

BSG Conference Attendance Grant for European Geoscience Union General Assembly 7–12 April 2019, Vienna

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Conference Overview

I presented the findings of my PhD research at the EGU General Assembly meeting in 2019 thanks to the generous support of £500 provided by the British Society of Geomorphology's Postgraduate Conference Attendance Grant. I also received some support from EGU in the form of conference registration waiver. EGU is the largest geological conference in Europe attended by over 15000 researchers from over a hundred countries. As I am finishing my degree, presenting at EGU provided an ideal and timely opportunity for me to disseminate my work to the wider geomorphological and geoscience community, develop my interpersonal skills, seek opportunities for future collaborative projects and find potential postdoctoral positions.

Summary of my Research

My research aim is quantifying the phases of dune accumulation phases in the Thar Desert, India to infer late Quaternary environmental and geomorphological change. Focusing on the timing and evolution of parabolic and linear dunes in response to environmental change and rapid human activities, I have developed a new, high-resolution luminescence chronology to inform geomorphological interpretations of change. My results show that the previously stabilised parabolic dunes in the Thar have reactivated and are experiencing multi-tiered evolution, whilst the linear dunes have undergone in-situ reworking. For this research, I studied and intensively sampled different dune fields in the northern and eastern Thar Desert, and luminescence dated >60 samples. In contrast to previously published work, the results show that the dunes in the Thar experienced a multifaceted evolutionary history with distinct phases of accumulation throughout the Holocene. The dunes have undergone geomorphic transformations over longer time scales, particularly parabolic dunes which now show similarities to barchanoid-parabolic transitional dunes. My chronology also demonstrates major accumulation phases within the last millennia, suggesting drivers of dune mobility during the last century include a strong anthropogenic dimension. In the context of palaeoenvironmental changes, I demonstrate that dune records do not show a linear relationship with other records of aridity, and therefore require careful interpretation.

The journal *Earth Surface Processes and Landforms* has recently accepted my manuscript which discusses the Holocene dune records from the parabolic dunefield. As I am currently working on two other manuscripts to be sent to reputed peer-reviewed journals, the feedback I received at EGU was very helpful in shaping my drafts of the paper.

200-character Summary of findings

Our study produces new chronology for dune accumulation in the Thar Desert, India, and establishes Thar dunes as important archives of late Quaternary geomorphological and palaeoenvironmental changes.

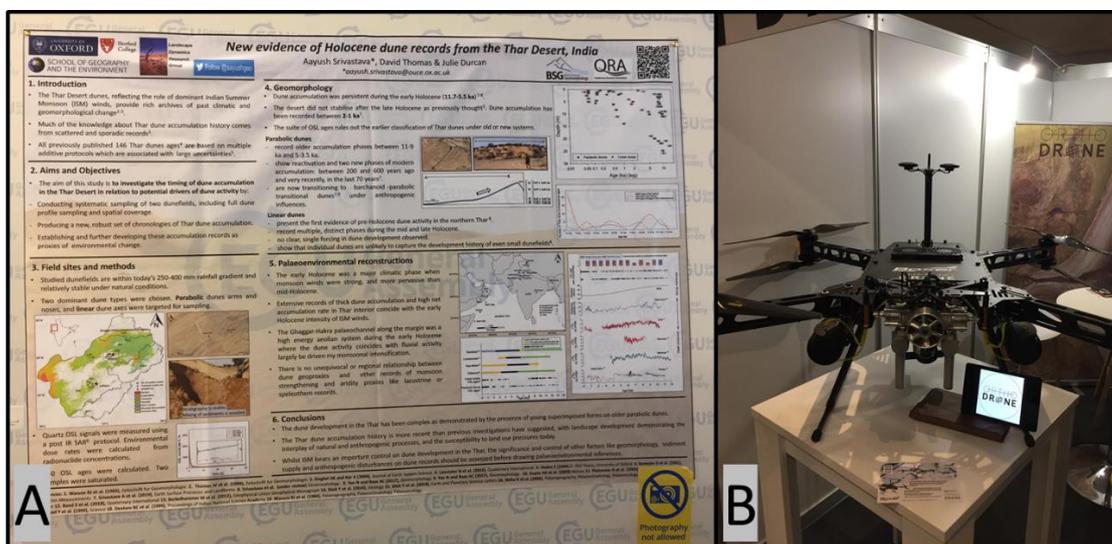


Figure 1. A. A snapshot of my poster presented at EGU 2019. **B.** A drone on display. As an additional activity, I also learnt about pros and cons using drones for mapping purposes in drylands.