

RESEARCH FIELD:

Physical geographic

RESEARCH TOPIC:

Study of local, regional and applied climatology (such as geomorphological risk and as a tourist resource) and assessment of climate change

PARTICIPANTS:

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PARTICIPANTS AND COLLABORATIONS:

Arpa Piemonte (Secondo Barbero, Roberto Cremonini, Luca Paro), MEDARE (Mediterranean Data Rescue, Manola Brunet), Action COST (Victor Venema, Enric Aguilar, Olivier Mestre Homogenisation and quality control in climatological databases), accordo specifico di Ateneo e UNESP (Joao Afonso Zavattini), METEOMet (Andrea Merlone), SEU (Centro per la cura e lo studio della Sindrome Emolitico Uremica, Gianluigi Ardissino)

RESEARCH DESCRIPTION:

The research is carried out in the field of climatology where is pursued the study of local climates. In this context, we characterize the climate, approaching the study of the main climatic features such as temperature, precipitation, snow, humidity, wind and radiation. We make the exploration of the main "climate deposits ", with particular attention to the study of weather types and application of climate indices for alpine tourism areas, useful for the correct use and valorisation of snow resource. Even in the marine environment deepens the study of climatic-touristic indices, analyzing the weather thresholds useful for tourist exploitation of the most renowned Italian seaside.

Deepen relations between climate and agriculture, starting with the wine terroir. The study involves several areas of the Piedmont, the cradle of production of exclusive wines, including Barolo, identifying the main climatic limits to the phenological development of the grapevine.

Attention is also paid to the studies on the slopes dynamics, with particular emphasis on issues related to instability, caused by episodes of short and intense precipitation. The investigation covers not only the Piedmont, but also the Macaronesia, Niger and Ethiopia. It leads to the study of climatic change of the temperature, snow and precipitation features, particularly with regard to the recovery of long term series in Italy and Brazil. It explores the application of homogenization techniques and reconstruction of the time series for the proper identification of climate trends, extreme events and future scenarios. In this context, we reveal the relationship between climate change and permafrost degradation and the risk of avalanches.

Finally, we investigate the influence of weather conditions and their amendments on the spread of *E. coli* shigatossino-producer responsible for HUS (Hemolytic Uremic Syndrome).

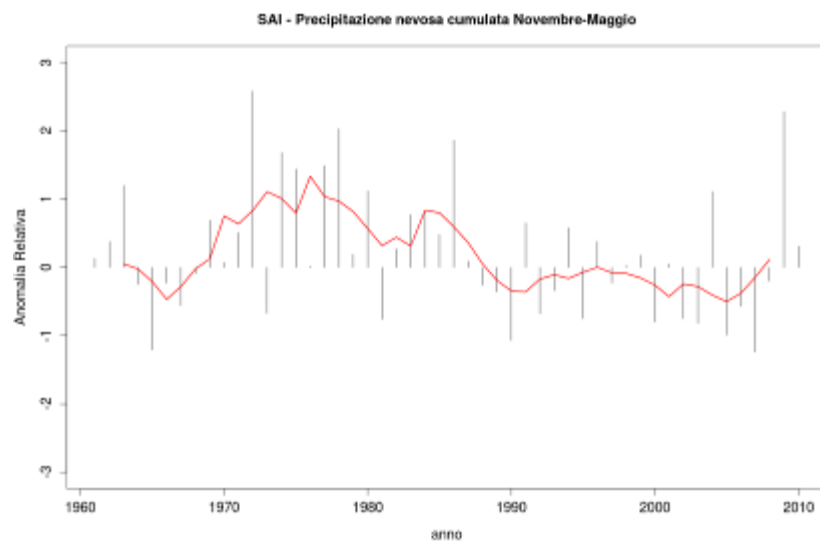
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Temperature and rainfall analysis. Lago Vannino, 2173 m.



Snowfall SAI evolution (Standard anomaly index) in Piedmont.

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