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Sen2-Agri: Leaf Area Index mapping for the territory of Ukraine

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Sentinel-2 mission launched in 2015 by ESA is a source of high spatial and temporal resolution satellite imagery for solving satellite agromonitoring tasks. Among these tasks special role belongs to mapping of such biophysical parameter as Leaf Area Index (LAI).

LAI is as one of essential climatic variables according to Sendai Framework for Disaster Risk Reduction 2015 – 2030. This variable represents the amount of leaf material in ecosystems and enables monitoring and quantitative assessment of vegetation state in more precise way compared to classical vegetational indeces [1]. LAI has added value for such important global resources monitoring tasks as drought mapping and crop yield forecasting with use of data from different sources [2].

Winthin Sentinel-2 for Agriculture project during April – July of 2016 121 in-situ samples of LAI for winter wheat, maize and soy beans were collected with use of indirect method based on DHP (Digital Hemispherical Photographs). Surveys were performed on JECAM test site in Kiev region [3-4].

Biophysical products created with use of automated Sen2-Agri system deployed during Sen2-Agri country level demonstration project for Ukraine will be compared with our independent results of biophysical parameters mapping.

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