Contribution of soils to climate mitigation and adaptation, sustainable agricultural production and environment in agroecological systems (CA4/SP3)

Conveners

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Programme outline

Introduction of topic and speakers by chair	5’
6 short presentations *(10’ each, including time for questions)*	60’
Discussion and conclusion	25’

Description

Broad range and diversity of agricultural systems exist in Europe, of which many are facing increasing drought extremes that challenge agricultural production. Considering possible reductions in irrigation water availability and intensifying water use conflicts with climate change, irrigation cannot be the only option to minimize impacts of drought extremes on agricultural productivity. Agro-ecological systems and the underlying climate-smart sustainable soil management practices (e.g., agroforestry, conservation agriculture, organic farming, integrated crop-livestock-forestry systems) have potential positive effects on climate change adaptation and mitigation. These alternative and new systems and practices aim to meet multiple goals on soil health, agricultural production, climate change adaptation and mitigation and support and sustain ecosystem services. In order for them to succeed in meeting these goals, these systems need to be taken up by local farmers to fit their specific soil and environmental conditions and socio-economic needs and perceptions. The focus of this session is to showcase possible synergies between climate mitigation and adaptation that are achieved through diverse agro-ecological system.

With this session, we aim
1. to gain an overview of the diverse agroecosystems and current understanding of the synergies and trade-offs between adaptation and mitigation targets
2. to identify key research gaps, and
3. to outline possible approaches to overcome these research gaps

Instructions for participants

We welcome short contributions from partners interested to work on the session topic. Participants are invited to report on past, ongoing and planned experimental and modelling studies addressing the session topic. All contributions should address the three points stated in the session description: (1) current state of knowledge, (2) known/identified research gaps, (3) outlook to further work.

Please provide short abstracts that outline your contributions with respect to these three main points (200 words max).