The vegetation cover of a terrestrial ecosystem is the result of complex biotic and abiotic interactions (xxxx, nnnn). Precise information on the vegetation cover is vital to assess the condition of an ecosystem after natural or anthropogenic disturbances (Müller et al., 2019). Beyond that, the vegetation cover is an important parameter for the modelling of biogeochemical flows (Xu-Ri and Prentice, 2008) or to draw initial assumptions on the biodiversity of a region (Pereira et al., 2013). The mapping and monitoring of the vegetation cover may finally serve policy makers to find adequate mitigation measures against the background of global change.

*Space- and airborne remote sensing capable for this*

*Multitemporal multispectral systems applying reflectance information in a few broad spectral bands*

*in visible to short wave infrared regions of electromagnetic spectrum (xxxx, nnnn).*

*advantages of multi-temporal multi-spec (with medium spatial resolution?)*

*Hyperspectral systems in several narrow bands (xxxx, nnnn)*

*this increased sensitivity (radiometric resolution) advantageous to obtain more precise information on the actual vegetation cover* (Asner et al., 2015; Somers and Asner, 2013)

*studies have shown that airborne hyperspectral imagery with a high spatial resoultion is even suitable to differ between vegetation types and/or even species (Bogan et al., 2019; Roth et al., 2015; Roth et al., 2016; xxxx, nnnn?)*

***further advantages of hyperspectral?***

*questionable if spaceborne hyperspectral imagery from the EnMAP mission with 30m resolution outpacing Landsat multispectral imagery to map different levels of vegetation cover*

*in this context, comparison of vegetation class fraction maps based on unitemporal hyperspectral and multi-temporal multi-spectral imagery in California.*

*Differences in results per classes (attention to hierarchy)*

*Hypothesis is, that unitemperoal hyperspectral imagery is more suitable to unmix vegetation class fractions than multi-temporal multispectral*

*(brightness differences in flight lines; more endmember-training-points vs. PCA)*