

**Planning a Global Assessment of “Trends in the Annual Climate Cycle & Seasonality” (TACCyS)**

While annual averages of climatological and ecological parameters are clearly useful for a range of scales of considerations, it is limited in respect of its usefulness for the study of processes that occur sub-annually or seasonally. The annual average is a measure of the trends in the extent and margins of annual cycles, whose trending *range and distribution* is important to both natural and human/social process. Whether extreme events (extensions or amplifications of typical seasonal maxima/minima) are occurring more frequently, more intensely or are of longer duration, or whether seasonal onset and cessations (periodicity) of defining seasonal characteristics are changing, are now the critical considerations. The varying and changing climate cycle will result in geographic rearrangement of climate zones which may shift in terms of geographic location and elevation or even merge with adjacent currently distinct climate zones as local climate changes. These considerations are at the interface of climate change and climate variability, and will impact on the distribution, life history and phenology of all organisms, the provision and sustainability of ecosystems good and services and affect the need for adaptation to new climate cycles. Changing climatology and seasonality matter to flowering plants, breeding animals, agricultural practice, cultural rituals, school holidays, demand for electricity and successful tourism marketing. This set of examples shows how this concept of understanding change at scales that matter to ecosystem function and the socio-ecology of human systems, has a broad application.

The ACCESS programme ([www.access.ac.za](http://www.access.ac.za)) has launched a suite of projects (ACyS projects - see attached) which are aimed at investigating the mechanism of the manifestation of global change (including climate change and climate variability) through the lens of changes to the parameters of the typical climatology of seasons.

SCOPE (Scientific Committee of Problems of the Environment, <https://scope-environment.org/>) is an independent international organisation that interdisciplinary body of natural and social science expertise focused on regional and global environmental issues, operating at the interface between scientific and policy making instances. A worldwide network of scientists and scientific institutions develops syntheses and reviews of scientific knowledge on current or potential environmental issues. SCOPE, in collaboration with ACCESS and Elsevier will conduct a Rapid Assessment Process (RAP) on Global Assessment of Trends in the Annual Climate Cycle & Seasonality (TACCyS) where we seek to publish a volume on this topic.

At this event, a group of selected speakers will briefly outline the idea described above, propose a structure of the TACCyS RAP and then engage with the audience through a facilitated discussion on the details and ideas generated. The goal is to end up with a list of papers to commission as an outcome of the RAP process.

Tentative Programme

Speakers: maximum 10 minutes each:

- Prof Jon Samseth (SCOPE President) – How this RAP will work
- Prof Francois Engelbrecht – Seasonal trends and variability (atmospheric perspective)
- Dr Sandy Thomalla – Seasonal trends and variability (oceanic perspective)
- Prof Guy Midgely - Seasonal trends and variability (terrestrial perspective)
- Dr Wayne Twine - Seasonal trends and variability (socio-ecological perspective)
- Dr Neville Sweijd – draft structure
- Guided discussion (Dr Neville Sweijd)