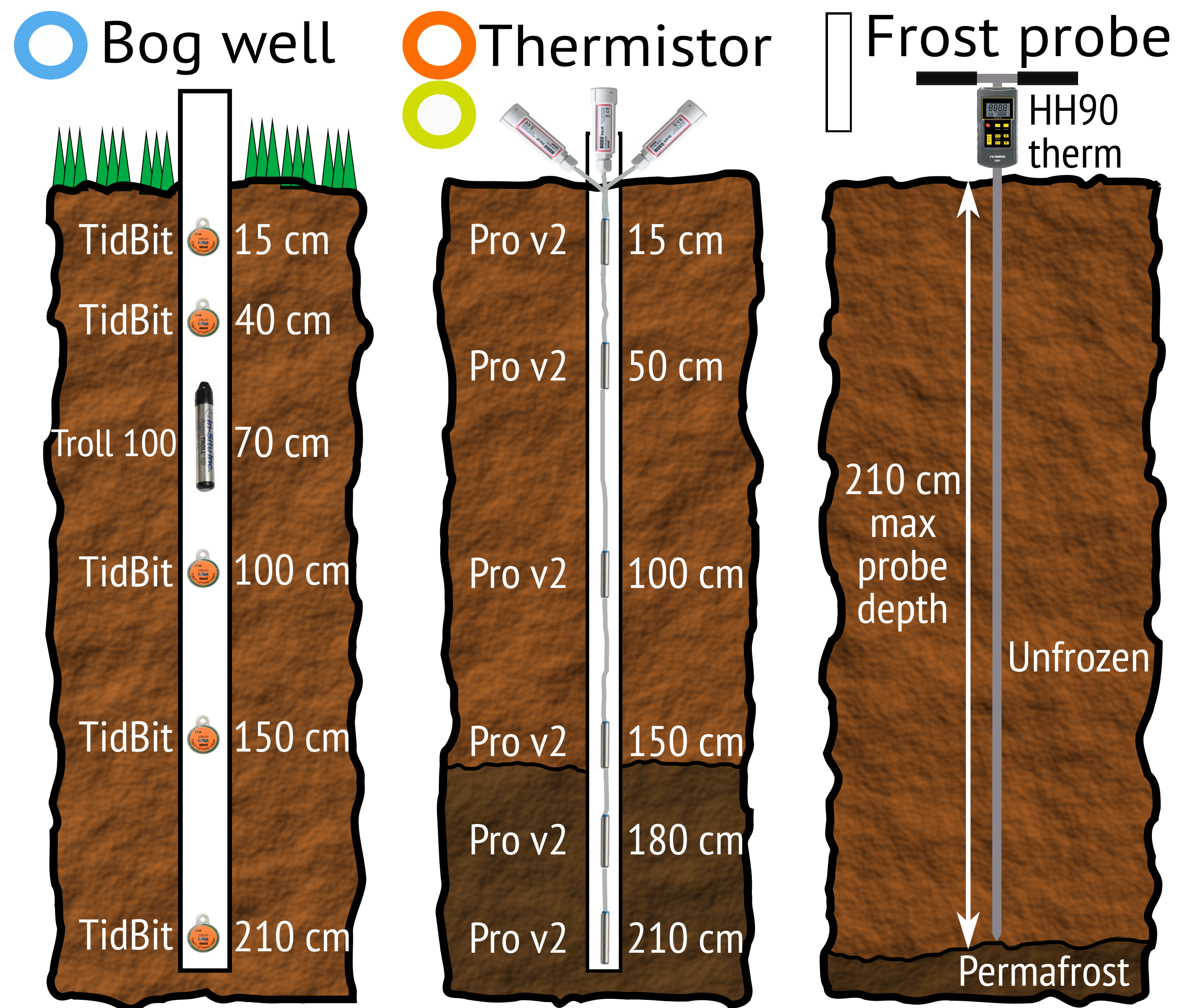
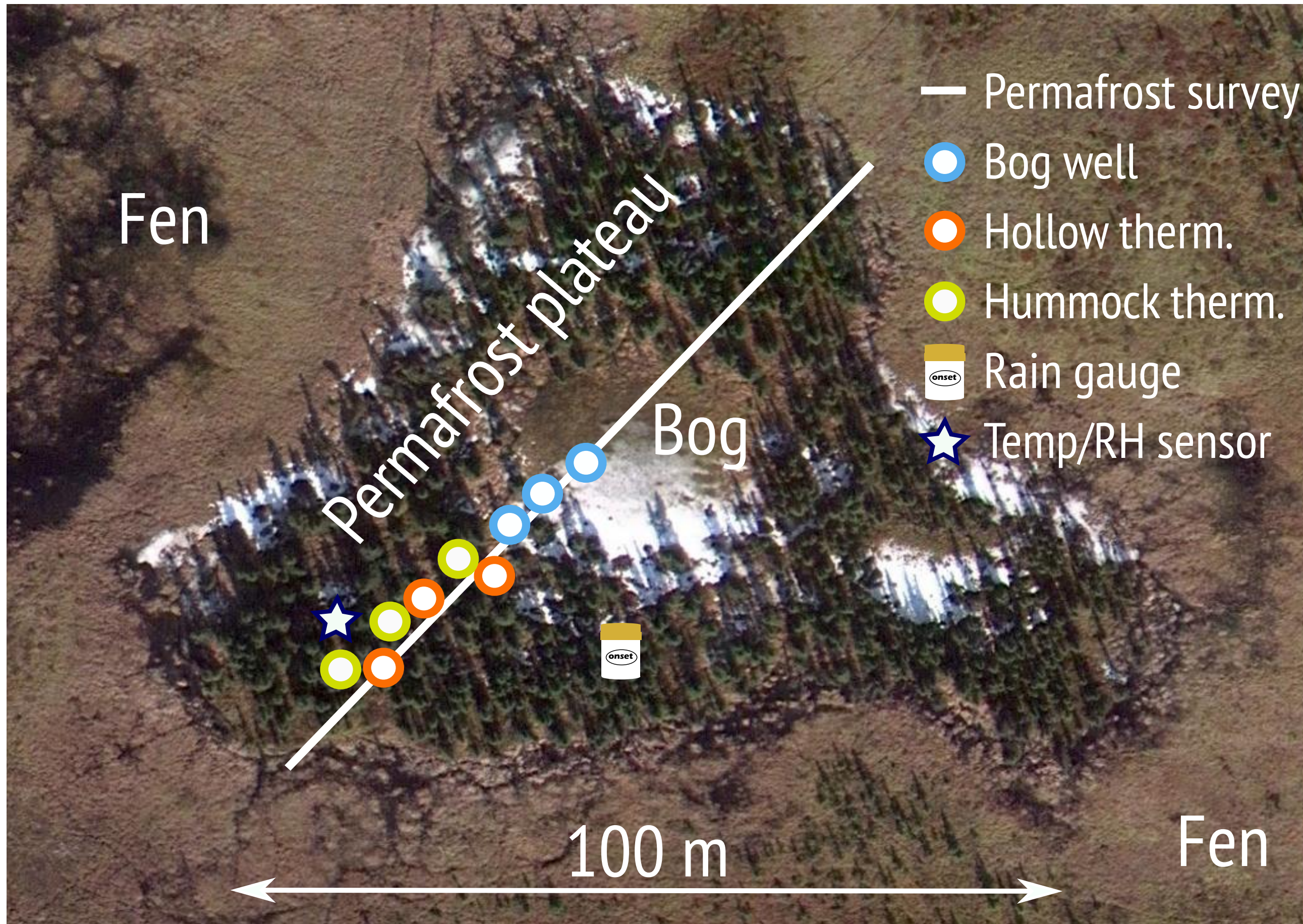
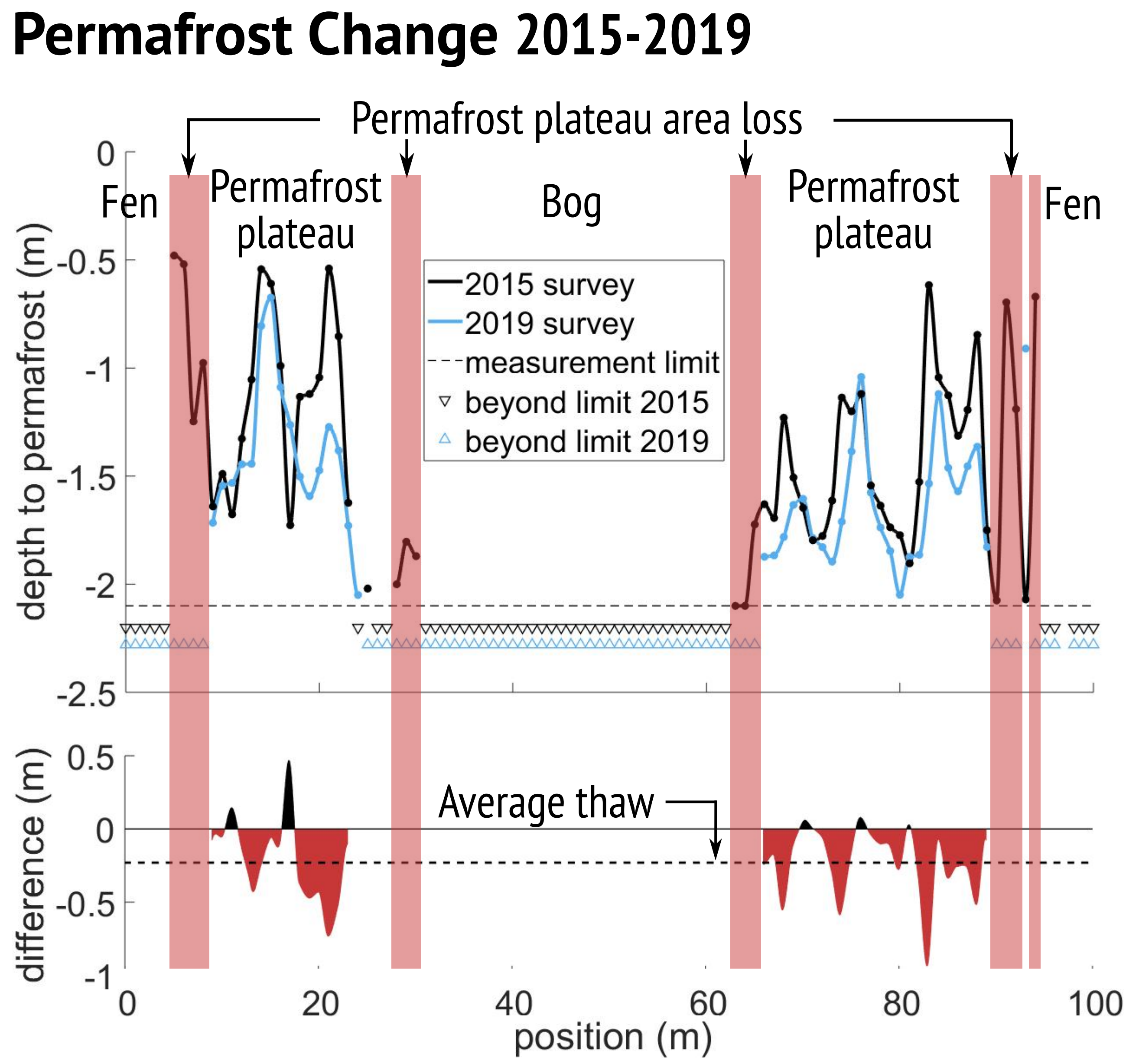
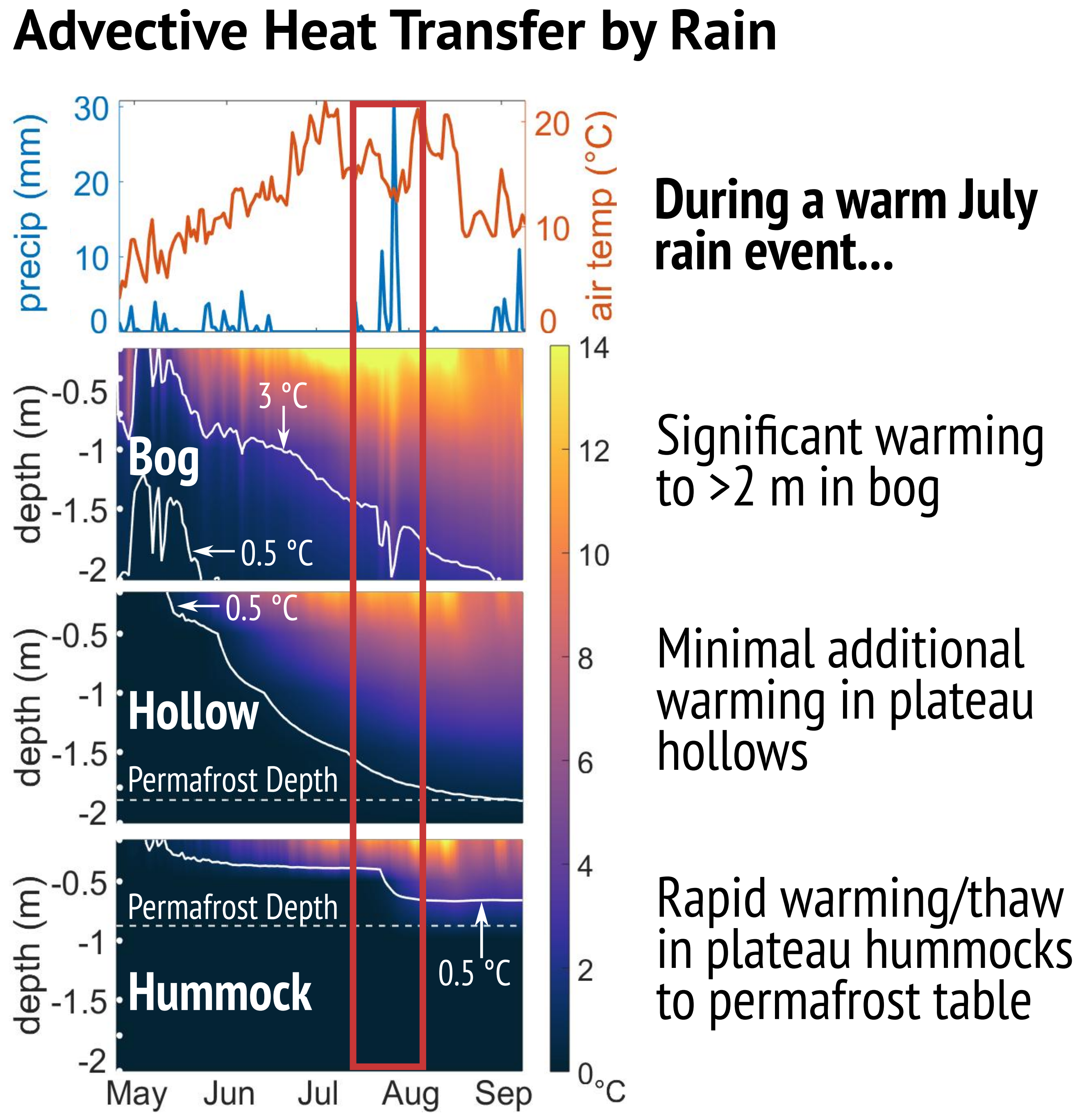
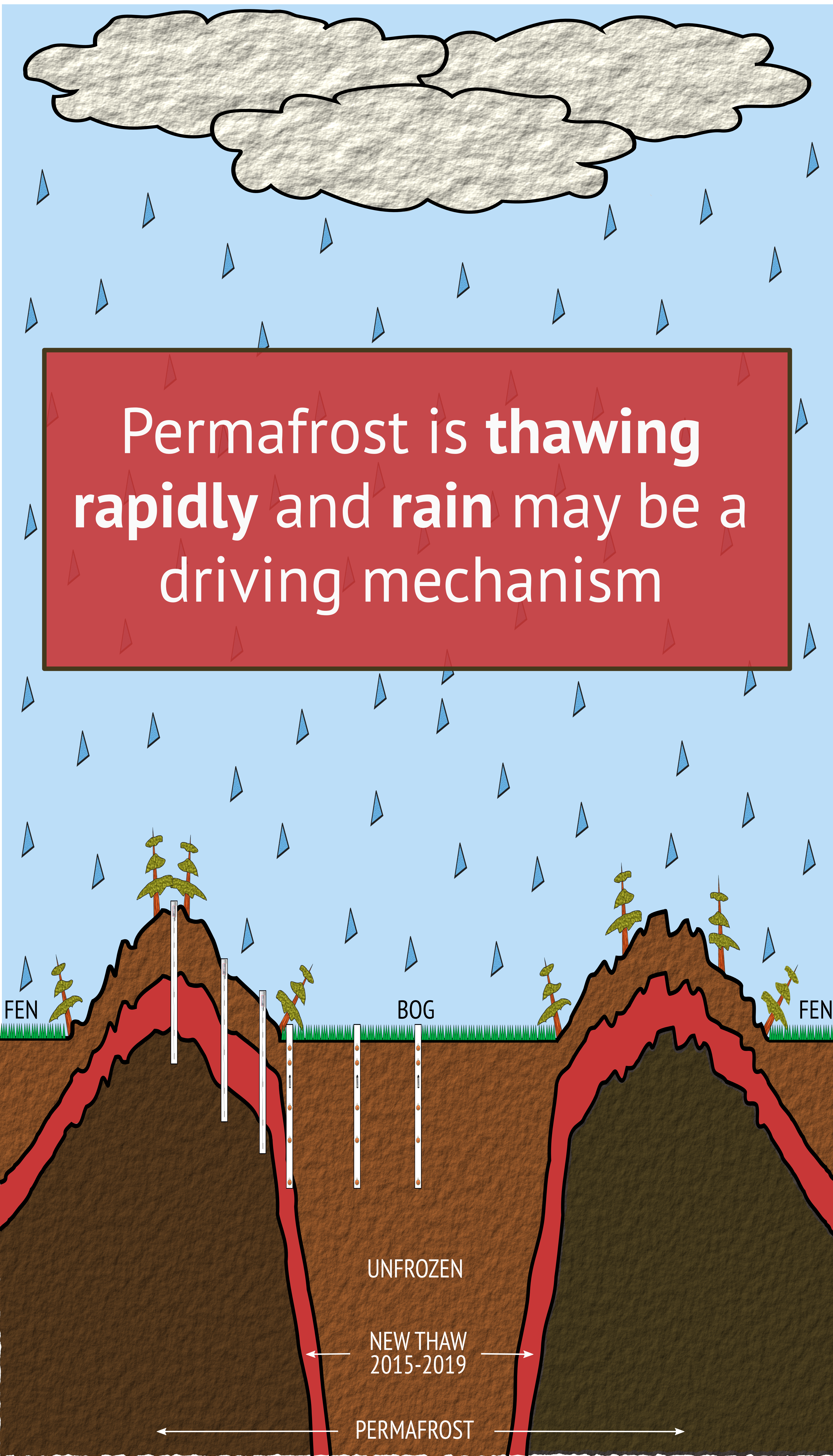


Introduction
Northern high latitudes are expected to get warmer and wetter in the future. To better understand how permafrost landscape thermal regimes will change, we instrumented a discontinuous permafrost site currently experiencing these climate conditions.



Motivation
Spring/summer rain events rapidly warm boreal wetland soils to deep depths by advecting thermal energy (Neumann et al. 2019, Geophys. Res. 46:1393). We hypothesized that this mechanism also warms seasonally frozen boreal plateau soils and accelerates permafrost thaw.



Between Sept. 2015 and Sept. 2019...
26% reduction of measureable permafrost plateau extent (~14 lateral meters)
0.23 meter increase in average depth to permafrost (~0.06 meters per year)