**Data descriptions**

**Title:** Vertical distribution of soil carbon and nitrogen and the environmental regulation in alpine grassland on Tibetan Plateau

by Sun *et al*.

**Abbreviations:**

Layer, Soil layers are divided into surface (0-30 cm), middle (30-100 cm), and deep layer (100-300 cm)

MAP/mm, mean annual precipitation

MAT/°C, mean annual temperature

AI, aridity index

Sand/%, sand content

Silt/%, silt content

Clay/%, clay content

AGB/ (g m-2), aboveground biomass

NPP/ (g C m-2 yr-1), net primary productivity

Coverage/%, vegetation coverage

SOCD/ (kg m-2), SOC density

STND/ (kg m-2), STN density