Lo stato del clima in Trentino

Bibliografia

PROVINCIA AUTONOMA DI TRENTO

TRENTINO

Bibliografia del rapporto
“Lo stato del clima in Trentino”

La redazione del “Rapporto sullo stato del clima in Trentino” è stata curata dal MUSE con il coordinamento di APPA, ed è il risultato di quanto previsto dall’ “*Accordo di collaborazione nell’ambito dell’implementazione del programma di lavoro ‘Trentino Clima 2021-2023’ e dell’elaborazione della Strategia provinciale di Mitigazione e Adattamento ai Cambiamenti Climatici*”.

La vasta bibliografia del “Rapporto sullo stato del clima in Trentino” è costituita per la maggior parte dai riferimenti di letteratura tecnico-scientifica dell’analisi svolta dal Dipartimento di Ingegneria Civile, Ambientale e Meccanica dell’Università degli studi di Trento nell’ambito dell’accordo di collaborazione scientifica finanziato da APPA “*Sintesi degli studi sui cambiamenti climatici e i loro impatti ed elaborazione di scenari climatici di riferimento per il Trentino*”.

In particolare, sono riportate in questo documento la bibliografia indicata dal report “*Parte A: Ricerca bibliografica, armonizzazione e sintesi degli studi tecnico-scientifici ad oggi disponibili in merito ai cambiamenti climatici osservati e attesi in Trentino e ai loro impatti sui diversi sistemi naturali e sui settori socio-economici provinciali*” (aggiornata a dicembre 2023) e dal report “*Parte B: Analisi delle proiezioni climatiche disponibili in letteratura ed elaborazione di scenari climatici di riferimento aggiornati per il territorio trentino*” (aggiornata a ottobre 2024), relative rispettivamente agli impatti dei cambiamenti climatici in Trentino e agli scenari climatici futuri per il territorio.

Gli autori dei due report sopra indicati, nonché curatori del coordinamento delle analisi di letteratura e dello sviluppo di scenari climatici di riferimento per il territorio provinciale, sono la dott.ssa Anna Napoli, il dott. Michael Matiu, il prof. Alberto Bellin, il prof. Dino Zardi e il prof. Bruno Majone (referente scientifico del progetto), del Dipartimento di Ingegneria Civile, Ambientale e Meccanica.

Nelle ultime pagine del documento è inoltre riportata la bibliografia integrativa che ha ulteriormente arricchito i contenuti del rapporto “Lo stato del clima in Trentino” (aggiornata a settembre 2024).

Bibliografia del report “Parte A: Ricerca bibliografica, armonizzazione e sintesi degli studi tecnico-scientifici ad oggi disponibili in merito ai cambiamenti climatici osservati e attesi in Trentino e ai loro impatti sui diversi sistemi naturali e sui settori socio-economici provinciali”

Impatti Ambientali

Acqua

- Alp, Maria, et al. “Introducing HyPeak: An international network on hydropeaking research, practice, and policy.” River Research and Applications, 2022, pp. 1-9.
- Amadori, Marina, et al. “Involving citizens in hydrodynamic research: A combined local knowledge - numerical experiment on Lake Garda, Italy.” Science of the Total Environment, vol. 722, 2020.
- Amadori, Marina, et al. “Multi-scale evaluation of a 3D lake model forced by an atmospheric model against standard monitoring data.” Environmental Modelling and Software, vol. 139, 2021.
- Amadori, Marina, et al. “Wind variability and Earth’s rotation as drivers of transport in a deep, elongated subalpine lake: The case of Lake Garda.” Journal of Limnology, 2018.
- APPA. “Bollettini informativi sui laghi monitorati in Trentino / Dataset / Documenti e dati / Homepage - APPA.” APPA, https://www.appa.provincia.tn.it/Documenti-e-dati/Risorse/Punti-di-monitoraggio-laghi-in-Trentino.
- APPA. “Piano di tutela delle acque.” 2015.
- APPA. “Piano di tutela delle acque 22-27: il ruolo dei cambiamenti climatici.” 2022.
- APRIE, http://www.energia.provincia.tn.it/bilanci_idrici/
- Balistrocchi, M.; Tomirotti, M.; Muraca, A.; Ranzi, R. Hydroclimatic Variability and Land Cover Transformations in the Central Italian Alps. Water 2021, 13, 963. https://doi.org/10.3390/w13070963
- Bellin, A., Avesani, D., Bozzoli M., Galletti, A., “Bilancio idrologico degli acquiferi dei bacini dei fiumi Brenta e Noce”, Relazione Tecnica per APRIE, 2022
- Biemond, Bouke, et al. “Deep-mixing and deep-cooling events in Lake Garda: Simulation and mechanisms.” Journal of Limnology, vol. 80, 2021.
- Brugnara, Yuri, et al. “High-resolution analysis of daily precipitation trends in the central Alps over the last century.” International Journal of Climatology, vol. 32, 2012, pp. 1295-1454.

- Bruno, Maria Cristina, et al. “Impact of hydropeaking on hyporheic invertebrates in an Alpine stream (Trentino, Italy).” International journal of limonology, vol. 45, 2009, pp. 157-170.
- Chiogna, Gabriele, et al. “A review of hydrological and chemical stressors in the Adige catchment and its ecological status.” Science of the Total Environment, vol. 540, 2016, pp. 429-443.
- Chiogna, Gabriele, et al. “A review of hydrological and chemical stressors in the Adige catchment and its ecological status.” Science of the Total Environment, vol. 540, 2016, pp. 429-443.
- Copernicus, water quality. “Water quality indicators for European rivers.” cds.climate.copernicus.eu, https://cds.climate.copernicus.eu/cdsapp#!/dataset/sis-water-quality-swicca?tab=overview.
- Copernicus, water quantity. “Water quantity indicators for Europe.” cds.climate.copernicus.eu, https://cds.climate.copernicus.eu/cdsapp#!/dataset/sis-water-quantity-swicca?tab=overview.
- Dallan, Eleonora, et al. “Enhanced Summer Convection Explains Observed Trends in Extreme Subdaily Precipitation in the Eastern Italian Alps.” Geophysical Research Letter, 2022.
- Diamantini, Elena, et al. “Driver detection of water quality trends in three large European river basins.” Science of the Total Environment, vol. 612, 2018, pp. 49-62.
- Di Plazza, Annalisa, and Emanuele Eccel. al.”Analisi di serie giornaliere di temperatura e precipitazione in trentino nel periodo 1958-2010. Provincia Autonoma di Trento, 2012.
- Dokulil, Martin T., et al. “Increasing maximum lake surface temperature under climate change.” Climatic Change, vol. 165, 2021.
- Dolcetti, Giulio. “MINGUS (Measuring INterfacial Gas evasion flUxes from regulated mountain riverS).” MINGUS, Fondazione Caritro, 2021-2023, https://sites.google.com/unitn.it/mingus-project/home?authuser=0.
- Epting, Jannis et al. “Impacts of climate change on Swiss alluvial aquifers – A quantitative forecast focused on natural and artificial groundwater recharge by surface water infiltration”. Journal of Hydrology X, 2022, https://doi.org/10.1016/j.hydroa.2022.100140
- Fambri, Luca, et al. “Study of Plastics Debris Collected on the North Beaches of the Garda Lake After the Severe Storm Vaia in Autumn 2018.” Proceedings of the 2nd International Conference on Microplastic Pollution in the Mediterranean Sea, International Conference on Microplastic Pollution in the Mediterranean Sea, 2020, https://link.springer.com/chapter/10.1007/978-3-030-45909-3_34.
- Flaim, Giovanna, et al. “Ice Cover and Extreme Events Determine Dissolved Oxygen in a Placid Mountain Lake.” Water Resources Research, vol. 56, 2020.
- Formetta, Giuseppe, et al. “Differential orographic impact on sub-hourly, hourly, and daily extreme precipitation.” Advances in Water Resources, vol. 159, 2022.
- Formetta, Giuseppe, et al. “Streamflow Reconstructions Using Tree-Ring Based Paleo Proxies for the Upper Adige River Basin (Italy).” hydrology, 2022.

- Galletti, Andrea, and Bruno Majone. “A screening procedure for identifying drought hot-spots in a changing climate.” Water, 2023
- Ghirardi, Nicola, et al. “Using remote sensing and numerical modelling to quantify a turbidity discharge event in Lake Garda”, Journal of Limnology, vol. 80, 2021
- Hahm, W. J., Dralle, D. N., Sanders, M., Bryk, A. B., Fauria, K. E., Huang, M. H., et al. “Bedrock vadose zone storage dynamics under extreme drought: Consequences for plant water availability, recharge, and runoff”. Water Resources Research, 58, 2022
- Hauer, C., et al. “Hydropeaking in regulated rivers – from process understanding to design of mitigation measures.” Sci Total Environ, 2017.
- Hinegk L., et al. “Implications of water resources management on the long-term regime of Lake Garda (Italy)”. Journal of Environmental Management, 301, 2022.
- Jane, S.F., Hansen, G.J.A., Kraemer, B.M. et al. Widespread deoxygenation of temperate lakes. Nature 594, 66–70 (2021).
- Laiti, Lavinia. Downscaling di proiezioni climatiche a scala locale per il territorio della Provincia di Trento al 2030. Supporto scientifico alla predisposizione del Piano Energetico Ambientale Provinciale 2021- 2030. Università di Trento (DICAM), 2020.
- Larsen, Stefano, et al. “Combining Hydrologic Simulations and Stream-network Models to Reveal Flow-ecology Relationships in a Large Alpine Catchment”. Water Resources Research, 2021
- Lencioni, Valeria, et al. “On the delay between water temperature and invertebrate community response to warming climate.” Science of The Total Environment, vol. 837, 2022.
- Lucianetti, Giorgia, et al. “Groundwater response to precipitation extremes: the case of the "Vaia" storm (Eastern Italian Alps).” Italian journal of Groundwater, vol. 8, 2019.
- Lutz, Steafanie R., et al. “Hydroclimatic and water quality trends across three Mediterranean river basins.” Science of The Total Environment, vol. 571, 2016, pp. 1392-1406.
- Matta, Erica, et al. “A Satellite-Based Tool for Mapping Evaporation in Inland Water Bodies: Formulation, Application, and Operational Aspects”, Remote Sensing, vol. 14, 2022
- Majone, Bruno, et al. “Impact of climate change and water use policies on hydropower potential in the south-eastern Alpine region.” Science of The Total Environment, vol. 543, 2016, pp. 965-980.
- Mallucci, Stefano, et al. “Detection and attribution of hydrological changes in a large Alpine river basin.” Journal of Hydrology, vol. 575, 2019, pp. 1214-1229.
- Marchina, Chiara, et al. “Headwaters’ Isotopic Signature as a Tracer of Stream Origins and Climatic Anomalies: Evidence from the Italian Alps in Summer 2018.” water, vol. 12, 2020.
- Marcolini, Giorgia, et al. “Variability in snow depth time series in the Adige catchment.” Journal of Hydrology: Regional Studies, vol. 13, 2017, pp. 240-254.
- Mastrotheodoros, Theodoros, et al. “More green and less blue water in the Alps during warmer summers.” Nature Climate Change, 2020.
- “Old World Drought Atlas.” Tree-Ring Drought Atlas Portal, http://drought.memphis.edu/OWDA/.

- O'Reilly, C.M., Sharma, S., Gray, D.K., Hampton, S.E., Read, J.S., Rowley, R.J., Schneider, P., Lenters, J.D., McIntyre, P.B., Kraemer, B.M., Weyhenmeyer, G.A., Straile, D., Dong, B., Adrian, R., Allan, M.G., Anneville, O., Arvola, L., Austin, J., Bailey, J.L., Baron, J.S., Brookes, J.D., de Eyto, E., Dokulil, M.T., Hamilton, D.P., Havens, K., Hetherington, A.L., Higgins, S.N., Hook, S., Izmest'eva, L.R., Joehnk, K.D., Kangur, K., Kasprzak, P., Kumagai, M., Kuusisto, E., Leshkevich, G., Livingstone, D.M., MacIntyre, S., May, L., Melack, J.M., Mueller-Navarra, D.C., Naumenko, M., Noges, P., Noges, T., North, R.P., Plisnier, P.-D., Rigosi, A., Rimmer, A., Rogora, M., Rudstam, L.G., Rusak, J.A., Salmaso, N., Samal, N.R., Schindler, D.E., Schladow, S.G., Schmid, M., Schmidt, S.R., Silow, E., Soylu, M.E., Teubner, K., Verburg, P., Voutilainen, A., Watkinson, A., Williamson, C.E., Zhang, G., 2015. Rapid and highly variable warming of lake surface waters around the globe. Geophys. Res. Lett., 42, 10,773–10,781, doi:10.1002/2015GL066235.u
- "ORIENTGATE - A structured network for integration of climate knowledge into policy and territorial planning." CMCC Foundation, https://www.cmcc.it/it/projects/orientgate-a-structured-network-for-integration-of-climate-knowledge-into-policy-and-territorial-planning.
- Pavan, Valentina, et al. "High resolution climate precipitation analysis for north-central Italy, 1961–2015." Climate dynamics, vol. 52, 2019, pp. 3435-3453.
- Piccolroaz, Sebastiano, et al. "On the use of spatially distributed, time-lapse microgravity surveys to inform hydrological modeling." Water Resources Research, vol, 51, 2015
- Piccolroaz, Sebastiano, et al. "Exploring and Quantifying River Thermal Response to Heatwaves." Water, vol. 10, 2018.
- Piccolroaz, Sebastiano, et al. "Importance of planetary rotation for ventilation processes in deep elongated lakes: Evidence from Lake Garda (Italy)." Scientific Reports, vol. 9, 2019.
- Piccolroaz, Sebastiano, et al. "Global reconstruction of twentieth century lake surface water temperature reveals different warming trends depending on the climatic zone." Climatic Change, vol. 160, 2020, pp. 427–442.
- Piccolroaz, Sebastiano, et al. "A multi-site, year-round turbulence microstructure atlas for the deep perialpine Lake Garda." Scientific Data, vol. 8, 2021.
- Provincia Autonoma di Trento e Agenzia Provinciale per le Risorse Idriche e l'Energia. "PIANO ENERGETICO AMBIENTALE PROVINCIALE 2021-2030". 2021
- Rizzi, Cristiana, et al. "Levels and ecological risk of selected organic pollutants in the high-altitude alpine cryosphere - The Adamello-Brenta Natural Park (Italy) as a case study." Environmental Advances, vol. 7, 2022.
- Rogora, M., F. Buzzi, C. Dresti, B. Leoni, F. Lepori, R. Mosello, M. Patelli, & N. Salmaso, 2018. Climatic effects on vertical mixing and deep-water oxygenation in the deep subalpine lakes in Italy. Hydrobiologia 824: 33–50.
- Rügner, Hermann, et al. "Particle bound pollutants in rivers: Results from suspended sediment sampling in Globaqua River Basins". Science of the Total Environment, vol. 647, 2019.

- Salmaso, N. (2012a). Influence of atmospheric modes of variability on the limnological characteristics of a deep lake south of the Alps. Climate Research. 51: 125–133, 2012. doi: 10.3354/cr01063
- Salmaso, N., Cerasino, L., 2012b. Long-term trends and fine year-to-year tuning of phytoplankton in large lakes are ruled by eutrophication and atmospheric modes of variability. Hydrobiologia 698: 17-28.
- Salmaso, Nico, et al. “Influenza delle fluttuazioni climatiche sui grandi laghi a sud delle Alpi: implicazioni nel contesto del riscaldamento globale”. Biologia Ambientale, vol. 28, 17-32, 2014
- Salmaso, N., O. Anneville, D. Straile, & P. Viaroli, 2018a. European large perialpine lakes under anthropogenic pressures and climate change: present status, research gaps and future challenges. Hydrobiologia 824: 1–32.
- Salmaso, N., A. Boscaini, C. Capelli, & L. Cerasino, 2018b. Ongoing ecological shifts in a large lake are driven by climate change and eutrophication: evidences from a three-decade study in Lake Garda. Hydrobiologia Springer International Publishing 824: 177–195.
- Salmaso, N., F. Buzzi, C. Capelli, L. Cerasino, B. Leoni, F. Lepori, & M. Rogora, 2020. Responses to local and global stressors in the large southern perialpine lakes: Present status and challenges for research and management. Journal of Great Lakes Research 46: 752–766.
- SNPA. “Rapporto sugli indicatori di impatto dei cambiamenti climatici edizione 2021”. 2021, https://www.snpambiente.it/2021/06/30/rapporto-sugli-indicatori-di-impatto-dei-cambiamenti-climatici-edizione-2021/
- Toffolon, Marco, et al. “Prediction of surface temperature in lakes with different morphology using air temperature.” Limonology and oceanography, 2014, pp. 2185–2202.
- van Haren, Hans, et al. “Moored observations of turbulent mixing events in deep Lake Garda, Italy.” Journal of Limnology, vol. 80, 2021.
- Viaroli, P., R. Azzoni, M. Bartoli, P. Iacumin, D. Longhi, R. Mosello, M. Rogora, G. Rossetti, N. Salmaso, & D. Nizzoli, 2018. Persistence of meromixis and its effects on redox conditions and trophic status in Lake Idro (Southern Alps, Italy). Hydrobiologia Springer International Publishing 824: 51–69.
- Zanoni, Maria Grazia, et al. “Long term hydrological dynamics of an Alpine glacier.” under review.
- Zolezzi G., Siviglia A., Toffolon M., Maiolini B. Thermopeaking in Alpine streams: event characterization and time scales. Ecohydrology, 4 (4) (2011), pp. 564-576
- Toffolon, M., Siviglia, A., and Zolezzi, G. (2010), Thermal wave dynamics in rivers affected by hydropeaking, Water Resour. Res., 46, W08536, doi:10.1029/2009WR008234.
- Wilkes, M.A., Carrivick, J.L., Castella, E. et al. Glacier retreat reorganizes river habitats leaving refugia for Alpine invertebrate biodiversity poorly protected. Nat Ecol Evol (2023). https://doi.org/10.1038/s41559-023-02061-5

Agroecosistemi

- Alikadic', Azra, et al. "The impact of climate change on grapevine phenology and the influence of altitude: A regional study." Agricultural and Forest Meteorology, vol. 271, 2016, pp. 73-82.
- Alma, A., Lessio, F., Gonella, E., Picciau, L., Mandrioli, M., & Tota, F. (2018). New insights in phytoplasma‐vector interaction: acquisition and inoculation of flavescence dorée phytoplasma by Scaphoideus titanus adults in a short window of time. Annals of Applied Biology, 173(1), 55-62.
- Anfora, Gianfranco, et al. "Current status of the Drosophila suzukii management in Trentino, Italy, and research perspectives for sustainable control." XVIII. International Plant Protection Congress, 2015, https://openpub.fmach.it/handle/10449/33272.
- "Balanino: futura insidia per i meleti trentini?" terra trentina, trentinoagricoltura.it, 2022, p. 59.
- Baldessari, Mario, et al. "Validation of an immigration index for the apple jumping louse Cacopsylla melanoneura in Trentino." XVIII Convegno nazionale di agrometeorologia, 2015.
- Barbaro, Luc, et al. "Organic management and landscape heterogeneity combine to sustain multifunctional bird communities in European vineyards." Journal of Applied Ecology, vol. 58, 2021, 1261–1271.
- Belli, G., Fortusini, A., Osler, R., & Amici, A. (1973). Presenza di una malattia del tipo «flavescence dorée» in vigneti dell'Oltrepò pavese. Rivista di Patologia Vegetale, 50-56.
- Bertamini, M., Faralli, M., Varotto, C., Grando, M. S., & Cappellin, L. (2021). Leaf monoterpene emission limits photosynthetic downregulation under heat stress in field-grown grapevine. Plants, 10(1), 181.
- Bocca, F. M., Picciau, L., & Alma, A. (2020). New insights on Scaphoideus titanus biology and their implication for integrated pest management. Entomol. Gen, 4, 337-349.
- Caffarra, Amelia, and Emanuele Eccel. "Projecting the impacts of climate change on the phenology of grapevine in a mountain area." Australian Journal of Grape and Wine Research, vol. 17, 2011, pp. 52-61.
- Caffarra, Amelia, et al. "Modelling the impact of climate change on the interaction between grapevine and its pests and pathogens: European grapevine moth and powdery mildew." Agriculture, Ecosystems and Environment, vol. 148, 2012, pp. 89-101.
- Caudwell A. (1957) Deux années d'etudes sur las Flavescence dorée, nouvelle maladie grave de la vigne. Annales Améliorations des Plantes, 4: 359-393.
- Chuche, J., & Thiéry, D. (2014). Biology and ecology of the Flavescence dorée vector Scaphoideus titanus: a review. Agronomy for sustainable development, 34, 381-403.
- De Marchi, Massimo, et al. "Droni in viticoltura e frutticoltura: geoinformazione per agroecosistemi 4.0 in Veneto e Trentino." ASITA2017, 2017.
- Eccel, Emanuele, et al. "Risk of spring frost to apple production under future climate scenarios: the role of phenological acclimation." International Journal of Biometeorology, vol. 53, 2009, pp. 273–286.
- Eccel Emanuele, et al. Quantitative hail monitoring in an alpine area: 35-year climatology and links with atmospheric variables. Int. J. Climatol. 32, 2012, pp. 503–517.

- Eccel, Emanuele, et al. “Simulations of quantitative shift in bio-climatic indices in the viticultural areas of Trentino (Italian Alps) by an open source R package.” Computers and Electronics in Agriculture, vol. 127, 2016, pp. 92-100.
- Eriksson, A., Anfora, G., Lucchi, A., Lanzo, F., Virant-Doberlet, M., & Mazzoni, V. (2012). Exploitation of insect vibrational signals reveals a new method of pest management. PLoS One, 7(3), e32954.
- EFSA Panel on Plant Health (PLH), Jeger M, Bragard C, Caffier D, Candresse T, Chatzivassiliou E, Dehnen-Schmutz K, Gilioli G, Jaques Miret JA, MacLeod A, Navajas Navarro M, Niere B, Parnell S, Potting R, Rafoss T, Urek G, Rossi V, Van Bruggen A, Van Der Werf W, West J, Winter S, Bosco D, Foissac X, Strauss G, Hollo G, Mosbach-Schulz O and Gregoire J-C, 2016. Scientific opinion on the risk to plant health of Flavescence dor?ee for the EU territory. EFSA Journal 2016;14(12):4603, 83 pp. doi:10.2903/j.efsa.2016.4603
- Fellin, L., Grassi, A., Puppato, S., Saddi, A., Anfora, G., Ioriatti, C., Rossi-Stacconi, M.V. 2023. First report on classical biological control releases of the larval parasitoid Ganaspis brasiliensis against Drosophila suzukii in northern Italy. BioControl, 68 (1), pp. 1-12. DOI: 10.1007/s10526-022-10174-2
- Falzoi, S., Lessio, F., Spanna, F., & Alma, A. (2014). Influence of temperature on the embryonic and post-embryonic development of Scaphoideus titanus (Hemiptera: Cicadellidae), vector of grapevine Flavescence dorée. International Journal of Pest Management, 60(4), 246-257.
- Faralli, M., Bianchedi, P. L., Bertamini, M., & Varotto, C. (2020). Rootstock genotypes shape the response of cv. Pinot gris to water deficit. Agronomy, 11(1), 75
- FEM. CIMICE ASIATICA. 2019, https://openpub.fmach.it/bitstream/10449/58929/1/Cimice%20asiatica_4_dicembre%202019.pdf.
- “Flavescenza dorata.” Emergenze fitosanitarie, https://fitoemergenze.fmach.it/flavescenza-dorata.
- Fondazione Edmund Mach. “FEM - Dati e servizi agrometeorologici per la provincia di Trento.” http://meteo.fmach.it/meteo/.
- Furlong, M. J., & Zalucki, M. P. (2017). Climate change and biological control: the consequences of increasing temperatures on host–parasitoid interactions. Current opinion in insect science, 20, 39-44.
- Grassi, Alberto, et al. “Drosophila (Sophophora) suzukii (Matsumura), new pest of soft fruits in Trentino (North-Italy) and in Europe.” Integrated Plant Protection in Soft Fruits, vol. 70, 2011, pp. 121-128.
- Ioriatti C., Gelmetti A., Matté B., Maines R., Anfora A., 2022. Viticoltura integrata in Trentino, gli effetti sulle avversità biotiche. Informatore Agrario 39: 56-61.
- Ioriatti C., Baldessari M., Zapponi L. 2023. Difesa del melo più sostenibile nonostante le emergenze. Informatore Agrario 12: 35-40.
- Erica Jean Kistner, Climate Change Impacts on the Potential Distribution and Abundance of the Brown Marmorated Stink Bug (Hemiptera: Pentatomidae) With Special Reference to North America and Europe, Environmental Entomology, Volume 46, Issue 6, December 2017, Pages 1212–1224, https://doi.org/10.1093/ee/nvx157

- Langille, Aaron B., et al. “The impacts of climate change on the abundance and distribution of the Spotted Wing Drosophila (Drosophila suzukii) in the United States and Canada.” PeerJ, 2017.
- Lessio, F., Tota, F., & Alma, A. (2014). Tracking the dispersion of Scaphoideus titanus Ball (Hemiptera: Cicadellidae) from wild to cultivated grapevine: use of a novel mark–capture technique. Bulletin of entomological research, 104(4), 432-443.
- Lisi, F., Biondi, A., Cavallaro, C., Zappalà, L., Campo, G., Roversi, P.F., Sabbatini Peverieri, G., Giovannini, L., Tavella, L., Tortorici, F., Bardella, S., Carli, C., Bosio, G., Mori, N., Tonina, L., Zanini, G., Caruso, S., Vaccari, G., Masetti, A., Bittau, B., Bariselli, M., Schmidt, S., Falagiarda, M., Bertignono, L., Bonfanti, R., Giorgini, M., Guerrieri, E., Tropiano, F.G., Verrastro, V., Baser, N., Ibn Amor, A., Endrizzi, S., Tessari, L., Puppato, S., Ioriatti, C., Grassi, A., Anfora, G., Fellin, L., Rossi Stacconi, M.V. (2022). Current status of Drosophila suzukii classical biological control in Italy (2022) Acta Horticulturae, 1354, pp. 193-200. DOI: 10.17660/ActaHortic.2022.1354.25
- Malek, R., Tattoni, C., Ciolli, M., Corradini, S., Andreis, D., Ibrahim, A., ... & Anfora, G. (2018). Coupling traditional monitoring and citizen science to disentangle the invasion of Halyomorpha halys. ISPRS International Journal of Geo-Information, 7(5), 171.
- Mazzoni, V., Nieri, R., Eriksson, A., Virant-Doberlet, M., Polajnar, J., Anfora, G., & Lucchi, A. (2019). Mating disruption by vibrational signals: state of the field and perspectives. Biotremology: studying vibrational behavior, 331-354.
- “Meteotrentino - rete stazioni meteo e previsioni per la Provincia di Trento.” Meteotrentino, http://www.meteotrentino.it.
- Moriccia, Salvatore, and Alessandro Ragazzi. “Lusus naturae: cambiamenti climatici ed invasioni di parassiti vegetali modificano il territorio agro-forestale.” Ital. J. Agron., 2009, pp. 13-17.
- Nielsen, A. L., Chen, S., & Fleischer, S. J. (2016). Coupling developmental physiology, photoperiod, and temperature to model phenology and dynamics of an invasive heteropteran, Halyomorpha halys. Frontiers in Physiology, 7, 165.
- Ometto L., Cestaro A, Ramasamy S., Grassi A., Revadi S., Siozios S., Moretto M., Fontana P., Varotto C., Pisani D., Dekker T., Wrobel N., Viola R., Pertot I., Cavalieri D., Blaxter M., Anfora G., Rota-Stabelli O., 2013. Linking genomics and ecology to unveil the complex evolution of an invasive Drosophila pest. Genome Biology and Evolution 5(4): 745-757.
- Prevostini, M., Taddeo, A. V., Balac, K., Rigamonti, I., Baumgärtner, J., & Jermini, M. (2013). WAMS-an adaptive system for knowledge acquisition and decision support: the case of Scaphoideus titanus. International Organisation for Biological and Integrated Control/West Palearctic Regional Section Bulletin, 85, 57-64.
- “Progetto Terra-Aria-Acqua (2020-2022) – VERTEBLOG.” VERTEBLOG, https://verteblog.muse.it/index.php/progetto-terra-aria-acqua-2020-2022/.
- Provincia Autonoma di Trento. “GeoCatalogo PAT.”, https://siat.provincia.tn.it/geonetwork/srv/ita/catalog.search#/search?facet.q=topicCat%2Ffarming.
- Provincia Autonoma di Trento. Paesaggi agro-forestali in Trentino. Tutela, ripristino e miglioramento degli ambienti tradizionali. 2017.

- Provincia Autonoma di Trento - servizio Agricoltura. L'AGRICOLTURA DI MONTAGNA IN UN CLIMA CHE CAMBIA. Centro Duplicazioni interne - PAT, 2016.
- Puppato, S., Grassi, A., Pedrazzoli, F., De Cristofaro, A., Ioriatti, C. 2020. First report of Leptopilina japonica in Europe. Insects, 11 (9), art. no. 611, pp. 1-13. DOI: 10.3390/insects11090611
- Qi, XUE, et al. "Adaptation of Drosophila species to climate change- A literature review since 2003." ScienceDirect, vol. 18, 2019, pp. 805–814.
- Reineke, A., & Thiéry, D. (2016). Grapevine insect pests and their natural enemies in the age of global warming. Journal of Pest Science, 89(2), 313-328.
- Riedl, H., & Croft, B. A. (1978). THE EFFECTS OF PHOTOPERIOD AND EFFECTIVE TEMPERATURES ON THE SEASONAL PHENOLOGY OF THE CODLING MOTH (LEPIDOPTERA: TORTRICIDAE) 1. The Canadian Entomologist, 110(5), 455-470.
- Rossi-Stacconi V., Kaur R., Mazzoni V., Ometto L., Grassi A., Gottardello A., Rota-Stabelli O., Anfora G., 2016. Multiple lines of evidence for reproductive winter diapause in the invasive pest Drosophila suzukii: useful clues for control strategies. Journal of Pest Science, 89: 689-700.
- Schmitz, O. J., & Barton, B. T. (2014). Climate change effects on behavioral and physiological ecology of predator–prey interactions: implications for conservation biological control. Biological Control, 75, 87-96.
- Schultz, Hans R. "Global Climate Change, Sustainability, and Some Challenges for Grape and Wine Production." Journal of Wine Economics, vol. 11, no. 1, 2016.
- Tait, Gabriella, et al. "Drosophila suzukii (Diptera: Drosophilidae): A Decade of Research Towards a Sustainable Integrated Pest Management Program." Journal of Economic Entomology, vol. 114, 2021, pp. 1950–1974.
- Tait, Gabriella, et al. "Large-scale spatial dynamics of Drosophila suzukii in Trentino, Italy." Journal of Pest Science, vol. 91, 2018, pp. 1213–1224.
- Tait G., Mermer S., Stockton D., Lee J., Avosani S., Abrieux A., Anfora G., Beers E., Biondi A., Burrack H., Cha D., Chiu J.C., Choi M.-Y., Cloonan K., Crava C.M., Daane K.M., Dalton D.T., Diepenbrock L., Fanning P., Ganjisaffar F., Gómez M.I., Gut L., Grassi A., Hamby K., Hoelmer K.A., Ioriatti C., Isaacs R., Klick J., Kraft L., Loeb G., Rossi-Stacconi M.V., Nieri R., Pfab F., Puppato S., Rendon D., Renkema J., Rodriguez-Saona C., Rogers M., Sassù F., Schöneberg T., Scott M.J., Seagraves M., Sial A., Van Timmeren S., Wallingford A., Wang X., Yeh D.A., Zalom F.G., Walton V.M., 2021. Drosophila suzukii (Diptera: Drosophilidae): A decade of research towards a sustainable integrated pest management program. Journal of Economic Entomology, 114(5): 1950–1974.
- Tobin, Patrick, et al. "Historical and projected interactions between climate change and insect voltinism in a multivoltine species." Global Change Biology, vol. 14, 2008, pp. 951–957.
- Tonina, Lorenzo, et al. "Development of Drosophila suzukii at low temperatures in mountain areas." Journal of Pest Science, vol. 89, 667–678, pp. 667–678.
- "Trentino Agricoltura." Trentino Agricoltura, 4 August 2022, http://www.trentinoagricoltura.it/index.php/layout/set/print/Trentino-Agricoltura/News/Viticoltura-bio-in-crescita-focus-tecnico-alla-FEM-su-difesa-e-sostenibilita#.

- Walsh, Margaret, et al. Climate Indicators for Agriculture. United States Department of Agriculture (USDA), 2020.
- “Weighted Mean Vegetation Health Index.” Weighted Mean Vegetation Health Index (Weighted Mean VHI) - Near Real Time (Global - Dekadal - 1 Km) - "FAO catalog", 2022, https://data.apps.fao.org/catalog/iso/84e27651-0bb4-4a26-8b4a-2b10bbccb7e0.
- Zanoni, S.; Baldessari, M.; Angeli, G.; Ioriatti, C. (2019) Ceratitis capitata su melo monitorata in Trentino. L’Informatore Agrario: 34:64-66
- Zottele, F., Scandella F., Bucci D., Nabacino L., & Scommegna M.(2018). Surveying the development of the steep-slope, terraced and mountainous viticultural landscape by using unmanned aerial vehicles: a costs & benefits analysis. Proc. 6th Int. Cong.on Mountain and Steep Slope Viticulture, pp. 4–8, 2018
- Zottele, F., Crocetta, P., & Baiocchi, V. (2022). How important is UAVs RTK accuracy for the identification of certain vine diseases? In 2022 IEEE Workshop on Metrology for Agriculture and Forestry (MetroAgriFor). 2022 IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor). IEEE. https://doi.org/10.1109/metroagrifor55389.2022.9964928

Aria

- Air Information Resources. “Ozone Depletion and Climate Change - Defra, UK.” UK-AIR, Department for Environment Foods & Rural Affairs, https://uk-air.defra.gov.uk/research/ozone-uv/moreinfo?view=deleption-climate-change.
- Colette, Augustine, et al. “Is the ozone climate penalty robust in Europe?” Environ. Res. Lett., vol. 10, 2015.
- Collins, W.J., et al. “Effect of stratosphere-troposphere exchange on the future tropospheric ozone trend.” JOURNAL OF GEOPHYSICAL RESEARCH,, vol. 108, 2003.
- Doherty, Ruth M., et al. “Climate change impacts on human health over Europe through its effect on air quality.” Environmental Health, vol. 16, 2017.
- Dolcetti, Guido, et al. “Measured temporal variations of CO2 concentration and atmospheric emissions in a hydropeaking-impacted river.” EGU General Assembly 2023, 2023.
- EEA. “Air pollution due to ozone: health impacts and effects of climate change (no further updates) — English.” Climate-ADAPT, 2021, https://climate-adapt.eea.europa.eu/en/metadata/indicators/air-pollution-by-ozone.
- Fann, N. L., Nolte, C. G., Sarofim, M. C., Martinich, J., & Nassikas, N. J. (2021). Associations between simulated future changes in climate, air quality, and human health. JAMA Network Open, 4(1), e2032064-e2032064.
- Fortems-Cheiney, A., et al. “A 3 °C global RCP8.5 emission trajectory cancels benefits of European emission reductions on air quality.” nature communications, vol. 8, 2017.
- Francis, Jennifer, and Natasa Skific. “Evidence linking rapid Arctic warming to mid-latitude weather patterns.” Phil. Trans. R., 2015.
- Fu, Tzung-May, and Heng Tian. “Climate Change Penalty to Ozone Air Quality: Review of Current Understandings and Knowledge Gaps.” Current Pollution Reports, vol. 5, 2019, pp. 159–171.
- Geels, Camilla, et al. “Future premature mortality due to O3, secondary inorganic aerosols and primary PM in Europe--sensitivity to changes in climate, anthropogenic emissions, population and building stock.” Int J Environ Res Public Health, 2015.
- Giorgi, Filippo, and Frédérick Meleux. “Modelling the regional effects of climate change on air quality - Modélisation des effets régionaux du changement climatique sur la qualité de l’air.” Comptes Rendus Geoscience, vol. 339, 2007, pp. 721-733.
- IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp, doi:10.1017/CBO9781107415324
- IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change[Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)].

Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, In press, doi:10.1017/9781009157896

- Jacob, Daniel, and Darrell Winner. “Effect of climate change on air quality.” Atmospheric Environment, vol. 43, 2009, pp. 51-63.
- Mann, Michael E., et al. “Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events.” Scientific reports, 2017.
- Marzadri, A., Tonina, D., Bellin, A., and Tank, J. L. (2014), A hydrologic model demonstrates nitrous oxide emissions depend on streambed morphology, Geophys. Res. Lett., 41, 5484– 5491, doi:10.1002/2014GL060732
- A. Marzadri, A. Bellin, J.L. Tank, D. Tonina (2022), Predicting nitrous oxide emissions through riverine networks, Science of The Total Environment, 843, 156844, doi:10.1016/j.scitotenv.2022.156844
- Megaritis, A.G., et al. “Linking climate and air quality over Europe: effects of meteorology on PM2.5 concentrations.” Atmos. Chem. Phys., vol. 14, 2014, pp. 10283–10298.
- Meehl, G., Tebaldi, C., Tilmes, S. et al. “Future heat waves and surface ozone”. Environmental Research Letters, vol. 13, 2018
- Masoni, Alessandro; Ercoli, Laura (2010). “Azoto nel terreno”
- Murazaki, K., and P. Hess. “How does climate change contribute to surface ozone change over the United States?” JOURNAL OF GEOPHYSICAL RESEARCH, vol. 111, 2006.
- Park, S., et al. “A likely increase in fine particulate matter and premature mortality under future climate change.” Air Quality, Atmosphere & Health, vol. 13, 2020, pp. 143–151.
- Provincia Autonoma di Trento. “PIANO PROVINCIALE DI TUTELA DELLA QUALITÀ DELL'ARIA.” 2018, https://pianoaria.provincia.tn.it/.
- Reichler, Thomas. “Changes in the Atmospheric Circulation as Indicator of Climate Change.” Climate Change: Observed impacts on Planet Earth, Elsevier, 2009.
- WMO Air Quality, and Climate Bulletin. “WMO Air Quality and Climate Bulletin No. 2 - September 2022.” 2022.

Ecosistemi acquatici

- “Arctic and Alpine stream ecosystem research | AASER Project | FP4 | CORDIS | European Commission.” CORDIS, https://cordis.europa.eu/project/id/ENV4950164/it.
- Brighenti, Stefano, et al. “After the peak water: the increasing influence of rock glaciers on alpine river systems.” Hydrological Processes, vol. 33, 2019a, pp. 2711-2823.
- Brighenti, Stefano, et al. “Ecosystem shifts in Alpine streams under glacier retreat and rock glacier thaw: A review.” Science of The Total Environment, vol. 675, 2019b, pp. 542-559.
- Castella E, Adalsteinsson H, Brittain JE, Gislason GM, Lehmann A, Lencioni V, Lods-Crozet B, Maiolini B, Milner AM, Olafsson JS, Saltveit SJ, Snook DL (2001). Macrobenthic invertebrate richness and composition along a latitudinal gradient of European glacier-fed streams. FRESHWATER BIOLOGY, vol. 46, p. 1811-1831, ISSN: 0046-5070, doi: 10.1046/j.1365-2427.2001.00860.x
- CLAIMES. “CLAIMES Influenze climatiche di laghi alpini: servizi ...” Eurac Research, https://www.eurac.edu/it/institutes-centers/istituto-per-ambiente-alpino/projects/claimes.
- Debiasi, D., Franceschini, A., Paoli, F., LENCIONI V. (2022) How do macroinvertebrate communities respond to declining glacial influence in the Southern Alps? LIMNETICA 41(1): 121-137. https://doi.org/10.23818/limn.41.10
- Ebner, Manuel, et al. “How do anthropogenic pressures affect the provision of ecosystem services of small mountain lakes?” Anthropocene, vol. 38, 2022.
- “ENTERPRISING.” ENTERPRISING – IntEractions between hydrodyNamics and bioTic communities in fluvial Ecosystems: advancement in the knowledge and undeRstanding of PRocesses and ecosystem sustainability by the development of novel technologieS with fIeld ..., https://enterprisingprin.eu/#activities.
- Flaim, Giovanna, Ulrike Obertegger and Graziano Guella. “Changes in galactolipid composition of the cold freshwater dinoflagellate Borghiella dodgei in response to temperature.” HYDROBIOLOGIA, vol. 698, 2012, pp. 285-293.
- Flaim, Giovanna, Ami Nishri, Federica Camin, Stefano Corradini and Ulrike Obertegger “Shift from nival to pluvial recharge of an aquifer-fed lake increases water temperature.” Inland Waters, vol 9, 2019, pp. 261-274.
- Flaim, Giovanna, Andreis, Daniele, Piccolroaz, Sebastiano and Ulrike Obertegger. “Ice cover and extreme events determine dissolved oxygen in a placid mountain lake.” Water Resources Research, 56, 2020, e2020WR027321
- Hansen, Gert, and Giovanna Flaim. “Dinoflagellates of the Trentino Province, Italy.” Journal of Limnology, vol. 66, 2007, \07-141.
- Lencioni V (2018). Glacial influence and stream macroinvertebrate biodiversity under climate change: Lessons from the Southern Alps. SCIENCE OF THE TOTAL ENVIRONMENT, vol. 622, p. 563-575, ISSN: 0048-9697, doi: https://doi.org/10.1016/j.scitotenv.2017.11.266
- Lencioni V, Bellamoli F, Paoli F (2020) Multi-level effects of emerging contaminants on macroinvertebrates in Alpine streams: from DNA to the ecosystem. ECOLOGICAL INDICATORS 117, 106660 https://doi.org/10.1016/j.ecolind.2020.106660

- Lencioni, V., Di Nica, V., Villa, S. 2021. Investigation of the Combined Effects of Rising Temperature and Pesticide Contamination on the Swimming Behaviour of Alpine Chironomids. WATER 2021, 13, 3618. https://doi.org/10.3390/w13243618
- Lencioni, V., Stella E., Zanoni M.G., Bellin, A. (2022) On the delay between water temperature and invertebrate community response to warming climate. SCIENCE OF THE TOTAL ENVIRONMENT 837, https://doi.org/10.1016/j.scitotenv.2022.155759
- Lencioni V, Franceschini A, Paoli F, Debiasi D (2021) Structural and functional changes in the macroinvertebrate community in Alpine stream networks fed by shrinking glaciers. FUNDAMENTAL AND APPLIED LIMNOLOGY 194/3: 237–258. https://doi.org/10.1127/fal/2020/1315
- Lencioni V, Bellamoli F, Bernabò P, Miari F, Scotti A (2018). Response of Diamesa spp. (Diptera: Chironomidae) from Alpine streams to emerging contaminants and pesticides. JOURNAL OF LIMNOLOGY, vol. 77, p. 131-140, ISSN: 1723-8633, doi: 10.4081/jlimnol.2018.1802
- Piano di tutela delle acque Allegato M. APPA e PAT, 2022.
- Muñiz-González, A.-B.; Martínez-Guitarte, J.-L.; Lencioni, V. 2023. Impact of Global Warming on Kryal Fauna: Thermal Tolerance Response of Diamesa steinboecki (Goetghebuer, 1933; Chironomidae). DIVERSITY, 15: 708. https://doi.org/10.3390/d15060708
- Muñiz-González A-B, Paoli F., Martínez-Guitarte J-L., Lencioni V. (2021). Molecular biomarkers as tool for early warning by chlorpyrifos exposure on Alpine chironomids. ENVIRONMENTAL POLLUTION, 290 https://doi.org/10.1016/j.envpol.2021.118061
- Rizzi C., Villa S., Rossini L., Mustoni A., Lencioni V. (2022) Levels and ecological risk of selected organic pollutants in the high-altitude alpine cryosphere - The Adamello-Brenta Natural Park (Italy) as a case study. ENVIRONMENTAL ADVANCES 7, https://doi.org/10.1016/j.envadv.2022.100178
- Rose, Kevin C., et al. “Indicators of the effects of climate change on freshwater ecosystems.” Climatic Change, vol. 176, 2023.
- Rotta F., Cerasino L., Occhipinti-Ambrogi A., Rogora M., Seppi R., Tolotti M., 2018. Diatom diversity in headwaters influenced by permafrost thawing: first evidence from the Central Italian Alps. Advances in Oceanography and Limnology 9(2): 79-96 https://doi.org/10.4081/aiol.2018.7929
- Schirpke, Uta, and Manuel Ebner. “Exposure to global change pressures and potential impacts on ecosystem services of mountain lakes in the European Alps.” Journal of Environmental Management, vol. 318, 2022.
- Tolotti, Monica, et al. “Alpine headwaters emerging from glaciers and rock glaciers host different bacterial communities: Ecological implications for the future.” Science of The Total Environment, vol. 717, 2020.
- Trenti F., Sandron T., Guella G., Lencioni V. (2022) Insect cold-tolerance and lipidome: membrane lipid composition of two chironomid species differently adapted to cold. CRYOBIOLOGY 106, 84-90. https://doi.org/10.1016/j.cryobiol.2022.03.004
- Wilkes, M.A., Carrivick, J.L., Castella, E., Ilg, C., Cauvy-Fraunié, S., Fell, S., Füreder, L., Huss, M., James, W., Lencioni, V., Robinson, C., Brown, L.E. (2023) Glacier retreat reorganises river habitats leaving refugia for Alpine invertebrate biodiversity poorly

protected. NATURE ECOLOGY & EVOLUTION, https://doi.org/10.1038/s41559-023-02061-5

Ecosistemi terrestri

- EUROMAMMALS website, https://eurodeer.org/.
- Pat Lifeten, http://www.lifeten.tn.it/.
- Alessandri G., Bogliani G., Pedrini P. & Brambilla M..2019. Species-specific responses to habitat and livestock management call for carefully targeted conservation strategies for declining meadow birds. Journal for Nature Conservation 52:125757.
- Angeli F, Brugnoli A (1994) Status della popolazione di gallo cedrone in Provincia di Trento, Dendronatura 1-94: 17-31
- Arlettaz R, Patthey P, Braunisch V (2013) Impacts of Outdoor Winter Recreation on Alpine Wildlife and Mitigation Approaches: A Case Study of the Black Grouse In book: The Impacts of Skiing and Related Winter Recreational Activities on Mountain Environments Publisher: Bentham eBooks, Bussum Editors: Rixen C, Rolando A 137-154
- Assandri, Giacomo, et al. “Species-specific responses to habitat and livestock management call for carefully targeted conservation strategies for declining meadow birds.” Journal for Nature Conservation, vol. 52, 2019.
- Bertol, Nils, et al. “Plant communities along elevational and temporal gradients at the GLORIA sites in the Dolomites.” Gredleriana, vol. 22, 2022.
- Brambilla M et al. (2010) Glorious past, uncertain present, bad future? Assessing effects of land-use changes on habitat suitability for a threatened farmland bird species. Biological Conservation 143(11):2770–2778.
- Brambilla M., Pedrini P., Rolando A. & Chamberlain D.E. 2016. Climate change will increase the potential conflict between skiing and high-elevation bird species in the Alps. Journal of Biogeography, 43:2299–2309.
- Brambilla M., Caprio E., Assandri G., Scridel D. et al. 2017. A spatially explicit definition of conservation priorities according to population resistance and resilience, species importance and level of threat in a changing climate. Diversity & Distributions 23(7): 727-738.
- Brambilla M., Gustin M., Cento M., Ilahiane L. & Celada C. 2020a. Habitat, climate, topography and management differently affect occurrence in declining avian species: Implications for conservation in changing environments. Science of The Total Environment 742:140663.
- Brambilla, Mattia, et al. “Species interactions and climate change: How the disruption of species co-occurrence will impact on an avian forest guild.” Global Change Biology, vol. 26, 2020b, pp. 1212–1224.
- Brambilla, Mattia, et al. “Identifying climate refugia for high‐elevation Alpine birds under current climate warming predictions”. Global Change Biology, 2022, 28.14: 4276-4291.
- Brambilla M., Gubert F. & Pedrini P. 2021. The effects of farming intensification on an iconic grassland bird species, or why mountain refuges no longer work for farmland biodiversity. Agriculture, Ecosystems & Environment, 319: 107518.
- Bright Ross, Julius G., et al. “Climate change and anthropogenic food manipulation interact in shifting the distribution of a large herbivore at its altitudinal range limit.” scientific reports, 2021.

- Brugnoli A, Brugnoli R (2006) La foresta come habitat del Gallo cedrone: ricerca applicata e nuove esperienze di gestione 2006 Forest@ - Rivista di Selvicoltura ed Ecologia Forestale 3(2)168-182
- Cagnacci, Francesca, et al. “Partial migration in roe deer: migratory and resident tactics are end points of a behavioural gradient determined by ecological factors.” Oikos, vol. 120, 2011.
- Cannone, Nicoletta, et al. “ACCELERATING CLIMATE CHANGE IMPACTS ON ALPINE GLACIER FOREFIELD ECOSYSTEMS IN THE EUROPEAN ALPS.” Ecological applications, vol. 18, 2008, pp. 637–648.
- Ceresa, Francesco, et al. “Landscape characteristics influence regional dispersal in a high‐elevation specialist migratory bird, the water pipit Anthus spinoletta”. Molecular Ecology, 2023, 32.8: 1875-1892.
- Ciolli M, Tattoni C, Ferretti F (2012) Understanding forest changes to support planning: a fine-scale Markov chain approach. In: Jordán F, Jørgensen S (eds) Models of the ecological hierarchy from molecules to the ecosphere. Elsevier, Great Britain, 341-359. Developments in Environmental Modelling; 25. DOI: 10.1016/B978-0-444-59396-2.00021-3.
- Dainese, M., et al. “- Human disturbance and upward expansion of plants in a warming climate.” Nature Climate Change, vol. 7, 2017, 577-580.
- Delgado M.M., Arlettaz R., Bettega C. et al. 2021. Spatio-temporal variation in the
- wintering associations of an alpine bird. Proc. R. Soc. B 288: 20210690.
- EEA. “Distribution shifts of plant and animal species — European Environment Agency.” European Environment Agency, 2021, https://www.eea.europa.eu/data-and-maps/indicators/distribution-of-plant-species-2/assessment.
- EPA. U.S. Environmental Protection Agency | US EPA, https://www.epa.gov/.
- Erschbamer, Brigitta, et al. “Short-Term Signals of Climate Change along an Altitudinal Gradient in the South Alps.” Plant Ecology, vol. 202, 2009, pp. 79-89.
- Erschbamer, B., Caccianiga, M.S. (2016). Glacier Forelands: Lessons of Plant Population and Community Development. In: Cánovas, F., Lüttge, U., Matyssek, R. (eds) Progress in Botany Vol. 78. Progress in Botany, vol 78. Springer, Cham. https://doi.org/10.1007/124_2016_4
- EURAC. “MICROVALU Valutazione della microbiodiversità dei pascoli alpini” Eurac Research, 2019, https://www.eurac.edu/it/institutes-centers/istituto-per-ambiente-alpino/projects/microvalu
- Ferretti F et al. (2018) The 1936 Italian Kingdom Forest Map reviewed: A dataset for landscape and ecological research. Annals of Silvicultural Research, 42 (1), pp. 3-19. DOI: 10.12899/asr-1411
- Ficetola, Gentile Francesco, et al. “Dynamics of Ecological Communities Following Current Retreat of Glaciers.” Annual Review of Ecology, Evolution, and Systematics, vol. 52, 2021, pp. 405-426.
- GAUDIO D. and GOBBI M. (2022) Glaciers in the Anthropocene: a biocultural view. Nature and Culture 17(3): 243–261 doi:10.3167/nc.2022.170301

- Geppert, Costanza, et al. “Consistent population declines but idiosyncratic range shifts in Alpine orchids under global change.” nature communications, vol. 11, 2020.
- Geppert, Costanza, et al. “Red-listed plants are contracting their elevational range faster than common plants in the European Alps.” PNAS, 2023.
- GLORIA. “GLobal Observation Research Initiative in Alpine Environments.” Gloria.ac.at, 2001-2023, https://gloria.ac.at/home.
- Gobbi, M., et al. “Vanishing permanent glaciers: climate change is threatening a European Union habitat and its poorly known biodiversity.” Biodiversity and Conservation, vol. 30, 2021, pp. 2267–2276.
- Gobbi, Mauro, et al. “Habitat and Landform Types Drive the Distribution of Carabid Beetles at High Altitudes.” diversity, vol. 13, 2021.
- GOBBI M, AMBROSINI R., CASAROTTO C., DIOLAIUTI G., FICETOLA F., LENCIONI V., PELFINI M., SEPPI S., SMIRAGLIA C., TAMPUCCI D., VALLE B., CACCIANIGA M. (2021) Vanishing permanent glaciers: Climate change is threatening a European Union habitat (Code 8340) and its poorly known biodiversity. Biodiversity and Conservation 30: 2267–2276 https://doi.org/10.1007/s10531-021-02185-9
- Gobbi, Mauro, et al. “Life in harsh environments: carabid and spider trait types and functional diversity on a debris-covered glacier and along its foreland.” Ecological Entomology, vol. 42, 2017, pp. 838–848.
- Gobbi, Mauro, et al. “Physical and biological features of an active rock glacier in the Italian Alps.” The Holocene, vol. 24, 2014, pp. 1624–1631.
- Gobbi, S, Cantiani MG, Rocchini D, Zatelli P, Tattoni C, La Porta N, Ciolli M (2019) Fine spatial scale modelling of Trentino past forest landscape (Trentinoland): a case study of FOSS application, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W14, 71–78, https://doi.org/10.5194/isprs-archives-XLII-4-W14-71-2019.
- Losapio, Gianalberto, et al. “The Consequences of Glacier Retreat Are Uneven Between Plant Species.” Front. Ecol. Evol., vol. 8, 2020.
- Marini, Lorenzo, et al. “Contrasting response of native and alien plant species richness to environmental energy and human impact along alpine elevation gradients.” Global Ecology and Biogeography, 2009.
- Mason, Tom HE, et al. “Environmental change and long-term body mass declines in an alpine mammal.” Frontiers in zoology, vol. 11, 2014.
- McKeon, C. M. et al.. (2023). Human land use is comparable to climate as a driver of global plant occurrence and abundance across life forms. Global Ecology and Biogeography, 00, 1–14. https://doi.org/10.1111/geb.13713
- “Monitoraggio della biodiversità animale in ambito alpino.” Parco dello Stelvio Trentino, 7 May 2019, https://www.parcostelviotrentino.it/it/conoscere-il-parco/monitoraggio-della-biodiversit%C3%A0-animale-in-ambito-alpino/26-2381.html.
- Morellet, Nicolas, et al. “Seasonality, weather and climate affect home range size in roe deer across a wide latitudinal gradient within Europe.” Journal of Animal Ecology, vol. 82, 2013, pp. 1326–1339.
- Panza, Riccardo, and Mauro Gobbi. “Areal contraction, upward shift and habitat fragmentation in the cold-adapted ground beetle Nebria germarii Heer, 1837 in the

Brenta Dolomites, Italy." Rendiconti Lincei. Scienze Fisiche e Naturali volume, vol. 33, 2022, pp. 923–931.
- Porro, Francesco, et al. "Richer, greener, and more thermophilous? – a first overview of global warming induced changes in the Italian alpine plant communities within the new GLORIA ITALIA NETWORK." Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology, vol. 156, 2022.
- "Progetto BioMiti." Parco Naturale Adamello Brenta, https://www.pnab.it/il-parco/ricerca-e-biodiversita/progetto-biomiti/.
- Prosser, Filippo. "OSSERVAZIONI SUL LIMITE SUPERIORE DELLE PIANTE VASCOLARI LUNGO IL SENTIERO CAI/SAT 105 PER IL MONTE VIOZ (TRENTINO)." Annali del Museo Civico di Rovereto, vol. 32, Fondazione Museo Civico di Rovereto, 2018, pp. 217-226.
- Prosser, Filippo, et al. "Changes in the flora of Lobbia Alta, a peak of the Adamello-Presanella Alps (Trento, Italy) between 1935 and 2021." Italian Botanist, vol. 15, 2023, pp. 9–20.
- Prosser, Filippo, et al. "CONFRONTO DELLE COMUNITÀ VEGETALI PERIGLACIALI DELLA PRESANELLA TRA IL 1991 E IL 2019." Annali del Museo Civico di Rovereto, vol. 37, Fondazione Museo Civico di Rovereto, 2021, pp. 67-92.
- Resano-Mayor J., Bettega C., Delgado M.M., et al. 2020. Partial migration of White-winged snowfinches is correlated with winter weather conditions. Global Ecology and Conservation 24:e01346.
- Rota, Francesco, et al. "Topography of the Dolomites modulates range dynamics of narrow endemic plants under climate change." scientific reports, vol. 12, 2022.
- BERTOLLI A., TOMASI G., PROSSER F. & PERAZZA G., 2021 - Ritrovamento di Coeloglossum viride (L.) Hartm. sulla Lobbia Alta in Trentino (Italia) – nuovo record altitudinale per le Orchidaceae europee? J. Eur. Orch., 53 (2-4): 286-300.
- Scridel D., Brambilla M., de Zwaan D.R., Froese N. et al. 2021. A genus at risk: Predicted current and future distribution of all three Lagopus species reveal sensitivity to climate change and efficacy of protected areas. Diversity & Distributions 27(9):1759-1774.
- Semenzato, Paola, et al. "Behavioural heat-stress compensation in a cold-adapted ungulate: Forage-mediated responses to warming Alpine summers." Ecology letters, vol. 24, 2021, pp. 1556 –1568.
- Sitzia T, Semenzato P, Trentanovi G (2010) Natural reforestation is changing spatial patterns of rural mountain and hill landscapes: a global overview. Forest Ecology and Management 259(31):1354–1362
- SNPA. Rapporto sugli indicatori di impatto dei cambiamenti climatici edizione 2021. SNPA, 2021.
- Steinbauer, M.J., et al. "Accelerated increase in plant species richness on mountain summits is linked to warming." Nature, vol. 556, 2018, pp. 231–234.
- Strinella E., Scridel D., Brambilla M., Schano C. & Korner-Nievergelt F. 2020. Potential sex-dependent effects of weather on apparent survival of a high-elevation specialist. Scientific Reports 10 (1):8386.

- Tattoni C et al. (2010) Monitoring spatial and temporal pattern of Paneveggio forest (northern Italy) from 1859 to 2006. IFOREST, 3.2 (2010), 72-80. - DOI: 10.3832/ifor0530-003
- Tattoni C, Ciolli M, Ferretti F (2011) The fate of priority areas for conservation in protected areas: a fine-scale Markov chain approach. Environmental Management 47(2)263-278. DOI: 10.1007/s00267-010-9601-4
- Tattoni C et al. (2017) Landscape changes, traditional ecological knowledge and future scenarios in the Alps: A holistic ecological approach Science of the Total Environment, 579,27-36. DOI: 10.1016/j.scitotenv.2016.11.075
- Verrall, Brodie, and Catherine Pickering. “Alpine vegetation in the context of climate change: A global review of past research and future directions.” Science of The Total Environment, vol. 748, 2020.
- Zatelli P, et al. (2022) Modeling of forest landscape evolution at regional level: a FOSS4G approach. Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLVIII-4/W1-2022, 553–560, https://doi.org/10.5194/isprs-archives-XLVIII-4-W1-2022-553-2022

Foreste

- acesap. “ALPINE ECOSYSTEMS IN A CHANGING ENVIRONMENT: BIODIVERSITY SENSITIVITY AND ADAPTIVE POTENTIAL Grande Progetto ACE-SAP Ente finanz.” Consiglio della Provincia Autonoma di Trento, 25 March 2013, https://www.consiglio.provincia.tn.it/news/giornale-online/articoli/Documents/20130325181202.pdf.
- Allen CD, Macalady AK, Chenchouni H, Bachelet D, McDowell N, Vennetier M et al (2010) A global overview of drought and heat-induced tree mortality reveals emerging climate change risks for forests. For Ecol Manag 259:660–684. https://doi.org/10.1016/j.foreco.2009.09.001
- Ambrosi, Paolo, et al. “Eight years of integrated monitoring in Alpine forest ecosystems of Trentino and South Tyrol, Italy.” Journal of Limnology, vol. 61, 2002, pp. 137-147.
- APPA. Rapporto sullo Stato dell’ambiente 2020. 2020.
- Batista, Eduardo, et al. “What Do We Know about Botryosphaeriaceae? An Overview of a Worldwide Cured Dataset.” forests, 2021.
- Battisti A, Stastny M, Netherer S, Robinet C, Schopf A, Roques A, Larsson S (2005) Expansion of geographic range in the pine processionary moth caused by increased winter temperatures.Ecol Appl 15:2084–2096. https://doi.org/10.1890/04-1903
- Battisti A, Larsson S (2015) Climate change and insect pest distribution range. In: Björkman C, Niemelä P (eds) Climate change and insect pests, Climate Change Series. CABI, Wallingford, pp 1–15. https://doi.org/10.1079/9781780643786.0001
- Battisti A., 2023 - Clima e abete rosso: una difficile convivenza. L’Italia Forestale e Montana, 78 (2): 69-76. https://dx.doi.org/10.36253/ifm-1104
- Broll G., Jokinen M., Aradottir A.L., Cudlin P., Dinca L., Gömöryová E., Grego S., Holtmeier F.K., Karlinski L., Klopcic M., La Porta N, Máliš F., Monteiro A., Moscatelli M.C, Palombo C., Rudawska M., Sarkki S., Tolvanen A., Thorsson J., Zhiyanski M., 2016. Enhancing the resilience capacity of sensitive mountain forest ecosystems and environmental change (SENSFOR), Deliverable 5, Working Group 2: Indicators of changes in the treeline ecotone. E-publishing: Clorind Ltd. 2016. Pp.35, DOI: 10.13140/rg.2.2.31468.16007
- Bussotti, Filippo, and Martina Pollastrini. “Traditional and Novel Indicators of Climate Change Impacts on European Forest Trees.” forests, 2017.
- Bussotti F., Papitto G., Di Martino D., Cocciufa C., Cindolo C., Cenni E., Bettini D., Iacopetti G., Pollastrini M., 2023. Cambiamenti climatici e stato di salute delle foreste in Italia: tendenze e scenari dal monitoraggio estensivo (rete di Livello I - ICP Forests) nel periodo 2010-2022. Comando Unità Forestali, Ambientali e Agroalimentari Carabinieri (CUFAA). Roma.
- CLEANFOREST, https://www.cost.eu/actions/CA21138/
- Cocozza C., Palombo C., Anichini M., Tognetti R., Giovannelli A., La Porta N., Emiliani G. 2015. Climate signals derived from day-to-day analysis: climate sensitivity of Picea abies in Trentino. Proc. II International Congress of Silviculture: Designing the future of the forestry sector. Florence, 26-29 November 2014. Ed. Accademia Italiana di Scienze

Forestali, Firenze, Vol. 2° ISBN 978-88-87553-21-5, Pp. 926-932. - http://dx.doi.org/10.4129/2cis-cc-cli

- Cocozza C., Palombo C., Tognetti R., La Porta N., Anichini M., Giovannelli A., Emiliani G., 2016. Monitoring intra-annual dynamics of wood formation through microcores and dendrometers in Picea abies at two different altitudes. Tree Physiology 36 (7): 832-846. DOI: 10.1093/treephys/tpw009
- Conte, E., et al. “Growth dynamics, climate sensitivity and water use efficiency in pure vs. mixed pine and beech stands in Trentino (Italy).” Forest Ecology and Management, vol. 409, 2018, pp. 707-718.
- Cordin, Giorgio, et al. “Kretzschmaria deusta, a limiting factor for survival and safety of veteran beech trees in Trentino (Alps, Northern Italy).” iForest, vol. 14, 2021, pp. 576-581.
- Cudlín, Pavel, et al. “Drivers of treeline shift in different European mountains.” CLIMATE RESEARCH, vol. 73, 2017, pp. 135–150.
- Dorby, Emily, and Michael Campbel. “Gnomoniopsis castaneae: An emerging plant pathogen and global threat to chestnut systems.” Plant Pathology, vol. 72, 2023, pp. 218–231.
- Dupuy, Jean-luc, et al. “Climate change impact on future wildfire danger and activity in southern Europe: a review.” Annals of Forest Science, vol. 77, 2020.
- “ES1203 - COST.” COST Action, 2012, https://www.cost.eu/actions/ES1203/.
- “European Commission.” Climate change and forest ecosystems vulnerability, https://joint-research-centre.ec.europa.eu/system/files/2020-09/12_pesetaiv_forest_ecosystems_sc_august2020_en.pdf. Accessed 4 April 2023.
- Favilli, F., Cherubini, P., Collenberg, M., Egli, M., Sartori, G., Schoch, W., & Haeberli, W. (2010). Charcoal fragments of Alpine soils as an indicator of landscape evolution during the Holocene in Val di Sole (Trentino, Italy). The Holocene, 20(1), 67-79.
- “Fire Weather Index | Copernicus.” Copernicus Climate Change Service, https://climate.copernicus.eu/fire-weather-index.
- “Forest Change indicators.” Forest Change indicators, Government of Canada, 2020, https://natural-resources.canada.ca/climate-change-adapting-impacts-and-reducing-emissions/climate-change-impacts-forests/forest-change-indicators/17768.
- Forzieri, G., et al. “Emerging signals of declining forest resilience under climate change.” Nature, vol. 608, 2022, pp. 534–539.
- Garbelotto M, Gonthier P (2013) Biology, epidemiology, and control of Heterobasidion species worldwide. Annu Rev Phytopathol 51:39–59. https://doi.org/10.1146/annurev-phyto-082712- 102225
- Gasparini et al., “Italian National Forest Inventory—Methods and Results of the Third Survey”. Springer Tracts in Civil Engineering, 2022
- Gobbi, S., et al. “FINE SPATIAL SCALE MODELLING OF TRENTINO PAST FOREST LANDSCAPE (TRENTINOLAND): A CASE STUDY OF FOSS APPLICATION.” The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, vol. XLII-4/W14, 2019.
- Gobbi, S., et al. “Fine spatial scale modelling of Trentino past forest landscape (Trentinoland): a case study of foss application.” INTERNATIONAL ARCHIVES OF THE

PHOTOGRAMMETRY, REMOTE SENSING AND SPATIAL INFORMATION SCIENCES, 2019.

- Gori Y., Cherubini P., Camin F., La Porta N. 2013. Root fungal pathogen (Heterobasidion parviporum) increases drought stress in Norway spruce stand at low elevation in the Alps. European Journal of Forest Research 132 (4), 607–619. - DOI: 10.1007/s10342-013-0698-x
- Gori Y., La Porta N., Camin F., 2014. Tree ring isotope analysis of Norway spruce suffering from long-term infection by the pathogenic white-rot fungus Heterobasidion parviporum. Forest Pathology 44(2): 160–162. DOI: 10.1111/efp.12089
- Gottardini, E., Cristofolini, F., Cristofori, A., & Ferretti, M. (2023). Forests attenuate Temperature and Air Pollution discomfort in montane tourist areas. Forests, 14(3), 545.
- Groenemeijer P, Vajda A, Lehtonen I, Kämäräinen M, Venäläinen A, Gregow H., … Púčik T (2016) Present and future probability of meteorological and hydrological hazards in Europe. Technical Report Report number: 608166-D 2.5, 165 pp. Retrieved from http://resolver.tudelft. nl/uuid:906c812d-bb49-408a-aeed-f1a900ad8725
- Hammond, William M., et al. “Global field observations of tree die-off reveal hotter-drought fingerprint for Earth’s forests.” Nature Communications, vol. 13, 2022.
- Hlásny T, Krokene P, Liebhold A, Montagné-Huck C, Müller J, Qin H., … Viiri H (2019) Living with bark beetles: impacts, outlook and management options. From science to policy 8. European Forest Institute https://ef.int/sites/default/fles/fles/publication-bank/2019/ef_ fstp_8_2019.pdf
- Hyvönen R, Ågren GI, Linder S, Persson T, Cotrufo MF, Ekblad A et al (2007) The likely impact of elevated [CO2], nitrogen deposition, increased temperature and management on carbon sequestration in temperate and boreal forest ecosystems: a literature review. New Phytol 173:463–480. https://doi.org/10.1111/j.1469-8137.2007.01967.x
- International Tree Mortality Network. International tree mortality network – an initiative of the IUFRO task force on tree mortality, https://www.tree-mortality.net/.
- Jönsson AM, Harding S, Bärring L, Ravn HP (2007) Impact of climate change on the population dynamics of Ips typographus in southern Sweden. Agric For Meteorol 146:70–81. https://doi. org/10.1016/j.agrformet.2007.05.006
- KIRSCHBAUM, M. & FISCHLIN, A.,1996. Climate change impacts on forests. In: Watson, R., Zinyowera, M.C. &Moss, R.H. (eds.), Climate change 1995 - Impacts, adaptations and mitigation of climate change: scientific-technical analysis. Contribution of Working Group" to the Second Assessment Report of the Intergovernmental Panel of Climate Change. Cambridge University Press, Cambridge a.o., pp. 95-129
- LA FILIERA TRENTINA DEL LEGNO. Servizio Foreste Provincia autonoma di Trento, 2022.
- La Porta N, Capretti P, Thomsen IM, Kasanen R, Hietala AM, Von Weissenberg K (2008) Forest pathogens with higher damage potential due to climate change in Europe. Can. J. Plant Pathol. 30:177–195. https://doi.org/10.1080/07060661.2008.10540534
- Lehtonen I, Venäläinen A, Kämäräinen M, Peltola H, Gregow H (2016) Risk of large-scale forest fres in boreal forests in Finland under changing climate. Nat Hazards Earth Syst Sci 16:239–253. https://doi.org/10.5194/nhess-16-239-2016

- Lehtonen I, Venäläinen A, Kämäräinen M, Asikainen A, Laitila J, Anttila P, Peltola H (2019) Projected decrease in wintertime bearing capacity on different forest and soil types in Finland under a warming climate. Hydrol Earth Syst Sci 23:1611–1631. https://doi.org/10.5194/ hess-23-1611-2019
- Maresi, Giorgio, et al. “Brown rot on nuts of Castanea sativa Mill: an emerging disease and its causal agent.” iForest - Biogeosciences and Forestry, vol. 6, 2013, pp. 294-301.
- MycoArchive. 2020, https://www2.muse.it/bresadola/fem_ma/welcome.asp.
- Nordlander G, Mason EG, Hjelm K, Nordenhem H, Hellqvist C (2017) Influence of climate and forest management on damage risk by the pine weevil Hylobius abietis in northern Sweden. Silva Fenn 51(5). doi:10.14214/:sf.7751
- Pechony, O., and T. Shindell. “Driving forces of global wildfires over the past millennium and the forthcoming century.” PNAS, vol. 107, 2010, pp. 19167-19170
- Pisetta, M., et al. Il disseccamento dell'ontano verde in Trentino. TERRA TRENTINA, 2005.
- Pisetta, Michele, et al. “Green alder decline in the Italian Alps.” Forest Ecology and Management, vol. 281, 2012, pp. 75-83.
- Provincia Autonoma di Trento - Piano per la difesa dei boschi dagli incendi della provincia di Trento, 2010
- Putasso, M., et al. “Forest Health in a Changing World.” Fungal Microbiology, vol. 69, 2015, pp. 826–842.
- Reyer C, Lasch-Born P, Suckow F, Gutsch M, Murawski A, Pilz T (2014) Projections of regional changes in forest net primary productivity for different tree species in Europe driven by climate change and carbon dioxide. Ann For Sci 71(2):211–225. https://doi.org/10.1007/ s13595-013-0306-8
- Rodeghiero M, Tonolli S, Vescovo L, Gianelle D, Cescatti A, Sottocornola M (2010). INFOCARB: A regional scale forest carbon inventory (Provincia Autonoma di Trento, Southern Italian Alps). FOREST ECOLOGY AND MANAGEMENT, 259: 1093-1101. https://www.sciencedirect.com/science/article/abs/pii/S0378112709009074?via%3Dihub
- Scala, E., et al. “New diseases due to indigenous fungi in a changing world: The case of hop hornbeam canker in the Italian Alps.” Forest Ecology and Management, vol. 439, 2019, pp. 159-170.
- Schelhaas M-J, Nabuurs G-J, Schuck A (2003) Natural disturbances in the European forests in the 19th and 20th centuries. Glob Change Biol 9:1620–1633. https://doi.org/10.1046/j.1365-2486.2003.00684.x
- Senf C, Seidl R (2021) Storm and fre disturbances in Europe: distribution and trends. Glob Change Biol. https://doi.org/10.1111/gcb.15679
- Seidl R, Schelhaas M-J, Rammer W, Verkerk PJ (2014) Increasing forest disturbances in Europe and their impact on carbon storage. Nat Clim Chang 4(9):806–810. https://doi.org/10.1038/ nclimate2318
- Seidl R, Thom D, Kautz M, Martin-Benito D, Peltoniemi M, Vacchiano G et al (2017) Forest disturbances under climate change. Nat Clim Chang 7:395–402. https://doi.org/10.1038/ nclimate3303

- Tattoni, C., Ciolli, M., Ferretti, F., & Cantiani, M. G. (2010). Monitoring spatial and temporal pattern of Paneveggio forest (northern Italy) from 1859 to 2006. iForest-Biogeosciences and Forestry, 3(3), 72.
- Teshome, D.T., et al. “The Threat of the Combined Effect of Biotic and Abiotic Stress Factors in Forestry Under a Changing Climate.” Front. Plant Sci., vol. 11, 2020.
- Tognetti R., Smith M., Panzacchi P. 2021. Climate-Smart Forestry in Mountain Regions. Springer Nature Switzerland AG: Cham, Switzerland. ISSN 1568-1319 ISSN 2352-3956 (electronic) - ISBN 978-3-030-80766-5 ISBN 978-3-030-80767-2 (eBook) https://link.springer.com/content/pdf/10.1007%2F978-3-030-80767-2.pdf DOI: 10.1007/978-3-030-80767-2_2
- Tonolli S. & Salvagni F. (a cura di), 2007 - InfoCarb Inventario Forestale del Carbonio della Provincia di Trento, 1-176. Centro di Ecologia Alpina, Trento. https://www.fmach.it/Servizi-Generali/Editoria/InFoCarb-Inventario-Forestale-del-Carbonio-della-Provincia-di-Trento
- “Trentino's forests are being monitored from space.” Invest in Trentino, https://www.investintrentino.it/en/news-detail/trentino-s-forests-are-being-monitored-from-space_14940.
- Venäläinen A, Korhonen N, Koutsias N, Xystrakis F, Urbieta IR, Moreno JM (2014) Temporal variations and change in forest fre danger in Europe for 1960–2012. Nat Hazards Earth Syst Sci 14:1477–1490. https://doi.org/10.5194/nhess-14-1477-2014
- Zatelli, P., et al. “MODELING OF FOREST LANDSCAPE EVOLUTION AT REGIONAL LEVEL: A FOSS4G APPROACH.” The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, vol. XLVIII-4/W1-2022, 2022

Neve, ghiacciai e permafrost

- ALPsolut S.r.l. “Snow cover analysis for the avalanche risk management of the Provincia Autonoma di Trento.” https://www.meteotrentino.it/#!/content?menuItemDesktop=167.
- APPA. Rapporto sullo Stato dell’ambiente 2020. 2020.
- Bellin, Alberto, et al. OMOGENEIZZAZIONE RICOSTRUZIONE DELLE SERIE STORICHE DEI DATI NEVE DISPONIBILI IN TRENTINO. 2015, http://www.climatrentino.it/binary/pat_climaticamente/osservatorio_trentino_clima/2014_Relazione_Neve.1462457841.pdf.
- Bertoldi G., Bozzoli M., Crespi A., Matiu M., Giovannini L., Zardi D., Majone B. (2023). Diverging snowfall trends across months and elevation in the northeastern Italian Alps. International Journal of Climatology, 1-26, https://doi.org/10.1002/joc.8002
- Carton A., C. Baroni, L. Carturan, R. Seppi, M.C. Salvatore, T. Zanoner, M. Zumiani (2018). Mapping Little Ice Age glaciers and permafrost areas for hazard planning in the Adamello Brenta Geopark. 8th International Conference on UNESCO Global Geoparks, 8-14 September 2018, Madonna di Campiglio (TN), Italy.
- Carturan, Luca. CAMPAGNA DI MISURE DI ACCUMULO SUI GHIACCIAI TRENTINI REPORT 2022a. 2022, https://www.meteotrentino.it/#!/content?menuItemDesktop=162.
- Carturan, 2022b, CAMPAGNA DI MISURE DI BILANCIO ANNUALE SUI GHIACCIAI TRENTINI REPORT 2022, https://www.meteotrentino.it/index.html#!/content?menuItemDesktop=176
- Carturan L., Zuecco G., Seppi R., Zanoner T., Borga M., Carton A., Dalla Fontana G.(2016). Catchment scale permafrost mapping using spring water characteristics. Permafrost and Periglacial Processes, 27, 253-270.
- Carturan, Luca, et al. “Decay of a long-term monitored glacier: Careser Glacier (Ortles-Cevedale, European Alps).” The Cryosphere, vol. 7, 2013, pp. 1819–1838.
- Carturan, Luca, et al. “ESTIMATION OF WINTER PRECIPITATION IN A HIGH-ALTITUDE CATCHMENT OF THE EASTERN ITALIAN ALPS: VALIDATION BY MEANS OF GLACIER MASS BALANCE OBSERVATIONS.” geografia Fisica Dinamica Quaternaria, vol. 35, 2012, pp. 37-48.
- Carturan, Luca, et al. “Relevance and Scale Dependence of Hydrological Changes in Glacierized Catchments: Insights from Historical Data Series in the Eastern Italian Alps.” water, 2019.
- Carturan, Luca, and Roberto Seppi. “RECENT MASS BALANCE RESULTS AND MORPHOLOGICAL EVOLUTION OF CARESER GLACIER (CENTRAL ALPS).” Geografia Fisica e Dinamica Quaternaria, vol. 30, 2007, pp. 33-42.
- Carturan L., Zuecco G., Seppi R., Zanoner T., Borga M., Carton A., Dalla Fontana G. (2014). Permafrost mapping in a high-altitude catchment of the Ortles-Cevedale using spring water geochemistry. International symposium on The Future of the Glaciers, 18-21 September 2014, Turin, Italy.
- Casarotto, Christian, and Elena Bertoni. Estensione dei ghiacciai trentini dalla fine della Piccola Età Glaciale a oggi. 2014, http://www.climatrentino.it/binary/pat_climaticamente/osservatorio_trentino_clima/2014_

Estensione_dei_ghiacciai_dalla_fine_della_Piccola_Et_Glaciale_a_oggi_MUSE_.1462456788.pdf.
- CliRSnow. https://clirsnow.netlify.app/
- Crepaz, Andrea, et al. “Evoluzione dei ghiacciai delle Dolomiti negli ultimi cento anni.” Neve e Valanghe, vol. 80, 2013, pp. 20-25.
- Dall’Amico M., Boeckli L., Rigon R., Comai T., Zampedri G., Seppi R., Carton A., Zumiani M., Gruber S. – Permafrost Map of Trentino (Italian Alps) - Chamonix, PermaNET Final Conference, 2011.
- Dall’Amico M., Seppi R., Carton A., Zumiani M., Zampedri G., Rigon R. – “PermaNET” project in Trentino (eastern Italian Alps) advance of the research and monitoring activities – Vienna, EGU 2010.
- De Gregorio, Ludovica, et al. “Improving SWE Estimation by Fusion of Snow Models with Topographic and Remotely Sensed Data.” Remote sensing, vol. 11.17, 2019.
- Diolaiuti, Giglielmina Adele, et al. “Present extent, features and regional distribution of Italian glaciers.” La Houille Blanche, vol. 5-6, 2019, pp. 159 - 175.
- Etzelmüller B., Guglielmin M., Hauck C., Hilbich C., et al, Twenty years of European mountain permafrost dynamics—the PACE legacy, 2020, Environmental Research Letters, 15
- Gobbi M., Ballarin F., Compostella C., et al. Physical and biological features of an active rock glacier of the Italian Alps. The Holocene, 24 (11), 2014, pp. 1624-1631.
- Gobbi, M., Ambrosini, R., Casarotto, C. et al. Vanishing permanent glaciers: climate change is threatening a European Union habitat (Code 8340) and its poorly known biodiversity. Biodivers Conserv 30, 2267–2276 (2021). https://doi.org/10.1007/s10531-021-02185-9
- Haerberli W., Schaub Y., Huggel C., Increasing risks related to landslides from degrading permafrost into new lakes in de-glaciating mountain ranges, 2017, Geomorphology, 293, 405-417
- Lencioni V. Glacial influence and stream macroinvertebrate biodiversity under climate change: Lessons from the Southern Alps. Science of The Total Environment, vol. 622, 2018, pp. 563-575. doi: https://doi.org/10.1016/j.scitotenv.2017.11.266
- Lencioni V, Franceschini A, Paoli F, Debiasi D. Structural and functional changes in the macroinvertebrate community in Alpine stream networks fed by shrinking glaciers. Fundamental and Applied Limnology, vol. 194/3, 2021, pp. 237–258. https://doi.org/10.1127/fal/2020/1315
- Luetschg, Martina, and Wilfried Haeberli. “Permafrost evolution in the Swiss Alps in a changing climate and the role of the snow cover.” Norsk Geografisk Tidsskrift-Norwegian Journal of Geography, vol. 59.2, 2005, pp. 78-83.
- Marcolini, Giorgia, et al. “Variability in snow depth time series in the Adige catchment.” Journal of Hydrology: Regional Studies, vol. 13, 2017, pp. 240-254.
- Matiu, Michael, et al. “Observed snow depth trends in the European Alps: 1971 to 2019.” The Cryosphere, vol. 15, 2021, pp. 1343–1382, https://doi.org/10.5194/tc-15-1343-2021.
- Mauro, Guglielmin. “Observations on permafrost ground thermal regimes from Antarctica and the Italian Alps, and their relevance to global climate change.” Global and Planetary Change, vol. 40, 2004, pp. 159-167.

- MeteoTrentino, et al. “Bilanci di massa 2020 Aggiornamento delle serie storiche dei bilanci di massa dei ghiacciai in Trentino.” 2021, https://www.meteotrentino.it/#!/content?menuItemDesktop=168.
- Niroumand-Jadidi, Milad, et al. “Snow Cover Estimation Underneath the Clouds Based on Multitemporal Correlation Analysis in Historical Time-Series Imagery.” IEEE Transactions on Geoscience and Remote Sensing, vol. 58, no. 8, 2020, pp. 5703-5714.
- Notarnicola, C.; Duguay, M.; Moelg, N.; Schellenberger, T.; Tetzlaff, A.; Monsorno, R.; Costa, A.; Steurer, C.; Zebisch, M. Snow Cover Maps from MODIS Images at 250 m Resolution, Part 1: Algorithm Description. Remote Sens. 2013, 5, 110-126. doi:10.3390/rs5010110
- Notarnicola, C., Hotspots of snow cover changes in global mountain regions over 2000-2018. Rem. Sen. Environ. 243, 111781 (2020). https://doi.org/10.1016/j.rse.2020.111781
- Notarnicola, C. Overall negative trends for snow cover extent and duration in global mountain regions over 1982–2020. Sci Rep 12, 13731 (2022). https://doi.org/10.1038/s41598-022-16743-w
- “Permafrost.” Protezione Civile, http://www.protezionecivile.tn.it/territorio/geologia/Permafrost/.
- Pavoni M., Boaga J., Carrera A., Zuecco G., Carturan L., Zumiani M. (2022) - Brief communication: Mountain permafrost acts as an aquiclude during an infiltration experiment monitored with ERT time-lapse measurements. https://doi.org/10.5194/egusphere-2022-860
- Poli, D., et al. “Poli, D., et al. "Use of historical aerial images for 3D modelling of glaciers in the Province of Trento.” Remote Sensing and Spatial Information Sciences, vol. 43, 2020, pp. 1151-1158.
- “The project “ROCK-ME: Geochemical response of Alpine Rock Glaciers to global warming: hydroecological consequences of trace element Export.”” OpenPub, https://openpub.fmach.it/handle/10449/75916.
- Rotta F., Cerasino L., Occhipinti-Ambrogi A., Rogora M., Seppi R., Tolotti M., 2018. Diatom diversity in headwaters influenced by permafrost thawing: first evidence from the Central Italian Alps. Advances in Oceanography and Limnology 9(2): 79-96 DOI:10.4081/aiol.2018.7929.
- Salvatore M.C., Zanoner T., Baroni C., Carton A., Banchieri F., Viani C., Giardino M. & Perotti L. (2015) - The State of Italian glaciers: a snapshot of the 2006-2007 hydrological period. GFDQ 38 (2), 175 - 198. DOI 10.4461/GFDQ.2015.38.16
- Santin, Ilaria, et al. “Recent evolution of Marmolada glacier (Dolomites, Italy) by means of ground and airborne GPR surveys.” Remote Sensing of Environment, vol. 235, 2019, p. 111442.
- Santoni, Massimo, et al. “Lo Sviluppo del Progetto CRIOPAT.” NEVE E VALANGHE, vol. 95, 2021, pp. 2-11.
- Seppi R., Zanoner T., Carton A., Bondesan A., Francese R., Carturan L., Zumiani M., Giorgi M. & Ninfo A. (2015). Current transition from glacial to periglacial processes in the Dolomites (South-Eastern Alps). Geomorphology, 228, 71-86.

- Seppi R., Carturan L., Carton A., Zanoner T., Zumiani M., Cazorzi F., Bertone A., Baroni C. & Salvatore M. C. (2019). Decoupled kinematics of two neighbouring permafrost creeping landforms in the Eastern Italian Alps. Earth Surface Processes and Landforms, 44(13), 2703-2719.
- Seppi R., Carton A., Zumiani M., Dall'Amico M., Zampedri G., & Rigon R. (2012). Inventory, distribution, and topographic features of rock glaciers in the southern region of the Eastern Italian Alps (Trentino). Geografia Fisica e Dinamica Quaternaria, 35, 185-197.
- Seppi, Roberto, et al. "OSSERVAZIONI E STUDI SUL PERMAFROST IN TRENTINO: IL PROGETTO PERMANET." Atti Acc. Rov. Agiati, vol. I, 2011, pp. 95-117.
- Seppi R., Carton A., Zanoner T., Zumiani M., Carturan L., Bertone A., Baroni C., Salvatore M.C. (2018). Decoupled kinematics of two neighbouring permafrost creeping landforms since 2009. 5th European Conference on Permafrost (EUCOP), 23 June – 1 July 2018, Chamonix-Mont Blanc, France.
- Smiraglia, Claudio, and Guglielmina Diolaiuti. Il Nuovo Catasto dei Ghiacciai Italiani. 2016, https://sites.unimi.it/glaciol/wp-content/uploads/2019/02/6-trentino.pdf.
- Tampucci D., Gobbi M., Seppi R, et al. (2017) Ecology of active rock glaciers and surrounding landforms: climate, soil, plants and arthropods. Boreas, 46(2): 185-198
- Tolotti M., Cerasino L., Donati C., Pindo M., Rogora M., Seppi R., Albanese D. 2020. Alpine headwaters emerging from glaciers and rock glaciers host different bacterial communities: Ecological implications for the future. Sci. Total Env. 717: 137101. https://doi.org/10.1016/j.scitotenv.2020.137101
- Tolotti M., Albanese D., Cerasino L., Donati C., Pindo M., Rogora M., Seppi R. (2018). First insights in bacteria diversity in headwaters emerging from Alpine rock glaciers. In: Proceedings of the 5th European Conference on Permafrost (EUCOP). Chamonix-Mont Blanc, France., 23 June – 1 July 2018.
- Tomasi, Elena, et al. "Optimization of Noah and Noah_MP WRF Land Surface Schemes in Snow-Melting Conditions over Complex Terrain." Monthly Weather Review, vol. 145, 2017, pp. 4727–4745.
- Trenti, Alberto. "EVOLUZIONE E MONITORAGGI RECENTI DEI GHIACCIAI TRENTINI." 2011, https://www.meteotrentino.it/#!/content?menuItemDesktop=98.
- Trenti, Alberto. "Ghiacciaio di Presena Occidentale Programma Sperimentale Sintesi attività e risultati 2008-2011." 2011, https://content.meteotrentino.it/neve-ghiacci/ghiacciai/presena_sintesi_attivit%C3%A0_risultati.pdf?id=221.
- Trenti, Alberto. "Nevicate a Trento (1920-2017)." 2017, https://www.meteotrentino.it/#!/content?menuItemDesktop=156.
- Zanoner T., Carton A., Baroni C., Carturan L., Salvatore M.C., Seppi R., Zumiani M. (2017). Little Ice Age mapping as a tool for identifying hazard in the paraglacial environment: the case study of Trentino (Eastern Italian Alps). Geomorphology, 295, 551–562.
- Zanoner T., Francese R., Bondesan A., Giorgi M., Seppi R., Ninfo A., Zumiani M. – 3D geophysical imaging to study the evolution of a debris covered Glacier in the Dolomites (South-Eastern Italian Alps) – 8th IAG International Conference on Geomorphology –

August 27th to 31st, 2013. Session S25: Cold region geomorphology including: / S25B – Permafrost and periglacial geomorphology (in coop. with IPA).

- Zumiani M., Seppi R., Carton A., Zanoner T., Carturan L. – Assessing geomorfological threats from a changing alpine cryosphere: Little Ice Age glacial deposits and permafrost areas in the hazard maps of Trentino. ClimRISK19, SISC 7th Annual Conference, 23-25 October 2019.
- Zumiani M., Carton A., Seppi R., Zanoner T., Carturan L., Baroni C., Salvatore M.C. (2018). Permafrost and Climate Change in the Adamello Brenta Geopark. 8th International Conference on UNESCO Global Geoparks, 8-14 September 2018, Madonna di Campiglio (TN), Italy.

Suolo

- Alexandrovskiy, A. L. (2007). Rates of soil-forming processes in three main models of pedogenesis. Revista exicana de ciencias geológicas, 24(2), 283-292.
- Allen, Diane E., et al. “Soil Health Indicators Under Climate Change: A Review of Current Knowledge.” Soil Health and Climate Change, vol. 29, 2011.
- Bona, D.; Cristoforetti, A.; Morelli, R.; Zanzotti, R.; Zanoni, S.; Tambone, F.; Pedo', S.; Fornasier, F.; Silvestri, S. (2023). Bioeconomia per l’agricoltura di montagna: impiego di fertilizzanti organici per la gestione della sostanza organica e dei nutrienti in frutticoltura. In: 43° Congresso Nazionale della Società Italiana della Scienza del Suolo Roma, 5-7 ottobre 2022: Società Italiana della Scienza del Suolo (SISS): 71-72. ISBN: 9788894067965.
- Brevik, Eric C. “The Potential Impact of Climate Change on Soil Properties and Processes and Corresponding Influence on Food Security.” agriculture, vol. 3, 2013, pp. 398-417.
- Brevik, Eric C. “The Potential Impact of Climate Change on Soil Properties and Processes and Corresponding Influence on Food Security.” agriculture, vol. 3, pp. 398-417.
- Brevik, Eric C. “Soils and Climate Change: Gas Fluxes and Soil Processes.” Soil Horizons, vol. 53, 2012, pp. 24-11.
- Certini, Giacomo, and Riccardo Scelenghe. “The crucial interactions between climate and soil.” Science of The Total Environment, vol. 856, 2023.
- Churkina, G. (2013). An introduction to carbon cycle science. Land use and the carbon cycle: Advances in integrated science, management, and policy, 24-51.
- Corte dei Conti Europea. “Relazione speciale n. 33/2018: Combattere la desertificazione nell’UE: di fronte a una minaccia crescente occorre rafforzare le misure.” 2018, https://www.eca.europa.eu/it/publications?did=48393.
- Dale, Virginia H. “THE RELATIONSHIP BETWEEN LAND-USE CHANGE AND CLIMATE CHANGE.” ecological applications, vol. 7, 1997, pp. 753–769.
- de Chazal, Jacqueline, and Mark D.A. Rounsevell. “Land-use and climate change within assessments of biodiversity change: A review.” Global Environmental Change, vol. 19, 2009, pp. 306-315.
- Eccel, Emanuele, et al. “A project for climatologic mapping of soil water content in Trentino.” Italian Journal of Agrometeorology, 2015.
- EEA Report No 1/2017. Climate change, impacts and vulnerability in Europe 2016. 2017, https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016.
- ESBNEC European Soil Bureau Network European Commission (2005). Soil Atlas of Europe. Office for Official Publications of the European Communities L-2995 Luxembourg, 128 pp.
- ESDAC. “Maps - ESDAC - European Commission.” European Soil Data Centre, https://esdac.jrc.ec.europa.eu/resource-type/maps.

- EURAC Research. Rapporto cul clima. EURAC, 2018. CLIMATE CHANGE MONITORING SOUTH TYROL, https://webassets.eurac.edu/31538/1630573573-rapporto-clima-2018-itnew.pdf.
- Guidi, Claudia, et al. “Changes in soil organic carbon and nitrogen following forest expansion on grassland in the Southern Alps.” Forest Ecology and Management, vol. 328, 2014, pp. 103-116.
- IPCC 2000: 2000_IPCC-Special-Report_LandUse_LandUseChange_Forestry_SPM Summary for Policy makers of the Special report on LandUse, Land-Use Change, and Forestry https://archive.ipcc.ch/ipccreports/sres/land_use/index.php?idp=3#table1
- IPCC, 2021: Annex VI: Climatic Impact-driver and Extreme Indices [Gutiérrez J.M., R. Ranasinghe, A.C. Ruane, R. Vautard (eds.)]. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 2205–2214, doi:10.1017/9781009157896.020
- ISPRA. “SUOLO E TERRITORIO.” 2011, https://www.isprambiente.gov.it/files/pubblicazioni/statoambiente/tematiche2011/10_Suolo_e_territorio_2011.pdf.
- Janowiak, M., Connelly, W. J., Dante-Wood, K., Domke, G. M., Giardina, C., Kayler, Z., ... & Buford, M. (2017). Considering forest and grassland carbon in land management. General Technical Report-USDA Forest Service, (WO-95).
- Köchy, M., Hiederer, R., & Freibauer, A. (2015). Global distribution of soil organic carbon–Part 1: Masses and frequency distributions of SOC stocks for the tropics, permafrost regions, wetlands, and the world. Soil, 1(1), 351-365.
- Kulakowski, Dominik, et al. “The interacting effects of land use change, climate change and suppression of natural disturbances on landscape forest structure in the Swiss Alps.” Advancing ecology, 2010.
- Margalef, Olga, et al. “The effect of global change on soil phosphatase activity.” Global Change Biology, 2021.
- Masoni, Alessandro; Ercoli, Laura (2010). “Azoto nel terreno”
- Mescalchin, E.; Zanzotti, R.; Gobber, M.; Bertoldi, D.; Toniolli, F.; Conte, F. (2014). La sostanza organica nei suoli vitati trentini: evoluzione e sostenibilità. L'ENOLOGO, 50 (5): 75-80.
- Morelli, R.; Roman, T.; Bertoldi, D.; Zanzotti, R. (2022b). Can comparable vine and grape quality be achieved between organic and integrated management in a warm-temperate area?. AGRONOMY, 12 (8): 1789.
- Panagos, P., Ballabio, C., Meusburger, K., Spinoni, J., Alewell, C., & Borrelli, P. (2017). Towards estimates of future rainfall erosivity in Europe based on REDES and WorldClim datasets. Journal of Hydrology, 548, 251-262.
- (PAT) Provincia autonoma di Trento, (2008). Progetto clima 2008: previsioni e conseguenze dei cambiamenti climatici in Trentino.

http://www.climatrentino.it/binary/pat_climaticamente/provincia_trento_clima/libro_clima_2008.1366103860.pdf
- (PNACC) Ministero dell'ambiente e della sicurezza energetica. (2022) Piano Nazionale di Adattamento di Cambiamenti Climatici.
- Pribyl, D. W. (2010). A critical review of the conventional SOC to SOM conversion factor. Geoderma, 156(3-4), 75-83.
- Ramsden, J., & Kervalishvili, P. J. (2008). Soil as a paradigm of a complex system. Complexity and security, 37.
- Richards, L. A.. Methods Of Measuring Soil Moisture Tension. Soil Science 68(1):p 95, July 1949.
- Ritchie, H., Roser, M. & Rosado, P. (2020). CO_2 and Greenhouse Gas Emissions. Published online at OurWorldInData.org https://ourworldindata.org/co2-and-greenhouse-gas-emissions
- Robroek, Bjorn J.M., et al. "Taxonomic and functional turnover are decoupled in European peat bogs." Nature Communications, vol. 8, 2017.
- Rodeghiero, Mirco, et al. "INFOCARB: A regional scale forest carbon inventory (Provincia Autonoma di Trento, Southern Italian Alps)." Forest Ecology and Management, vol. 259, 2010, pp. 1093-1101.
- Rodeghiero, Mirco, et al. "Soil nitrogen explanatory factors across a range of forest ecosystems and climatic conditions in Italy." Forest Ecology and Management, vol. 15, 2018, pp. 25-35.
- Salimi, S., Almuktar, S. A., & Scholz, M. (2021). Impact of climate change on wetland ecosystems: A critical review of experimental wetlands. Journal of Environmental Management, 286, 112160. https://doi.org/10.1016/j.jenvman.2021.112160
- Sartori G., Porro D. (2022). I suoli dei vigneti trentini: dalla zonazione agli strumenti di gestione. (G. Sartori, D. Porro, a cura di), Litotipografia Alcione, Lavis (Trento): pp. 431. ISBN 978-88-7843-057-0
- "Soil Water Index | Copernicus Global Land Service." Copernicus Land Monitoring Service, https://land.copernicus.eu/global/products/swi.
- Stolte, J., Tesfai, M., Øygarden, L., Kværnø, S., Keizer, J., Verheijen, F., Panagos, P., Ballabio, C., Hessel, R. (2015). Soil threats in Europe. EUR 27607 EN. doi:10.2788/828742 (online)
- Tonolli S. & Salvagni F. (a cura di), 2007 - InfoCarb Inventario Forestale del Carbonio della Provincia di Trento, 1-176. Centro di Ecologia Alpina, Trento. https://www.fmach.it/Servizi-Generali/Editoria/InFoCarb-Inventario-Forestale-del-Carbonio-della-Provincia-di-Trento
- Winter, T. C. (2000). The vulnerability of wetlands to climate change: a hydrologic landscape perspective 1. JAWRA Journal of the American Water Resources Association, 36(2), 305-311.
- Zanzotti, R.; Mescalchin, E. (2019). Green manure effects on inorganic nitrogen dynamics in soil and its accumulation in grape must. BIO WEB OF CONFERENCES, 13: 04010.

Impatti socio-economici

Agricoltura

- AgrifoodTEF project. https://www.agrifoodtef.eu/
- Alikadic', Azra, et al. "The impact of climate change on grapevine phenology and the influence of altitude: A regional study." Agricultural and Forest Meteorology, vol. 271, 2016, pp. 73-82.
- "APOT." Apot – Associazione Produttori Ortofrutticoli Trentini, https://www.apot.it/.
- APPA. "Rapporto sullo Stato dell'ambiente 2020." 2020.
- Bozzola, Martina, et al. "A Ricardian analysis of the impact of climate change on Italian agriculture." European Review of Agricultural Economics, vol. 45, 2018, pp. 57-79.
- Bozzola, Martina, and Chiara Ravetti. "Bozzola, Martina, and Chiara Ravetti. "Gli impatti dei cambiamenti climatici sul valore dei terreni agricoli in Italia: modelli Ricardiani a confronto." Agriregionieuropa, vol. 49, 2017.
- C&A 4.0 2018-2020. https://www.innovarurale.it/it/pei-agri/gruppi-operativi/bancadati-go-pei/ca-40-clima-e-agricoltura-area-montana
- Chieco, C., et al.: Italian winegrowers' and wine makers' attitude toward climate hazards and their strategy of adaptation to the change. Italian Journal of Agrometeorology, accepted for publication.
- Del Fava, Emanuele, et al. "Cost-benefit analysis of controlling the spotted wing drosophila (Drosophila suzukii (Matsumura)) spread and infestation of soft fruits in Trentino, Northern Italy." Pest Manag Sci., 2017, pp. 2318-2327.
- De Ros, Giorgio, et al. "The economic impact of invasive pest Drosophila suzukii on berry production in the Province of Trento, Italy." Journal of Berry Research, vol. 5, 2015, pp. 89–96.
- De Salvo, Maria, et al. "The impact of climate change on permanent crops in an Alpine region: A Ricardian analysis." Agricultural System, vol. 118, 2013, pp. 23-32.
- Eccel, Emanuele, et al. "Quantitative hail monitoring in an alpine area: 35-year climatology and links with atmospheric variables." International Journal of Climatology, vol. 32, 2011, pp. 503–517.
- Eccel, Emanuele, et al. "Simulations of quantitative shift in bio-climatic indices in the viticultural areas of Trentino (Italian Alps) by an open source R package." Computers and Electronics in Agriculture, vol. 127, 2016, pp. 92-100.
- ENVIROCHANGE project. https://openpub.fmach.it/bitstream/10449/21771/5/EnviroChangeProject_Booklet2012_Eccel.pdf
- "FADN." Agriculture and rural development, https://agriculture.ec.europa.eu/data-and-analysis/farm-structures-and-economics/fadn_en.
- "Festival Agri Risk Management 2022 - 2023 – Condifesa Trento e Bolzano." condifesaeventi, https://www.condifesaeventi.it/.

- Fezzi, Carlo, et al. “Valuing Provisioning Ecosystem Services in Agriculture: The Impact of Climate Change on Food Production in the United Kingdom.” Environmental & Resource Economics, vol. 57, 2014, pp. 197-214.
- Iglesias, Ana, et al. “From climate change impacts to the development of adaptation strategies: challenges for agriculture in Europe.” Climatic Change, vol. 112, 2012, pp. 143–168.
- IMPETUS project. https://climate-impetus.eu/demo-site/mountains/
- “MEDCLIV.” Mediterranean Climate Vine & Wine Ecosystem – Medcliv project, https://medcliv.ibe.cnr.it/.
- Menapace, Luisa, et al. “La percezione degli agricoltori del rischio associato al cambiamento climatico.” Agriregionieuropa, 2015, https://agriregionieuropa.univpm.it/it/content/article/31/40/la-percezione-degli-agricoltori-del-rischio-associato-al-cambiamento-climatico.
- Menapace, Luisa, et al. “Risk Aversion, Subjective Beliefs, and Farmer Risk Management Strategies.” American Journal of Agricultural Economics, vol. 95, 2013, pp. 384-389.
- Porter, John R., et al. “European Perspectives: An agronomic science plan for food security in a changing climate.” Handbook of Climate Change and Agroecosystems: Global and Regional Aspects and Implications, vol. 2, 2013, pp. 73-84.
- Reidsma, Pytrik, et al. “Adaptation to climate change and climate variability in European agriculture: The importance of farm level responses.” European journal of agronomy, vol. 32, 2010, pp. 91-102.
- Tait, Gabriella, et al. “Drosophila suzukii (Diptera: Drosophilidae): A Decade of Research Towards a Sustainable Integrated Pest Management Program.” Journal of Economic Entomology, vol. 114, 2021, pp. 1950–1974.
- Walsh, et al. Climate Indicators for Agriculture. USDA Technical Bulletin 1953., 2020, DOI https://doi.org/10.25675/10217/210930.
- Walsh, Margaret, et al. Climate Indicators for Agriculture. United States Department of Agriculture (USDA), 2020.

Acquacoltura, allevamento e produzione alimentare

- Almodovar A., Nicola G.G., Ayllo´n D. & Elvira B. (2012) Global warming threatens the persistence of Mediterranean brown trout. Global Change Biology,18, 1549–1560.
- Altieri, Miguel A., et al. “Agroecology and the design of climate change-resilient farming systems.” Agronomy for Sustainable Development volume, vol. 35, 2015, pp. 869–890.
- Andreola, Mattia, et al. “Urban Food Strategy in the Making: Context, Conventions and Contestations.” agriculture, 2021.
- Bernabucci, Umberto. “Climate change: impact on livestock and how can we adapt.” Animal Frontiers, vol. 9, 2019.
- Blanchard, J.L., Watson, R.A., Fulton, E.A. et al. Linked sustainability challenges and trade-offs among fisheries, aquaculture and agriculture. Nat Ecol Evol 1, 1240–1249 (2017). https://doi.org/10.1038/s41559-017-0258-8
- Brander, K., Cochrane, K., Barange, M. and Soto, D. (2018). Climate Change Implications for Fisheries and Aquaculture. In Climate Change Impacts on Fisheries and Aquaculture (eds B.F. Phillips and M. Pérez-Ramírez). https://doi.org/10.1002/9781119154051.ch3
- Bueno, P. B., and Soto, D. (2017). Adaptation Strategies of the Aquaculture Sector to the Impacts of Climate Change. Rome: FAO.
- Climate-ADAPT. “Fisheries, aquaculture and climate change - Guidance for adaptation and mitigation — English.” Climate-ADAPT, https://climate-adapt.eea.europa.eu/en/metadata/guidances/fisheries-aquaculture-and-climate-change-guidance-for-adaptation-and-mitigation.
- COMTE, L., BUISSON, L., DAUFRESNE, M. and GRENOUILLET, G. (2013), Climate-induced changes in the distribution of freshwater fish: observed and predicted trends. Freshwater Biology, 58: 625-639. https://doi.org/10.1111/fwb.12081
- De Silva, S. S., and Soto, D. (2009). Climate change and aquaculture: potential impacts, adaptation and mitigation, in: “Climate Change Implications for Fisheries and Aquaculture: Overview of Current Scientific Knowledge”. FAO Fisheries and Aquaculture Technical Paper. No. 530, eds K. Cochrane, C. De Young, D. Soto, and T. Bahri (Rome: FAO), 151–212.
- Engle, CR, Kumar, G, van Senten, J. Cost drivers and profitability of U.S. pond, raceway, and RAS aquaculture. J World Aquacult Soc. 2020; 51: 847–873. https://doi.org/10.1111/jwas.12706
- EPAa. “Climate Impacts on Agriculture and Food Supply | Climate Change Impacts | US EPA.” Climate Change, https://climatechange.chicago.gov/climate-impacts/climate-impacts-agriculture-and-food-supply#ref3.
- EPAb. United States Environmental Protection Agency. Climate Change Indicators: Oceans. Accessed August 2023. https://www.epa.gov/climate-indicators/oceans
- Faccioni, G., et al. “Socio-economic valuation of abandonment and intensification of Alpine agroecosystems and associated ecosystem services.” Land Use Policy, vol. 81, 2019, pp. 453-462.

- Federazione Provinciale Allevatori Trento. “L’allevatore trentino”, maggio-giugno 2023. https://www.fpatrento.it/wp-content/uploads/2023/07/Allevatore-03-2023.pdf?_gl=1*1vxakny*_up*MQ..*_ga*ODk4NDQxMDE0LjE2OTUwNDAwOTU.*_ga_BJMBN8Y8VS*MTY5NTA0MDA5NS4xLjAuMTY5NTA0MDA5NS4wLjAuMA
- FAO. 2021. FAO’s work on climate change – Fisheries and aquaculture 2020. Rome. https://doi.org/10.4060/cb3414en
- FAO. 2022. The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation. Rome, FAO. https://doi.org/10.4060/cc0461en
- Handisyde, N. T., Ross, L. G., Badjeck, M. C., & Allison, E. H. (2006). The effects of climate change on world aquaculture: a global perspective. Aquaculture and Fish Genetics Research Programme, Stirling Institute of Aquaculture. Final Technical Report, DFID, Stirling. 151pp.
- Hardy, Ronald W (2010). Utilization of plant proteins in fish diets: effects of global demand and supplies of fishmeal. Aquaculture Research, 41(5), 770-776. https://doi.org/10.1111/j.1365-2109.2009.02349.x
- Hari R.E., Livingstone D.M., Siber R., Burkhardt-Holm P. &Gu ¨ttinger H. (2006) Consequences of climatic change for water temperature and brown trout populations in Alpinerivers and streams.Global Change Biology,12, 10–26.
- Hertel, Thomas W. “Food security under climate change.” Nature Climate Change, vol. 6, 2016, pp. 10–13.
- “Italian Lake Garda.” ClimeFish, 10 April 2019, https://climefish.eu/2019/04/10/italian-lake-garda/.
- Lacetera, Nicola. “Impact of climate change on animal health and welfare.” Animal Frontiers, vol. 9, 2019, pp. 26–31.
- Marco Luppichini, Monica Bini, Roberto Giannecchini, Giovanni Zanchetta (2023). High-resolution spatial analysis of temperature influence on the rainfall regime and extreme precipitation events in north-central Italy. Science of The Total Environment, Volume 880, 163368. https://doi.org/10.1016/j.scitotenv.2023.163368.
- Mackenzie-Grieve J.L. & Post J.R. (2006) Projected impacts of climate warming on production of lake trout (Salvelinus namaycush) in southern Yukon lakes. Canadian Journal of Fisheries and Aquatic Sciences, 63, 788–797.
- Maulu, Sahya, et al. “Climate Change Effects on Aquaculture Production: Sustainability Implications, Mitigation, and Adaptations.” frontiers, vol. 5, 2021.
- Mayorga, E.J., et al. “Heat stress adaptations in pigs.” Animal Frontiers, vol. 9, 2019, pp. 54–61.
- Miraglia, M., et al. “Climate change and food safety: An emerging issue with special focus on Europe.” Food and Chemical Toxicology, vol. 47, 2009, pp. 1009-1021.
- PAT. Carta ittica del Trentino https://forestefauna.provincia.tn.it/content/download/12429/227359/file/CARTAITTICA.pdf
- Pareeth, S., M. Bresciani, F. Buzzi, B. Leoni, F. Lepori, A. Ludovisi, G. Morabito, R. Adrian, M. Neteler & N. Salmaso, 2017. Warming trends of perialpine lakes from homogenised time series of historical satellite and in situ data. Science of The Total Environment 578: 417–426.

- Poulet N., Beaulaton L. & Dembski S. (2011) Time trends in fishpopulations in metropolitan France: insights from nationalmonitoring data.Journal of Fish Biology,79, 1436–1452.
- PSR Provincia Autonoma di Trento 2014/2020. APPROFONDIMENTO TEMATICO LA ZOOTECNICA DI MONTAGNA IN PROVINCIA DI TRENTO. PAT Servizio Politiche di Sviluppo Rurale, 2019.
- Rust, Jean M. “The impact of climate change on extensive and intensive livestock production systems.” Animal Frontiers, vol. 9, 2019.
- Konstantinos I. Stergiou, Stylianos Somarakis, George Triantafyllou, Kostas P. Tsiaras, Marianna Giannoulaki, George Petihakis, Athanassios Machias, Athanassios C. Tsikliras (2016). Trends in productivity and biomass yields in the Mediterranean Sea Large Marine Ecosystem during climate change. Environmental Development, 17(1),57-74. https://doi.org/10.1016/j.envdev.2015.09.001.
- Salmaso, N., Boscaini, A., Capelli, C. et al. Ongoing ecological shifts in a large lake are driven by climate change and eutrophication: evidences from a three-decade study in Lake Garda. Hydrobiologia 824, 177–195 (2018). https://doi.org/10.1007/s10750-017-3402-1
- Stefan H.G., Fang X. & Eaton J.G. (2001) Simulated fish habitat changes in North American lakes in response to projected climate warming. Transactions of the American Fisheries Society, 130, 459–477.
- Summer, A., et al. “Impact of heat stress on milk and meat production.” Animal Frontiers, 2019, pp. 39–46.
- Tirado, M.C., et al. “Climate change and food safety: A review.” Food Research International, vol. 43, 2010, pp. 1745-1765.
- “UNITN.” Agrifood Innovation Management, https://offertaformativa.unitn.it/en/lm/agrifood-innovation-management.
- Van Vliet Michelle T.H., Franssen Wietse H.P., Yearsley John R., Ludwig Fulco, Haddeland Ingjerd , Lettenmaier Dennis P., Kabat Pavel (2013). Global river discharge and water temperature under climate change. Global Environmental Change, Volume 23, Issue 2, Pages 450-464. https://doi.org/10.1016/j.gloenvcha.2012.11.002.
- Vielma, J., Kankainen, M. & Setälä, J. 2022. Current status of recirculation aquaculture systems (RAS) and their profitability and competitiveness in the Baltic Sea area. Natural resources and bioeconomy studies 75/2022. Natural Resources Institute Finland. Helsinki. 28 p. http://urn.fi/URN:ISBN:978-952-380-504-0
- Wheeler, Tim, and Joachim von Braun. “Climate Change Impacts on Global Food Security.” SCIENCE, vol. 341, 2013, pp. 508-513.
- Wolfenson, D., and Z. Roth. “Impact of heat stress on cow reproduction and fertility.” Animal Frontiers, 2019, pp. 32–38.
- Xiong, Wei, et al. “Climate change challenges plant breeding.” Current Opinion in Plant Biology, vol. 70, 2022.
- Zolnikov, T. R. (Ed.). (2019). Global adaptation and resilience to climate change. Springer International Publishing.

Energia

- Carvalho, D., et al. “Potential impacts of climate change on European wind energy resource under the CMIP5 future climate projections.” Renewable Energy, vol. 101, 2017, pp. 29-40.
- Copernicus. https://cds.climate.copernicus.eu/cdsapp#!/dataset/sis-energy-derived-reanalysis?tab=overview.
- Danovska, M., et al. “Influence of moisture content, temperature and absorbed solar radiation on the thermal performance of a spruce XLAM wall in the Italian climates.” Journal of Physics: Conference Series, vol. 1599, 2020.
- Engeland, Kolbjørn, et al. “Space-time variability of climate variables and intermittent renewable electricity production – A review.” Renewable and Sustainable Energy Reviews, vol. 79, 2017, pp. 600-617.
- EPA. “Climate Change Indicators: Residential Energy Use | US EPA.” Environmental Protection Agency, https://www.epa.gov/climate-indicators/climate-change-indicators-residential-energy-use.
- Francois, Baptiste, et al. “Impact of Climate Change on Combined Solar and Run-of-River Power in Northern Italy.” Energies, vol. 11, 2018.
- Giovannini, Lorenzo, et al. “Sensitivity of simulated wind speed to spatial resolution over complex terrain.” Energy Procedia, vol. 59, 2014, pp. 323 – 329.
- Giovannini, Lorenzo, et al. “Atlante Eolico del Trentino Relazione finale sull’attività svolta.” 2013. http://www.climatrentino.it/binary/pat_climaticamente/osservatorio_trentino_clima/2013_Relazione_finale_Atlante_Eolico.1462457503.pdf
- Hou, Xinyuan, et al. “Climate change impacts on solar power generation and its spatial variability in Europe based on CMIP6.” Earth System Dynamics, vol. 12, 2021, pp. 1099–1113.
- Hung Anh, Le Duong, et al. “An overview of factors influencing thermal conductivity of building insulation materials.” Journal of Building Engineering, vol. 44, 2021
- Laiti, L., et al. “A Solar Atlas for the Trentino Region in the Alps: Quality Control of Surface Radiation Data.” Energy Procedia, vol. 59, 2014a, pp. 336-343.
- Laiti, L., et al. “Analisi di dati di radiazione solare al suolo e messa a punto di un modello di trasferimento radiativo in atmosfera per la mappatura della radiazione solare sul territorio della Provincia di Trento.” 2014b. http://www.climatrentino.it/binary/pat_climaticamente/osservatorio_trentino_clima/2012_Relazione_Atlante_Solare_Trentino.1462458532.pdf
- Laiti, Lavinia, et al. “DOWNSCALING DI PROIEZIONI CLIMATICHE A SCALA LOCALE PER IL TERRITORIO DELLA PROVINCIA DI TRENTO AL 2030.” PEAP 2021-2030, Università di Trento, 2020.
- Laiti, Lavinia, et al. “Estimating Hourly Beam and Diffuse Solar Radiation in an Alpine Valley: A Critical Assessment of Decomposition Models.” Atmosphere, vol. 117, 2018.

- Majone, Bruno, et al. “Impact of climate change and water use policies on hydropower potential in the south-eastern Alpine region.” Science of The Total Environment, vol. 543, 2016, pp. 965-980.
- Mims. Cambiamenti climatici, infrastrutture e mobilità. 2022.
- NEVERMORE. Project Website. https://www.nevermore-horizon.eu/
- Pappaccogli, Gianluca, et al. “Sensitivity analysis of urban microclimatic conditions and building energy consumption on urban parameters by means of idealized numerical simulations.” Urban Climate, vol. 34, 2020.
- PAT & APRIE. “PIANO ENERGETICO AMBIENTALE PROVINCIALE 2021-2030.” 2021. https://www.provincia.tn.it/Documenti-e-dati/Documenti-di-programmazione/Piano-Energetico-Ambientale-Provinciale-2021-2030
- Patt, A., Pfenninger, S. & Lilliestam, J. Vulnerability of solar energy infrastructure and output to climate change. Climatic Change 121, 93–102 (2013). https://doi.org/10.1007/s10584-013-0887-0
- Petitta, Marcello, et al. “Solar Tyrol project: using climate data for energy production estimation. The good practice of Tyrol in conceptualizing climate services.” EGU General Assembly 2014, 2014.
- RSE, “Analisi dei cambiamenti climatici rilevanti per il sistema elettroenergetico nazionale attraverso il sito web CLIMED“. https://www.rse-web.it/pubblicazioni/analisi-dei-cambiamenti-climatici-rilevanti-per-il-sistema-elettroenergetico-nazionale-attraverso-il-sito-web-climed/
- “SmartAltitude.” Smart Altitude Toolkit, https://smartaltitude.eu/.
- Stucchi, Leonardo, et al. “Future hydropower production under the framework of NextGenerationEU: The case of Santa Giustina reservoir in Italian Alps.“ Renewable Energy, 2023
- Viesi, D., Baldessari, G., Polderman, A., Sala, S., Zanetti, A., Bolognese, M., ... & Crema, L..”Developing and testing an “Integrated Energy Management System” in a ski resort: The “Living Lab Madonna di Campiglio””. Cleaner Energy Systems, 2023, 4, 100050.
- Viesi, D., Crema, L., Mahbub, M.S., Verones, S., Brunelli, R., Baggio, P., Fauri, M., Prada, A., Bello, A., Nodari, B., Silvestri, S. and Tomasi L., 2020. Integrated and dynamic energy modelling of a regional system: a cost-optimized approach in the deep decarbonisation of the Province of Trento (Italy). Energy, 209, p.118378
- Secchi, M., Barchi G., Macii D., Moser D., Petri D., “Multi-objective battery sizing optimisation for renewable energy communities with distribution-level constraints: A prosumer-driven perspective”, Applied Energy, 2021, 297, 117171, https://doi.org/10.1016/j.apenergy.2021.117171
- Secchi, M., Barchi G., Macii D., Petri D., “Smart electric vehicles charging with centralised vehicle-to-grid capability for net-load variance minimisation under increasing EV and PV penetration levels,” Sustainable Energy, Grids and Networks, 2023, 35, 101120, https://doi.org/10.1016/j.segan.2023.101120.

Gestione delle risorse idriche

- Cirelli, Claudia, and Isabelle La Jeunesse. Adaptation of Water Management to Face Drought and Water Scarcity. Facing Hydrometeorological Extreme Events: A Governance Issue, 2019.
- Copernicus, EDO - European Drought Observatory. “Drought Indicators”. https://edo.jrc.ec.europa.eu/edov2/php/index.php?id=1010
- “Development of the water exploitation index plus (WEI+).” European Environment Agency, https://www.eea.europa.eu/data-and-maps/daviz/water-exploitation-index-plus
- “EDO Home - European Drought Observatory - JRC European Commission.” Copernicus, https://edo.jrc.ec.europa.eu/edov2/php/index.php?id=1000.
- Felix Hahn, 2004, Innevamento artificiale nelle Alpi, Dossier CIPRA-International
- IL PARLAMENTO EUROPEO E IL CONSIGLIO DELL'UNIONE EUROPEA. “DIRETTIVA 2000/60/CE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO del 23 ottobre 2000 che istituisce un quadro per l'azione comunitaria in materia di acque.” 2000.
- IMPETUS, https://climate-impetus.eu/demo-site/mountains/
- La Jeunesse, I., et al. “Is climate change a threat for water uses in the Mediterranean region? Results from a survey at local scale.” Science of the Total Environment, vol. 543, 2016, pp. 981-996.
- LEGAMBIENTE. NEVE DIVERSA. Il turismo invernale nell’era della crisi climatica. LEGAMBIENTE, 2023.
- “LINEE GUIDA PER LO SVILUPPO DELL’AGRICOLTURA DI PRECISIONE IN ITALIA.” Ministero delle Politiche Agricole Alimentari e Forestali, Settembre 2017, https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12069.
- Majone, B., et al. “Wireless Sensor Network deployment for monitoring soil moisture dynamics at the field scale.” Procedia Environmental Sciences, vol. 19, 2013, pp. 426 – 435.
- Majone, Bruno, et al. “Impact of climate change and water use policies on hydropower potential in the south-eastern Alpine region.” Science of The Total Environment, vol. 543, 2016, pp. 965-980.
- “Miglioramento del sistema irriguo, firmato un protocollo tra Provincia e Consorzio Val di Non.” ufficio stampa provincia trento, 24 August 2018, https://www.ufficiostampa.provincia.tn.it/Comunicati/Miglioramento-del-sistema-irriguo-firmato-un-protocollo-tra-Provincia-e-Consorzio-Val-di-Non.
- “NeveXN srl | polomeccatronica.” Polo Meccatronica, https://polomeccatronica.it/aziende/nevexn-srl.
- “ORIENTGATE - A structured network for integration of climate knowledge into policy and territorial planning.” CMCC Foundation, https://www.cmcc.it/it/projects/orientgate-a-structured-network-for-integration-of-climate-knowledge-into-policy-and-territorial-planning.
- Paucar, L. Garcia, et al. “Decision support for smart irrigation by means of wireless distributed sensors.” IEEE 15th Mediterranean Microwave Symposium (MMS), 2015, pp. 1-4.

- Piano tutela delle acque Allegato O. Provincia autonoma di Trento, APPA, Dicembre 2022, https://www.appa.provincia.tn.it/Documenti-e-dati/Documenti-tecnici-di-supporto/Piano-di-Tutela-delle-acque-2022-2027.
- APPA. “Piano di tutela delle acque 22-27: il ruolo dei cambiamenti climatici.” 2022.
- Piano Energetico Ambientale Provinciale 2021-2030. Allegato 03 Elaborazione scenari dinamici-integrati-ottimizzati. Provincia autonoma di Trento, APRIE Viesi D., Destro N, Giugno 2020.
- https://www.provincia.tn.it/ocmultibinary/download/62137/1010235/5/5c3aa5acdd597bde8edc8a6e06f8f5d8.pdf/file/ALLEGATO+TECNICO+3+Elaborazione+Scenari+Dinamici+integrati+ottimizzati.pdf
- “SEASON - Precision Farming by ELEDIA.” ELEDIA Research Center, https://www.eledia.org/showcase/season/.
- Stanghellini, PSL. “Stakeholder involvement in water management: the role of the stakeholder analysis within participatory processes.” Water Policy, vol. 12, 2010, pp. 675–694.
- TeraGroup. https://www.tera-group.it/it/smart_irrigation
- Terzi, Stefano, et al. “Climate change impacts on water management in mountain regions: a complex system framework.” Conference: EGU General Assembly 2018, 2018.
- Terzi, S., Susnik, J., Schneiderbauer, S., Torresan, S., Critto, A., “Stochastic system dynamics modelling for climate change water scarcity assessment of a reservoir in the Italian Alps” Natural Hazards and Earth System Sciences, 2021, 21.
- Viani, Federico, et al. “Low-Cost Wireless Monitoring and Decision Support for Water Saving in Agriculture.” IEEE Sensors Journal, vol. 17, 2017, pp. 4299-4309.
- Viesi, D., Baldessari, G., Polderman, A., Sala, S., Zanetti, A., Bolognese, M., ... & Crema, L..”Developing and testing an “Integrated Energy Management System” in a ski resort: The “Living Lab Madonna di Campiglio””. Cleaner Energy Systems, 2023, 4, 100050.
- Viesi, D., Crema L., Mahbub M.S., Verones S., Brunelli R.,Baggio P.,Fauri M., Prada A.,Bello A., Nodari B., Silvestri S., Tomasi L..”Integrated and dynamic energy modelling of a regional system: A cost-optimized approach in the deep decarbonisation of the Province of Trento (Italy)” ”. Energy, 2020, 209.
- “Water quantity indicators for Europe.” Copernicus, https://cds.climate.copernicus.eu/cdsapp#!/dataset/sis-water-quantity-swicca?tab=overview. Accessed 20 March 2023.
- WEFE Nexus, https://international-partnerships.ec.europa.eu/policies/climate-environment-and-energy/water-energy-food-ecosystem-nexus_en

Industrie e infrastrutture

- APPA. I cambiamenti climatici in Trentino. Osservazioni, scenari futuri e impatti. APPA, 2022.
- APPA. Rapporto sullo stato dell'ambiente. APPA, 2020, https://www.appa.provincia.tn.it/Documenti-e-dati/Pubblicazioni/Rapporto-sullo-stato-dell-ambiente-2020.
- Bernier C, Padgett JE. Fragility and risk assessment of aboveground storage tanks subjected to concurrent surge, wave, and wind loads. Reliab Eng Syst Saf no. February; 2019.
- ICSR. International Center for Social Research: Home Page, 2023, https://www.icsr-net.com/.
- Kjellstrom, Tord, et al. “The Direct Impact of Climate Change on Regional Labor Productivity.” Archives of Environmental & Occupational Health, vol. 64, 2009.
- Kuik, Friderike, et al. “The impact of climate change on activity and prices – insights from a survey of leading firms.” ECB Economic Bulletin, 2022.
- Lobell, D. B., & Gourdji, S. M. (2012). The influence of climate change on global crop productivity. Plant physiology, 160(4), 1686-1697.
- Randaxhe, Jerome, et al. “Probabilistic fire demand model for steel pipe-racks exposed to localised fires.” Engineering Structures, vol. 226, 2021.
- Wong, C. W., Wong, C. Y., & Boon‐itt, S. (2018). How does sustainable development of supply chains make firms lean, green and profitable? A resource orchestration perspective. Business Strategy and the Environment, 27(3), 375-388.
- World Energy Council, 2016. https://www.worldenergy.org/publications/entry/world-energy-resources-2016

Insediamenti e aree urbane

- PLANES, https://planes.dicam.unitn.it/.
- Berretta, C., I. Gnecco, L. G. Lanza and P. La Barbera. “Hydrologic influence on stormwater pollution at two urban monitoring sites”, Urban Water Journal, 4:2, 107 117, 2007, DOI:10.1080/15730620701234460
- Biovalue. https://biovalue-horizon.eu/
- Blair, John, and Sarath Mataraarachchi. “A Review of Landfills, Waste and the Nearly Forgotten Nexus with Climate Change.” environments, 2021.
- Browder, G., S. Ozment, I. Rehberger Bescos, T. Gartner and G. Lange, G. “Integrating Green and Gray: Creating Next Generation Infrastructure”. © Washington, DC: World Bank and World Resources Institute. 2019. http://hdl.handle.net/10986/31430 License: CC BY 4.0.
- Cartografia del comune di Trento. https://gis.comune.trento.it/it/#map=macrogroup-maps-2, https://www.comune.trento.it/Aree-tematiche/Cartografia, https://gis.comune.trento.it/mobile/tn/
- Codemo, A., and M. Ricci. “Trento City MicroClimate changes.” International Symposium on Greener Cities for More Efficient Ecosystem Services in a Climate Changing World, 2018, pp. 27-32.
- Codemo, Anna, et al. “Mapping Pervious Surfaces and Canopy Cover Using High-Resolution Airborne Imagery and Digital Elevation Models to Support Urban Planning.” sustainability, 2022.
- Codemo, Anna, et al. “Trento Smart Infrastructures. Green and Blue Infrastructures for Trento.” Climate Assesment Report, 2018.
- Cortinovis, C. and Geneletti, D. (2020), “Data for: A performance-based planning approach integrating supply and demand of urban ecosystem services”, Mendeley Data, V1, doi: 10.17632/nmzdhn9rbd.1.
- De Noia, I., S. Favargiotti, S. and A. Marzadri “Renaturalising lands as an adaptation strategy.” Tema. Journal of Land Use, Mobility and Environment, 15 (2), 263-286. 2022. http://dx.doi.org/10.6092/1970-9870/9074
- EEA. “Urban adaptation to climate change in Europe 2016 Transforming cities in a changing climate.” EEA Report, 2016, doi:10.2800/021466.
- Favargiotti, Sara. “Re-Cool Trento. Designing blue and green flows for a hot city.” ACTIVATING PUBLIC SPACE An Approach for Climate Change Mitigation, Alessandra Battisti, Daniele Santucci, 2020, pp. 129-140.
- Geneletti, Davide, et al. Planning for Ecosystem Services in Cities. SPRINGER BRIEFS IN ENVIRONMENTAL SCIENCE, 2020.
- Geneletti, D., & Zardo, L. (2016). Ecosystem-based adaptation in cities: An analysis of European urban climate adaptation plans. Land Use Policy, 50, 38–47. doi:10.1016/j.landusepol.2015.09.003
- Gibelli G., A. Gelmini, E. Pagnoni, F. Natalucci. “Gestione sostenibile delle acque urbane. Manuale di drenaggio ‘urbano. Perché, Cosa, Come”. Regione Lombardia, Ersaf, Milano

- Hughes, James, et al. “Impacts and implications of climate change on wastewater systems: A New Zealand perspective.” Climate Risk Management, vol. 31, 2021.
- Laurenti, Mirko, and Marina Trentin. “ECOSISTEMA URBANO rapporto sulle performance ambientali delle città 2022.” Legambiente, 2022, https://www.legambiente.it/wp-content/uploads/2022/11/Ecosistema-Urbano-2022.pdf.
- Mims. Cambiamenti climatici, infrastrutture e mobilità. 2022.
- Pietrapertosa, F., Olazabal, M., Simoes, S. G., Salvia, M., Fokaides, P. A., Ioannou, B. I., Geneletti, D., & Reckien, D. (2023). Adaptation to climate change in cities of Mediterranean Europe. Cities, 140, 104452. https://doi.org/10.1016/j.cities.2023.104452
- Reckien, D., et al. “Dedicated versus mainstreaming approaches in local climate plans in Europe.” Renewable and Sustainable Energy Reviews, vol. 112, 2019, pp. 948-959.
- “saturn / Eventi Fondazione Edmund Mach.” Eventi Fondazione Edmund Mach, https://eventi.fmach.it/saturn.
- Selina. https://project-selina.eu/
- Sinnathamby, G., et al. “Landfill cap models under simulated climate change precipitation: impacts of cracks and root growth.” Géotechnique, vol. 14, 2014, pp. 95-107.
- UN General Assembly, Transforming our world : the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: https://www.refworld.org/docid/57b6e3e44.html
- Valdez, B., et al. “Effect of climate change on durability ofengineering materials in hydraulicinfrastructure: an overview.” Corrosion Engineering, Science and Technology, vol. 45, 2010.
- Wille, Eddy. “FLOODING RISKS AT OLD LANDFILL SITES: LINEAR ECONOMY MEETS CLIMATE CHANGE.” Proceedings of the 4th International Symposium onEnhanced Landfi ll Mining, Peter Tom Jones, Lieven Machiels, 2018, pp. 361-365.

Patrimonio culturale

- Bonazza, Alessandra; Sardella, Alessandro (a cura di), Climate Change and Cultural Heritage: Methods and Approaches for Damage and Risk Assessment Addressed to a Practical Application, Heritage 2023, 6. (e relativa bibliografia) https://doi.org/10.3390/heritage6040190
- Consiglio d'Europa. "Convenzione di Faro - Convenzione quadro del Consiglio d'Europa sul valore dell'eredità culturale per la società", 2005
- European Commission. "Ten recommendations on how to better protect cultural heritage from the impact of climate change." 2022, https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5353.
- European Commission 2022b, Strengthening cultural heritage resilience for climate change: Where the European Green Deal meets cultural heritage, Ufficio pubblicazioni Unione Europea, 2022. https://data.europa.eu/doi/10.2766/44688
- Fatorić, Sandra, and Erin Seekamp. "Are cultural heritage and resources threatened by climate change? A systematic literature review." Climatic Change, vol. 142, 2017, pp. 227–254.
- Margoni, Fabio. "Archivi Storici del Trentino - Scheda progetto dell'inventario." Trentino Cultura, 1998, https://www.cultura.trentino.it/archivistorici/inventari/42755
- Nicolis, Franco. "La memoria nel ghiaccio. Archeologia della Grande Guerra a Punta Linke". Provincia Autonoma di Trento, 2022, https://www.cultura.trentino.it/Pubblicazioni/La-memoria-nel-ghiaccio.-Archeologia-della-Grande-Guerra-a-Punta-Linke
- Orr, Scott Allan, et al. "Climate Change and Cultural Heritage: A Systematic Literature Review (2016–2020)." The Historic Environment: Policy & Practice, vol. 12, 2021.
- Pasini, Marina, Pinamonti, Annalisa (a cura di). "Organi di governo della Provincia di Trento. Inventario (1923-1949)", 2011. https://www.cultura.trentino.it/archivistorici/inventari/21246
- ProteCHt2save, Project funded by European Union, Programma Interreg Central Europe, "Risk assessment and sustainable protection of cultural heritage in changing environment", 2017 – 2020. https://www.interreg-central.eu/Content.Node/ProteCHt2save.html
- "Salvaguardare il futuro del patrimonio culturale | NOAHS ARK Project | Results in brief | FP6 | CORDIS | European Commission." CORDIS, 2012, https://cordis.europa.eu/article/id/87840-preserving-the-future-of-cultural-heritage/it.
- Sesana, Elena, et al. "Climate change impacts on cultural heritage: A literature review." WIREs CLIMATE CHANGE, 2021.
- STRENCH, Project funded by European Union, Interreg Central Europe Programme "Strengthening resilience of Cultural Heritage at risk in a changing environment through proactive transnational cooperation", 2020 – 2022. https://www.interreg-central.eu/Content.Node/STRENCH.html
- "World Heritage Centre - Climate Change and World Heritage." UNESCO World Heritage Centre, https://whc.unesco.org/en/climatechange/.

Produttività forestale e filiera

- Dupuy, Jean-luc, et al. “Climate change impact on future wildfire danger and activity in southern Europe: a review.” Annals of Forest Science, vol. 77, 2020.
- “Forest Change indicators.” Forest Change indicators, Government of Canada, 2020, https://natural-resources.canada.ca/climate-change-adapting-impacts-and-reducing-emissions/climate-change-impacts-forests/forest-change-indicators/17768.
- Giacomoni, Jacopo, and Nicola Andrighetto. “Convegno: Quale futuro post “Vaia”? Palazzo Magnifica Comunità di Fiemme, Cavalese (TN).” etifor, 2019.
- “LA FILIERA TRENTINA DEL LEGNO.” Servizio Foreste Provincia Autonoma di Trento, 2022, https://forestefauna.provincia.tn.it/content/download/16004/262499/file/filiera_legno_internet.pdf.
- La Porta, N., Capretti, P., Thomsen, I.M., Kasanen, R., Hietala, A.M., & Von Weissenberg, K. (2008). Forest pathogens with higher damage potential due to climate change in Europe. Canadian Journal of Plant Pathology, 30(2), 177-195.
- Mazzucchi M., 1984 - Selvicoltura naturalistica e boschi coetanei: l'esperienza trentina. SZF 135(1984)
- Mechergui, Kaouther, et al. “Climate change impacts on spatial distribution, tree-ring growth, and water use of stone pine (Pinus pinea L.) forests in the Mediterranean region and silvicultural practices to limit those impacts.” iForest, vol. 14, 2021, pp. 104-112.
- Ministero dell’agricoltura, della sovranità alimentare e delle foreste. “Testo unico in materia di foreste e filiere forestali (TUFF)” https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12774
- Ministero delle politiche agricole alimentari e forestali. “Strategia Forestale Nazionale.” 2022, https://www.reterurale.it/foreste/StrategiaForestaleNazionale.
- Pechony, O., and T. Shindell. “Driving forces of global wildfires over the pastmillennium and the forthcoming century.” PNAS, vol. 107, 2010, pp. 19167-19170.
- Pedrolli M., 1996 - La gestione del hosco in Trentino tra economia e tutela dell' amhiente. Dendronatura, n.2-1996
- Provincia Autonoma di Trento - Servizio foreste, 2022 - Stato di attuazione del Piano d’Azione per la gestione degli interventi di esbosco e ricostituzione dei boschi danneggiati dalla Tempesta Vaia - Report finale https://forestefauna.provincia.tn.it/content/download/16088/263412/file/Report_VAIA_Stato_finale_rid.pdf
- Provincia Autonoma di Trento - Servizio foreste, 2023 - Piano per l'organizzazione degli interventi di utilizzazione per la lotta fitosanitaria e di ricostituzione dei boschi danneggiati. https://forestefauna.provincia.tn.it/content/download/15642/259566/file/Piano%20Bostrico%20e%20ripristini,%20versione%20finale%20post%20VAS,%202023%2002%2001.pdf
- Rodeghiero M, Tonolli S, Vescovo L, Gianelle D, Cescatti A, Sottocornola M (2010). INFOCARB: A regional scale forest carbon inventory (Provincia Autonoma di Trento, Southern Italian Alps). FOREST ECOLOGY AND MANAGEMENT, 259: 1093-1101. https://www.sciencedirect.com/science/article/abs/pii/S0378112709009074?via%3Dihub

- Silva, Conceição, et al. “EIP-AGRI Focus Group Forest Practices & Climate Change.” eip-agri, 2018.
- Susmel L., 1993 - Cenni sulle basi e sulle realizzazioni della selvicoltura naturalistica nelle Alpi italiane. Dendronatura, n.2 -1993.
- Tonolli S. & Salvagni F. (a cura di), 2007 - InfoCarb Inventario Forestale del Carbonio della Provincia di Trento, 1-176. Centro di Ecologia Alpina, Trento. https://www.fmach.it/Servizi-Generali/Editoria/InFoCarb-Inventario-Forestale-del-Carbonio-della-Provincia-di-Trento
- Wolynski A., 1993 - Alcune riflessioni sulla selvicoltura naturalistica nell' esperienza trentina. Dendronatura, n.2-1993.

Rischio da pericoli naturali

- Armanini A., Rosatti G., and Fraccarollo L. “Two-dimensional simulation of debris flows in erodible channels.” Computers & Geosciences, vol. 35, 2009, pp. 993–1006, https://doi.org/10.1016/j.cageo.2007.11.008
- Auer, Ingeborg, et al. “HISTALP – historical instrumental climatological surface time series of the Greater Alpine Region.” International Journal of Climatology, vol. 27, 2007, pp. 17–46, https://doi.org/10.1002/joc.1377
- Agrawala, S. “Climate change in the European Alps: adapting winter tourism and natural hazards management.” Organisation for Economic Cooperation and Development (OECD), 2007.
- BAFU. “Riscaldamento climatico: l'instabilità del permafrost provoca frane più frequenti.” BAFU, 31 August 2017, https://www.bafu.admin.ch/bafu/it/home/temi/pericoli-naturali/dossier/riscaldamento-climatico-e-frane.html.
- Battaglioli, F.; Groenemeijer, P.; Pucik, T.; Taszarek, M.; Ulbrich, U.; Rust, H. Modelled Multidecadal Trends of Lightning and (Very) Large Hail in Europe and North America (1950–2021). Preprints 2023, 2023080314. https://doi.org/10.20944/preprints202308.0314.v1
- Beniston, Martin, and Markus Stoffel. “Rain-on-snow events, floods and climate change in the Alps: Events may increase with warming up to 4 °C and decrease thereafter.” Science of the Total Environment, vol. 571, 2016, pp. 228–236.
- Blöschl, Günter, et al. “Changing climate both increases and decreases European river floods.” nature, vol. 573, 2019, pp. 108–111.
- Brunner, Manuela, et al. “Hydrological Drought Generation Processes and Severity Are Changing in the Alps.” Geophysical Research Letters, 2023.
- “Carte della Pericolosità - Cartografia tematica.” Protezione Civile, http://www.protezionecivile.tn.it/territorio/Cartografia/cartografiatematica/-Cartografiapericolo/pagina11.html.
- Castebrunet, H., et al. “Projected changes of snow conditions and avalanche activity in a warming climate: the French Alps over the 2020–2050 and 2070–2100 periods.” The Cryosphere, vol. 8, 2014, pp. 1673–1697.
- “Catasto delle frane di alta quota nelle Alpi - GeoClimAlp.” GeoClimAlp, https://geoclimalp.irpi.cnr.it/catasto-frane-alpi/
- “Catasto delle valanghe per la Provincia di Trento”. http://www.territorio.provincia.tn.it/portal/server.pt/community/gcv/268/consultazione_carta_delle_valanghe_e_gestione_campagne_di_sopralluogo/19032
- Chiarle, Marta, et al. “Large glacier failures in the Italian Alps over the last 90 years.” GEOGRAFIA FISICA E DINAMICA QUATERNARIA, vol. 45, 2023, pp. 19-40.
- Climate ADAPT. “DRI - Disaster Risk Index.” Climate ADAPT, https://climate-adapt.eea.europa.eu/en/metadata/indicators/dri-disaster-risk-index.
- Colombo, N., Guyennon, N., Valt, M., Salerno, F., Godone, D., Cianfarra, P., Freppaz, M., Maugeri, M., Manara, V., Acquacotta, F., Petrangeli, A.B., and Romano, E., 2023,

Unprecedented snow-drought conditions in the Italian Alps during the early 2020s: Environ. Res. Lett. 18 074014 https://doi.org/10.1088/1748-9326/acdb88

- Copernicus. “Fire danger indices historical data from the Copernicus Emergency Management Service.” cds.climate.copernicus.eu, https://cds.climate.copernicus.eu/cdsapp#!/dataset/cems-fire-historical?tab=overview.
- Copernicus. “Fire Weather Index | Copernicus.” Copernicus Climate Change Service, https://climate.copernicus.eu/fire-weather-index.
- Dallan, Eleonora, Marco Borga, Mattia Zaramella, et al. Enhanced summer convection explains observed trends in extreme subdaily precipitation in the northeastern Italian Alps. ESS Open Archive . October 21, 2021. DOI: 10.1002/essoar.10507107.2
- Dallan, E., Fosser, G., Schaer, C., Roghani, B., Canale, A., Marani, M., Borga, M., and Marra, F.: Future changes in sub-daily extreme precipitation over a complex-orography area from a convection-permitting climate model, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-9338, https://doi.org/10.5194/egusphere-egu23-9338, 2023.
- Diaz, D., and F. Moore. “Quantifying the economic risks of climate change.” Nature Clim Change, vol. 7, 2017, pp. 774–782.
- Eccel, Emanuele, et al. “Quantitative hail monitoring in an alpine area: 35-year climatology and links with atmospheric variables.” International Journal of Climatology, vol. 32, 2012.
- “EDC.” European Drought Centre Website, https://www.geo.uio.no/edc/index_old.htm.
- “EDO.” EDO Home - European Drought Observatory - JRC European Commission, https://edo.jrc.ec.europa.eu/edov2/php/index.php?id=1000.
- European Environment Agency. “European Floods Database — European Environment Agency.” European Environment Agency, 22 November 2019, https://www.eea.europa.eu/data-and-maps/data/external/european-floods-database.
- “European Fire Database.” EFFIS, https://effis.jrc.ec.europa.eu/about-effis/technical-background/european-fire-database.
- EUSALP. “FOREST FIRES IN THE ALPS.” p. 2020, https://www.alpine-region.eu/sites/default/files/uploads/result/2233/attachments/200206_forestfires_whitepaper_final_online.pdf.
- Fambri, Luca, et al. “Study of Plastics Debris Collected on the North Beaches of the Garda Lake After the Severe Storm Vaia in Autumn 2018.” ICMPMS 2019: Proceedings of the 2nd International Conference on Microplastic Pollution in the Mediterranean Sea, 2020.
- Faranda, D., Bourdin, S., Ginesta, M., Krouma, M., Noyelle, R., Pons, F., Yiou, P., and Messori, G.: A climate-change attribution retrospective of some impactful weather extremes of 2021, Weather Clim. Dynam., 3, 1311–1340, https://doi.org/10.5194/wcd-3-1311-2022, 2022.
- Galletti, Andrea, et al. “A Screening Procedure for Identifying Drought Hot-Spots in a Changing Climate.” water, vol. 15, 2023.
- García-León, D., et al. “Current and projected regional economic impacts of heatwaves in Europe.” Nature Communications, vol. 12, 2021.

- Gariano, Stefano Luigi, and Fausto Guzzetti. “Landslides in a changing climate.” Earth-Science Reviews, vol. 162, 2016, pp. 227-252.
- Gaume, Eric, et al. “Mediterranean extreme floods and flash floods.” HAL, 2016.
- Giovannini, Lorenzo, et al. “Multi-model convection-resolving simulations of the October 2018 Vaia storm over Northeastern Italy.” Atmospheric Research, vol. 253, 2021.
- Gobiet, Andreas, et al. “21st century climate change in the European Alps—A review.” Science of The Total Environment, vol. 493, 2014, pp. 1138-1151.
- IEEP. Climate change and natural disasters: Scientific evidence of a possible relation between recent natural disasters and climate change. Insitute for European Environmental Policy, 2006, https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d75f8803d77ee3e9edf405953451bbb0ad0ecdf3.
- IPCC, 2012: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York, NY, USA, 582 pp.
- IPCC, 2019: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In press
- ISPRA. “IdroGEO - Open Data.” IdroGEO, https://idrogeo.isprambiente.it/app/page/open-data.
- ISPRA. https://www.isprambiente.gov.it/it/attivita/suolo-e-territorio/dissesto-idrogeologico/le-alluvioni
- JRC. Forest Fires in Europe, Middle East and North Africa 2021. JRC TECHNICAL REPORT, 2022.
- JRC. Global warming and human impacts of heat and cold extremes in the EU. JRC technical report, 2020.Laiti, L., R. Barbiero, E. Pieratti (2022): Le variazioni climatiche di temperatura e precipitazione in Trentino nel periodo 1961-2020. A cura di: Agenzia Provinciale per la Protezione dell’Ambiente (APPA), Provincia autonoma di Trento. Rapporto tecnico interno, in pubblicazione.
- Laviola, Sante, et al. “Hail Climatology in the Mediterranean Basin Using the GPM Constellation (1999–2021).” remote sensing, vol. 14, 2022.
- Libertino A., Ganora D., & Claps P. (2019). Evidence for increasing rainfall extremes remains elusive at large spatial scales: The case of Italy. Geophysical Research Letters, 46, 7437–7446. https://doi.org/10.1029/2019GL083371
- Majone, Bruno, et al. “Analysis of high streamflow extremes in climate change studies: how do we calibrate hydrological models?” HESS, vol. 26, 2022, pp. 3863–3883.
- Matiu, M., et al. 2021, Observed snow depth trends in the European Alps - 1971 to 2019: The Cryosphere, v. 15, pp. 1343-1382 cum. bibl. https://doi.org/10.5194/tc-15-1343-2021

- Michetti, Melania, and Mehmet Pinar. “Forest Fires Across Italian Regions and Implications for Climate Change: A Panel Data Analysis.” Environmental and Resource Economics, vol. 72, 2019, pp. 207–246.
- Morabito, Marco, et al. “Increasing Heatwave Hazards in the Southeastern European Union Capitals.” atmosphere, vol. 8, 2017.
- Morlot, Martin, et al. “1 Trends in heat and cold wave risks for the Italian Trentino Alto-Adige region from 1980 to 2018.” Natural Hazards and Earth System Sciences, under review.
- Papathoma-Köhle, Maria, et al. “Vulnerability indicators for natural hazards: an innovative selection and weighting approach.” scientific reports, vol. 9, 2019.
- PAT. Carta di Sintesi della Pericolosità, 2020. http://www.protezionecivile.tn.it/territorio/Cartografia/cartografiatematica/-Cartografiaurbanistica/pagina13.html
- Piccolroaz, Sebastiano, and Tamara Michelini. “L'EVENTO ALLUVIONALE DEL 29 OTTOBRE: CONSEGUENZE E DANNI NEL TERRITORIO TRENTINO.” Bollettino del CFT, Provincia Autonoma di Trento, 2018.
- Pörtner, H.-O. et al. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 37-118, doi:10.1017/9781009325844.002.
- Rosatti, G., & Zugliani, D. “Modelling the transition between fixed and mobile bed conditions in two-phase free-surface flows: The Composite Riemann Problem and its numerical solution.” Journal of Computational Physics, vol. 285, 2015, pp. 226–250, https://doi.org/10.1016/j.jcp.2015.01.011
- Rosatti, Giorgio, et al. “A Web Service ecosystem for high-quality, cost-effective debris-flow hazard assessment.” Environmental Modelling & Software, vol. 100, 2018, pp. 33-47.
- Rosatti, G., Zugliani D., & Fraccarollo L. “The debris flow event of 29 October 2018 in the Rio Rotiano (Italy) and its challenges for the mathematical and numerical modelling” DFHM8: Proceedings of the 8th International Conference on Debris Flow Hazard Mitigation, 2023.
- Sansone, S., Zugliani, D., & Rosatti, G. (2021). A mathematical framework for modelling rock–ice avalanches. Journal of Fluid Mechanics, 919, A8. doi:10.1017/jfm.2021.348
- Shrestha, Susen, et al. “Water scarcity and climate change impacts in the Eastern Italian Alps: A case study of the Adige river basin.” EGU General Assembly 2023, 2023.
- Sutanto, Samuel Jonson, et al. “Heatwaves, droughts, and fires: Exploring compound and cascading dry hazards at the pan-European scale.” Environment International, vol. 134, 2020.
- Trans Alp. “Il progetto – Trans Alp.” Trans Alp, https://project-transalp.eu/il-progetto/.
- Valt, M., and Cianfarra, P. “Climate change in Italian Alps: analysis of snow precipitation, snow durations and avalanche activity”. International Snow Science Workshop Grenoble, 2013

- Weber, K., et al. : Mainstreaming CCA and DRR in the Alpine Macro-Regions. EUSALP Action Group 8, 2019.
- Wilhelm, B., et al. “Impact of warmer climate periods on flood hazard in the European Alps.” nature geoscience, vol. 15, 2022, pp. 118–123.
- Zorzi, Nadia, et al. “TRENT2D WG: a smart web infrastructure for debris-flow modelling and hazard assessment.” Proceedings of EGU General Assembly 2016, 2016.
- Zugliani, Daniel, and Giorgio Rosatti. “TRENT2D❄: An accurate numerical approach to the simulation of two-dimensional dense snow avalanches in global coordinate systems.” Cold Regions Science and Technology, vol. 190, 2021.

Salute

- “AiRabbi - Parco Nazionale dello Stelvio - Trentino.” Parco Stelvio Trentino, https://www.parcostelviotrentino.it/it/cosa-facciamo/airabbi/154-107874.html.
- Alfano, N.; Tagliapietra, V.; Rosso, F.; Manica, M.; Arnoldi, D.; Pindo, M.; Rizzoli, A. (2019). Changes in microbiota across developmental stages of Aedes koreicus, an invasive mosquito vector in Europe: indications for microbiota-based control strategies. FRONTIERS IN MICROBIOLOGY, 10: 2832. doi: 10.3389/fmicb.2019.02832 handle: http://hdl.handle.net/10449/58614
- Alfano, Niccolò, et al. “Tick-borne encephalitis foci in northeast Italy revealed by combined virus detection in ticks, serosurvey on goats and human cases.” Emerging Microbes & Infections, vol. 9, 2020.
- Amirkhani, Maral, et al. “Extreme weather events and death based on temperature and CO2 emission – A global retrospective study in 77 low-, middle- and high-income countries from 1999 to 2018.” Preventive Medicine Reports, vol. 28, 2022.
- “Arbovirosi: bollettini periodici arbovirosi.” epiCentro.iss.it, https://www.epicentro.iss.it/arbovirosi/bollettini.
- Baldacchino, F.; Arnoldi, D.; Lapere, C.; Rosà, R.; Montarsi, F.; Capelli, G.; Rizzoli, A. (2017 a). Weak larval competition between two invasive mosquitoes Aedes koreicus and Aedes albopictus (Diptera: Culicidae). JOURNAL OF MEDICAL ENTOMOLOGY, 54 (5): 1266-1272. doi: 10.1093/jme/tjx093 handle: http://hdl.handle.net/10449/43686
- Baldacchino, F.A.; Bussola, F.; Arnoldi, D.; Marcantonio, M.; Montarsi, F.; Capelli, G.; Rosa’, R.; Rizzoli, A. (2017 b). An integrated pest control strategy against the Asian tiger mosquito in northern Italy: a case study. PEST MANAGEMENT SCIENCE, 73 (1): 87-93. doi: 10.1002/ps.4417 handle: http://hdl.handle.net/10449/34828
- Baldacchino, F.A.; Bruno, M.C.; Visentin, P.; Blondel, K.; Arnoldi, D.; Hauffe, H.C.; Rizzoli, A. (2017 c). Predation efficiency of copepods against the new invasive mosquito species Aedes koreicus (Diptera: Culicidae) in Italy. THE ITALIAN JOURNAL OF ZOOLOGY, 84 (1): 43-48. doi: 10.1080/11250003.2016.1271028 handle: http://hdl.handle.net/10449/37213
- Bolzoni L, Rosà R, Cagnacci F, Rizzoli A. Effect of deer density on tick infestation of rodents and the hazard of tick-borne encephalitis. II: population and infection models. Int J Parasitol. 2012 Apr;42(4):373-81. doi: 10.1016/j.ijpara.2012.02.006. Epub 2012 Mar 13. PMID: 22429768.
- Cagnacci, F.; Bolzoni, L.; Rosa', R.; Carpi, G.; Hauffe, H.C.; Valent, M.; Tagliapietra, V.; Kazimirova, M.; Koci, J.; Stanko, M.; Lukan, M.; Henttonen, H.; Rizzoli, A. (2012). Effects of deer density on tick infestation of rodents and the hazard of tick-borne encephalitis. I: Empirical assessment. INTERNATIONAL JOURNAL FOR PARASITOLOGY, 42 (4): 365-372. doi: 10.1016/j.ijpara.2012.02.012 handle: http://hdl.handle.net/10449/20968
- “Cambiamenti climatici.” ISS, https://www.iss.it/cambiamenti-climatici.
- Carpi, G., et al. “Tick infestation on roe deer in relation to geographic and remotely sensed climatic variables in a tick-borne encephalitis endemic area.” Epidemiology & Infection, vol. 136, 2008, pp. 1416-1424.

- “Circolo Climatico”, 2022, https://trentogiovani.it/Attivita/Iniziative/Progetti-Piano-Giovani-di-Zona-2022/PGZ-22-Circolo-Climatico
- “Climate Change Indicators: Health and Society | US EPA.” Environmental Protection Agency, https://www.epa.gov/climate-indicators/health-society.
- Cristofolini, Fabiana, et al. “Il polline invadente dell'ambrosia.” TERRA TRENTINA, 2015, http://hdl.handle.net/10449/37274.
- Cristofolini, Fabiana, et al. “Temporal trends in airborne pollen seasonality: evidence from the Italian POLLnet network data.” Aerobiologia, vol. 36, 2020, pp. 63-70.
- Cristofolini, Fabianai, , et al. “The increase in airborne pollen concentration is the most significant change that emerged from aerobiological monitoring in Trentino (Northern Italy) over the past three decades.” Under review.
- Cristofori, Antonella, et al. “The late flowering of invasive species contributes to the increase of Artemisia allergenic pollen in autumn: an analysis of 25 years of aerobiological data (1995–2019) in Trentino-Alto Adige (Northern Italy).” Aerobiologia, vol. 36, 2020, pp. 669-682.
- Cristofori, Antonella, et al. “Twenty years of aerobiological monitoring in Trentino (Italy): Assessment and evaluation of airborne pollen variability.” Aerobiologia, vol. 26, 2010, pp. 253–261.
- Dagostin, Francesca, et al. “Ecological and environmental factors affecting the risk of tick-borne encephalitis in Europe.” Under review.
- “Early Warning System of Mosquito Diseases.” BEYOND EO Center, http://beyond-eocenter.eu/index.php/web-services/eywa.
- “EPSlab.” Environmental Psychology and Sustainability Lab, https://sites.google.com/unitn.it/epslab/home?authuser=0.
- Hudson, P.J., et al. “Tick-borne encephalitis virus in northern Italy:molecular analysis, relationships with density andseasonal dynamics ofIxodes ricinus.” Medical and Veterinary Entomology, vol. 15, 2001, 04±313.
- “Indicators on climate change and health — European Climate and Health Observatory.” Climate-ADAPT, https://climate-adapt.eea.europa.eu/en/observatory/evidence/indicators_intro.
- IPCC. “Emissions Scenarios.” A Special Report of IPCC Working Group III, 2000.
- “La Carta Internazionale di Roma su Salute e Cambiamenti Climatici The Rome International Charter on Health and Climate Change.” Canale Energia, http://www.canaleenergia.com/wp-content/uploads/2018/12/Carta-di-Roma-Inglese-e-italiano.pdf.
- Marcantonio, M.; Metz, M.; Baldacchino, F.A.; Arnoldi, D.; Montarsi, F.; Capelli, G.; Carlin, S.; Neteler, M.G.; Rizzoli, A. (2016). First assessment of potential distribution and dispersal capacity of the emerging invasive mosquito Aedes koreicus in Northeast Italy. PARASITES & VECTORS, 9 (63): 1-19. doi:10.1186/s13071-016-1340-9 handle: http://hdl.handle.net/10449/28942
- Marini, G.; Guzzetta, G.; Baldacchino, F.A.; Arnoldi, D.; Montarsi, F.; Capelli, G.; Rizzoli, A.; Merler, S.; Rosà, R. (2017). The effect of interspecific competition on the temporal

dynamics of Aedes albopictus and Culex pipiens. PARASITES & VECTORS, 10 (102): 1-9. doi: 10.1186/s13071-017-2041-8 handle: http://hdl.handle.net/10449/37983

- Marini, G.; Arnoldi, D.; Baldacchino, F.; Capelli, G.; Guzzetta, G.; Merler, S.; Montarsi, F.; Rizzoli, A.; Rosà, R. (2019). First report of the influence of temperature on the bionomics and population dynamics of Aedes koreicus, a new invasive alien species in Europe. PARASITES & VECTORS, 12: 524. doi: 10.1186/s13071-019-3772-5 handle: http://hdl.handle.net/10449/57398
- Marini, G.; Manica, M.; Arnoldi, D.; Inama, E.; Rosa' R.; Rizzoli, A. (2020). Influence of temperature on the life-cycle dynamics of Aedes albopictus population established at temperate latitudes: a laboratory experiment. INSECTS, 11 (11): 808. doi: 10.3390/insects11110808 handle: http://hdl.handle.net/10449/65478
- Marini, Giovanni, et al. "Correlation between airborne pollen data and the risk of tick-borne encephalitis in northern Italy." Under review.
- Marini, Giovanni, et al. "Predicting tick-borne encephalitis risk using airborne pollen data in Western Central Europe." CLB: 16th International Conference on Lyme Borreliosis and other Tick-borne diseases (ICLB), Amsterdam, The Netherlands, September 4-7, 2022.
- Marini, G.; Arnoldi, D.; Inama, E.; Rizzoli, A. (2022). Diapause characterization in the invasive alien mosquito species Aedes koreicus: a laboratory experiment. PARASITES & VECTORS, 15 (1): 315. doi:10.1186/s13071-022-05376-7 handle: http://hdl.handle.net/10449/76655
- "Monitoring Outbreaks for Disease surveillance in a data science context." MOOD project, https://mood-h2020.eu/.
- Montarsi, F.; Drago, A.; Martini, S.; Calzolari, M.; De Filippo, F.; Bianchi, A.; Mazzucato, M.; Ciocchetta, S.; Arnoldi, D.; Baldacchino, F.A.; Rizzoli, A.; Capelli, G. (2015). Current distribution of the invasive mosquito species, Aedes koreicus [Hulecoeteomyia koreica] in northern Italy. PARASITES & VECTORS, 8 (1): 614. doi: 10.1186/s13071-015-1208-4 handle: http://hdl.handle.net/10449/27692
- Montarsi, F.; Rosso, F.; Arnoldi, D.; Ravagnan, S.; Marini, G.; Delucchi, L.; Rosa', R.; R.; Rizzoli, A. (2022). First report of the blood-feeding pattern in Aedes koreicus, a new invasive species in Europe. SCIENTIFIC REPORTS, 12 (1): 15751. doi: 10.1038/s41598-022-19734-z handle: http://hdl.handle.net/10449/76795
- Morganstein, Joshua C, and Robert J Ursano. "Ecological Disasters and Mental Health: Causes, Consequences, and Interventions." Front Psychiatry, 2020, DOI: 10.3389/fpsyt.2020.00001.
- Morlot, Martin, et al. "Trends in heat and cold wave risks for the Italian Trentino Alto-Adige region from 1980 to 2018." Natural Hazards and earth System Sciences, under review.
- "Piano di monitoraggio della Provincia autonoma di Trento delle zanzare e di altri vettori." Vettori in Trentino, https://vettoritrentino.it/home/.
- Riccò, Matteo. "Air temperature exposure and agricultural occupational injuries in the Autonomous Province of Trento (2000-2013, North-Eastern Italy)." Int J Occup Med Environ Health., 2018, pp. 317-331.

- Rizzoli, Annapaola, et al. “Early detection of tick-borne encephalitis virus spatial distribution and activity in the province of Trento, northern Italy.” Geospatial Health, vol. 2, 2007, pp. 169-176.
- Rizzoli, Annapaola, et al. “Forest structure and roe deer abundance predict tick-borne encephalitis risk in Italy”. PLoS One. 2009; 4(2):e4336. doi:10.1371/journal.pone.0004336. Epub 2009 Feb 2. PMID: 19183811; PMCID: PMC2629566.
- Rizzoli, Annapaola, et al. “Early warning signals of tick-borne encephalitis risk.” XXXII Congresso Nazionale della Società Italiana di Parassitologia: transizioni parassitologiche (SOIPA), Napoli, 27-30 giugno 2022.
- Rosà, Roberto et al. “Changes in host densities and co-feeding pattern efficiently predict tick-borne encephalitis hazard in an endemic focus in northern Italy”. Int J Parasitol. 2019 Sep;49(10):779-787. doi: 10.1016/j.ijpara.2019.05.006. Epub 2019 Jul 23. PMID: 31348960.
- Roiz, David, et al. “Climatic Factors Driving Invasion of the Tiger Mosquito (Aedes albopictus) into New Areas of Trentino, Northern Italy.” PLoS ONE, 2011.
- Roiz, D.; Vazquez, A.; Rosa R.; Muñoz, J.; Arnoldi, D.; Rosso, F.; Figuerola, J.; Tenorio, A.; Rizzoli, A. (2012). Blood meal analysis, flavivirus screening, and influence of meteorological variables on the dynamics of potential mosquito vectors of West Nile virus in northern Italy. JOURNAL OF VECTOR ECOLOGY, 37 (1): 20-28. doi: 10.1111/j.1948-7134.2012.00196.x handle: http://hdl.handle.net/10449/21025
- Rosso, F.; Tagliapietra, V.; Albanese, D.; Pindo, M.; Baldacchino, F.; Arnoldi, D.; Donati, C.; Rizzoli, A. (2018). Reduced diversity of gut microbiota in two Aedes mosquitoes species in areas of recent invasion.. SCIENTIFIC REPORTS, 8: 16091. doi: 10.1038/s41598-018-34640-z handle: http://hdl.handle.net/10449/51060
- Smith, K.R., et al. “Human Health: Impacts, Adaptation, and Co-Benefits.” IPCC, 2014, pp. 709-754.
- van Daalen, Kim R, et al. “Executive summary.” The 2022 Europe report of the Lancet Countdown on health and climate change: towards a climate resilient future, vol. 7, 2022.

Sicurezza e coesione sociale

- Barnett, Jon. “Security and climate change.” Global Environmental Change, vol. 13, 2003, pp. 7-17.
- Ministero dell’ambiente e della tutela del territorio e del mare. “PIANO NAZIONALE DI ADATTAMENTO AI CAMBIAMENTI CLIMATICI”. 2018, in via di approvazione.
- “Research Südtirol L'integrazione del cambiamento climatico nella ...” Eurac Research, https://www.eurac.edu/it/institutes-centers/istituto-di-studi-federali-comparati/projects/research-suedtirol.
- UNDP. United Nations Development Programme: Home, https://www.undp.org/.

Trasporti e infrastrutture

- Climate-ADAPT. “Transport.” Climate-ADAPT, https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/sector-policies/transport/index_html.
- EPA. “Climate Change Impacts on Transportation.” https://www.epa.gov/climateimpacts/climate-change-impacts-transportation.
- “Inforegio - Commission adopts new guidance on how to climate-proof future infrastructure projects.” European Commission, 29 July 2021, https://ec.europa.eu/regional_policy/en/newsroom/news/2021/07/29-07-2021-commission-adopts-new-guidance-on-how-to-climate-proof-future-infrastructure-projects.
- Mims. Cambiamenti climatici, infrastrutture e mobilità. 2022.

Turismo

- Alpino Matteo, Citino Luca, de Blasio Guido Zeni Federica. “Gli effetti del cambiamento climatico sull’economia.” Occasional paper Banca d’Italia, 2022 https://www.bancaditalia.it/pubblicazioni/qef/2022-0728/index.html?dotcache=refresh
- Becken, S., Whittlesea, E., Loehr, J., & Scott, D. (2020). Tourism and climate change: Evaluating the extent of policy integration. Journal of Sustainable Tourism, 28(10), 1603-1624.
- Bizzarri, Carmen, and Margherita Pedrana. “GLI IMPATTI DEI CAMBIAMENTI CLIMATICI SUL TURISMO Un'analisi delle politiche di intervento.” Rivista di Scienze del Turismo, vol. 8, 2017, https:doi.org/107358/rst-2017-01-bipe.
- Copernicus. “Climate suitability indicators for tourism.” https://cds.climate.copernicus.eu/cdsapp#!/dataset/10.24381/cds.126d9ce7?tab=overview.
- “Estate 2020 Strategia Covid 19”, Val Di Sole, 2020, https://www.visitvaldisole.it/website_files/generale/Strategia-COVID-estate-2020.pdf
- ETIS European Commission https://single-market-economy.ec.europa.eu/sectors/tourism/offer/sustainable/indicators_en
- “FBK Digital Society Center - Project Management Group | NEVERMORE.” Project Management Group, 1 6 2022, https://pmg.fbk.eu/nevermore/.
- “Immaginare il domani”, ApT Valle di Sole, Tsm-Trentino School of Management, 2022.
- “L’ATA città, laghi, altipiani verso il primo distretto turistico sostenibile certificato”. Ufficio Stampa Provincia Autonoma di Trento, 2023. https://www.ufficiostampa.provincia.tn.it/Comunicati/L-ATA-citta-laghi-altipiani-verso-il-primo-distretto-turistico-sostenibile-certificato
- “LE DOMANDE - FUTURELAB.” Dolomiti Paganella Future Lab, 2022, https://www.dolomitipaganellafuturelab.it/il-progetto/.
- “L’IMPATTO DEL CAMBIAMENTO CLIMATICO SULLE ATTIVITÀ OUTDOOR IN MONTAGNA”. Interreg ALCOTRA, 2021, https://pro.auvergnerhonealpes-tourisme.com/wp-content/uploads/2021/05/CarnetChangementClimatique-VersionItalienne-3.pdf
- Franch Mariangela., Mich Luisa, Peretta Roberto. Tourism Ecosystems. Sustainability Management and Digitalization. Intra, 2022 https://edizioni.intra.pro/prodotto/m-franch-l-mich-r-peretta-eds-tourism-ecosystems-sustainability-management-and-digitalization/
- Gössling S., Balas M., Mayer M., Sun Y-Y. (2023). A review of tourism and climate change mitigation: The scales, scopes, stakeholders and strategies of carbon management Tourism Management, vol. 95, 104681.
- Mariani, Gioia Maria, and Diego Scalise. “Climate change and winter tourism: evidence from Italy.” Questioni di Economia e Finanza, 2022, DOI: 10.32057/0.QEF.2022.0743.
- Marinello, S., Butturi, M. A., Gamberini, R., & Martini, U. (2023). Indicators for sustainable touristic destinations: A critical review. Journal of Environmental Planning and Management, 66(1), 1-30.

- OECD 2007 https://aineva.it/wp-content/uploads/2015/12/nv80_rivista-3.pdf
- Provincia Autonoma di Trento. Rapporto sullo stato dell'ambiente 2020. 2020, http://www.appa.provincia.tn.it/rapporto_ambiente_2020/.
- Provincia Autonoma di Trento Servizio Turismo e Sport. Analisi delle esigenze dei rifugi alpini. Ufficio interventi tecnici, patrimonio alpinistico e termale, 2022, https://www.provincia.tn.it/News/Approfondimenti/Analisi-delle-esigenze-dei-rifugi-alpini.
- Schmidt, N., & Fleig, A., (2018). Global patterns of national climate policies: Analyzing 171 country portfolios on climate policy integration. Environmental Science & Policy, 84, 177–185. doi:10.1016/j.envsci.2018.03.003
- “SMART ALTITUDE”. Ski.it
- https://www.ski.it/en/smart-altitude
- Steiger, Robert, et al. “Impacts of climate change on mountain tourism: a review.” JOURNAL OF SUSTAINABLE TOURISM, 2022, pp. 1-34, https://doi.org/10.1080/09669582.2022.2112204.
- “Turismo - Provincia Autonoma di Trento - Servizio Statistica.” Servizio Statistica, http://www.statistica.provincia.tn.it/statistiche/settori_economici/turismo/.
- “Valsugana Sostenibile”, Valsugana Lagorai, https://www.visitvalsugana.it/documenti/news/conferenza-stampa-gstc.pdf
- Viesi, D., Baldessari, G., Polderman, A., Sala, S., Zanetti, A., Bolognese, M., ... & Crema, L..”Developing and testing an “Integrated Energy Management System” in a ski resort: The “Living Lab Madonna di Campiglio””. Cleaner Energy Systems, 2023, 4, 100050.
- Weir, Brian. “Climate change and tourism - Are we forgetting lessons from the past?” Journal of Hospitality and Tourism Management, vol. 32, 2017, pp. 108-114, http://dx.doi.org/10.1016/j.jhtm.2017.05.00

Bibliografia del report “Parte B: Analisi delle proiezioni climatiche disponibili in letteratura ed elaborazione di scenari climatici di riferimento aggiornati per il territorio trentino”

- Auer, I. e Böhm, R. (1994). Combined temperature-precipitation variations in Austria during the instrumental period. In: Theoretical and applied climatology 49.3, pp. 161–174.
- Auer, I., Böhm, R., Jurkovic, A., Lipa, W., Orlik, A., Potzmann, R., Schöner, W., Ungers Böck, M., Matulla, C., Briffa, K., Jones, P., Efthymiadis, D., Brunetti, M., Nanni, T., Maugeri, M., Mercalli, L., Mestre, O., Moisselin, J.-M., Begert, M., M¨uller-Westermeier, G., Kveton, V., Bochnicek, O., Stastny, P., Lapin, M., Szalai, S., Szentimrey, T., Cegnar, T., Dolinar, M., Gajic-Capka, M., Zaninovic, K., Majstorovic, Z. e Nieplova, E. (2007). HISTALP—historical instrumental climatological surface time series of the Greater Alpine Region. In: International Journal of Climatology 27.1, pp. 17–46. issn: 1097-0088. doi: 10.1002/joc.1377. url: https://rmets.onlinelibrary.wiley.com/doi/abs/10.1002/joc.1377 (visitato il giorno 10/09/2020).
- Beniston, M., Farinotti, D., Stoffel, M., Andreassen, L. M., Coppola, E., Eckert, N., Fantini, A., Giacona, F., Hauck, C., Huss, M. et al. (2018). The European mountain cryosphere: a review of its current state, trends, and future challenges. In: The Cryosphere 12.2, pp. 759–794.
- Brugnara, Y., Brunetti, M., Maugeri, M., Nanni, T. e Simolo, C. (2012). High-resolution analysis of daily precipitation trends in the central Alps over the last century. In: International Journal of Climatology 32.9, pp. 1406–1422. issn: 1097-0088. doi: 10.1002/joc.2363. url: https://onlinelibrary.wiley.com/doi/abs/10.1002/joc.2363 (visitato il giorno 30/07/2024).
- Brunetti, M., Lentini, G., Maugeri, M., Nanni, T., Auer, I., Böhm, R. e Schöner, W. (2009). Climate variability and change in the Greater Alpine Region over the last two centuries based on multi-variable analysis. In: International Journal of Climatology 29.15, pp. 2197– 2225. doi: https://doi.org/10.1002/joc.1857.
- Bucchignani, E., Montesarchio, M., Zollo, A. L. e Mercogliano, P. (2016). High-resolution climate simulations with COSMO-CLM over Italy: performance evaluation and climate projections for the 21st century. In: International Journal of Climatology 36.2.
- Cannon, A. J. (2015). Selecting GCM Scenarios that Span the Range of Changes in a Multimodel Ensemble: Application to CMIP5 Climate Extremes Indices. In: Journal of Climate 28.3, pp. 1260–1267. issn: 0894-8755, 1520-0442. doi: 10.1175/JCLI-D-14-00636.1. url: https://journals.ametsoc.org/view/journals/clim/28/3/jcli-d-14-00636.1.xml (visitato il giorno 31/03/2023).

- Cannon, A. J. (2018). Multivariate quantile mapping bias correction: an N-dimensional probability density function transform for climate model simulations of multiple variables. In: Climate Dynamics 50.1, pp. 31–49. issn: 1432-0894. doi: 10.1007/s00382-017-3580-6. url: https://doi. org/10.1007/s00382-017-3580-6 (visitato il giorno 13/03/2019).
- Cannon, A. J., Sobie, S. R. e Murdock, T. Q. (2015). Bias Correction of GCM Precipitation by Quantile Mapping: How Well Do Methods Preserve Changes in Quantiles and Extremes? In: Journal of Climate 28.17, pp. 6938–6959. issn: 0894-8755. doi: 10 . 1175 / JCLI - D - 14 - 00754.1. url: https://journals.ametsoc.org/doi/10.1175/JCLI- D- 14- 00754.1 (visitato il giorno 17/10/2018).
- Ceppi, P., Scherrer, S. C., Fischer, A. M. e Appenzeller, C. (2012). ≪Revisiting Swiss temperature trends 1959–2008≫. In: International Journal of Climatology 32.2, pp. 203–213. doi: https: //doi.org/10.1002/joc.2260.
- Coppola, E., Nogherotto, R., Ciarlo', J. M., Giorgi, F., Meijgaard, E. v., Kadygrov, N., Iles, C., Corre, L., Sandstad, M., Somot, S., Nabat, P., Vautard, R., Levavasseur, G., Schwingshackl, C., Sillmann, J., Kjellström, E., Nikulin, G., Aalbers, E., Lenderink, G., Christensen, O. B., Boberg, F., Sørland, S. L., Demory, M.-E., Bülow, K., Teichmann, C., Warrach-Sagi, K. e Wulfmeyer, V. (2021). Assessment of the European Climate Projections as Simulated by the Large EURO-CORDEX Regional and Global Climate Model Ensemble. In: Journal of Geophysical Research: Atmospheres 126.4, e2019JD032356. issn: 2169-8996. doi: 10.1029/2019JD032356. url: https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019JD032356 (visitato il giorno 19/07/2021).
- Crespi, A., Matiu, M., Bertoldi, G., Petitta, M. e Zebisch, M. (2021). A high-resolution gridded dataset of daily temperature and precipitation records (1980–2018) for Trentino-South Tyrol (north-eastern Italian Alps). In: Earth System Science Data 13.6, pp. 2801–2818. issn: 1866-3508. doi: 10.5194/essd-13-2801-2021. url: https://essd.copernicus.org/articles/13/2801/2021/ (visitato il giorno 21/06/2021).
- Cristofolini, F., Eccel, E., Gianelle, D., Gottardini, E., La Porta, N., Neteler, M., Rizzoli, A. et al. (2008). Progetto clima 2008: previsioni e conseguenze dei cambiamenti climatici in Trentino.
- Dallan, E., Borga, M., Zaramella, M. e Marra, F. (2022). Enhanced Summer Convection Explains Observed Trends in Extreme Subdaily Precipitation in the Eastern Italian Alps. In: Geophysical Research Letters 49.5, e2021GL096727. issn: 1944-8007. doi: 10 . 1029 / 2021GL096727. url: https://onlinelibrary.wiley.com/doi/abs/10.1029/2021GL096727 (visitato il giorno 30/07/2024).
- Di Piazza, A., Eccel, E. et al. (2012). Analisi di serie di temperatura e precipitazione in Trentino nel periodo 1958-2010.
- Fischer, A. M., Strassmann, K. M., Croci-Maspoli, M., Hama, A. M., Knutti, R., Kotlarski, S., Schär, C., Schnadt Poberaj, C., Ban, N., Bavay, M., Beyerle, U., Bresch, D. N., Br¨onnimann, S., Burlando, P., Casanueva, A., Fatichi, S., Feigenwinter, I., Fischer, E. M., Hirschi, M., Liniger, M. A., Marty, C., Medhaug, I., Peleg, N., Pickl, M., Raible, C. C.,

Rajczak, J., Rössler, O., Scherrer, S. C., Schwierz, C., Seneviratne, S. I., Skelton, M., Sørland, S. L., Spirig, C., Tschurr, F., Zeder, J. e Zubler, E. M. (2022). Climate Scenarios for Switzerland CH2018 – Approach and Implications. In: Climate Services 26, p. 100288. issn: 2405-8807. doi: 10.1016/j.cliser.2022.100288. url: https://www.sciencedirect.com/science/article/pii/S2405880722000061 (visitato il giorno 10/08/2022).

- Formetta, G., Marra, F., Dallan, E., Zaramella, M. e Borga, M. (2022). Differential orographic impact on sub-hourly, hourly, and daily extreme precipitation. In: Advances in Water Resources 159, p. 104085. issn: 0309-1708. doi: 10.1016/j.advwatres.2021.104085. url: https://www.sciencedirect.com/science/article/pii/S0309170821002372 (visitato il giorno 21/02/2024).
- Frei, C., Willi, M., Stöckli, R. e Dürr, B. (2015). Spatial analysis of sunshine duration in complex terrain by non-contemporaneous combination of station and satellite data. In: International Journal of Climatology 35.15, pp. 4771–4790. issn: 1097-0088. doi: 10.1002/joc.4322. url: https://onlinelibrary.wiley.com/doi/abs/10.1002/joc.4322 (visitato il giorno 29/04/2024).
- Frei, P., Kotlarski, S., Liniger, M. A. e Schär, C. (2018). Future snowfall in the Alps: projections based on the EURO-CORDEX regional climate models. In: The Cryosphere 12.1, pp. 1–24.
- Gampe, D., Nikulin, G. e Ludwig, R. (2016). Using an ensemble of regional climate models to assess climate change impacts on water scarcity in European river basins. In: Science of The Total Environment 573, pp. 1503–1518. issn: 0048-9697. doi: 10 . 1016 / j.scitotenv.2016.08.053. url: https://www.sciencedirect.com/science/article/pii/S0048969716317478 (visitato il giorno 30/07/2024).
- Giorgi, F., Torma, C., Coppola, E., Ban, N., Schär, C. e Somot, S. (2016). Enhanced summer convective rainfall at Alpine high elevations in response to climate warming. In: Nature Geoscience 9.8, pp. 584–589.
- Giovannini, L., Zardi, D. e de Franceschi, M. (2011). Analysis of the Urban Thermal Fingerprint of the City of Trento in the Alps. In: Journal of Applied Meteorology and Climatology 50.5, pp. 1145–1162. issn: 1558-8424, 1558-8432. doi: 10.1175/2010JAMC2613.1. url: https: //journals.ametsoc.org/view/journals/apme/50/5/2010jamc2613.1.xml (visitato il giorno 30/07/2024).
- Gobiet, A., Kotlarski, S., Beniston, M., Heinrich, G., Rajczak, J. e Stoffel, M. (2014). 21st century climate change in the European Alps—A review. In: Science of the Total Environment 493, pp. 1138–1151.
- Gulev, S., Thorne, P., Ahn, J., Dentener, F., Domingues, C., Gerland, S., Gong, D., Kaufman, D., Nnamchi, H., Quaas, J., Rivera, J., Sathyendranath, S., Smith, S., Trewin, B., Schuckmann, K. von e Vose, R. (2021). Changing State of the Climate System. In: Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Cambridge University Press, pp. 287–422. doi: https://doi.org/10.1017/9781009157896.004.

- Gutierrez, J. M., Maraun, D., Widmann, M., Huth, R., Hertig, E., Benestad, R., Roessler, O., Wibig, J., Wilcke, R., Kotlarski, S., San Martin, D., Herrera, S., Bedia, J., Casanueva, A., Manzanas, R., Iturbide, M., Vrac, M., Dubrovsky, M., Ribalaygua, J., Portoles, J., Räty, O., Räisänen, J., Hingray, B., Raynaud, D., Casado, M. J., Ramos, P., Zerenner, T., Turco, M., Bosshard, T., Stepanek, P., Bartholy, J., Pongracz, R., Keller, D. E., Fischer, A. M., Cardoso, R. M., Soares, P. M. M., Czernecki, B. e Page, C. (2019). An intercomparison of a large ensemble of statistical downscaling methods over Europe: Results from the VALUE perfect predictor cross-validation experiment. In: International Journal of Climatology 39.9, pp. 3750–3785. issn: 1097-0088. doi: 10.1002/joc.5462. url: https://onlinelibrary.wiley.com/doi/abs/10.1002/joc.5462 (visitato il giorno 25/09/2023).
- Hiebl, J., Bourgeois, Q., Tilg, A.-M. e Frei, C. (2024). Daily sunshine grids for Austria since 1961 – combining station and satellite observations for a multi-decadal climate-monitoring dataset. In: Theoretical and Applied Climatology 155.8, pp. 8337–8360. issn: 1434-4483. doi: 10.1007/s00704-024-05103-5. url: https://doi.org/10.1007/s00704-024-05103-5 (visitato il giorno 04/10/2024).
- Hock, R., Rasul, G., Adler, C., Caceres, B., Gruber, S., Hirabayashi, Y., Jackson, M., Kääb, A., Kang, S., Kutuzov, S., Milner, A., Molau, U., Morin, S., Orlove, B. e Steltzer, H. (2019). High Mountain Areas. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. A cura di H.-O. Pörtner, D. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegria, M. Nicolai, A. Okem, J. Petzold, B. Rama e N. Weyer. Cambridge, UK e New York, NY, USA: Cambridge University Press.
- IPCC (2013). Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. A cura di T. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex e P. Midgley. Cambridge, United Kingdom e New York, NY, USA: Cambridge University Press.
- IPCC (2019). Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. A cura di H.-O. Pörtner, D. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegria, M. Nicolai, A. Okem, J. Petzold, B. Rama e N. Weyer. In press.
- Jacob, D., Petersen, J., Eggert, B., Alias, A., Christensen, O. B., Bouwer, L. M., Braun, A., Colette, A., Deque, M., Georgievski, G., Georgopoulou, E., Gobiet, A., Menut, L., Nikulin, G., Haensler, A., Hempelmann, N., Jones, C., Keuler, K., Kovats, S., Kröner, N., Kotlarski, S., Kriegsmann, A., Martin, E., Meijgaard, E. van, Moseley, C., Pfeifer, S., Preuschmann, S., Radermacher, C., Radtke, K., Rechid, D., Rounsevell, M., Samuelsson, P., Somot, S., Soussana, J.-F., Teichmann, C., Valentini, R., Vautard, R., Weber, B. e Yiou, P. (2014). EUROCORDEX: new high-resolution climate change projections for European impact research. In: Regional Environmental Change 14.2, pp. 563–578. issn: 1436-378X. doi: 10.1007/s10113-013- 0499- 2. url: https://doi.org/10.1007/s10113- 013- 0499- 2 (visitato il giorno 10/12/2018).
- Kotlarski, S., Gobiet, A., Morin, S., Olefs, M., Rajczak, J. e Samacoïts, R. (2022). 21st Century alpine climate change. In: Climate Dynamics. issn: 1432-0894. doi:

10.1007/s00382-022-06303 - 3. url: https : / / doi . org / 10 . 1007 / s00382 - 022 - 06303 - 3 (visitato il giorno 22/07/2022).
- Laiti, L., Giovannini, L., Zardi, D. (2016). Atlante Climatico Trentino.
- Lee, H., Calvin, K., Dasgupta, D., Krinner, G., Mukherji, A., Thorne, P., Trisos, C., Romero, J., Aldunce, P., Barret, K. et al. (2023). IPCC, 2023: Climate Change 2023: Synthesis Report, Summary for Policymakers. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland.
- Lutz, S. R., Mallucci, S., Diamantini, E., Majone, B., Bellin, A. e Merz, R. (2016). Hydroclimatic and water quality trends across three Mediterranean river basins. In: Science of The Total Environment 571, pp. 1392–1406. issn: 0048-9697. doi: 10.1016/j.scitotenv.2016.07.102. url: https://www.sciencedirect.com/science/article/pii/S0048969716315480 (visitato il giorno 30/07/2024).
- Majone, B., Villa, F., Deidda, R. e Bellin, A. (2016). Impact of climate change and water use policies on hydropower potential in the south-eastern Alpine region. In: Science of The Total Environment. Special Issue on Climate Change, Water and Security in the Mediterranean 543, pp. 965–980. issn: 0048-9697. doi: 10.1016/j.scitotenv.2015.05.009. url: https: //www.sciencedirect.com/science/article/pii/S004896971530067X (visitato il giorno 30/07/2024).
- Mallucci, S., Majone, B. e Bellin, A. (2019). Detection and attribution of hydrological changes in a large Alpine river basin. In: Journal of Hydrology 575, pp. 1214–1229. issn: 0022-1694. doi: 10.1016/j.jhydrol.2019.06.020. url: http://www.sciencedirect.com/science/article/pii/S0022169419305712 (visitato il giorno 30/09/2020).
- Maraun, D. (2013). Bias Correction, Quantile Mapping, and Downscaling: Revisiting the Inflation Issue. In: Journal of Climate 26.6, pp. 2137–2143. issn: 0894-8755, 1520-0442. doi: 10.1175/JCLI-D-12-00821.1. url: https://journals.ametsoc.org/view/journals/clim/26/6/jcli-d-12-00821.1.xml (visitato il giorno 05/08/2021).
- Marcolini, G., Bellin, A., Disse, M. e Chiogna, G. (2017). Variability in snow depth time series in the Adige catchment. In: Journal of Hydrology: Regional Studies 13, pp. 240–254. issn: 572214-5818. doi: 10.1016/j.ejrh.2017.08.007. url: http://www.sciencedirect.com/science/article/pii/S2214581817302239 (visitato il giorno 18/02/2020).
- Marty, C., Schlögl, S., Bavay, M. e Lehning, M. (2017). How much can we save? Impact of different emission scenarios on future snow cover in the Alps. In: The Cryosphere 11.1, pp. 517–529.
- Matiu, M., Crespi, A., Bertoldi, G., Carmagnola, C. M., Marty, C., Morin, S., Schöner, W., Cat Berro, D., Chiogna, G., De Gregorio, L. et al. (2021). Observed snow depth trends in the European Alps: 1971 to 2019. In: The Cryosphere 15.3, pp. 1343–1382.
- Matiu, M., Napoli, A., Bellin, A., Zardi, D. e Majone, B. (in preparation). Statistical downscaling of temperature and precipitation in complex terrain. In: International Journal of Climatology.

- Matiu, M., Napoli, A., Kotlarski, S., Zardi, D., Bellin, A. e Majone, B. (2024). Elevation dependent biases of raw and bias-adjusted EURO-CORDEX regional climate models in the European Alps. In: Climate Dynamics. issn: 1432-0894. doi: 10.1007/s00382-024-07376-y. url: https://doi.org/10.1007/s00382-024-07376-y (visitato il giorno 07/08/2024).
- Napoli, A., Crespi, A., Ragone, F., Maugeri, M. e Pasquero, C. (2019). Variability of orographic enhancement of precipitation in the Alpine region. In: Scientific reports 9.1, pp. 1–8.
- Napoli, A., Matiu, M., Kotlarski, S., Bellin, A., Zardi, D. e Majone, B. (in preparation). Future changes in Diurnal Temperature Range (DTR) and its mechanisms in the European Alps using the EURO-CORDEX ensemble. In: Climate Dynamics.
- Ohmura, A. (2012). Enhanced temperature variability in high-altitude climate change. In: Theoretical and Applied Climatology 110.4, pp. 499–508. doi: 10.1007/s00704-012-0687-x.
- PAT APRIE (2022). Piano Energetico Ambientale Provinciale 2021-2030. url: https://www.provincia.tn.it/Documenti-e-dati/Documenti-di-programmazione/Piano-Energetico-Ambientale-Provinciale-2021-2030#:~:text=Il%20Piano%20Energetico%20Ambientale%20Provinciale,energetica%20ed%20ambientale%20del%20Trentino.
- Pepin, N. C., Arnone, E., Gobiet, A., Haslinger, K., Kotlarski, S., Notarnicola, C., Palazzi, E., Seibert, P., Serafin, S., Sch¨oner, W., Terzago, S., Thornton, J. M., Vuille, M. e Adler, C. (2022). Climate Changes and Their Elevational Patterns in the Mountains of the World. In: Reviews of Geophysics 60.1, e2020RG000730. issn: 1944-9208. doi: 10.1029/2020RG000730. url: https://onlinelibrary.wiley.com/doi/abs/10.1029/2020RG000730 (visitato il giorno 20/07/2022).
- Pepin, N., Deng, H., Zhang, H., Zhang, F., Kang, S. e Yao, T. (2019). An examination of temperature trends at high elevations across the Tibetan Plateau: The use of MODIS LST to understand patterns of elevation-dependent warming. In: Journal of Geophysical Research: Atmospheres 124.11, pp. 5738–5756.
- Pepin, N., Bradley, R. S., Diaz, H., Baraër, M., Caceres, E., Forsythe, N., Fowler, H., Greenwood, G., Hashmi, M., Liu, X. et al. (2015). Elevation-dependent warming in mountain regions of the world. In: Nature climate change 5.5, p. 424.
- Raffa, M., Adinolfi, M., Reder, A., Marras, G. F., Mancini, M., Scipione, G., Santini, M. e Mercogliano, P. (2023). Very High Resolution Projections over Italy under different CMIP5 IPCC scenarios. In: Scientific Data 10.1, p. 238. issn: 2052-4463. doi: 10.1038/s41597-023-02144-9. url: https://www.nature.com/articles/s41597-023-02144-9 (visitato il giorno 16/06/2023).
- Rangwala, I. e Miller, J. R. (2012). Climate change in mountains: a review of elevation-dependent warming and its possible causes. In: Climatic Change 114.3, pp. 527–547. issn: 1573-1480. doi: 10.1007/s10584-012-0419-3. url: https://doi.org/10.1007/s10584-012-0419-3 (visitato il giorno 01/07/2023).
- Rockel, B., Will, A. e Hense, A. (2008). The regional climate model COSMO-CLM (CCLM). In: Meteorologische zeitschrift 17.4, p. 347.

- Rottler, E., Kormann, C., Francke, T. e Bronstert, A. (2019). Elevation-dependent warming in the Swiss Alps 1981–2017: Features, forcings and feedbacks. In: International Journal of Climatology 39.5, pp. 2556–2568.
- Rysman, J.-F., Lemaitre, Y. e Moreau, E. (2016). Spatial and temporal variability of rainfall in the Alps–Mediterranean Euroregion. In: Journal of Applied Meteorology and Climatology 55.3, pp. 655–671.
- Scoccimarro, E., Gualdi, S., Bellucci, A., Sanna, A., Giuseppe Fogli, P., Manzini, E., Vichi, M., Oddo, P. e Navarra, A. (2011). Effects of tropical cyclones on ocean heat transport in a high-resolution coupled general circulation model. In: Journal of Climate 24.16, pp. 4368–4384.
- Steger, C., Kotlarski, S., Jonas, T. e Schär, C. (2013). Alpine snow cover in a changing climate: a regional climate model perspective. In: Climate dynamics 41.3, pp. 735–754.
- Tudoroiu, M., Eccel, E., Gioli, B., Gianelle, D., Schume, H., Genesio, L. e Miglietta, F. (2016). Negative elevation-dependent warming trend in the Eastern Alps. In: Environmental Research Letters 11.4, p. 044021. issn: 1748-9326. doi: 10.1088/1748-9326/11/4/044021. url: https://dx.doi.org/10.1088/1748-9326/11/4/044021 (visitato il giorno 13/12/2022).
- Valt, M. e Cianfarra, P. (2010). Recent snow cover variability in the Italian Alps. In: Cold Regions Science and Technology 64.2, pp. 146–157.
- Vautard, R., Kadygrov, N., Iles, C., Boberg, F., Buonomo, E., Bülow, K., Coppola, E., Corre, L., Meijgaard, E. van, Nogherotto, R., Sandstad, M., Schwingshackl, C., Somot, S., Aalbers, E., Christensen, O. B., Ciarlo, J. M., Demory, M.-E., Giorgi, F., Jacob, D., Jones, R. G., Keuler, K., Kjellström, E., Lenderink, G., Levavasseur, G., Nikulin, G., Sillmann, J., Solidoro, C., Sørland, S. L., Steger, C., Teichmann, C., Warrach-Sagi, K. e Wulfmeyer, V. (2021). Evaluation of the Large EURO-CORDEX Regional Climate Model Ensemble. In: Journal of Geophysical Research: Atmospheres 126.17, e2019JD032344. issn: 2169-8996. doi: 10 .1029 / 2019JD032344. url: https : / / onlinelibrary . wiley . com / doi / abs / 10 . 1029 / 2019JD032344 (visitato il giorno 06/01/2022).
- Viviroli, D., Dürr, H. H., Messerli, B., Meybeck, M. e Weingartner, R. (2007). Mountains of the world, water towers for humanity: Typology, mapping, and global significance. In: Water Resources Research 43.7. issn: 1944-7973. doi: 10.1029/2006WR005653. url: https://onlinelibrary.wiley.com/doi/abs/10.1029/2006WR005653 (visitato il giorno 14/12/2022).
- Vuille, M., Franquist, E., Garreaud, R., Lavado Casimiro, W. S. e Caceres, B. (2015). Impact of the global warming hiatus on Andean temperature. In: Journal of Geophysical Research: Atmospheres 120.9, pp. 3745–3757.
- Vuuren, D. P. van, Edmonds, J., Kainuma, M., Riahi, K., Thomson, A., Hibbard, K., Hurtt, G. C., Kram, T., Krey, V., Lamarque, J.-F., Masui, T., Meinshausen, M., Nakicenovic, N., Smith, S. J. e Rose, S. K. (2011). The representative concentration pathways: an overview. In: Climatic Change 109.1, p. 5. issn: 1573-1480. doi: 10.1007/s10584-011-0148-z. url: https://doi.org/10.1007/s10584-011-0148-z (visitato il giorno 16/09/2024).

- Zebre, M., Colucci, R. R., Giorgi, F., Glasser, N. F., Racoviteanu, A. E. e Del Gobbo, C. (2021). 200 years of equilibrium-line altitude variability across the European Alps (1901-2100). In: Climate Dynamics 56.3, pp. 1183–1201.
- Zekollari, H., Huss, M. e Farinotti, D. (2019). Modelling the future evolution of glaciers in the European Alps under the EURO-CORDEX RCM ensemble. In: The Cryosphere 13.4, pp. 1125–1146.
- Zollo, A. L., Rillo, V., Bucchignani, E., Montesarchio, M. e Mercogliano, P. (2016). Extreme temperature and precipitation events over Italy: assessment of high-resolution simulations with COSMO-CLM and future scenarios. In: International Journal of Climatology 36.2.
- Zubler, E. M., Fischer, A. M., Liniger, M. A., Croci-Maspoli, M., Scherrer, S. C. e Appenzeller, C. (2014). Localized climate change scenarios of mean temperature and precipitation over Switzerland. In: Climatic Change 125.2, pp. 237–252.

Bibliografia integrativa

Analisi di letteratura relativa alle variazioni di temperatura e precipitazione

(curata dal DICAM e aggiornata a luglio 2023)

- Brugnara, Y., et al. “High-resolution analysis of daily precipitation trends in the central Alps over the last century.” INTERNATIONAL JOURNAL OF CLIMATOLOGY, vol. 32, 2012, pp. 1406 – 1422.
- Crespi, Alice, et al. “A high-resolution gridded dataset of daily temperature and precipitation records (1980–2018) for Trentino-South Tyrol (north-eastern Italian Alps).” Earth System Science Data, vol. 13, no. 6, 2021, pp. 2801-2018.
- Cristofolini, Fabiana, et al. CRISTOFOLINI, FABIANA, et al. Progetto clima 2008: previsioni e conseguenze dei cambiamenti climatici in Trentino. 2008.
- Dallan, E., et al. “Enhanced Summer Convection Explains Observed Trends in Extreme Subdaily Precipitation in the Eastern Italian Alps.” Geophysical Research Letters, vol. 49, no. 5, 2022.
- Di Piazza, Annalisa, and Emanuele Eccel. Analisi di serie giornaliere di temperatura e precipitazione in trentino nel periodo 1958-2010. Provincia autonoma di Trento, 2012.
- Eccel, E., and E. Cordano. PROGETTO INDICLIMA – ELABORAZIONE DI INDICI CLIMATICI PER IL TRENTINO. 21 Aprile 2015.
- Formetta, Giuseppe, et al. “Advances in Water Resources 159 (2022) 104085 Available online 20 November 2021 0309-1708/© 2021 Elsevier Ltd. All rights reserved.Differential orographic impact on sub-hourly, hourly, and daily extreme precipitation.” Advances in Water Resources, vol. 159, 2021.
- Gampe, David, et al. “Using an ensemble of regional climate models to assess climate change impacts on water scarcity in European river basins.” Science of the Total Environment, vol. 573, 2016.
- Giovannini, Lorenzo, et al. “Analysis of the Urban Thermal Fingerprint of the City of Trento in the Alps.” Cover Journal of Applied Meteorology and Climatology Journal of Applied Meteorology and Climatology, vol. 50, no. 50, 2011, pp. 1145–1162.
- Laiti, Lavinia, et al. “DOWNSCALING DI PROIEZIONI CLIMATICHE A SCALA LOCALE PER IL TERRITORIO DELLA PROVINCIA DI TRENTO AL 2030.” SUPPORTO SCIENTIFICO ALLA PREDISPOSIZIONE DEL PIANO ENERGETICO AMBIENTALE PROVINCIALE 2021-2030, Università di Trento (DICAM), 2020.
- Laiti, Lavinia, et al. Messa a punto di applicativi condivisi specifici per la spazializzazione e la mappatura delle principali variabili meteo-climatologiche sul territorio del Trentino. Università degli studi di Trento, 8 Gennaio 2016.
- Lutz, Stefanie R., et al. “Hydroclimatic and water quality trends across three Mediterranean river basins.” Science of The Total Environment, vol. 571, 2016, pp. 1392-1406.

- Majone, Bruno, et al. “Impact of climate change and water use policies on hydropower potential in the south-eastern Alpine region.” Science of the Total Environment, vol. 543, 2016.
- Mallucci, S., et al. “Detection and attribution of hydrological changes in a large Alpine river basin.” Journal of Hydrology, vol. 575, 2019, pp. 1214-1229.
- Marcolini, Giorgia, et al. “Variability in snow depth time series in the Adige catchment.” Journal of Hydrology: Regional Studies, vol. 13, 2017.
- Tudoroiu, M., et al. “Negative elevation-dependent warming trend in the Eastern Alps.” Environmental Research Letters, vol. 11, 2016.

Altri riferimenti bibliografici

(bibliografia di supporto alle attività di redazione del Rapporto sullo stato del clima curate dal MUSE e da APPA)

Generale

- Roberto Barbiero, Lavinia Laiti, Elisa Pieratti. I cambiamenti climatici in Trentino. Osservazioni, scenari futuri e impatti. Agenzia Provinciale per la Protezione dell'Ambiente, Provincia autonoma di Trento, 2022.
- Piano nazionale di adattamento ai cambiamenti climatici. Ministro dell'ambiente e della sicurezza energetica (decreto n. 434 del 21 dicembre 2023)

Temperature e precipitazioni

- Lavinia Laiti, Roberto Barbiero, Elisa Pieratti. Le variazioni climatiche di temperatura e precipitazione in Trentino nel periodo 1961-2020. A cura di: Agenzia Provinciale per la Protezione dell'Ambiente, Provincia autonoma di Trento, 2022.
- Global Climate Highlights 2023 (Copernicus Climate Change Service - C3S) https://climate.copernicus.eu/global-climate-highlights-2023
- European State of the Climate 2023 (Copernicus Climate Change Service - C3S) https://climate.copernicus.eu/sites/default/files/custom-uploads/ESOTC%202023/Summary_ESOTC2023.pdf
- Analisi meteorologica. Anno 2023 (Meteotrentino)

Scenari climatici

- Climate Change 2021: The Physical Science Basis - IPCC Sixth Assessment Report https://www.ipcc.ch/report/ar6/wg1/
- Analisi delle proiezioni climatiche disponibili in letteratura ed elaborazione di scenari climatici di riferimento aggiornati per il territorio trentino (Rapporto redatto da UNITN DICAM, 2024
- Mauro Valt, Paola Cianfarra, Martino Valt. Neve e clima sulle Alpi Italiane. Neve e valanghe n.96 (AINEVA, 2022). https://aineva.it/pubblicazioni/neve-e-valanghe-96/

Risorse idriche

- Provincia autonoma di Trento. Piano Generale di Utilizzazione delle Acque Pubbliche - PGUAP (2006)
- Provincia autonoma di Trento. Piano di Tutela delle acque 2022-2027
- Provincia autonoma di Trento. Piano Energetico Ambientale Provinciale 2021-2030
- Provincia autonoma di Trento. Il bilancio idrico provinciale: secondo aggiornamento (2024)
- Provincia autonoma di Trento. Deliberazione della Giunta provinciale n. 1241 dell'8 luglio 2022. Individuazione di criteri tecnici inerenti il servizio idrico di acquedotto ai sensi dell'art. 10 della legge provinciale n. 6/2004.

- Progetto Interreg Alpine Space SMART ALTITUDE. Sito del progetto: https://smartaltitude.eu/
- Delibera PAT n. 1525/2023: “Approvazione del progetto "IRRITRE: sistema informativo territoriale per un'irrigazione di precisione in Trentino", integrazione, in corso d'anno, delle attività della Fondazione Bruno Kessler e della Fondazione Edmund Mach di comune interesse con la Provincia autonoma di Trento e relativa approvazione degli Atti aggiuntivi agli Accordi di programma con le due Fondazioni (legge provinciale 2 agosto 2005, n. 14)”
- Provincia autonoma di Trento, UNITN DICAM. L’impatto dei cambiamenti climatici sulla produzione idroelettrica in Trentino. Progetto OrientGate. 2014
- Decreto n. 30/STA del 13.02.2017 (di approvazione delle Linee Guida per l’aggiornamento dei metodi di determinazione del deflusso minimo vitale al fine di garantire il mantenimento nei corsi d’acqua del deflusso ecologico a sostegno del raggiungimento degli obiettivi di qualità ambientale dei corpi idrici definiti ai sensi della Direttiva 2000/60/CE)
- Direttiva Quadro Acque (DQA; Direttiva 2000/60/CE)
- Provincia autonoma di Trento. Osservatorio Servizi Idrici
- Provincia autonoma di Trento. Servizio informatico S.I.R. - Servizi Idrici in Rete
- EU Commission. Water-Energy-Food-Ecosystem Nexus

Pericoli naturali

- European Severe Storm Laboratory. July 2023. Hail record broken again – 19cm hailstone confirmed in Italy (2023).
- Provincia autonoma di Trento, Meteotrentino. Perturbazione eccezionale del 27- 29 ottobre 2018 (2018)
- Provincia autonoma di Trento, Meteotrentino. Nubifragio in Val di Fassa del 5 agosto 2022 (2022)
- D.G.P. n. 1166 del 9/7/2021 “Proroga decennale del Piano per la difesa dei boschi dagli incendi. art. 86 L.P. 11/2007 - art. 14 D.P.P. 35-142/Leg/2008” (2021)
- EUSALP EU Strategy for the Alpine Region, Action Group 8 - Risk Governance
- Provincia autonoma di Trento. Sistema di Allerta Provinciale (SAP). 2005
- Provincia autonoma di Trento. Carta di sintesi di pericolosità (aggiornamento 2023)
- Progetto Interreg Alpine Space X-RISKS-CC. Sito del progetto: https://www.alpine-space.eu/project/x-risk-cc/

Foreste

- Provincia autonoma di Trento. Servizio foreste. Piano per l’organizzazione degli interventi di utilizzazione per la lotta fitosanitaria e di ricostituzione dei boschi danneggiati. Aggiornamento 2023**.**

Allevamento

- Associazione apicoltori del Trentino https://www.apitrentine.it/

- Associazione dei Troticoltori Trentini: https://www.troteastro.it/
- Unione Pescatori Trentini: http://www.unionepescatoritrentino.org/
- Federazione Pescatori Trentini: http://www.fpt.tn.it/
- Terra Trentina (2019). “Apicoltura trentina oltre la crisi”. https://www.ufficiostampa.provincia.tn.it/content/download/156807/2814578/file/TOTALE_11__aggiornato_ricerc.pdf
- Cooperazione Trentina (2023). “Astro, il settore ittico trentino reagisce alle avversità (costi, siccità, mercato) e programma nuovi investimenti” https://www.cooperazionetrentina.it/it/news/astro-il-settore-ittico-trentino-reagisce-alle-avversita-costi-siccita-mercato-e-programma-nuovi-investimenti

Salute

- Osservatorio europeo Clima&Salute. Carta internazionale di Roma sulla Salute e i Cambiamenti Climatici. https://climate-adapt.eea.europa.eu/it/observatory
- Ballester, J., Quijal-Zamorano, M., Méndez Turrubiates, R.F. et al. Heat-related mortality in Europe during the summer of 2022. Nat Med 29, 1857–1866 (2023).
- Ministero della Salute. Piano Nazionale di prevenzione, sorveglianza e risposta alle Arbovirosi (PNA) 2020-2025 (2019).

Turismo

- ISTAT. Conto Satellite del Turismo (CST) - 2020
- Gioia Maria Mariani, Diego Scalise. Climate change and winter tourism: evidence from Italy. Banca d’Italia (2022)
- Provincia autonoma di Trento (Servizio Turismo e sport). Analisi delle esigenze dei rifugi alpini (2022)
- Progetto Horizon Europe NEVERMORE (New Enabling Visions and tools for End-useRs and stakeholders thanks to a common MOdeling appRoach towards a climatE neutral and resilient society). Sito del progetto: https://www.nevermore-horizon.eu/
- Progetto Interreg Alpine Space SMART ALTITUDE. Sito del progetto: https://smartaltitude.eu/
- Organizzazione Mondiale del Turismo delle Nazioni Unite (UNWTO) (2018). ‘Overtourism’? Understanding and Managing Urban Tourism Growth beyond Perceptions. Executive Summary. https://www.e-unwto.org/doi/pdf/10.18111/9789284420070

Insediamenti e aree urbane

- CLIMATE ADAPT. Soluzioni basate sulla natura. https://climate-adapt.eea.europa.eu/it/eu-adaptation-policy/key-eu-actions/NbS
- Provincia autonoma di Trento (2023). 5° aggiornamento del Piano provinciale di gestione dei rifiuti 5° per la parte relativa ai rifiuti urbani
- Progetto Horizon Europe SELINA (Science for Evidence-based and sustainabLe decisions about NAtural capital). https://project-selina.eu/

- Progetto Horizon Europe BioValue (Biodiversity Value in spatial policy and planning: leveraging multi-level transformative change). https://biovalue-horizon.eu/

Energia

- Provincia autonoma di Trento, UNITN DICAM (2014). L'impatto dei cambiamenti climatici sulla produzione idroelettrica in Trentino. Progetto OrientGate.
- Gruppo Dolomiti Energia (2023). Relazione sulla gestione e bilancio d'esercizio al 31/12/2022

Imprese, industrie e infrastrutture

- Elaborazioni ISPAT su dati Movimprese. Numero delle imprese attive per settore di attività commerciale
- Elaborazioni ISPAT su dati ISTAT ASIA imprese 2021. Numero delle imprese attive nel comparto industriale
- INAIL, progetto Work Climate 2.0 Clima Lavoro Prevenzione. https://www.worklimate.it/
- CRIF (2022): comunicato stampa "Studio CRIF-RED, presentato in anteprima al CRIF Finance Meeting tenutosi a Milano, analizza gli impatti dei rischi naturali e dei cambiamenti climatici sulle aziende italiane"
  https://www.crif.it/area-stampa/red-cambiamenti-climatici/

Trasporti e Infrastrutture

- "Cambiamenti climatici, infrastrutture e mobilità. Soluzioni e strategie per gli investimenti infrastrutturali in un contesto di adattamento ai cambiamenti climatici e di mitigazione delle emissioni di gas-serra" (2022). Rapporto della Commissione cambiamenti climatici, infrastrutture e mobilità sostenibili, incaricata dal Ministero Infrastrutture e mobilità sostenibile (oggi Ministero delle infrastrutture e dei trasporti).

Lo stato del clima in Trentino
Impatti dei cambiamenti climatici sui sistemi ambientali e sui settori socio-economici

PROVINCIA AUTONOMA DI TRENTO

TRENTINO