123.4
	1200	83.5	96	107.9	114.7	123.2	134.6	141.2	145.9	152.4
	1300	99.5	114.3	128.5	136.6	146.7	160.2	168.1	173.6	181.4
	1400	115.4	132.6	149	158.4	170.1	185.9	195	201.4	210.5
	1500	131.3	150.9	169.6	180.3	193.6	211.5	221.9	229.2	239.5
	1600	147.2	169.2	190.1	202.1	217.1	237.1	248.7	257	268.5
	1700	163.1	187.5	210.7	224	240.5	262.7	275.6	284.7	297.5
	1800	179	205.7	231.2	245.8	264	288.4	302.5	312.5	326.6
	1900	194.9	224	251.8	267.7	287.5	314	329.4	340.3	355.6
	2000	210.8	242.3	272.3	289.5	310.9	339.6	356.3	368.1	384.6
	2100	226.7	260.6	292.9	311.4	334.4	365.3	383.2	395.8	413.6
	2200	242.6	278.9	313.4	333.2	357.9	390.9	410.1	423.6	442.7
	2300	258.6	297.2	334	355.1	381.3	416.5	437	451.4	471.7
	2400	274.5	315.5	354.5	376.9	404.8	442.2	463.9	479.2	500.7
	2500	290.4	333.8	375.1	398.8	428.2	467.8	490.7	507	529.7
	2600	306.3	352	395.7	420.6	451.7	493.4	517.6	534.7	558.7
	2700	322.2	370.3	416.2	442.5	475.2	519	544.5	562.5	587.8
	2800	338.1	388.6	436.8	464.3	498.6	544.7	571.4	590.3	616.8
	2900	354	406.9	457.3	486.2	522.1	570.3	598.3	618.1	645.8
	3000	369.9	425.2	477.9	508	545.6	595.9	625.2	645.8	674.8

From **Table 9**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 15.9\text{cm}, \Delta(10years) = 18.2\text{cm}, \Delta(20years) = 20.6\text{cm},$$

$$\Delta(30years) = 21.9\text{cm}, \Delta(50years) = 23.5\text{cm}, \Delta(100years) = 25.7\text{cm},$$

$$\Delta(150years) = 26.9\text{cm}, \Delta(200years) = 27.8\text{cm}, \Delta(300years) = 29\text{cm}.$$

Table 10: *HS* mean values (cm) for the micro-area **B+A+F** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	52.91	66.11	79.31	92.51	105.70	118.90	132.10	145.30	158.49	171.69	184.89
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	198.08	211.28	224.48	237.68	250.87	264.07	277.27	290.47	303.66	316.86	

Table 11: expected *HS* values (cm) for the micro-area **B+A+F** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	71.7	88.1	104.2	113.7	125.8	142.5	152.5	159.6	169.8
	1100	89.6	110.1	130.2	142.1	157.2	178.1	190.5	199.5	212.2
	1200	107.5	132	156.3	170.5	188.6	213.6	228.6	239.3	254.6
	1300	125.4	154	182.3	198.9	220	249.2	266.6	279.1	296.9
	1400	143.3	176	208.3	227.2	251.4	284.7	304.6	318.9	339.3
	1500	161.2	198	234.3	255.6	282.8	320.3	342.7	358.7	381.6
	1600	179.1	219.9	260.3	284	314.2	355.8	380.7	398.5	424
	1700	196.9	241.9	286.3	312.3	345.5	391.4	418.7	438.3	466.3
	1800	214.8	263.9	312.3	340.7	376.9	427	456.8	478.2	508.7
	1900	232.7	285.8	338.3	369.1	408.3	462.5	494.8	518	551.1
	2000	250.6	307.8	364.3	397.5	439.7	498.1	532.8	557.8	593.4
	2100	268.5	329.8	390.3	425.8	471.1	533.6	570.9	597.6	635.8
	2200	286.4	351.7	416.3	454.2	502.5	569.2	608.9	637.4	678.1
	2300	304.3	373.7	442.3	482.6	533.9	604.7	646.9	677.2	720.5
	2400	322.2	395.7	468.3	510.9	565.2	640.3	684.9	717	762.9
	2500	340.1	417.7	494.3	539.3	596.6	675.8	723	756.9	805.2
	2600	357.9	439.6	520.3	567.7	628	711.4	761	796.7	847.6
	2700	375.8	461.6	546.3	596	659.4	746.9	799	836.5	889.9
	2800	393.7	483.6	572.3	624.4	690.8	782.5	837.1	876.3	932.3
	2900	411.6	505.5	598.3	652.8	722.2	818	875.1	916.1	974.7
	3000	429.5	527.5	624.3	681.2	753.6	853.6	913.1	955.9	1017

From **Table 11**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 17.9cm, \quad \Delta(10years) = 22cm, \quad \Delta(20years) = 26cm,$$

$$\Delta(30years) = 28.4cm, \quad \Delta(50years) = 31.4cm, \quad \Delta(100years) = 35.6cm,$$

$$\Delta(150years) = 38cm, \quad \Delta(200years) = 39.9cm, \quad \Delta(300years) = 42.4cm.$$

Table 12: *HS* mean values (cm) for the micro-area **BRENTA** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	4.71	21.37	38.03	54.69	71.35	88.00	104.66	121.32	137.98	154.64	171.30
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	187.96	204.62	221.28	237.94	254.60	271.26	287.92	304.58	321.24	337.90	

Table 13: expected *HS* values (cm) for the micro-area **BRENTA** in function of different return periods and elevations.

		years									
		5	10	20	30	50	100	150	200	300	
elevation	1000	6.1	7	7.8	8.2	8.7	9.3	9.7	9.9	10.2	
	1100	27.5	31.6	35.2	37.2	39.5	42.4	43.9	45	46.5	
	1200	49	56.3	62.7	66.1	70.2	75.4	78.2	80.1	82.7	
	1300	70.4	80.9	90.1	95.1	101	108.4	112.5	115.2	119	
	1400	91.8	105.5	117.6	124.1	131.8	141.5	146.8	150.3	155.2	
	1500	113.3	130.2	145.1	153.1	162.6	174.5	181	185.5	191.5	
	1600	134.7	154.8	172.5	182.1	193.3	207.5	215.3	220.6	227.7	
	1700	156.2	179.5	200	211	224.1	240.6	249.6	255.7	263.9	
	1800	177.6	204.1	227.5	240	254.9	273.6	283.8	290.8	300.2	
	1900	199.1	228.8	254.9	269	285.7	306.6	318.1	325.9	336.4	
	2000	220.5	253.4	282.4	298	316.4	339.7	352.4	361	372.7	
	2100	242	278.1	309.8	327	347.2	372.7	386.6	396.1	408.9	
	2200	263.4	302.7	337.3	355.9	378	405.7	420.9	431.2	445.2	
	2300	284.9	327.3	364.8	384.9	408.8	438.8	455.2	466.3	481.4	
	2400	306.3	352	392.2	413.9	439.5	471.8	489.4	501.4	517.7	
	2500	327.8	376.6	419.7	442.9	470.3	504.8	523.7	536.5	553.9	
	2600	349.2	401.3	447.1	471.8	501.1	537.9	558	571.6	590.1	
	2700	370.6	425.9	474.6	500.8	531.9	570.9	592.2	606.7	626.4	
	2800	392.1	450.6	502.1	529.8	562.6	603.9	626.5	641.9	662.6	
	2900	413.5	475.2	529.5	558.8	593.4	637	660.8	677	698.9	
	3000	435	499.9	557	587.8	624.2	670	695	712.1	735.1	

From **Table 13**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 21.4cm, \quad \Delta(10years) = 24.6cm, \quad \Delta(20years) = 27.4cm,$$

$$\Delta(30years) = 29cm, \quad \Delta(50years) = 30.8cm, \quad \Delta(100years) = 33.1cm,$$

$$\Delta(150years) = 34.2cm, \quad \Delta(200years) = 35.1cm, \quad \Delta(300years) = 36.3cm.$$

Table 14: *HS* mean values (cm) for the micro-area **FIEMME** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
MEAN	7.20	18.03	28.86	39.69	50.52	61.35	72.18	83.01	93.84	104.67
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
	126.33	137.16	147.99	158.82	169.65	180.48	191.31	202.13	212.96	223.79

Table 15: expected *HS* values (cm) for the micro-area **FIEMME** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	9.4	11.1	12.8	13.7	14.9	16.5	17.4	18.1	19
	1100	23.4	27.8	32	34.4	37.3	41.4	43.7	45.3	47.7
	1200	37.5	44.5	51.2	55	59.8	66.2	69.9	72.6	76.3
	1300	51.6	61.2	70.4	75.6	82.2	91	96.2	99.8	104.9
	1400	65.7	77.9	89.6	96.3	104.6	115.9	122.4	127	133.5
	1500	79.8	94.6	108.8	116.9	127.1	140.7	148.6	154.2	162.1
	1600	93.8	111.3	128	137.5	149.5	165.5	174.9	181.5	190.8
	1700	107.9	128	147.2	158.2	171.9	190.4	201.1	208.7	219.4
	1800	122	144.7	166.4	178.8	194.3	215.2	227.3	235.9	248
	1900	136.1	161.4	185.6	199.5	216.8	240	253.6	263.2	276.6
	2000	150.1	178.1	204.8	220.1	239.2	264.9	279.8	290.4	305.2
	2100	164.2	194.8	224	240.7	261.6	289.7	306	317.6	333.8
	2200	178.3	211.5	243.2	261.4	284.1	314.6	332.3	344.8	362.5
	2300	192.4	228.2	262.4	282	306.5	339.4	358.5	372.1	391.1
	2400	206.5	244.9	281.6	302.6	328.9	364.2	384.8	399.3	419.7
	2500	220.5	261.6	300.8	323.3	351.3	389.1	411	426.5	448.3
	2600	234.6	278.3	320	343.9	373.8	413.9	437.2	453.7	476.9
	2700	248.7	295	339.2	364.6	396.2	438.7	463.5	481	505.6
	2800	262.8	311.7	358.4	385.2	418.6	463.6	489.7	508.2	534.2
	2900	276.9	328.4	377.6	405.8	441	488.4	515.9	535.4	562.8
	3000	290.9	345.1	396.8	426.5	463.5	513.2	542.2	562.7	591.4

From **Table 15**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 14\text{cm}, \quad \Delta(10years) = 16.7\text{cm}, \quad \Delta(20years) = 19.2\text{cm},$$

$$\Delta(30years) = 20.7\text{cm}, \quad \Delta(50years) = 22.4\text{cm}, \quad \Delta(100years) = 24.9\text{cm},$$

$$\Delta(150years) = 26.3\text{cm}, \quad \Delta(200years) = 27.2\text{cm}, \quad \Delta(300years) = 28.7\text{cm}.$$

Table 16: *HS* mean values (cm) for the micro-area **LAGORAI** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	38.22	49.82	61.43	73.03	84.64	96.24	107.85	119.45	131.06	142.66	154.27
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	165.87	177.48	189.09	200.69	212.30	223.90	235.51	247.11	258.72	270.32	

Table 17: expected *HS* values (cm) for the micro-area **LAGORAI** in function of different return periods and elevations.

		years									
		5	10	20	30	50	100	150	200	300	
elevation	1000	51	62.3	73.6	80.3	88.9	100.9	108.1	113.3	120.7	
	1100	66.4	81.2	96	104.7	116	131.6	140.9	147.7	157.4	
	1200	81.9	100.2	118.4	129.1	143	162.2	173.7	182.1	194	
	1300	97.4	119.1	140.7	153.5	170	192.8	206.6	216.5	230.7	
	1400	112.9	138	163.1	177.9	197	223.5	239.4	250.9	267.3	
	1500	128.3	156.9	185.4	202.3	224	254.1	272.2	285.3	304	
	1600	143.8	175.9	207.8	226.7	251	284.8	305	319.7	340.7	
	1700	159.3	194.8	230.2	251.1	278	315.4	337.9	354.1	377.3	
	1800	174.8	213.7	252.5	275.5	305	346.1	370.7	388.5	414	
	1900	190.2	232.6	274.9	299.9	332	376.7	403.5	422.9	450.6	
	2000	205.7	251.5	297.3	324.3	359	407.3	436.3	457.3	487.3	
	2100	221.2	270.5	319.6	348.7	386	438	469.2	491.7	523.9	
	2200	236.6	289.4	342	373.1	413	468.6	502	526.1	560.6	
	2300	252.1	308.3	364.3	397.5	440.1	499.3	534.8	560.5	597.3	
	2400	267.6	327.2	386.7	421.9	467.1	529.9	567.6	594.9	633.9	
	2500	283.1	346.2	409.1	446.3	494.1	560.6	600.5	629.3	670.6	
	2600	298.5	365.1	431.4	470.7	521.1	591.2	633.3	663.7	707.2	
	2700	314	384	453.8	495.1	548.1	621.8	666.1	698.1	743.9	
	2800	329.5	402.9	476.1	519.5	575.1	652.5	698.9	732.5	780.5	
	2900	345	421.9	498.5	543.9	602.1	683.1	731.8	766.9	817.2	
	3000	360.4	440.8	520.9	568.3	629.1	713.8	764.6	801.3	853.9	

From **Table 17**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 15.4cm, \quad \Delta(10years) = 18.9cm, \quad \Delta(20years) = 22.4cm,$$

$$\Delta(30years) = 24.4cm, \quad \Delta(50years) = 27.1cm, \quad \Delta(100years) = 30.7cm,$$

$$\Delta(150years) = 32.8cm, \quad \Delta(200years) = 34.4cm, \quad \Delta(300years) = 36.6cm.$$

Table 18: *HS* mean values (cm) for the micro-area **SOLE** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
MEAN	18.16	30.39	42.61	54.84	67.06	79.29	91.51	103.74	115.97	128.19
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
	152.64	164.87	177.09	189.32	201.54	213.77	225.99	238.22	250.44	262.67

Table 19: expected *HS* values (cm) for the micro-area **SOLE** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	24	28.7	33.3	35.9	39.2	43.7	46.3	48.1	50.7
	1100	40.1	48.1	55.7	60.1	65.6	73.1	77.4	80.5	84.8
	1200	56.3	67.4	78.1	84.3	92	102.5	108.6	112.9	119
	1300	72.4	86.7	100.5	108.5	118.4	131.8	139.7	145.3	153.1
	1400	88.5	106.1	122.9	132.6	144.8	161.2	170.8	177.6	187.2
	1500	104.7	125.4	145.3	156.8	171.2	190.6	202	210	221.4
	1600	120.8	144.7	167.7	181	197.6	220	233.1	242.4	255.5
	1700	136.9	164.1	190.2	205.2	224	249.4	264.3	274.8	289.6
	1800	153.1	183.4	212.6	229.4	250.4	278.8	295.4	307.2	323.8
	1900	169.2	202.7	235	253.5	276.8	308.2	326.5	339.6	357.9
	2000	185.4	222.1	257.4	277.7	303.2	337.6	357.7	371.9	392
	2100	201.5	241.4	279.8	301.9	329.6	367	388.8	404.3	426.2
	2200	217.6	260.7	302.2	326.1	356	396.4	420	436.7	460.3
	2300	233.8	280.1	324.6	350.3	382.4	425.8	451.1	469.1	494.4
	2400	249.9	299.4	347	374.4	408.8	455.2	482.2	501.5	528.6
	2500	266	318.8	369.4	398.6	435.2	484.5	513.4	533.8	562.7
	2600	282.2	338.1	391.8	422.8	461.6	513.9	544.5	566.2	596.8
	2700	298.3	357.4	414.2	447	488	543.3	575.7	598.6	631
	2800	314.4	376.8	436.6	471.2	514.4	572.7	606.8	631	665.1
	2900	330.6	396.1	459.1	495.3	540.8	602.1	638	663.4	699.2
	3000	346.7	415.4	481.5	519.5	567.1	631.5	669.1	695.8	733.3

From **Table 19**, for each return period, the increase of the *HS* variable every 100m of elevation is:

$$\Delta(5years) = 16.1cm, \quad \Delta(10years) = 19.4cm, \quad \Delta(20years) = 22.4cm,$$

$$\Delta(30years) = 24.2cm, \quad \Delta(50years) = 26.4cm, \quad \Delta(100years) = 29.4cm,$$

$$\Delta(150years) = 31.1cm, \quad \Delta(200years) = 32.4cm, \quad \Delta(300years) = 34.1cm.$$

Table 20: ΔHS_3 mean values (cm) for the macro-area **North** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	17.27	20.45	23.64	26.83	30.02	33.21	36.40	39.59	42.78	45.97	49.16
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	52.35	55.54	58.73	61.92	65.11	68.30	71.49	74.68	77.87	81.06	

Table 21: expected ΔHS_3 values (cm) for the macro-area **North** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	23	28.2	33.3	36.4	40.3	45.7	49	51.4	54.8
	1100	27.3	33.4	39.5	43.1	47.7	54.2	58.1	60.9	64.9
	1200	31.5	38.6	45.6	49.8	55.2	62.6	67.1	70.3	75
	1300	35.8	43.8	51.8	56.5	62.6	71.1	76.2	79.8	85.1
	1400	40	49	57.9	63.2	70	79.5	85.2	89.3	95.2
	1500	44.3	54.2	64.1	70	77.5	88	94.3	98.8	105.3
	1600	48.6	59.4	70.3	76.7	84.9	96.4	103.3	108.3	115.5
	1700	52.8	64.6	76.4	83.4	92.4	104.9	112.4	117.8	125.6
	1800	57.1	69.8	82.6	90.1	99.8	113.3	121.4	127.3	135.7
	1900	61.3	75	88.7	96.8	107.3	121.8	130.5	136.8	145.8
	2000	65.6	80.2	94.9	103.6	114.7	130.2	139.5	146.3	155.9
	2100	69.8	85.4	101	110.3	122.1	138.7	148.6	155.8	166
	2200	74.1	90.7	107.2	117	129.6	147.1	157.6	165.2	176.2
	2300	78.3	95.9	113.3	123.7	137	155.6	166.7	174.7	186.3
	2400	82.6	101.1	119.5	130.4	144.5	164	175.8	184.2	196.4
	2500	86.8	106.3	125.7	137.2	151.9	172.5	184.8	193.7	206.5
	2600	91.1	111.5	131.8	143.9	159.3	180.9	193.9	203.2	216.6
	2700	95.3	116.7	138	150.6	166.8	189.4	202.9	212.7	226.7
	2800	99.6	121.9	144.1	157.3	174.2	197.8	212	222.2	236.9
	2900	103.9	127.1	150.3	164	181.7	206.3	221	231.7	247
	3000	108.1	132.3	156.4	170.8	189.1	214.7	230.1	241.2	257.1

From **Table 21**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 4,3cm, \Delta(10years) = 5.2cm, \Delta(20years) = 6.2cm,$$

$$\Delta(30years) = 6.7cm, \Delta(50years) = 7.4cm, \Delta(100years) = 8.5cm,$$

$$\Delta(150years) = 9.1cm, \Delta(200years) = 9.5cm, \Delta(300years) = 10.1cm.$$

Table 22: ΔHS_3 values (cm) for the macro-area **South** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	33.25	36.19	39.13	42.06	45.00	47.94	50.88	53.82	56.76	59.70	62.64
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	65.58	68.52	71.45	74.39	77.33	80.27	83.21	86.15	89.09	92.03	

Table 23: expected ΔHS_3 values (cm) for the macro-area **South** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	44.3	53.7	62.9	68.3	75	84.3	89.8	93.7	99.3
	1100	48.2	58.5	68.5	74.3	81.7	91.8	97.8	102	108.1
	1200	52.1	63.2	74	80.3	88.3	99.2	105.7	110.3	116.9
	1300	56.1	68	79.6	86.4	94.9	106.7	113.6	118.6	125.7
	1400	60	72.7	85.1	92.4	101.6	114.1	121.6	126.9	134.4
	1500	63.9	77.5	90.7	98.4	108.2	121.6	129.5	135.2	143.2
	1600	67.8	82.2	96.3	104.5	114.8	129.1	137.5	143.5	152
	1700	71.7	87	101.8	110.5	121.5	136.5	145.4	151.8	160.8
	1800	75.6	91.7	107.4	116.5	128.1	144	153.3	160	169.6
	1900	79.6	96.4	112.9	122.6	134.7	151.4	161.3	168.3	178.3
	2000	83.5	101.2	118.5	128.6	141.4	158.9	169.2	176.6	187.1
	2100	87.4	105.9	124.1	134.6	148	166.3	177.2	184.9	195.9
	2200	91.3	110.7	129.6	140.7	154.6	173.8	185.1	193.2	204.7
	2300	95.2	115.4	135.2	146.7	161.3	181.2	193	201.5	213.5
	2400	99.2	120.2	140.7	152.7	167.9	188.7	201	209.8	222.2
	2500	103.1	124.9	146.3	158.8	174.5	196.2	208.9	218.1	231
	2600	107	129.7	151.9	164.8	181.2	203.6	216.9	226.3	239.8
	2700	110.9	134.4	157.4	170.8	187.8	211.1	224.8	234.6	248.6
	2800	114.8	139.2	163	176.9	194.4	218.5	232.7	242.9	257.4
	2900	118.7	143.9	168.5	182.9	201.1	226	240.7	251.2	266.2
	3000	122.7	148.7	174.1	188.9	207.7	233.4	248.6	259.5	274.9

From **Table 23**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 3.9cm, \Delta(10years) = 4.8cm, \Delta(20years) = 5.6cm,$$

$$\Delta(30years) = 6.0cm, \Delta(50years) = 6.7cm, \Delta(100years) = 7.5cm,$$

$$\Delta(150years) = 8.0cm, \Delta(200years) = 8.4cm, \Delta(300years) = 8.8cm.$$

Table 24: ΔHS_3 mean values (cm) for the micro-area **B+A+F** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	31.82	36.84	41.86	46.88	51.90	56.92	61.94	66.96	71.98	77.00	82.02
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	87.04	92.06	97.08	102.10	107.13	112.15	117.17	122.19	127.21	132.23	

Table 25: expected ΔHS_3 values (cm) for the micro-area **B+A+F** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	42.9	52.3	61.5	66.9	73.7	83	88.4	92.4	97.9
	1100	49.7	60.6	71.3	77.5	85.3	96.1	102.4	106.9	113.4
	1200	56.5	68.9	81	88	96.9	109.1	116.4	121.5	128.8
	1300	63.2	77.1	90.7	98.6	108.6	122.2	130.3	136.1	144.3
	1400	70	85.4	100.4	109.1	120.2	135.3	144.3	150.7	159.7
	1500	76.8	93.6	110.1	119.7	131.8	148.4	158.2	165.2	175.2
	1600	83.6	101.9	119.8	130.3	143.4	161.5	172.2	179.8	190.6
	1700	90.3	110.2	129.5	140.8	155.1	174.6	186.1	194.4	206.1
	1800	97.1	118.4	139.2	151.4	166.7	187.7	200.1	209	221.6
	1900	103.9	126.7	148.9	161.9	178.3	200.8	214.1	223.5	237
	2000	110.7	134.9	158.7	172.5	190	213.9	228	238.1	252.5
	2100	117.4	143.2	168.4	183	201.6	227	242	252.7	267.9
	2200	124.2	151.5	178.1	193.6	213.2	240.1	255.9	267.3	283.4
	2300	131	159.7	187.8	204.2	224.8	253.2	269.9	281.8	298.8
	2400	137.8	168	197.5	214.7	236.5	266.2	283.8	296.4	314.3
	2500	144.5	176.2	207.2	225.3	248.1	279.3	297.8	311	329.7
	2600	151.3	184.5	216.9	235.8	259.7	292.4	311.8	325.6	345.2
	2700	158.1	192.8	226.6	246.4	271.4	305.5	325.7	340.1	360.6
	2800	164.8	201	236.3	256.9	283	318.6	339.7	354.7	376.1
	2900	171.6	209.3	246.1	267.5	294.6	331.7	353.6	369.3	391.5
	3000	178.4	217.5	255.8	278.1	306.2	344.8	367.6	383.9	407

From **Table 25**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\begin{aligned}
 \Delta(5years) &= 6.8\text{cm}, & \Delta(10years) &= 8.3\text{cm}, & \Delta(20years) &= 9.8\text{cm}, \\
 \Delta(30years) &= 10.6\text{cm}, & \Delta(50years) &= 11.6\text{cm}, & \Delta(100years) &= 13.1\text{cm}, \\
 \Delta(150years) &= 14.0\text{cm}, & \Delta(200years) &= 14.5\text{cm}, & \Delta(300years) &= 15.5\text{cm}.
 \end{aligned}$$

Table 26: ΔHS_3 mean values (cm) for the micro-area **BRENTA** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	38.72	41.32	43.93	46.54	49.14	51.75	54.36	56.97	59.57	62.18	64.79
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	67.40	70.00	72.61	75.22	77.82	80.43	83.04	85.65	88.25	90.86	

Table 27: expected ΔHS_3 values (cm) for the micro-area **BRENTA** in function of different return periods and elevations.

		years									
		5	10	20	30	50	100	150	200	300	
elevation	1000	50.1	57.2	63.2	66.3	70	74.4	76.8	78.4	80.5	
	1100	53.5	61.1	67.5	70.8	74.7	79.4	82	83.7	85.9	
	1200	56.9	64.9	71.7	75.3	79.4	84.5	87.1	88.9	91.3	
	1300	60.3	68.8	76	79.8	84.1	89.5	92.3	94.2	96.7	
	1400	63.7	72.6	80.2	84.2	88.8	94.5	97.5	99.5	102.2	
	1500	67	76.5	84.5	88.7	93.6	99.5	102.7	104.8	107.6	
	1600	70.4	80.3	88.7	93.2	98.3	104.5	107.8	110.1	113	
	1700	73.8	84.2	93	97.6	103	109.5	113	115.3	118.4	
	1800	77.2	88	97.3	102.1	107.7	114.5	118.2	120.6	123.9	
	1900	80.5	91.9	101.5	106.6	112.4	119.5	123.3	125.9	129.3	
	2000	83.9	95.7	105.8	111	117.1	124.6	128.5	131.2	134.7	
	2100	87.3	99.6	110	115.5	121.8	129.6	133.7	136.4	140.1	
	2200	90.7	103.4	114.3	120	126.6	134.6	138.9	141.7	145.5	
	2300	94.1	107.3	118.5	124.4	131.3	139.6	144	147	151	
	2400	97.4	111.1	122.8	128.9	136	144.6	149.2	152.3	156.4	
	2500	100.8	115	127.1	133.4	140.7	149.6	154.4	157.6	161.8	
	2600	104.2	118.8	131.3	137.8	145.4	154.6	159.6	162.8	167.2	
	2700	107.6	122.7	135.6	142.3	150.1	159.7	164.7	168.1	172.6	
	2800	110.9	126.6	139.8	146.8	154.8	164.7	169.9	173.4	178.1	
	2900	114.3	130.4	144.1	151.2	159.5	169.7	175.1	178.7	183.5	
	3000	117.7	134.3	148.3	155.7	164.3	174.7	180.2	184	188.9	

From **Table 27**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 3.4cm, \Delta(10years) = 3.9cm, \Delta(20years) = 4.3cm,$$

$$\Delta(30years) = 4.5cm, \Delta(50years) = 4.7cm, \Delta(100years) = 5.0cm,$$

$$\Delta(150years) = 5.2cm, \Delta(200years) = 5.3cm, \Delta(300years) = 5.4cm.$$

Table 28: ΔHS_3 mean values (cm) for the micro-area **FIEMME** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	22.58	24.55	26.52	28.48	30.45	32.42	34.39	36.35	38.32	40.29	42.26
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	44.23	46.19	48.16	50.13	52.10	54.06	56.03	58.00	59.97	61.94	

Table 29: expected ΔHS_3 values (cm) for the micro-area **FIEMME** in function of different return periods and elevations.

		years									
		5	10	20	30	50	100	150	200	300	
elevation	1000	30.4	37.5	44.8	49.1	54.7	62.6	67.4	70.8	75.8	
	1100	33	40.8	48.7	53.4	59.5	68	73.2	77	82.5	
	1200	35.7	44.1	52.6	57.7	64.2	73.5	79.1	83.2	89.1	
	1300	38.3	47.4	56.5	62	69	79	85	89.4	95.7	
	1400	41	50.6	60.4	66.2	73.8	84.4	90.9	95.5	102.3	
	1500	43.6	53.9	64.3	70.5	78.6	89.9	96.7	101.7	108.9	
	1600	46.3	57.2	68.2	74.8	83.3	95.3	102.6	107.9	115.5	
	1700	48.9	60.4	72.1	79.1	88.1	100.8	108.5	114	122.1	
	1800	51.5	63.7	76	83.4	92.9	106.2	114.3	120.2	128.7	
	1900	54.2	67	79.9	87.6	97.6	111.7	120.2	126.4	135.3	
	2000	56.8	70.3	83.8	91.9	102.4	117.1	126.1	132.6	141.9	
	2100	59.5	73.5	87.7	96.2	107.2	122.6	131.9	138.7	148.5	
	2200	62.1	76.8	91.6	100.5	111.9	128	137.8	144.9	155.2	
	2300	64.8	80.1	95.5	104.8	116.7	133.5	143.7	151.1	161.8	
	2400	67.4	83.3	99.4	109	121.5	139	149.6	157.3	168.4	
	2500	70.1	86.6	103.3	113.3	126.2	144.4	155.4	163.4	175	
	2600	72.7	89.9	107.2	117.6	131	149.9	161.3	169.6	181.6	
	2700	75.4	93.2	111.1	121.9	135.8	155.3	167.2	175.8	188.2	
	2800	78	96.4	115	126.2	140.5	160.8	173	182	194.8	
	2900	80.7	99.7	118.9	130.4	145.3	166.2	178.9	188.1	201.4	
	3000	83.3	103	122.8	134.7	150.1	171.7	184.8	194.3	208	

From **Table 29**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 2.4cm, \Delta(10years) = 3.3cm, \Delta(20years) = 3.9cm,$$

$$\Delta(30years) = 4.3cm, \Delta(50years) = 4.8cm, \Delta(100years) = 5.4cm,$$

$$\Delta(150years) = 5.8cm, \Delta(200years) = 6.2cm, \Delta(300years) = 6.7cm.$$

Table 30: ΔHS_3 mean values (cm) for the micro-area **LAGORAI** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	28.37	31.29	34.21	37.13	40.06	42.98	45.90	48.82	51.74	54.67	57.59
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	60.51	63.43	66.35	69.28	72.20	75.12	78.04	80.96	83.89	86.81	

Table 31: expected ΔHS_3 values (cm) for the micro-area **LAGORAI** in function of different return periods and elevations.

		years								
		5	10	20	30	50	100	150	200	300
elevation	1000	37.8	46.9	56.2	61.9	69.4	80.1	86.6	91.4	98.5
	1100	41.7	51.7	62	68.3	76.5	88.3	95.5	100.9	108.6
	1200	45.5	56.5	67.8	74.7	83.7	96.5	104.5	110.3	118.7
	1300	49.4	61.3	73.6	81.1	90.8	104.8	113.4	119.7	128.9
	1400	53.3	66.2	79.4	87.4	98	113	122.3	129.1	139
	1500	57.2	71	85.2	93.8	105.1	121.3	131.2	138.5	149.2
	1600	61.1	75.8	91	100.2	112.3	129.5	140.2	148	159.3
	1700	65	80.6	96.8	106.6	119.4	137.8	149.1	157.4	169.5
	1800	68.9	85.5	102.6	113	126.6	146	158	166.8	179.6
	1900	72.8	90.3	108.4	119.3	133.7	154.3	166.9	176.2	189.7
	2000	76.7	95.1	114.1	125.7	140.9	162.5	175.9	185.6	199.9
	2100	80.6	99.9	119.9	132.1	148	170.8	184.8	195.1	210
	2200	84.4	104.8	125.7	138.5	155.1	179	193.7	204.5	220.2
	2300	88.3	109.6	131.5	144.9	162.3	187.3	202.6	213.9	230.3
	2400	92.2	114.4	137.3	151.2	169.4	195.5	211.5	223.3	240.4
	2500	96.1	119.3	143.1	157.6	176.6	203.8	220.5	232.7	250.6
	2600	100	124.1	148.9	164	183.7	212	229.4	242.1	260.7
	2700	103.9	128.9	154.7	170.4	190.9	220.2	238.3	251.6	270.9
	2800	107.8	133.7	160.5	176.7	198	228.5	247.2	261	281
	2900	111.7	138.6	166.3	183.1	205.2	236.7	256.2	270.4	291.2
	3000	115.6	143.4	172.1	189.5	212.3	245	265.1	279.8	301.3

From **Table 31**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 3.9cm, \Delta(10years) = 4.8cm, \Delta(20years) = 5.8cm,$$

$$\Delta(30years) = 6.4cm, \Delta(50years) = 7.1cm, \Delta(100years) = 8.2cm,$$

$$\Delta(150years) = 8.9cm, \Delta(200years) = 9.5cm, \Delta(300years) = 10.1cm.$$

Table 32: ΔHS_3 mean values (cm) for the micro-area **SOLE** in function of different elevations.

altitudes	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
MEAN	25.32	28.47	31.61	34.76	37.90	41.04	44.19	47.33	50.48	53.62	56.76
	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
	59.91	63.05	66.20	69.34	72.49	75.63	78.77	81.92	85.06	88.21	

Table 33: expected ΔHS_3 values (cm) for the micro-area **SOLE** in function of different return periods and elevations.

		years									
		5	10	20	30	50	100	150	200	300	
elevation	1000	33.2	39.9	46.4	50.3	55.1	61.6	65.5	68.3	72.3	
	1100	37.3	44.9	52.2	56.5	61.9	69.3	73.7	76.8	81.2	
	1200	41.5	49.8	58	62.7	68.7	77	81.8	85.3	90.2	
	1300	45.6	54.8	63.7	69	75.6	84.6	89.9	93.8	99.2	
	1400	49.7	59.7	69.5	75.2	82.4	92.3	98.1	102.2	108.1	
	1500	53.8	64.7	75.3	81.5	89.2	99.9	106.2	110.7	117.1	
	1600	58	69.7	81	87.7	96.1	107.6	114.4	119.2	126.1	
	1700	62.1	74.6	86.8	93.9	102.9	115.2	122.5	127.7	135.1	
	1800	66.2	79.6	92.6	100.2	109.8	122.9	130.6	136.2	144	
	1900	70.3	84.5	98.3	106.4	116.6	130.5	138.8	144.6	153	
	2000	74.5	89.5	104.1	112.6	123.4	138.2	146.9	153.1	162	
	2100	78.6	94.4	109.9	118.9	130.3	145.8	155	161.6	170.9	
	2200	82.7	99.4	115.6	125.1	137.1	153.5	163.2	170.1	179.9	
	2300	86.8	104.3	121.4	131.4	143.9	161.1	171.3	178.6	188.9	
	2400	91	109.3	127.2	137.6	150.8	168.8	179.4	187.1	197.9	
	2500	95.1	114.3	132.9	143.8	157.6	176.5	187.6	195.5	206.8	
	2600	99.2	119.2	138.7	150.1	164.5	184.1	195.7	204	215.8	
	2700	103.3	124.2	144.5	156.3	171.3	191.8	203.9	212.5	224.8	
	2800	107.5	129.1	150.2	162.6	178.1	199.4	212	221	233.7	
	2900	111.6	134.1	156	168.8	185	207.1	220.1	229.5	242.7	
	3000	115.7	139	161.8	175	191.8	214.7	228.3	237.9	251.7	

From **Table 33**, for each return period, the increase of the ΔHS_3 variable every 100m of elevation is:

$$\Delta(5years) = 4.1cm, \Delta(10years) = 5.0cm, \Delta(20years) = 5.8cm,$$

$$\Delta(30years) = 6.2cm, \Delta(50years) = 6.8cm, \Delta(100years) = 7.7cm,$$

$$\Delta(150years) = 8.2cm, \Delta(200years) = 8.5cm, \Delta(300years) = 8.9cm.$$

