Comparison of NDVI plot sampling and Sentinel satelitte imagery

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1 Introduction

The following report compares the measures of NDVI measured with a RapidScan handheld and satelite derived NDVI from Sentinel 2, as well as assessing the importance of accurate georeferencing of plot, when doing such comparisons.

1.1 BioBasis NDVI sampling

NDVI have been measured as part of the BioBasis Nuuk sampling protocal since 2007. Measurements of NDVI have been done in c-flux plots, phenology plots and along the NERO line. NDVI measurements in c-flux plots have been done with a SpectroSence2 (REF), in phenology plots and along the NERO line it was measured with a CropCircle (REF) from 2007 - 2017). From 2018 NDVI has been measured with a RapidScan from Holland Scientific.

There are measurements from 2018-07-18 and 2024-10-11, and from a total of 113 individual days of measurements from the 20 plots.

NDVI is measured as a mean (calculated by the RapidScan) for each subsection of the phenology plot. For the comparison with Sentinel a further mean is calculate pr plot.

`summarise()` has grouped output by 'Date'. You can override using the `.groups` argument.

1.2 Sentinel 'sampling'

Sentinel derived NDVI values were extracted by Google Earth Engine and process in R. To ensure high temporal correspondence between the Sentinel derived NDVI and the plot measured NDVI only sentinel images from with in +/- 2 days from of a plot measurement were used.

ADJUST THE GEE CODE TO ONLY TAKE THE ONE IMAGE THAT IS CLOSEST TO THE NDVI DATE!

2 Comparison

You can add options to executable code like this

The `echo: false` option disables the printing of code (only output is displayed).