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A consideration of sustainable grazing over Mongolia, as point of view of recent climate change and vegetation responses

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We will present two topics. One is winter extreme-cold-events (ECE) detected by JRA-25/JCDAS reanalysis object dataset over Mongolia. Since 2000's ECE frequently occurred rather than 1990's, closely linking with synoptic scale circulation change in mid-high latitude. Such synoptic scale circulation change triggered by changing area of sea-ice over Barents Sea. Second topic is vegetation reaction process revealed by satellites observation. We used MODIS spectral reflectance dataset boarded on Terra/Aqua platform. Also we used two vegetation indices: One is major vegetation index, NDVI, the other is Green-Red ratio Vegetation Index (GRVI). NDVI is applied as proxy index of biomass, GRVI is regarded as proxy of biodiversity index. Based on matrix field of NDVI and GRVI, we define the recover status (2012) from herbaceous degradation in 2009. We found that faster recovered areas were located in the foot-fill. More detailed (e.g. degradation process period) analysis will be show in presentation.

Keywords: Mongolia, grazing, extreme colod events, NDVI, GRVI