

TITLE: Some examples on agriculture monitoring for the CAP: Castile and León crop map and SENSAGRI project

AUTHORS: David A. Nafria, Alberto Gutierrez and F. Javier Rojo (Agrotechnological Institute, Junta de Castilla y León, Spain)

The Agrotechnological Institute of Castile and León (IA from Spain) is working in two initiatives for crop monitoring, the Castile and Leon crops and natural land map and the H2020 Sensagri Project

Castile and Leon crops and natural land map is a land cover layer, updated annually, obtained through satellite imagery. The project began in 2013, and since then layers for every year have been generated. From 2017 onwards the spatial resolution has improved from 20 to 10 m as long as Sentinel-2 imagery becomes more reliable. The classification is performed using a machine learning algorithm trained with data retrieved from Integrated Administration and Control System and some other Land use databases available in Spain.

Sensagri project (Sentinels Synergy for Agriculture) was drafted in response of the EO Work programme "EO-3-2016: Evolution of Copernicus Services". SENSAGRI will exploit the synergy of optical (Sentinel-2) and radar (Sentinel-1) measurements to develop three prototype services capable of near real time operations: (1) Surface Soil Moisture (SSM), (2) green and brown leaf area index (LAI) and (3) crop type mapping. These prototypes shall provide a baseline for advanced services that can boost the competitiveness of the European agro-industrial sector. SENSAGRI proposes four advanced proof-of-concept services: (i) yield/biomass, (ii) tillage change, (iii) irrigation and (iv) advanced crop maps. The algorithms will be developed and validated in four European agricultural test areas in Spain, France, Italy and Poland, which are representative of the European crop diversity.