

Supplementary Material for:

Communication

Drought in Northern Italy: Long Earth Observation time series reveal Snow Line Elevation to be several hundred meters above long-term average in 2022

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Table S1. Deviation of the SLE in the hydrological year 2021/22 from the long-term (1985-2021) median in Meters.

Catchment	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022
Maira	+ 515	- 42	+ 95	+ 609	+ 690	+ 509	+ 186	+ 553	+ 824	+ 412	+ 156
Dora Baltea	+ 334	- 205	- 356	+ 616	+ 555	+ 489	+ 116	+ 635	+ 566	+ 472	+ 566
Sesia	+ 490	- 359	- 35	+ 703	+ 794	+ 802	+ 168	+ 575	+ 582	+ 645	+ 763
Ticino	+ 191	- 91	- 59	+ 515	+ 469	+ 625	+ 267	+ 626	+ 1056	+ 696	+ 346
Adda	+ 338	- 389	+ 159	+ 546	+ 395	+ 508	- 62	+ 585	+ 380	+ 410	+ 222
Oglio	+ 275	- 105	+ 132	+ 372	+ 35	+ 462	- 42	+ 631	+ 363	+ 406	+ 471
Mincio	+ 375	- 203	+ 47	+ 337	+ 96	+ 477	- 71	+ 567	+ 224	+ 463	+ 644
Adige	+ 419	- 128	- 98	+ 393	+ 46	+ 475	- 102	+ 537	+ 224	+ 470	+ 341
Brenta	- 296	- 412	+ 79	+ 199	+ 151	+ 357	+ 216	+ 413	+ 403	+ 39	- 67

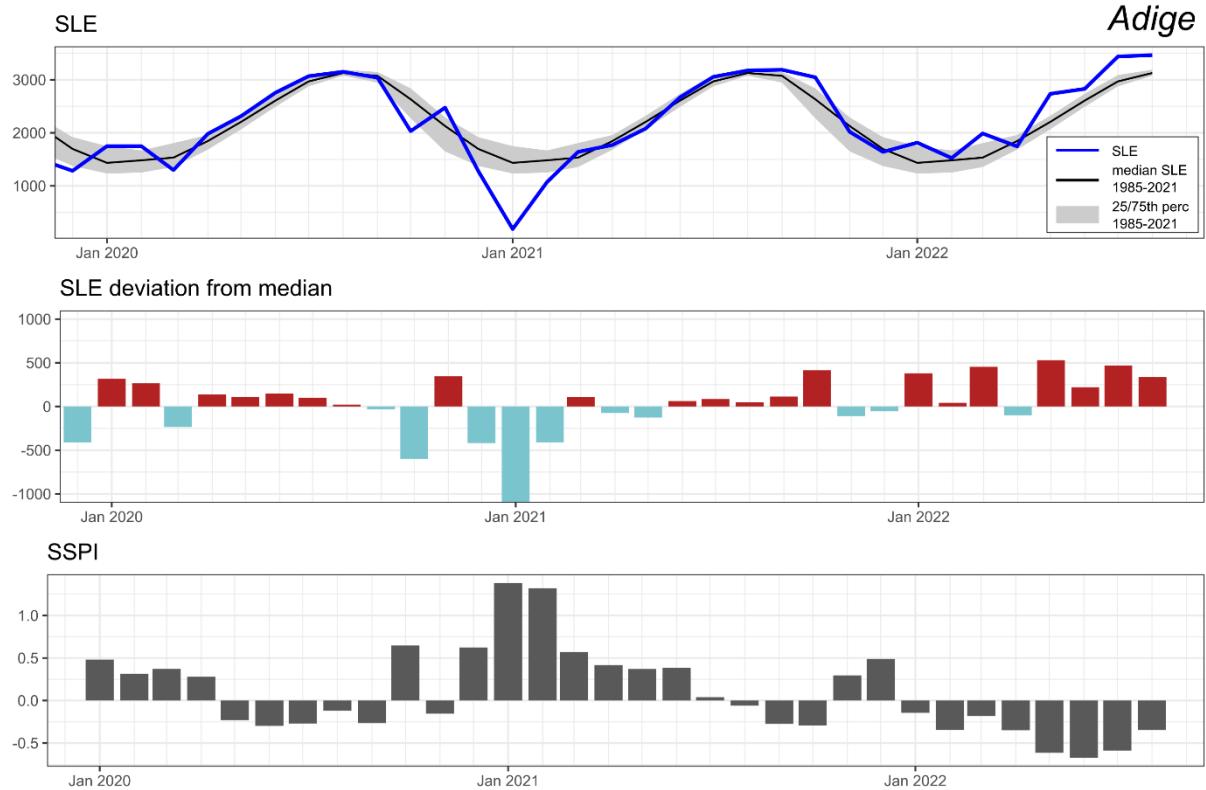


Figure S1. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Adige 2020-2022.

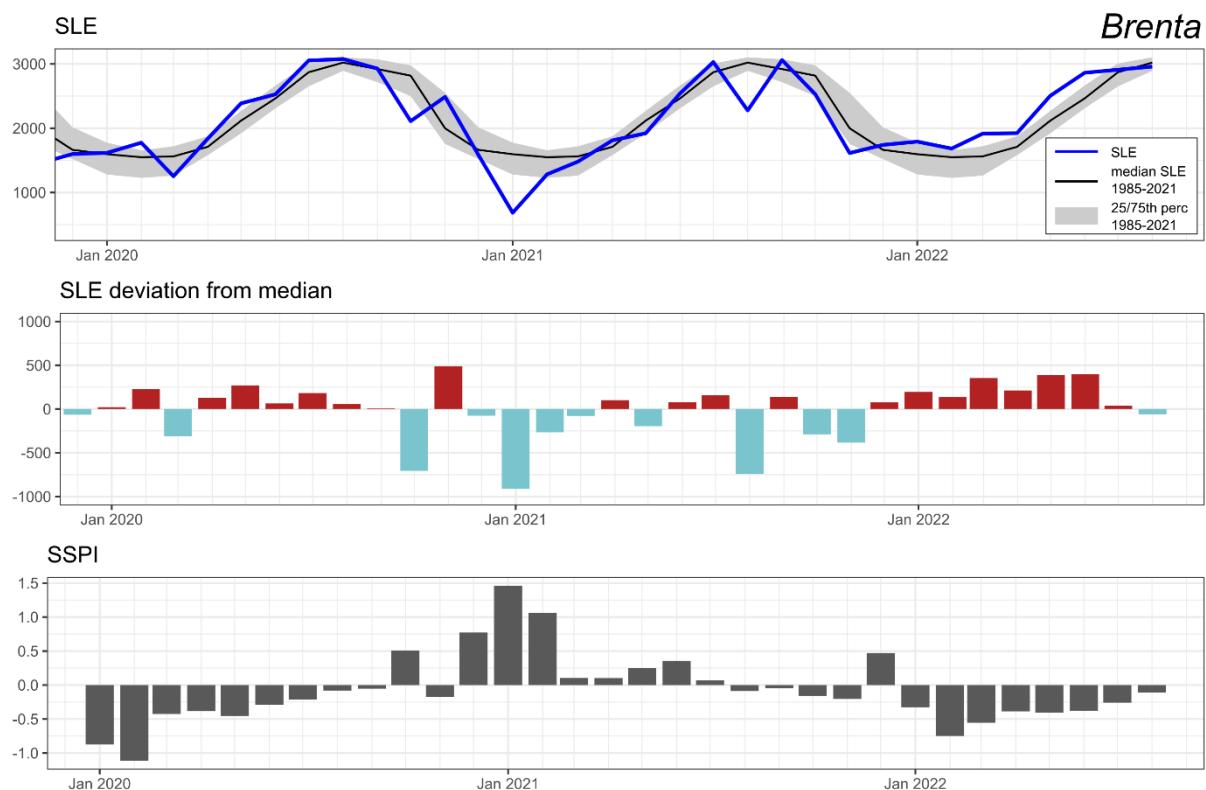


Figure S2. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Brenta 2020-2022.

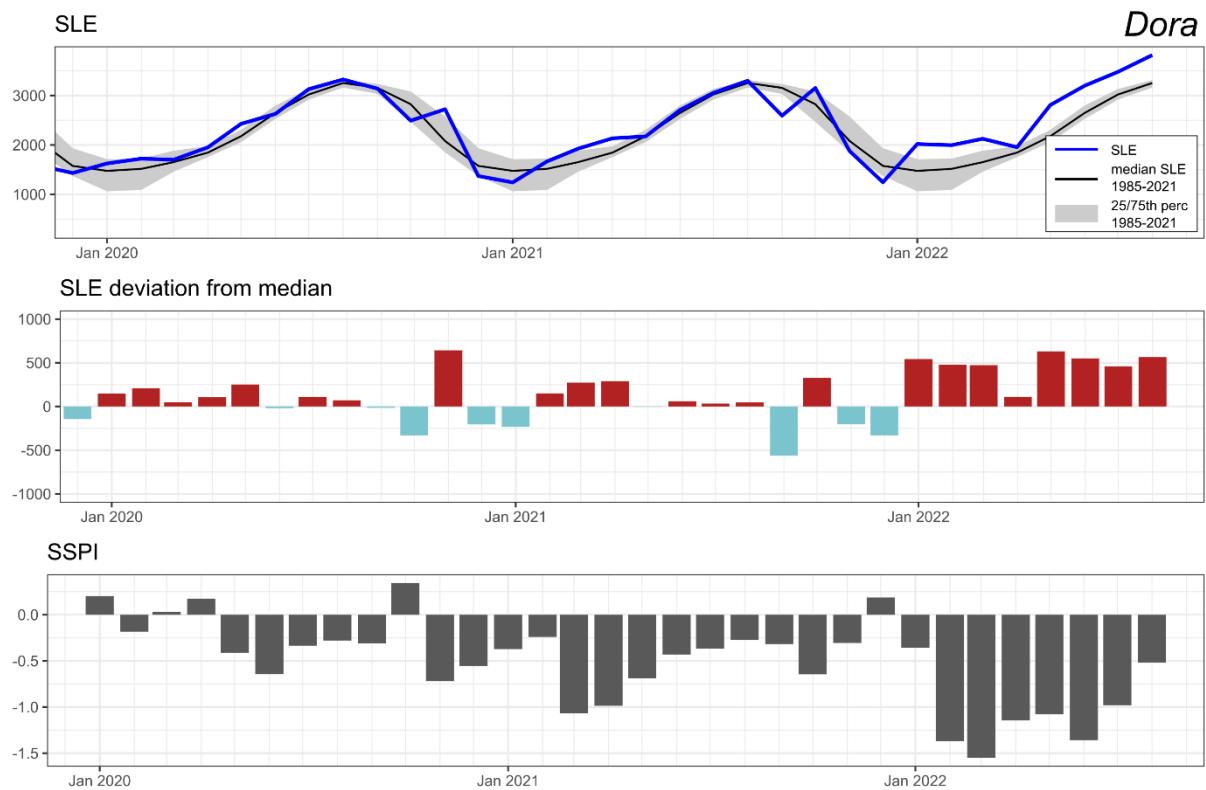


Figure S3. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Dora Baltea 2020-2022.

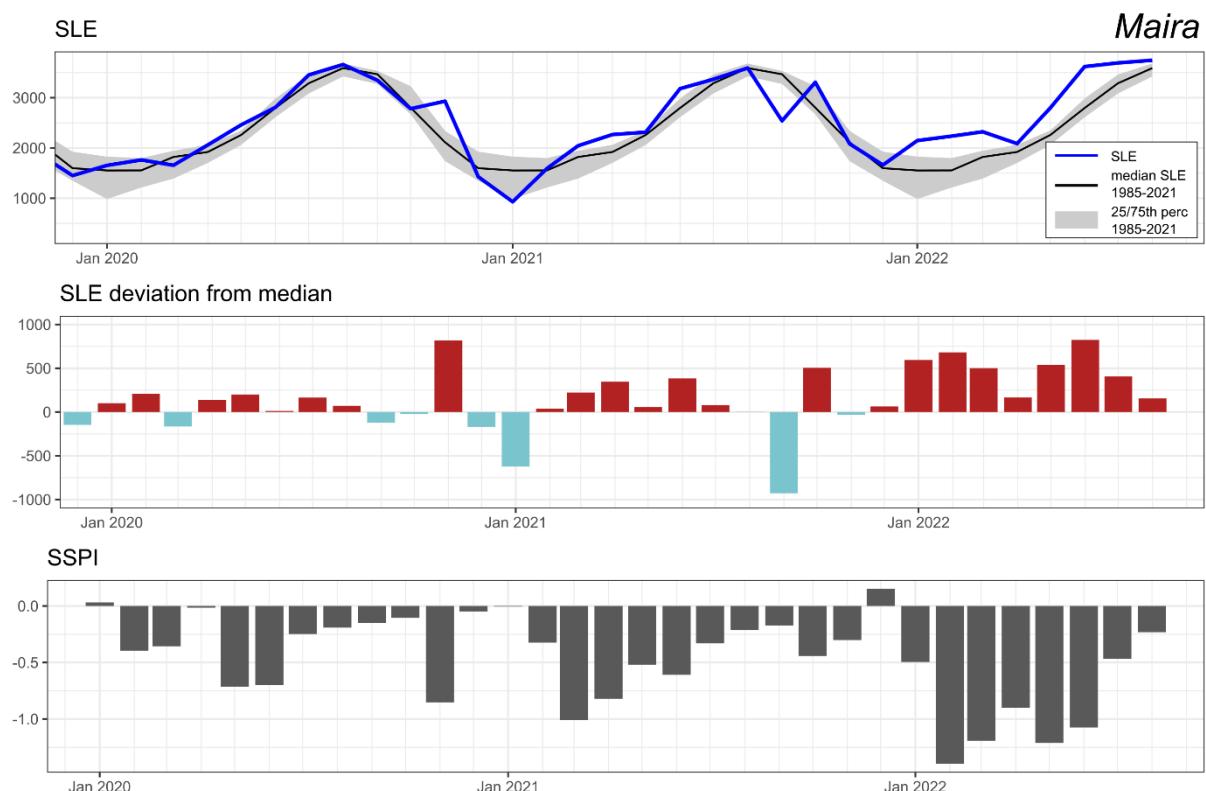


Figure S4. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Maira 2020-2022.

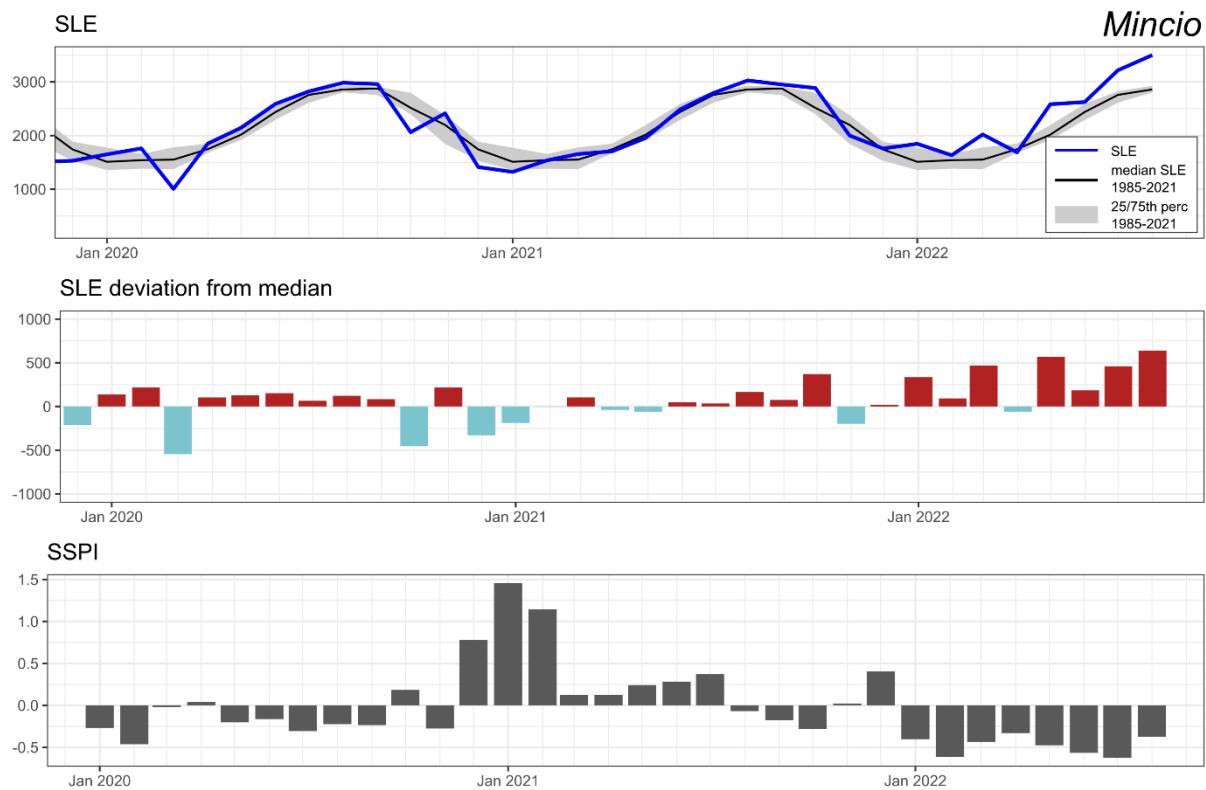


Figure S5. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Mincio 2020-2022.

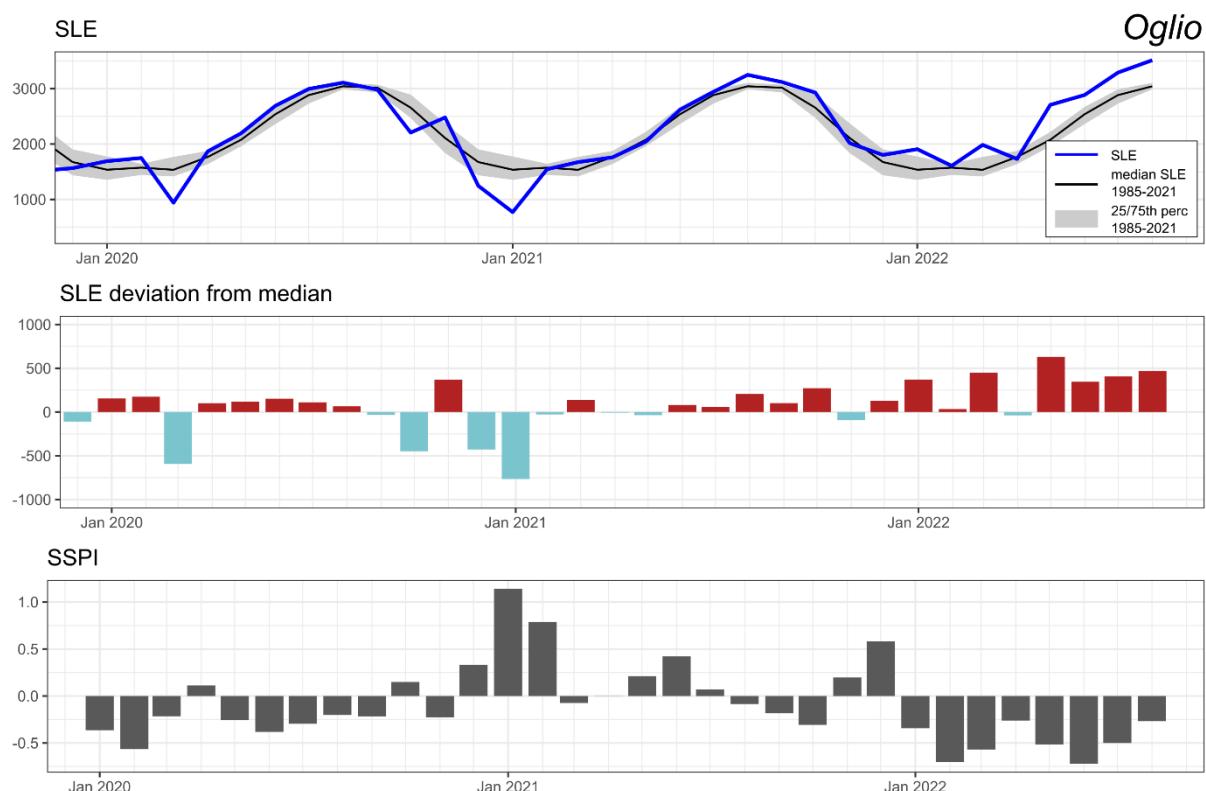


Figure S6. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Oglio 2020-2022.

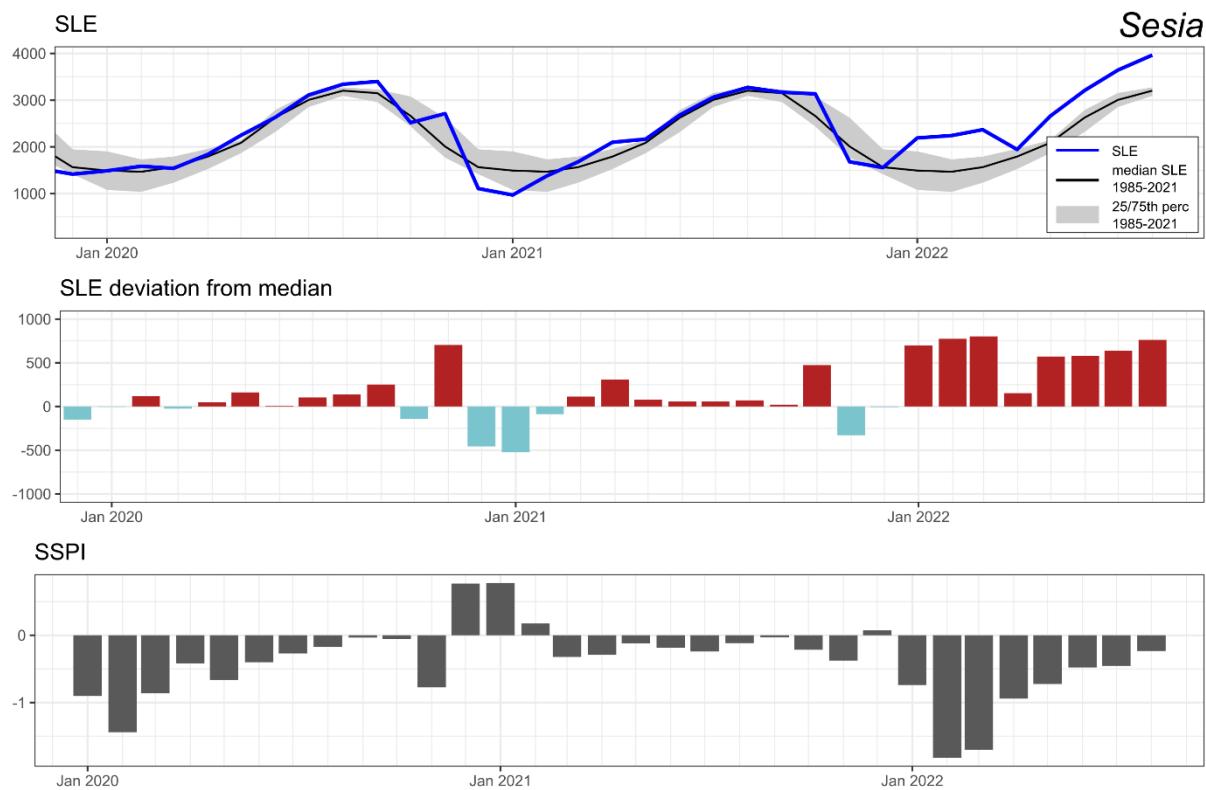


Figure S7. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Sesia 2020-2022.

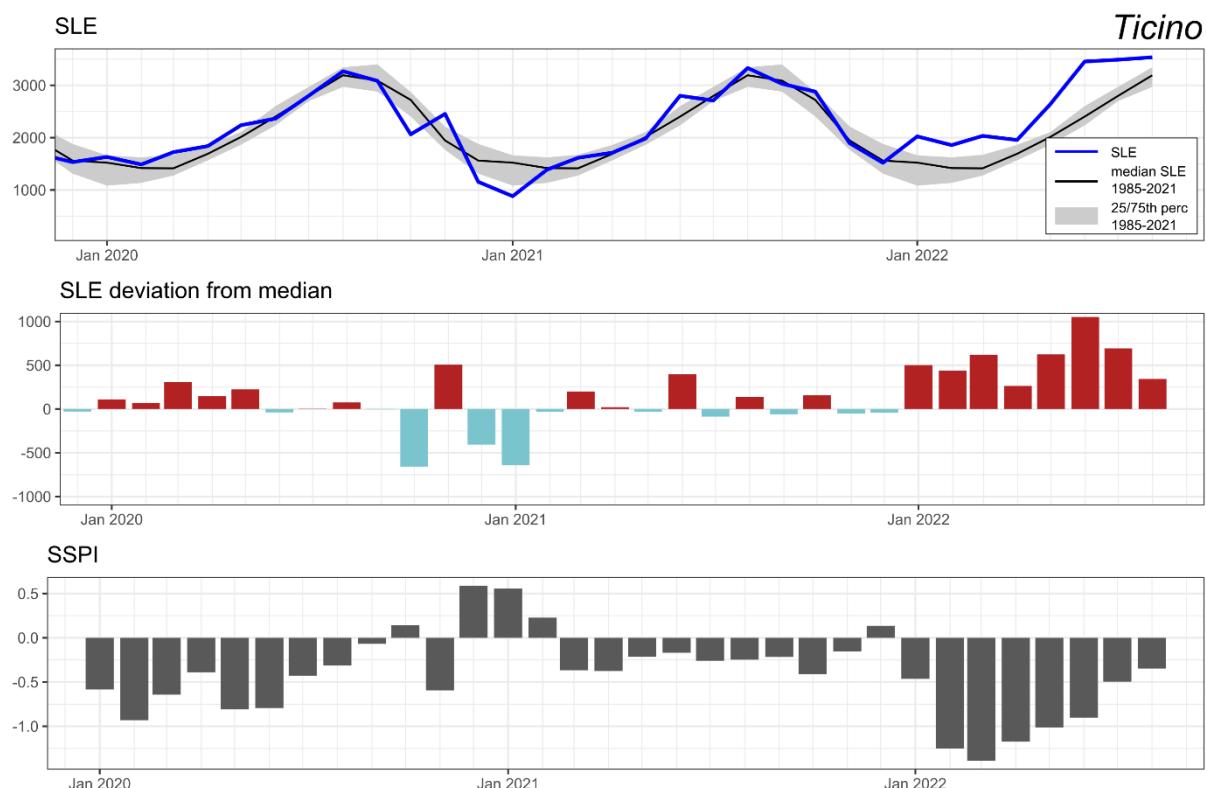


Figure S8. Snow Line Elevation (top), SLE deviation from the long-term median (center), and SSPI (bottom) for the catchment Ticino 2020-2022.