DELEGATE PARTICIPANT'S PROFILE

	**Mr. Md. Lokman Hossain** *PhD Candidate* Department of Geography Hong Kong Baptist University Hong Kong Tel: +85255310866 Email: lokmanbbd@gmail.com
Highest Education	M.Sc. in Global Change Ecology M.Sc. in Environmental Science
Personal Statement	Dear Colleagues, Greetings from me! I am a Year-3 PhD student at Hong Kong Baptist University. My research focuses on grassland biodiversity and climate extremes. In my PhD works, I have (1) examined the resistance and resilience of grassland biodiversity at a long-running experiment in Germany, (2) investigated the response of above- and belowground biomass to climatic variability and climate extremes, and (3) assessed the plant functional trait variations across five ecoregions. Before starting of PhD, I worked as a Lecturer at a University in Bangladesh. I obtained M.Sc. in Global Change Ecology from the University of Bayreuth, Germany in 2016. In my MSc research, I worked with the Bayreuth Biodiversity Experiment in order to evaluate the biodiversity-ecosystem functioning relationships, which is one of the long-standing debates in plant ecology and climate change research. In Bangladesh, I studied M.Sc. and B.Sc. in Environmental Science at the University of Chittagong and worked with several NOGs in the field of environmental management, biodiversity conservation, disaster risk reduction, and climate resilient agriculture.
Paper/Presentation Title	Impacts of Climate Extremes on Net Primary Productivity of Four Grassland Types in Inner Mongolia
Keywords	Climate extreme; Time-lag; Net primary productivity; Grassland; Drought
Abstract	Increasing frequency and intensity of climate extremes have profound impacts on grassland biodiversity functioning and stability. Vegetation net primary productivity (NPP) and its response to climate extremes

	are critical in assessing the stability of terrestrial ecosystems. Using the standardized precipitation evapotranspiration index and MODIS NPP for the period 2000-2019, the effects of climate extremes and time-lag on the annual NPP of four grasslands (desert steppe, steppe desert, typical steppe, and meadow steppe) were investigated. Annual NPP significantly varied among four grassland types, where the highest NPP was in meadow steppe, and lowest in desert steppe. Although annual NPP of all grasslands increased over the past 20 years, NPP in meadow steppe and typical steppe showed decreasing trend for the period 2012 to 2019. Annual NPP showed a better response to the growing-season climate rather than the annual climate. Furthermore, one-month time lag had significant effects on annual NPP in all grassland types. Extreme dry events exhibited the lowest NPP in all grassland types. For meadow steppe and typical steppe grasslands, the highest NPP was observed in extreme wet events, while for steppe desert and desert steppe grasslands, the highest NPP was in moderate wet events. The losses of NPP in typical steppe and steppe desert during extreme dry events were almost double than that of moderate dry events, which suggests that these two grasslands are highly vulnerable to increasing intensity of drought. Almost equal loss of NPP during moderate dry and extreme dry events in desert steppe and meadow steppe suggest that a low-intensity drought may have profound impacts on the annual NPP of these two grasslands. This study highlights the response of grassland NPP to climate extreme intensity and direction and time-lag, which is critical to sustainable management of grassland, ecosystem restoration, and stable delivery of ecosystem goods and services under increasing intensity and frequency of climate extremes.
More Information (web links)	ORCID ID (https://orcid.org/0000-0002-6103-4226) Google scholar (https://scholar.google.co.uk/citations?user=rt9NG_EAAAAJ&hl=en)