



Effect of climatic changes on grassland growth, its water conditions and biomass (FINEGRASS)

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EEA grants - Norway

- Project Promoter: Institute of Geodesy and Cartography (IGIK) Warsaw (Prof Dr. hab. Katarzyna Dąbrowska-Zielińska)
- Partners:
 - Norwegian Forest & Landscape Institute (Taff)
 - Bioforsk (Norwegian Institute for Agricultural and Environmental Research)
 - Institute of Technology and Life Sciences, Malopolska Research Centre in Krakow
 - Poznan University of Life Sciences, Department of Grassland and Natural Landscape Sciences

Cultivated Grasslands

- In Poland and North Norway
- Remote sensing
 - Satellite imagery
 - UAV's
 - Handheld spectrometers
- Field/lab analysis of grasslands
 - Biomass
 - Feed quality
 - Chemical composition

Project goals

1. Model yield/feed quality with satellite imagery
 - To assess determinants of yield and feed quality
 - To predict yield/feed quality before harvest.
2. Determine if climate characteristics important for grass growth are changing.
3. Determine how climate change is affecting grassland yield/feed quality.
 - Extrapolate models back in time to assess climate change effects on yield over time
 - Winter kill extent in recent years in Norway

Data

- Available cloud-free satellite data
 - MODIS in Poland
 - Norway: Landsat, Sentinel-2, possibly ASTER
- Norway: UAV near harvest (insurance against clouds)
- Field measurements
 - LAI
 - Soil conductivity
 - Carbon flux
 - Biomass cut and weigh
 - Accumulated photosynthetically Active Radiation
 - Soil Plant Analysis Development
 - Chlorophyll content
 - NDVI meter
 - Soil temperature
- Several study sites throughout Poland
- 3 study sites in Northern Norway

Thanks for your attention!

