

# Bolin Centre for Climate Research

Bolin Centre Seminar Series 2020 | RA6 Deep time climate variability

## Regime shifts in the Central Asian steppe-desert are driven by climate



Photo: Private

Thirty-four million years ago at the Eocene–Oligocene Transition, sudden climate change caused ecological breakdown in Central Asia. Deserts spread across the lowlands, and biological diversity was permanently affected. Caused by rapid changes in climate and atmospheric carbon dioxide, this event was a critical tipping point for Asian ecosystems that in fact shaped the modern biome. Widespread desertification lasted for almost 20 million years, and vegetation only began to recolonise the lowlands when it became temporarily wetter, during the mid-Miocene Climatic Optimum. Climate was thus a major driver of regime shifts in the Central Asian steppe-desert biome during the Cenozoic. Now, rapid changes in climate and atmospheric carbon dioxide are once again causing widespread desertification in Asia. Based on past behaviour, this is a sign of impending ecosystem breakdown, with serious negative implications for biodiversity, agriculture, and human wellbeing.

### RA6 Deep time climate variability

**Speaker:** Natasha Barbolini, Department of Ecology, Environment and Plant Sciences (DEEP)  
Stockholm University

**Time:** November 5, 14h00–15h00

**Join webinar:** <https://stockholmuniversity.zoom.us/j/845471560> Webinar ID: 845 471 560