

Future of the Varve Working Group (VWG)

Context. In the framework of the new science plan of PAGES and its integration in *Future Earth*, it is necessary to redefine the objectives of the VWG. A group of about 15 scientists* discussed possible options for the future of the VWG during a meeting held in Gdansk on June 19, 2015. This document reports what has been proposed.

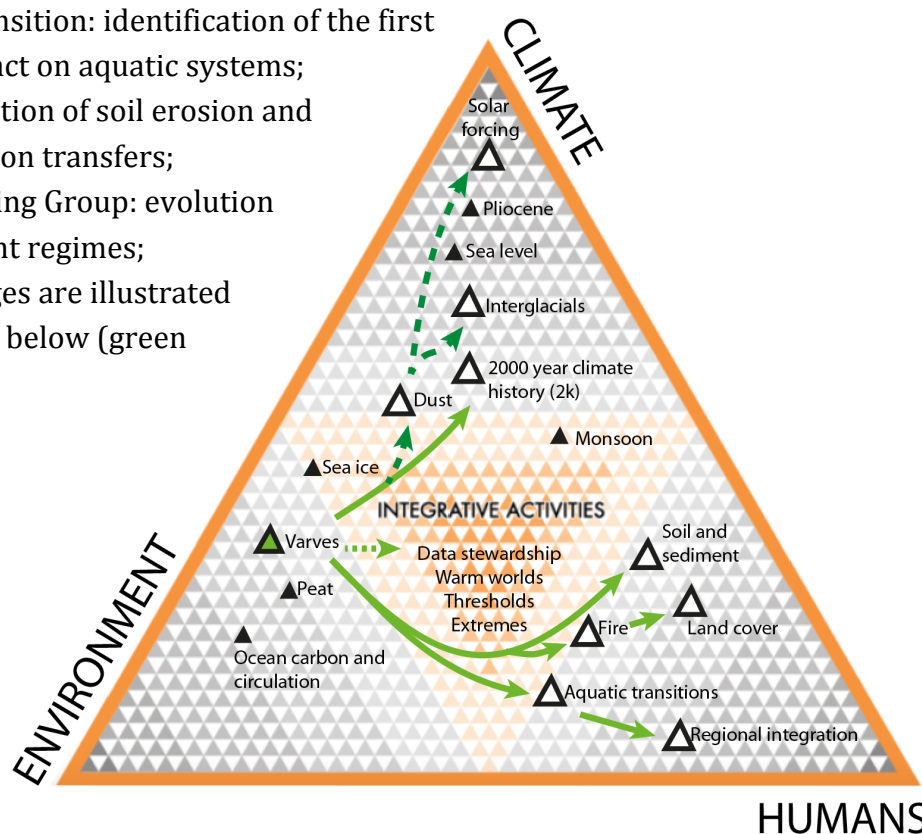
The new PAGES working groups are temporary groups that bring paleoscientists from around the globe together to target specific scientific objectives. Working groups (currently active or in synthesis stage) as well as the integrative activities are mapped in the structural triangle below. PAGES recommends now to work on short(er) term projects and on specific topics.

The new PAGES VWG

Scientists at the meeting acknowledged that the VWG would be excellent at pursuing an *Integrative Activity* around the development of a more interactive Varve Database that should be instrumental in helping other PAGES working groups to address their scientific questions, by exploiting the high resolution and chronological accuracy of varved sediments. To achieve this goal, members of the VWG agreed to participate in other existing and upcoming PAGES working groups. In the structural triangle, green arrows mark potential linkages of the VWG to other PAGES activities.

The VWG members identified the following advantageous collaborations:

- Aquatic Transition: identification of the first human impact on aquatic systems;
- GloSS: evolution of soil erosion and surface carbon transfers;
- Flood Working Group: evolution of flood event regimes;
- Other linkages are illustrated in the figure below (green arrows).



A quick survey among the VWG members present at the meeting revealed broad and equally spread interest in all three listed areas of collaboration. Some members already participated in different PAGES meetings to initiate collaborative efforts between the VWG and other listed groups. Nevertheless, the list of potential links with other groups remains provisional and is subject to augmentation.

Implementing the VWG Database

The group aims at implementing an optimized Varve Database (VDB) to address the scientific questions of PAGES. The VDB should be intuitive, easily searchable, and structured to address the scientific questions raised by PAGES working groups in a straightforward manner. As a starting point, the team of INRS-ETE led by Pierre Francus offered to share a new internal database dedicated to paleoclimatic records that has been developed using an open source 'postgresql' database with a purpose-made flexible structure that can be adapted to the specific needs of the VWG and the PAGES community. It was suggested that the members of the VWG contribute to the implementation of the VDB. The format should be in compliance with international standards to make the VDB compatible for inclusion in a permanent data repository, for example within NOAA, to facilitate open access to the entire scientific community. Furthermore, the format should be flexible and adaptable to the specific needs of the other PAGES working groups.

Other goals

Additional identified future activities are:

- a Varve Summer School;
- a Varve Cookbook;
- maintenance of products of the current VWG like the varve reference list and the Varve Image Portal (VIP).

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