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KlimaCampus Kolloquium

Prof. Fortunat Joos

The carbon cycle in the Earth System: a few research examples

Ice core and other proxy records, modern measurements, and model projections show us the fascinating variability of the global carbon cycle in the Earth System. Variations in atmospheric CO₂ provide a key feedback forcing glacial-interglacial climate swings. Carbon isotopes provide insight on ocean ventilation rates and carbon stock variations in the land biosphere. Modes of variability, like ENSO or NAO, and volcanic eruptions reveal carbon-climate sensitivities on shorter time scales. Over the industrial period, emissions from fossil fuel use perturb the global carbon cycle and climate system in an unprecedented way, causing global warming, ocean acidification and other changes irreversible on human time scales. This provoked policy action and the goal of the United Nations Paris agreement to limit global mean surface temperature rise well below 2°C. In this talk, examples will be presented of carbon cycle research in the context of past and future variations.

Prof. Joos from the University of Bern is invited by Victor Brovkin from the Max Planck Institute for Meteorology

Bundesstraße 53, Room 22/23 (ground floor)