



**Project acronym:** THARCPEAT

**Project title:** Impacts of Permafrost Thawing on Arctic Peatlands

**Project leader:** Oriol Grau, Global Ecology Unit, CREAM, Spain

**Discipline:** Earth Sciences & Environment: Global change & Climate observation

**Station(s):** Toolik Field Station (USA)

The THARCPEAT project aims to obtain drone imagery of several polygonal mires through Remote Access near Toolik Research Station to build high-resolution DEM and NDVI maps of this landscape. With these data we aim to identify and classify geomorphic features related to permafrost aggradation or degradation occurring in this ecosystem with continuous permafrost. We had planned to validate this image-based classification in the field through Transnational Access to Toolik Research Station but this could not be fulfilled due to Covid-19 restrictions that did not allow the field trip. Hopefully, this ground validation will be done in 2022 to accurately validate the area occupied by degraded vs. non degraded permafrost features across the study sites. We will then upscale the area occupied by each feature at regional scale, and estimate the stocks of C and nutrients in the active layer and in the upper permafrost layer (biogeochemistry data is available from a previous INTERACT granted project) across the landscape covered by polygonal mires in northern Alaska.