

Supplementary Materials for “SPI-based drought classification in Italy: influence of different probability distribution functions”

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Table S1. Information on the 332 stations selected from the SCIA system. The station name is composed by the name of the rain gauge and the regional or national service acronym.

index	Region	Station	Latitude (°N)	Longitude (°E)	Elevation (m a.s.l.)	KG class
1	Abruzzo	BOMBA-Idro	42.034445	14.368333	563	Cfa
2	Abruzzo	CAPESTRANO-Idro	42.268889	13.762222	493	Cfb
3	Abruzzo	CARAPELLE CALVISIO-Idro	42.3	13.681667	922	Cfb
4	Abruzzo	LANCIANO-Idro	42.225834	14.384444	273	Cfa
5	Abruzzo	PENNE-Idro	42.464445	13.9175	399	Cfb
6	Abruzzo	PIETRACAMELA-Idro	42.523611	13.554722	1126	Cfb
7	Abruzzo	ROCCACASALE-Idro	42.122223	13.885833	447	Cfb
8	Abruzzo	VILLA S.LUCIA-Idro	42.333611	13.779444	1119	Cfb
9	Calabria	Arena-Idro	38.562141	16.216917	566	Csa
10	Calabria	Borgia-Idro	38.826947	16.507778	298	Csa
11	Calabria	Briatico-Idro	38.726946	16.036389	49	Csa
12	Calabria	Calimera-Idro	38.556669	16.018611	141	Csa
13	Calabria	Campotenese-Idro	39.872502	16.068333	978	Csa
14	Calabria	Capo dell'Armi-Idro	37.964724	15.684167	180	Csa
15	Calabria	Cassano allo Ionio-Idro	39.783085	16.318944	180	Csa
16	Calabria	Castroregio-Idro	39.993614	16.478611	546	Csa
17	Calabria	Cerisano-Idro	39.281113	16.174444	584	Csa
18	Calabria	Ciro Marina-Idro	39.407782	17.109444	27	Csa
19	Calabria	Crosia-Idro	39.56667	16.773056	136	Csa
20	Calabria	Curinga Scalo-Idro	38.840002	16.261111	37	Csa
21	Calabria	Decollatura-Idro	39.046363	16.358278	745	Csa
22	Calabria	Filadelfia-Idro	38.786946	16.293056	579	Csa
23	Calabria	Firmo-Idro	39.721946	16.174167	311	Csa
24	Calabria	Gioiosa Ionica-Idro	38.301114	16.329722	18	Csa
25	Calabria	Joppolo-Idro	38.592002	15.90525	635	Csa
26	Calabria	Marcellinara-Idro	38.928614	16.494444	366	Csa
27	Calabria	Montebello Ionico-Idro	37.983891	15.758333	463	Csa
28	Calabria	Morano Calabro-Idro	39.840085	16.138028	604	Csa
29	Calabria	Nocera Terinese-Idro	39.037835	16.166306	332	Csa
30	Calabria	Oppido Mamertina - Castellace-Idro	38.312502	15.940278	195	Csa
31	Calabria	Palermi-Idro	38.749197	16.452861	525	Csa
32	Calabria	Piane Crati-Idro	39.232502	16.322778	577	Csa
33	Calabria	Rende-Idro	39.331113	16.180278	392	Csa
34	Calabria	Roggiano Gravina-Idro	39.61778	16.150556	258	Csa
35	Calabria	Rossano-Idro	39.574447	16.634167	223	Csa

36	Calabria	San Giacomo d'Acri-Idro	39.52417	16.465	720	Csa
37	Calabria	San Giorgio Albanese-Idro	39.583336	16.452778	325	Csa
38	Calabria	San Luca-Idro	38.148419	16.067278	131	Csa
39	Calabria	San Martino di Finita-Idro	39.489724	16.108056	480	Csa
40	Calabria	San Pietro in Guarano-Idro	39.345558	16.313611	766	Csa
41	Calabria	Savuto C.C.-Idro	39.162503	16.503611	1221	Csa
42	Calabria	Scalea-Idro	39.811085	15.792306	37	Csa
43	Calabria	Sellia Marina-Idro	38.906031	16.743639	55	Csa
44	Calabria	Simbario-Idro	38.611113	16.326944	767	Csa
45	Calabria	Staletti-Idro	38.76542	16.538778	364	Csa
46	Calabria	Strongoli-Idro	39.265559	17.047778	260	Csa
47	Calabria	Trebisacce-Idro	39.865559	16.530556	9	Csa
48	Calabria	Verzino-Idro	39.313059	16.862222	484	Csa
49	Emilia-Romagna	ALFONSINE-Idro	44.49303	12.0445	7	Cfa
50	Emilia-Romagna	ANZOLAEMILIA-Idro	44.55209	11.19651	36	Cfa
51	Emilia-Romagna	BEDONIA-Idro	44.50747	9.62672	527	Cfb
52	Emilia-Romagna	BOBBIO-Idro	44.75512	9.38367	364	Cfb
53	Emilia-Romagna	BOLOGNAUFFID-Idro	44.4999	11.34614	45	Cfb
54	Emilia-Romagna	BOSCHIAVETO-Idro	44.58591	9.41993	757	Cfb
55	Emilia-Romagna	CALDERARARENO-Idro	44.56613	11.27214	31	Cfa
56	Emilia-Romagna	CASTROCARO-Idro	44.17014	11.94938	70	Cfa
57	Emilia-Romagna	IMOLA-Idro	44.34583	11.71264	44	Cfa
58	Emilia-Romagna	LUGODIROMAGNA-Idro	44.41773	11.9133	12	Cfa
59	Emilia-Romagna	MALALBERGO-Idro	44.71847	11.52905	13	Cfa
60	Emilia-Romagna	MIGNANODIGA-Idro	44.77068	9.80334	420	Cfb
61	Emilia-Romagna	MONTEOMBRARO-Idro	44.37943	11.0049	684	Cfb
62	Emilia-Romagna	MONTESPIETRO-Idro	44.43793	11.13634	249	Cfb
63	Emilia-Romagna	MONZUNO-Idro	44.27663	11.27351	587	Cfb
64	Emilia-Romagna	PAVANADIGA-Idro	44.11828	11.00554	467	Cfb
65	Emilia-Romagna	PIACENZA-ST	44.917	9.733	138	Cfb
66	Emilia-Romagna	PIANORO-Idro	44.37103	11.33988	196	Cfb
67	Emilia-Romagna	RIMINI-ST	44.033	12.617	13	Cfa
68	Emilia-Romagna	RIOLADIVERGATO-Idro	44.22888	11.05589	294	Cfb
69	Emilia-Romagna	RIOLOTERME-Idro	44.27424	11.72415	78	Cfa
70	Emilia-Romagna	S_LAZZAROALB-Idro	45.03506	9.72488	53	Cfa
71	Friuli Venezia Giulia	ALBERONI IDROVORA SACCHETTI-Idro	45.7779	13.5131	3	Cfb
72	Friuli Venezia Giulia	AMPEZZO-Idro	46.4148	12.7988	530	Cfb
73	Friuli Venezia Giulia	CASTIONS DI STRADA-Idro	45.9052	13.1941	22	Cfa
74	Friuli Venezia Giulia	CIVIDALE ISTITUTO AGRARIO-Idro	46.0967	13.4182	135	Cfb
75	Friuli Venezia Giulia	CLAUZETTO-Idro	46.2299	12.9178	607	Cfb
76	Friuli Venezia Giulia	CODROIPO-Idro	45.967	12.9873	49	Cfa
77	Friuli Venezia Giulia	FORNI AVOLTRI-Idro	46.5868	12.7738	936	Dfc
78	Friuli Venezia Giulia	FOSSALON BONIFICA VITTORIA-Idro	45.7341	13.4966	1	Cfa
79	Friuli Venezia Giulia	FRATTA VIVAIIO FORESTALE-Idro	46.1785	12.727	289	Cfb
80	Friuli Venezia Giulia	GORGAZZO-Idro	46.038	12.4951	68	Dfc
81	Friuli Venezia Giulia	GORIZIA PRESA C.B.P.I.-Idro	45.9341	13.596	49	Cfb
82	Friuli Venezia Giulia	LA MAINA-Idro	46.4509	12.7331	1169	Cfb
83	Friuli Venezia Giulia	LATISANA CROSERE-Idro	45.7865	13.0221	5	Cfa

84	Friuli Venezia Giulia	MOGGIO UDINESE-Idro	46.4088	13.2003	467	Cfb
85	Friuli Venezia Giulia	PALMANOVA-Idro	45.9125	13.2997	30	Cfa
86	Friuli Venezia Giulia	PINZANO-Idro	46.1792	12.9492	173	Cfb
87	Friuli Venezia Giulia	SAN GIORGIO DI NOGARO-Idro	45.839	13.2097	7	Cfa
88	Friuli Venezia Giulia	SAN VITO AL TAGLIAMENTO OSPEDALE-Idro	45.9123	12.8542	30	Cfa
89	Friuli Venezia Giulia	SAN VOLFANGO-Idro	46.165	13.6427	582	Dfc
90	Friuli Venezia Giulia	SAURIS DI SOTTO-Idro	46.4656	12.7081	1163	Cfb
91	Friuli Venezia Giulia	SESTO AL REGHENA-Idro	45.8475	12.8162	13	Cfa
92	Friuli Venezia Giulia	TARVISIO-Idro	46.5063	13.5701	770	Dfb
93	Friuli Venezia Giulia	TRAMONTI DI SOPRA-Idro	46.3098	12.7889	506	Cfb
94	Friuli Venezia Giulia	TRIESTE-ST	45.65	13.75	8	Cfb
95	Friuli Venezia Giulia	UDINE CASTELLO-Idro	46.0649	13.2367	109	Cfb
96	Friuli Venezia Giulia	VENZONE-Idro	46.3314	13.1428	418	Cfb
97	Lazio	Collegio Romano-Idro	41.8986	12.4806	19	Csa
98	Lazio	Frascati-Idro	41.8097	12.6714	245	Csa
99	Lazio	PONZA-ST	40.917	12.95	185	Csa
100	Lazio	ROMA/CIAMPINO-ST	41.783	12.583	105	Csa
101	Liguria	Alassio-Idro	44.00624	8.1693	12	Csb
102	Liguria	Genova - Università-Idro	44.41561	8.92708	48	Csb
103	Liguria	Giacopiane-Idro	44.46268	9.39525	998	Csb
104	Liguria	Imperia - Oss. Meteosismico-Idro	43.87957	8.01652	46	Csa
105	Liguria	Isoverde-Idro	44.53013	8.85822	253	Csb
106	Liguria	Mignanego-Idro	44.53978	8.93975	339	Csb
107	Liguria	Monte Cappellino-Idro	44.55062	8.95687	618	Csb
108	Liguria	Osiglia Diga-Idro	44.31071	8.19721	646	Csb
109	Liguria	Ricco del Golfo-Idro	44.15261	9.76264	168	Csb
110	Liguria	S. Margherita Vara-Idro	44.2747	9.65964	225	Csb
111	Liguria	Sanremo - Casino-Idro	43.81484	7.77634	2	Csa
112	Liguria	Viganego-Idro	44.42855	9.06338	502	Csb
113	Lombardia	Mantova-Idro	45.158424	10.795309	17	Cfa
114	Lombardia	Milano_-_Brera-Idro	45.464826	9.189024	122	Cfa
115	Lombardia	Pavia-Idro	45.193008	9.158623	81	Cfa
116	Lombardia	Piano_Delle_Casere-Idro	45.999486	9.791809	1900	Cfb
117	Lombardia	Vedeseta-Idro	45.891617	9.539965	1015	Cfb
118	Marche	Arcevia-Idro	43.497452	12.936685	538	Cfb
119	Marche	BARGNI-Idro	43.748386	12.85288	190	Cfb
120	Marche	Cantiano-Idro	43.467068	12.640526	475	Cfb
121	Marche	Carassai-Idro	43.025967	13.645953	274	Cfa
122	Marche	Fabriano Centro-Idro	43.330273	12.904034	361	Cfb
123	Marche	Jesi-Idro	43.531944	13.229972	118	Cfa
124	Marche	MERCATELLO-Idro	43.644768	12.334831	433	Cfb
125	Marche	Moie-Idro	43.496212	13.125891	105	Cfb
126	Marche	Pennabilli Marecchia-Idro	43.8202	12.269	580	Cfb
127	Marche	S. Angelo in Vado-Idro	43.666889	12.410222	405	Cfb
128	Molise	AGNONE-Idro	41.807779	14.369	744	Cfb
129	Molise	BONEFRO-Idro	41.702779	14.935556	557	Cfa
130	Molise	CIVITACAMPOMARANO-Idro	41.780001	14.685667	462	Cfa
131	Molise	COLLETORTO-Idro	41.66389	14.968889	450	Cfa

132	Molise	LARINO-Idro	41.800557	14.919	418	Cfa
133	Molise	PONTE LISCIONE (ex GUARDIALFIERA)-Idro	41.807223	14.808611	139	Cfa
134	Molise	RICCIA-Idro	41.488334	14.835667	633	Csa
135	Molise	ROCCAMANDOLFI-Idro	41.494445	14.352222	772	Csa
136	Molise	VINCHIATURO-Idro	41.491668	14.585667	606	Csa
137	Piemonte	Lavezze - Lago-Idro	44.54953	8.82328	705	Csb
138	Apulia	BRINDISI-ST	40.650005	17.95	10	Csa
139	Apulia	S. MARIA DI LEUCA-ST	39.817006	18.35	112	Csa
140	Sardinia	Aggius-Idro	40.9291	9.0644	517	Csa
141	Sardinia	Ala dei Sardi-Idro	40.6506	9.3294	634	Csa
142	Sardinia	Arborea-Idro	39.7739	8.5807	7	Csa
143	Sardinia	Armungia-Idro	39.5229	9.3784	357	Csa
144	Sardinia	Austis-Idro	40.0715	9.0894	737	Csa
145	Sardinia	Baradili F.C.-Idro	39.7194	8.8969	161	Csa
146	Sardinia	Barisardo-Idro	39.8424	9.6433	34	Csa
147	Sardinia	Barrali-Idro	39.4845	9.0984	138	Csa
148	Sardinia	Bassacutena (C.ra)-Idro	41.1097	9.2613	71	Csa
149	Sardinia	Bau de Muggeris-Idro	39.954	9.4264	759	Csa
150	Sardinia	Baunei (C.ra)-Idro	40.0299	9.6651	450	Csa
151	Sardinia	Benetutti-Idro	40.4546	9.1697	439	Csa
152	Sardinia	Borore-Idro	40.2214	8.8129	392	Csa
153	Sardinia	CAGLIARI/ELMAS-ST	39.25	9.067	5	Csa
154	Sardinia	Caddau (C.ra)-Idro	40.825	9.0911	581	Csa
155	Sardinia	Capoterra-Idro	39.1748	8.9707	48	Csa
156	Sardinia	Carloforte-Idro	39.1374	8.3124	5	Csa
157	Sardinia	Codaruina-Idro	40.93	8.8249	12	Csa
158	Sardinia	Coghinas (C.ra)-Idro	40.8631	8.9521	91	Csa
159	Sardinia	Corongiu (Acquedotto)-Idro	39.3109	9.2807	173	Csa
160	Sardinia	Cuglieri-Idro	40.1902	8.5679	465	Csa
161	Sardinia	Desulo-Idro	40.0147	9.2298	901	Csa
162	Sardinia	Domus de Maria-Idro	38.9443	8.8638	80	Csa
163	Sardinia	Gairo Taquisara F.C.-Idro	39.8567	9.4651	843	Csa
164	Sardinia	Galtelli-Idro	40.3874	9.615	18	Csa
165	Sardinia	Genna Crexia (C.ra)-Idro	39.7836	9.553	370	Csa
166	Sardinia	Goni-Idro	39.5774	9.2861	418	Csa
167	Sardinia	Is Cannoneris (Caserma)-Idro	39.0351	8.8529	594	Csa
168	Sardinia	Laconi F.C.-Idro	39.8563	9.0506	565	Csa
169	Sardinia	Lanusei F.C.-Idro	39.8794	9.5375	584	Csa
170	Sardinia	Lula-Idro	40.4704	9.4873	536	Csa
171	Sardinia	Lunamatrona F.C.-Idro	39.6513	8.8973	186	Csa
172	Sardinia	Macciadosa (C.ra)-Idro	40.7304	8.4029	70	Csa
173	Sardinia	Macomer-Idro	40.2693	8.7725	558	Csa
174	Sardinia	Mandas F.C.-Idro	39.6606	9.1307	483	Csa
175	Sardinia	Marrubiu (C.ra)-Idro	39.7711	8.6611	37	Csa
176	Sardinia	Mazzinaiu (C.ra)-Idro	40.7096	9.3716	604	Csa
177	Sardinia	Montes (Caserma)-Idro	40.1235	9.3946	980	Csa
178	Sardinia	Montevecchio (M.ra)-Idro	39.5571	8.5706	397	Csa
179	Sardinia	Nuraminis-Idro	39.4427	9.0134	99	Csa

180	Sardinia	Nurri F.C.-Idro	39.7213	9.2295	561	Csa
181	Sardinia	Olmedo F.C.-Idro	40.651	8.3775	57	Csa
182	Sardinia	Orgosolo-Idro	40.2045	9.3539	614	Csa
183	Sardinia	Oristano FF.SS.-Idro	39.9025	8.603	11	Csa
184	Sardinia	Orosei-Idro	40.3805	9.6978	13	Csa
185	Sardinia	Palau-Idro	41.1815	9.383	21	Csa
186	Sardinia	Pantaleo-Idro	39.0902	8.7979	259	Csa
187	Sardinia	Paulilatino-Idro	40.0831	8.7637	258	Csa
188	Sardinia	Rifornitore Tirso-Idro	40.3259	9.0333	201	Csa
189	Sardinia	Riola-Idro	39.9964	8.5402	3	Csa
190	Sardinia	S.Anna Arresi-Idro	39.0053	8.6408	64	Csa
191	Sardinia	S.Anna-Oristano-Idro	39.8339	8.6273	12	Csa
192	Sardinia	S.Chiaia d'Ula-Idro	40.0518	8.8694	116	Csa
193	Sardinia	S.Gavino FF.SS.-Idro	39.5507	8.7904	56	Csa
194	Sardinia	S.Giovanni (Domusnovas)-Idro	39.3372	8.6259	329	Csa
195	Sardinia	S.Giovanni Coghinas(C.ra)-Idro	40.8827	8.7565	277	Csa
196	Sardinia	S.Giusta-Idro	39.8747	8.6086	2	Csa
197	Sardinia	S.Maria Coghinas (C.ra)-Idro	40.9109	8.8879	19	Csa
198	Sardinia	S.Pantaleo-Idro	41.0472	9.4675	177	Csa
199	Sardinia	Sa Pira (Caserma)-Idro	39.3096	9.1863	186	Csa
200	Sardinia	Sadali F.C.-Idro	39.8155	9.2694	760	Csa
201	Sardinia	Samugheo-Idro	39.9479	8.941	366	Csa
202	Sardinia	Santadi-Idro	39.0935	8.7158	119	Csa
203	Sardinia	Sedini-Idro	40.851	8.8173	288	Csa
204	Sardinia	Segariu-Idro	39.5629	8.9829	135	Csa
205	Sardinia	Seneghe-Idro	40.0808	8.6127	285	Csa
206	Sardinia	Seulo-Idro	39.8706	9.2354	781	Csa
207	Sardinia	Silanus-Idro	40.2905	8.8815	457	Csa
208	Sardinia	Stintino-Idro	40.9374	8.2281	6	Csa
209	Sardinia	Taroni (C.ra)-Idro	40.8945	9.2964	391	Csa
210	Sardinia	Tega (C.ra)-Idro	40.1543	8.5253	281	Csa
211	Sardinia	Teulada-Idro	38.9697	8.7728	102	Csa
212	Sardinia	Tonara-Idro	40.0267	9.1752	1035	Csa
213	Sardinia	Torpe-Idro	40.6277	9.6766	13	Csa
214	Sardinia	Uras FF.SS.-Idro	39.6993	8.7027	27	Csa
215	Sardinia	Vallermosa-Idro	39.3632	8.7956	71	Csa
216	Sardinia	Villacidro F.C.-Idro	39.463	8.7422	192	Csa
217	Sardinia	Villagrande Strisaili-Idro	39.9614	9.5066	708	Csa
218	Sardinia	Villamar F.C.-Idro	39.6181	8.9598	108	Csa
219	Sardinia	Villanova Monteleone-Idro	40.5024	8.4734	539	Csa
220	Sardinia	Villasimius-Idro	39.1434	9.5196	51	Csa
221	Sardinia	Villasor FF.SS.-Idro	39.3813	8.9432	26	Csa
222	Sicily	AGRIGENTO-OA	37.304668	13.588806	212	Csa
223	Sicily	ALCANTARA-OA	37.825223	15.254667	45	Csa
224	Sicily	Agrigento-Idro	37.303538	13.588111	212	Csa
225	Sicily	CALTAGIRONE-OA	37.240807	14.518639	428	Csa
226	Sicily	CATENANUOVA-OA	37.571807	14.693083	186	Csa
227	Sicily	CHIARAMONTE GULFI-OA	37.029557	14.70375	673	Csa

228	Sicily	CIAVOLO-OA	37.760944	12.551611	98	Csa
229	Sicily	COZZO SPADARO-ST	36.683001	15.133	51	Csa
230	Sicily	Caltagirone-Idro	37.239687	14.517966	428	Csa
231	Sicily	Chiaramonte Gulfi-Idro	37.02844	14.703078	673	Csa
232	Sicily	Ciavolo-Idro	37.759824	12.550884	98	Csa
233	Sicily	Corleone-Idro	37.814435	13.301266	629	Csa
234	Sicily	LENTINI BONIFICA-OA	37.344084	15.081639	2	Csa
235	Sicily	Mineo-Idro	37.264437	14.690246	459	Csa
236	Sicily	NICOSIA-OA	37.747945	14.397361	673	Csa
237	Sicily	Nicosia-Idro	37.746826	14.396684	673	Csa
238	Sicily	PALAZZO ADRIANO-OA	37.687083	13.379389	620	Csa
239	Sicily	PALERMO OSS. ASTRON.-OA	38.110278	13.351389	27	Csa
240	Sicily	Palazzo Adriano-Idro	37.685958	13.378685	620	Csa
241	Sicily	Palermo Osservatorio Astronomico-Idro	38.109161	13.350685	27	Csa
242	Sicily	Pietraperzia-Idro	37.420459	14.137957	456	Csa
243	Sicily	SCIACCA-OA	37.513	13.127583	110	Csa
244	Sicily	SCILLATO-OA	37.863279	13.915056	425	Csa
245	Sicily	Sciacca-Idro	37.511873	13.126871	110	Csa
246	Sicily	Scillato-Idro	37.862159	13.914364	425	Csa
247	Trentino Alto Adige	Ala-MT	45.757143	10.999862	165	Cfb
248	Trentino Alto Adige	Cles-MT	46.362003	11.031223	665	Dfb
249	Trentino Alto Adige	Cogolo Pont (Centrale)-MT	46.362229	10.688066	1185	ET
250	Trentino Alto Adige	Diga di Vizzate Osservatore-Idro	46.924992	11.524672	1415	ET
251	Trentino Alto Adige	Fundres-Idro	46.88718	11.702943	1151	ET
252	Trentino Alto Adige	Male-MT	46.355098	10.916104	735	ET
253	Trentino Alto Adige	Mezzana-MT	46.313429	10.795807	905	ET
254	Trentino Alto Adige	Monte Maria-Idro	46.705689	10.521268	1256	ET
255	Trentino Alto Adige	Rovereto-MT	45.896097	11.043954	203	Cfb
256	Trentino Alto Adige	S. Martino di Castrozza-MT	46.261299	11.801413	1450	Dfc
257	Trentino Alto Adige	S.Maddalena in Casies-Idro	46.83526	12.242719	1456	ET
258	Trentino Alto Adige	Sesto-Idro	46.703054	12.349964	1490	ET
259	Trentino Alto Adige	Silandro-Idro	46.623755	10.78027	684	ET
260	Trentino Alto Adige	Terragnolo (Piazza)-MT	45.879596	11.150991	800	Cfb
261	Trentino Alto Adige	Trento (Laste)-MT	46.071872	11.135627	312	Dfb
262	Trentino Alto Adige	Vipiteno-Idro	46.897825	11.42939	946	Dfc
263	Tuscany	Acquisti-Idro	42.848331	11.060416	5	Csa
264	Tuscany	Alberese Idraulico-Idro	42.695944	11.092726	5	Csa
265	Tuscany	Alberese Podere 129-Idro	42.673511	11.142315	21	Csa
266	Tuscany	Badia Prataglia-Idro	43.7942	11.876816	935	Cfb
267	Tuscany	Batignano-Idro	42.86805	11.16573	168	Csa
268	Tuscany	Bettolle-Idro	43.202908	11.803501	281	Cfb
269	Tuscany	Borgo a Mozzano-Idro	43.979877	10.55151	245	Cfa
270	Tuscany	Capanne-Idro	42.685646	11.543856	399	Csa
271	Tuscany	Capezzine-Idro	43.182892	11.932172	324	Cfb
272	Tuscany	Castagno-Idro	43.899297	11.660852	794	Cfb
273	Tuscany	Castel del Piano-Idro	42.893105	11.534185	548	Csa
274	Tuscany	Castelnuovo Garfagnana-Idro	44.112165	10.415527	318	Csb
275	Tuscany	Castiglion Fiorentino-Idro	43.342826	11.928964	281	Cfb

276	Tuscany	Certaldo-Idro	43.546531	11.035636	74	Cfa
277	Tuscany	Chianciano-Idro	43.062454	11.834466	377	Cfb
278	Tuscany	Cireglio-Idro	43.995497	10.854748	708	Cfa
279	Tuscany	Cortona-Idro	43.268995	11.996448	485	Cfb
280	Tuscany	Frassa-Idro	44.113081	10.713465	1034	Cfb
281	Tuscany	Grosseto-Idro	42.751393	11.117392	9	Csa
282	Tuscany	La Foce-Idro	43.017539	11.780613	570	Cfb
283	Tuscany	La Verna-Idro	43.706911	11.931335	1053	Cfb
284	Tuscany	Lorenzana-Idro	43.53704	10.53536	89	Cfa
285	Tuscany	Marliana-Idro	43.920488	10.773258	376	Cfa
286	Tuscany	Massa-Idro	44.034082	10.141306	51	Csb
287	Tuscany	Melo-Idro	44.131362	10.743544	1088	Cfb
288	Tuscany	Montecatini Terme-Idro	43.896797	10.773986	120	Cfa
289	Tuscany	Montepulciano-Idro	43.093426	11.783248	469	Cfb
290	Tuscany	Mutigliano-Idro	43.881763	10.484186	40	Csa
291	Tuscany	Nugola-Idro	43.576948	10.439887	42	Csa
292	Tuscany	Ortignano-Idro	43.681925	11.751541	428	Cfb
293	Tuscany	PISA/S. GIUSTO-ST	43.683	10.383	6	Csa
294	Tuscany	Pari-Idro	43.065282	11.321564	295	Csa
295	Tuscany	Pescia-Idro	43.91046	10.689332	133	Cfa
296	Tuscany	Pisa (Fac. Agraria)-Idro	43.710727	10.413162	4	Csa
297	Tuscany	Pontecosi-Idro	44.13402	10.38436	393	Csb
298	Tuscany	Populonia-Idro	42.990162	10.490456	127	Csa
299	Tuscany	Riparbella-Idro	43.367253	10.603037	241	Csa
300	Tuscany	Roccastrada-Idro	43.011494	11.16947	430	Csa
301	Tuscany	Rocchetta-Idro	43.223628	10.595795	41	Csa
302	Tuscany	S. Donato-Idro	42.53373	11.230903	11	Csa
303	Tuscany	S. Leopoldo-Idro	42.751598	10.979112	1	Csa
304	Tuscany	Saline di Volterra-Idro	43.361127	10.81599	84	Csa
305	Tuscany	Stiappa-Idro	43.994901	10.711244	582	Cfa
306	Tuscany	Tendola-Idro	44.16089	10.03783	290	Csb
307	Tuscany	Vallombrosa-Idro	43.731367	11.556821	1050	Cfb
308	Tuscany	Montescudaio-Idro	43.268789	10.614793	82	Csa
309	Tuscany	S. Marcello Pistoiese-Idro	44.057041	10.789502	610	Cfb
310	Tuscany	Villacollemantina-Idro	44.161529	10.387754	535	Csb
311	Veneto	Andraz UI-TEMPV	46.488561	11.988284	1550	Dfc
312	Veneto	Auronzo di Cadore UI-TEMPV	46.539665	12.463614	867	ET
313	Veneto	Boccafossa UI-TEMPV	45.662752	12.743192	1	Cfa
314	Veneto	Bovolenta UI-TEMPV	45.276009	11.932109	7	Cfa
315	Veneto	Castelfranco Veneto UI-TEMPV	45.672848	11.933377	40	Cfb
316	Veneto	Cavanella Motte UI-TEMPV	45.123549	12.237094	3	Cfa
317	Veneto	Chies d'Alpago UI-TEMPV	46.164554	12.389593	661	Dfc
318	Veneto	Concordia Sagittaria UI-TEMPV	45.701851	12.87242	1	Cfa
319	Veneto	Cortina d'Ampezzo UI-TEMPV	46.539203	12.135784	1219	ET
320	Veneto	Fortogna UI-TEMPV	46.234552	12.293272	423	Dfc
321	Veneto	Fossa UI-TEMPV	45.655688	12.657087	1	Cfa
322	Veneto	Gambarare UI-TEMPV	45.414094	12.149539	3	Cfa
323	Veneto	Motta di Livenza UI-TEMPV	45.774298	12.604834	7	Cfa

324	Veneto	Portesine Sile UI-TEMPV	45.559878	12.439474	2	Cfb
325	Veneto	S. Antonio di Tortal UI-TEMPV	46.041554	12.163304	660	Dfc
326	Veneto	S. Croce del Lago UI-TEMPV	46.12963	12.318852	383	Dfc
327	Veneto	S. Donà di Piave UI-TEMPV	45.628854	12.563747	3	Cfa
328	Veneto	Schio UI-TEMPV	45.714672	11.418167	160	Cfb
329	Veneto	Termine UI-TEMPV	45.600515	12.806666	2	Cfa
330	Veneto	VERONA/VILLAFRANCA-ST	45.383	10.867	68	Cfa
331	Veneto	Villa Bacino UI-TEMPV	45.686533	12.948263	2	Cfa
332	Veneto	Zovencedo UI-TEMPV	45.427996	11.499012	279	Cfa

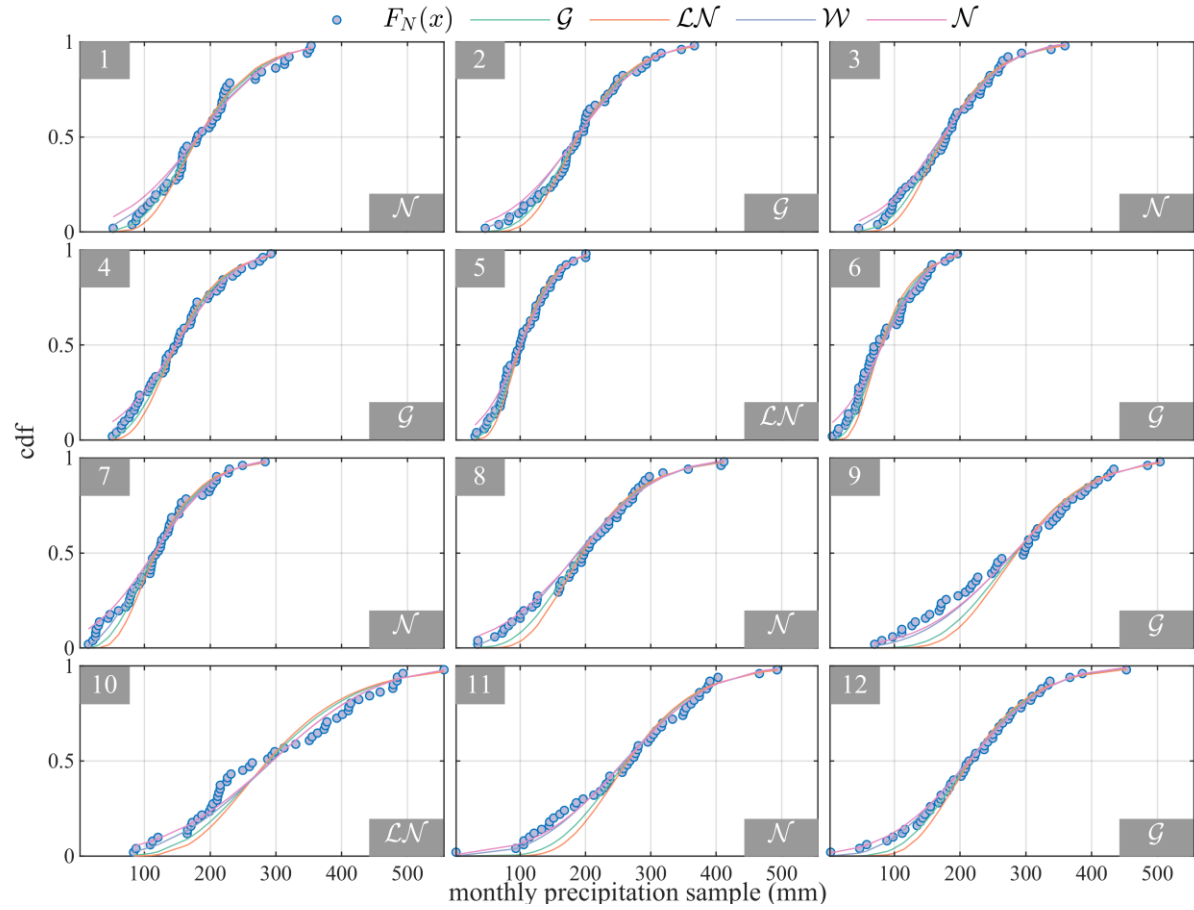


Figure S1. Fitting performance of the four tested probability distributions to 3-months precipitation samples for the Roma/Ciampino station. In each panel, the upper-left box indicates the last month of the accumulation period; while the right-lower box the best fitting distribution identified with the MSEN method.

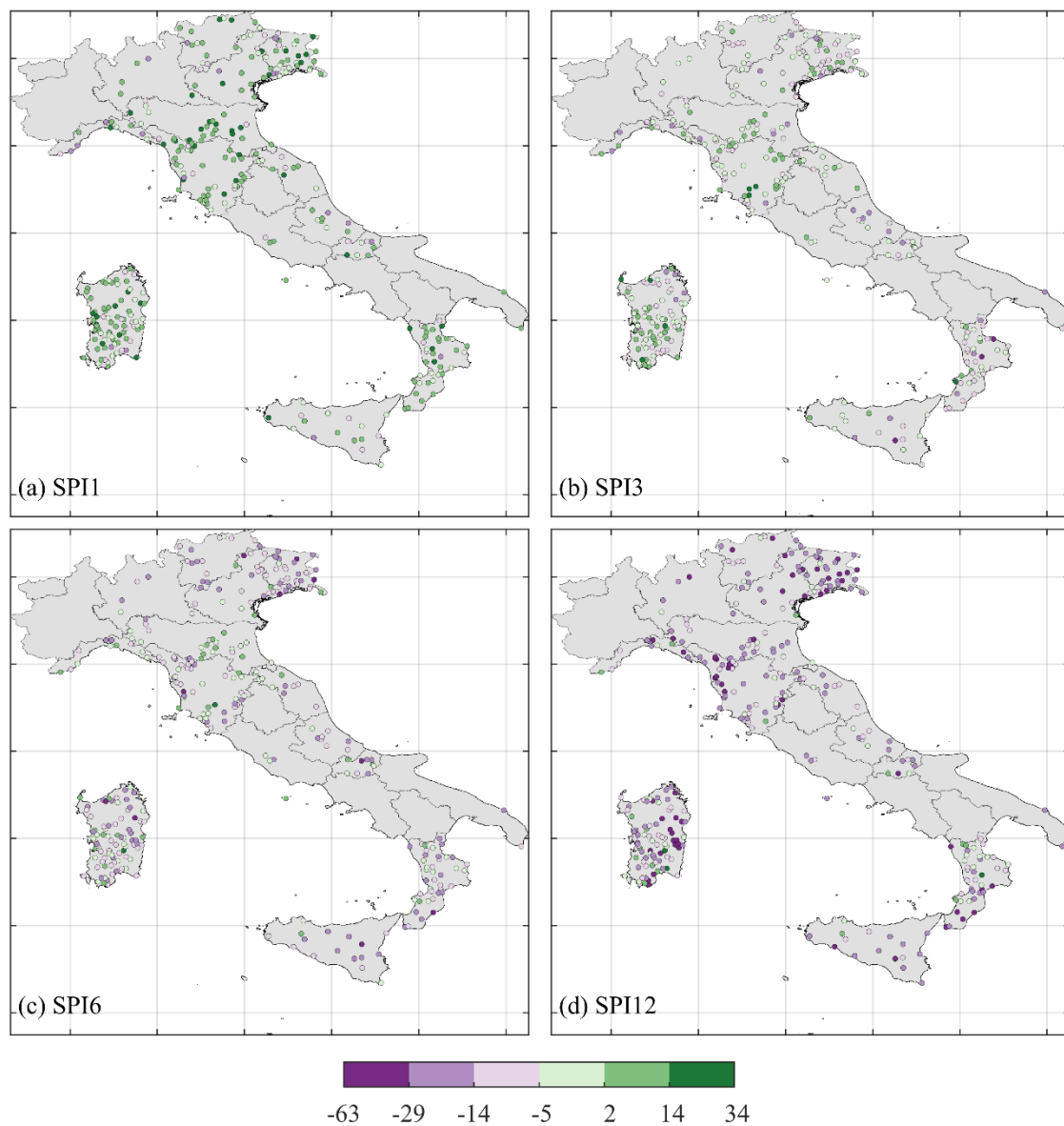


Figure S2. Maps showing the difference in terms of number of drought months detected by the two approaches for all the time scales. Positive and negative values are related to more drought months detected by the BFA then the SA, respectively.

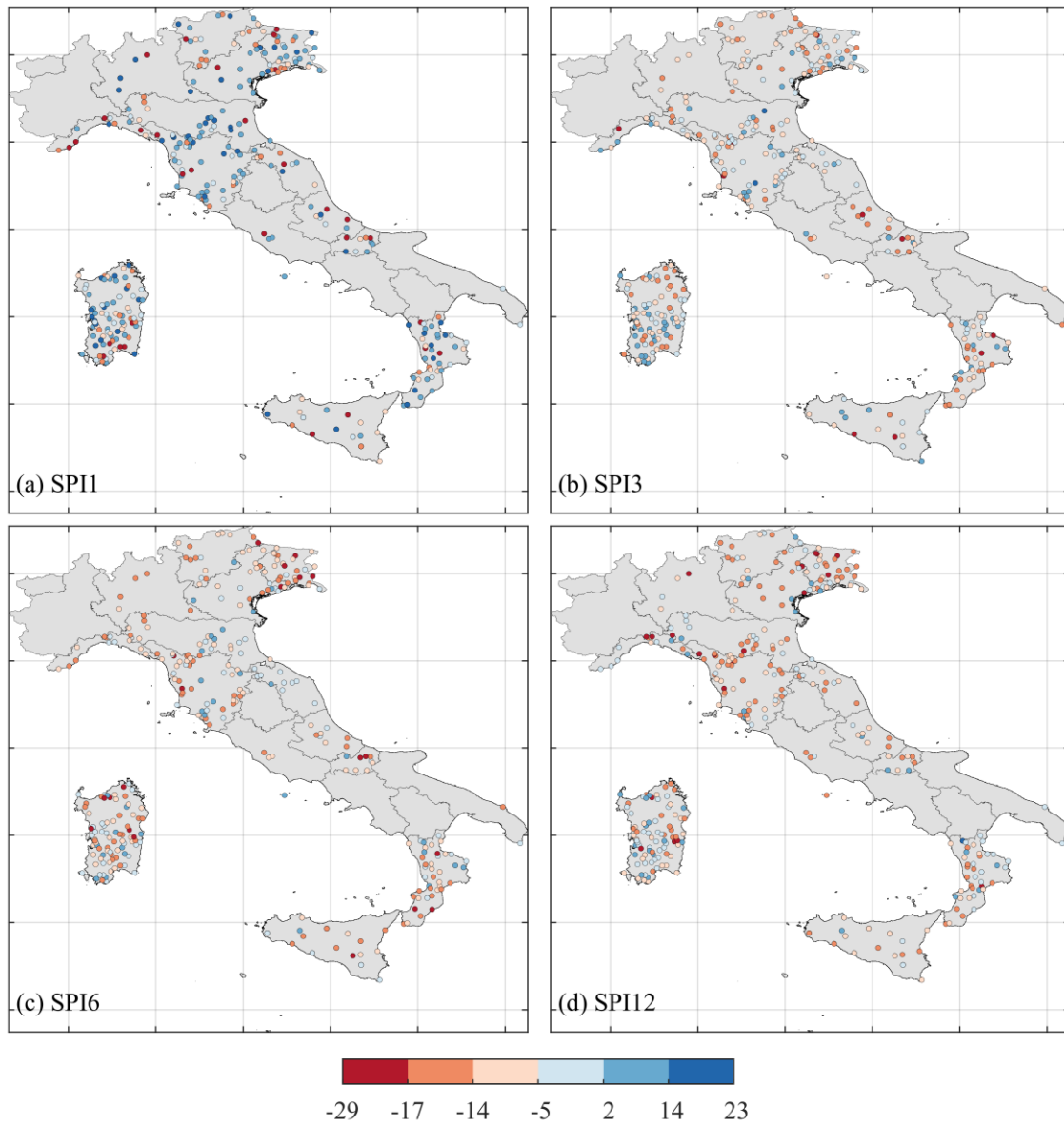


Figure S3. Maps showing the difference in terms of number of events detected by the two approaches for all the time scales. Positive and negative values are related to more events detected by the BFA then the SA, respectively.

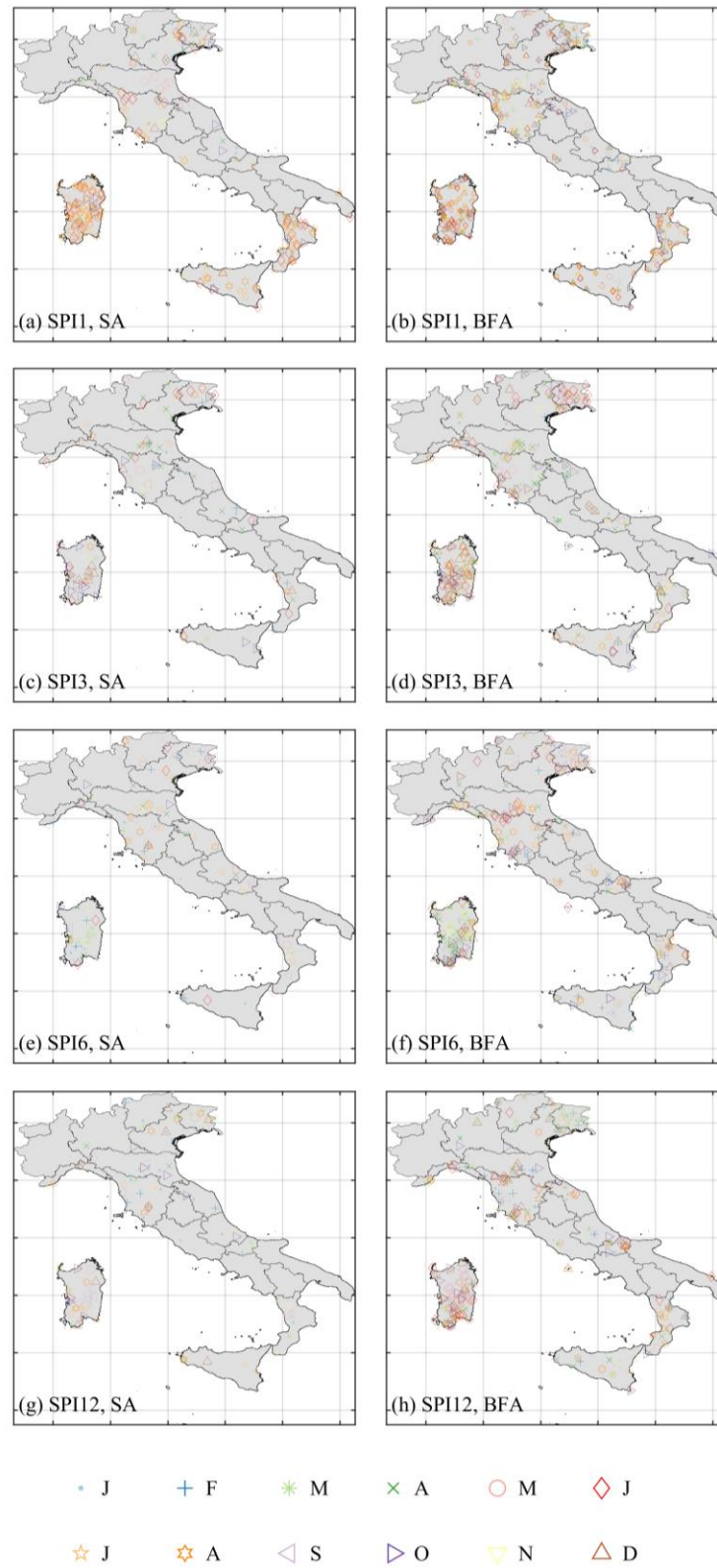


Figure S4. Maps showing the location of the non-normal distributed SPI signals for both the approaches. Each marker indicates a different month.

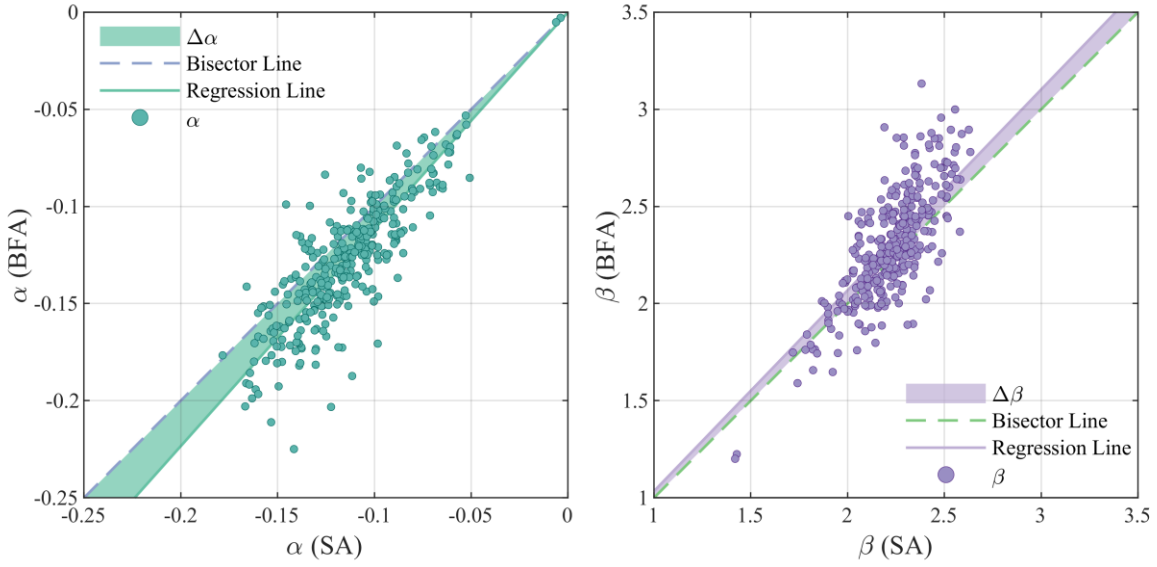


Figure S5. Comparison method based on Δ angle. α and β values are those obtained for SPI6 and 10-years return period. The angular deviation is evaluated as $\Delta = \theta - 45^\circ$, where $\theta = \sum(\alpha(SA) \cdot \alpha(BFA)) / \sum \alpha(SA)^2$ and $\theta = \sum(\beta(SA) \cdot \beta(BFA)) / \sum \beta(SA)^2$. Positive values of Δ indicates that, in general, the BFA has greater values of α and β than the SA, and vice versa.