Enrichment of the hydrological lexicon as a consequence of a climatic and anthropogenic transition phase

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Interdisciplinary approach to research

The environmental protection using agroecological criteria and the management of multifunctional and strongly anthropogenic landscapes needs a deeply multidimensional and interdisciplinary approach.

**Resilience:**
Capacity to respond and recover from perturbations

**Change:**
Transformation from an initial known state to another one

**Coevolution:**
Mutual evolution based on reciprocal interactions.

**Symbiosis:**
Link between two elements that brings mutual benefits.

**Connectivity:**
Capacity to obtain information with speed.

**Sustainability:**
Correct use and innovation of local resources.

**Transition:**
Phase that connects a initial situation to his evolution.

- Rural cultivations on old terracings in Camonica Valley.
- Inexorable melting of the Presena glacier, due to climate change.
- Permacultures and urban farmers works responsibly with the ecosystem.
- Man-managed desert oasis produces environmental benefits.
- Micrometeorological station in Cividate Camuno (BS), to gain real time data.
- Good use of water resources in Garda lake lemon houses.
- Farnia Forest in a regressive phase, leaving space to other species.
Hydrological lexicon is changing

A large number of new terms is enriching the hydrological lexicon, taking concepts borrowed from other scientific fields, involving also land management and social sciences. Not always is immediate for researchers to come back to the original meaning of these terms, and often multiple interpretations are given for the same lemma. We need to compiling a preliminary catalogue of the main lexical loans, as ancillary work to main projects, mostly if we want an agroecological perspective of water resources management.

On left -> Earthworms castings (Cimbergo – BS) Macropores created by digging activity of telluric fauna influence hydrological properties of the soil, working in symbiosis with the natural environment.

On right -> Garda lemon house (Gargnano – BS) Traditional irrigation techniques for lemon trees in lake Garda terracing are a great example of the resilience and sustainability owned by that kind of agricultural system.
Understand the concepts

Where the traditional meaning of the term is different from the one attributed in recent researches, we need to:

- Find the original meaning of the term and the scientific area in which it was mostly used, also by using the dictionary.
- Look for examples taken from literature and scientific articles, understanding the meaning (or the meanings) attributed to the term.
- Using the concepts extrapolated from the various examples to determine the new meaning/meanings attributed to the term in the new field (in our case in hydrology).

1. the state or quality of being connected or connective:
   - the benefits of global connectivity.
2. Computers, the ability to link to and communicate with other computer systems, electronic devices, software, or the Internet:
   - This laptop has limited connectivity.

Hydrological connectivity is one possible concept of runoff generation and flood production that could provide a way forward, but currently there is much confusion in the literature about how the term is used and how it relates to existing research.

Connectivity is the ability to obtain information about change in soil hydrological properties, with speed, to better manage the current situation and the factors that caused the change.

Connectivity can also be understood as a physical connection, direct or indirect, in surface and underground water, and their interaction with the soil and the landscape, which characterize transport and runoff.
Thank You

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