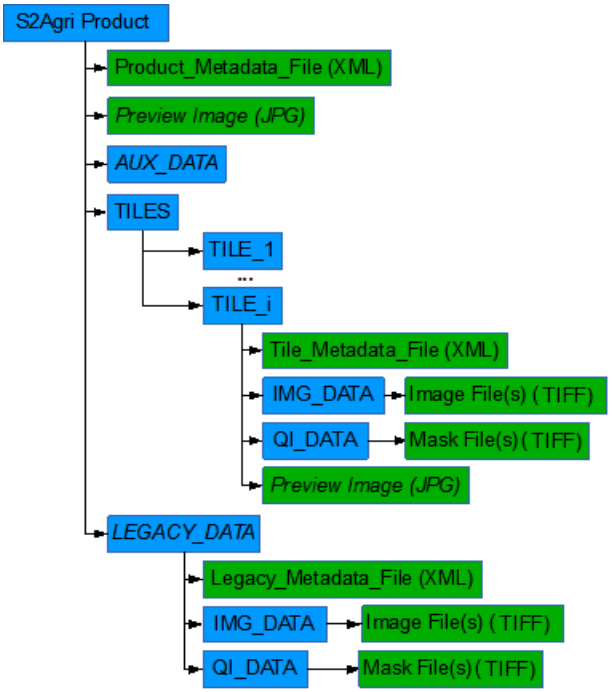
→ SENTINEL-2 FOR AGRICULTURE

Towards the exploitation of Sentinel-2 for local to global operational agriculture monitoring

Product data structure summary

This sheet describes the structure and content of the four Sen2-Agri products. First, specifications common to each product are presented. Then, a specific and detailed description of the naming convention, image encoding and data format is provided.

❖ Product common structure :



Top level Sen2-Agri product folder name convention

S2AGRI_<ProductID>_PRD_<SiteID>_<CreationDate>_<ValidatyPeriod>

<ProductID> = ***L**3A – **L**3B – **L**3C – **L**3D – **L**4A – **L**4B*

<SiteID> = **S**00

<CreationDate> = YYYYMMDD**T**hhmmss

<ValidatyPeriod> = **A**YYYYMMDD : acquisition date

VYYYYMMDD : synthesis date

VYYYYMMDD_YYYYMMDD : Synthesis period

Example of top level Sen2-Agri product folder names

- Composite product

S2AGRI_L3A_PRD_S01_20160630T134012_V20160531

- LAI monodate product

S2AGRI_L3B_PRD_S01_20160630T134012_A20160908

- LAI reprocessed product with a backward window

S2AGRI_L3C_PRD_S01_20160630T134012_A20160908

- LAI reprocessed product over the season

S2AGRI_L3D_PRD_S01_20160630T134012_A20140908

- Crop mask product

S2AGRI_L4A_PRD_S01_20160630T134012_V20160908_20161015

- Crop type product

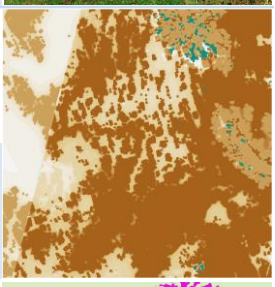
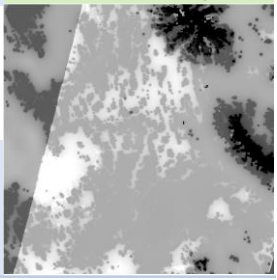
S2AGRI_L4B_PRD_S01_20160630T134012_V20160908_20161015

CODE	Description	Data format
AUX_DATA/	Contains the Image Processing Parameters (IPP)	-
LEGACY_DATA/	Contains the mosaic of the product images and quality masks	-
TILES/	Contains the tiles included in the product. One tile by folder. Tile ID = **T**00XXX.	-
MTD	Global metadata file	XML
PVI	Previsualization Image	JPEG

❖ Internal data structure of the Cloud-free reflectance composite

This section describes the content of each tile inside of the /TILES folder for a Cloud-free reflectance composite product.

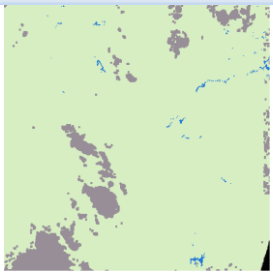
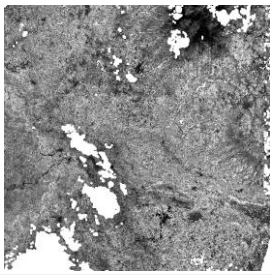
Data volume for one tile is ~1,15 Go.

Location	CODE	Description	Resol. [m]	Nb bands	bits signif.	Data format	Preview Image
/IMG_DATA	SRFL*10M	Surface reflectance image - *Pixel Value = Reflectance*10000*	10	4	16	GEOTIFF	
	SRFL*20M	Surface reflectance image - *Pixel Value = Reflectance*10000*	20	6	16	GEOTIFF	
/QI_DATA	MDAT*10M	Weighted average of dates used in the synthesis in Julian day	10	1	16	GEOTIFF	
	MDAT*20M	Weighted average of dates used in the synthesis in Julian day	20	1	16	GEOTIFF	
	MFLG*10M	Status of the pixel during the period 0 = No Data / 1 = Cloud / 2 = Snow / 3 = Water / 4 = Land	10	1	8	GEOTIFF	
	MFLG*20M	Status of the pixel during the period 0 = No Data / 1 = Cloud / 2 = Snow / 3 = Water / 4 = Land	20	1	8	GEOTIFF	
	MWGT*10M	Weighted average of the weight used to compute the synthesis of each pixel	10	4	16	GEOTIFF	
	MWGT*20M	Weighted average of the weight used to compute the synthesis of each pixel	20	4	16	GEOTIFF	
/	MTD	Tile metadata file	-	-	-	XML	-
	PVI	Previsualization Image	-	3	8	JPEG	

❖ Internal data structure of the Biophysical Vegetation Status indicator

This section describes the content of each tile inside of the /TILES folder for a Biophysical Vegetation Status map.

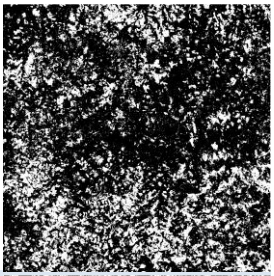
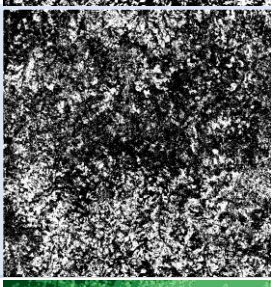
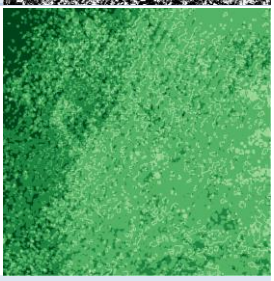
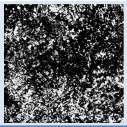
Data volume for one tile is ~44 Mo.

Location	CODE	Description	Resol. [m]	Nb bands	bits signif.	Data format	Preview Image
/IMG_DATA	SLAIMONO	Single date LAI image – *Pixel Value = LAI *1000*	20	1	16	GEOTIFF	
	SNDVI	NDVI image	10	1	16	GEOTIFF	
/QI_DATA	MMONOFLG	Status of the pixel during the period 0 = No Data / 1 = Cloud / 2 = Snow / 3 = Water / 4 = Land	10	1	8	GEOTIFF	
	MLAIERR	The uncertainty, which is the output of the model error estimation.	20	4	16	GEOTIFF	
/	MTD	Tile metadata file	-	-	-	XML	-
	PVI	Previsualization Image	-	3	8	JPEG	

❖ Internal data structure of the Dynamic Cropland Mask

This section describes the content of each tile inside of the /TILES folder for a Dynamic Cropland Mask.

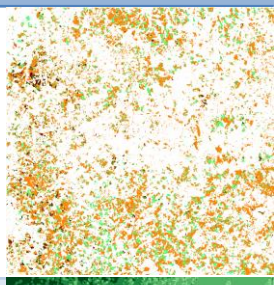
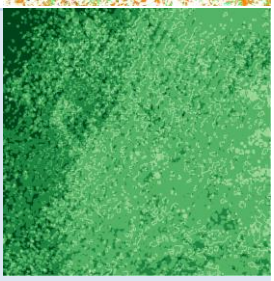
Data volume for one tile is ~17 Mo

Location	CODE	Description	Resol. [m]	Nb bands	bits signif.	Data format	Preview Image
/IMG_DATA	CM	Cropland mask image : post-filtered version	10	1	16	GEOTIFF	
	RAW	Cropland mask image : raw version	10	1	16	GEOTIFF	
/QI_DATA	MCMFLG	Status of the pixel during the period used to generate the map Band 1 = number of dates which are associated with the "land" status Band 2 = number of dates which are associated with the "water" status Band 3 = number of dates which are associated with the "snow" status Band 4 = number of dates which are associated with the other status ("cloud", "cloud shadow", "no data")	10	4	16	GEOTIFF	
	QLT	Confusion Matrix and validation results of the map	-	-	-	XML	-
./	MTD	Tile metadata file	-	-	-	XML	-
	PVI	Previsualisation Image	-	3	8	JPEG	

❖ Internal data structure of the Cultivated Crop Type map

This section describes the content of each tile inside of the /TILES folder for a Cultivated Crop Type map.

Data volume for one tile is ~25 Mo

Location	CODE	Description	Resol. [m]	Nb bands	bits signif.	Data format	Preview Image
/IMG_DATA	CT	Crop Type map image	10	1	16	GEOTIFF	
/QI_DATA	MCTFLG	Status of the pixel during the period used to generate the map Band 1 = number of dates which are associated with the "land" status Band 2 = number of dates which are associated with the "water" status Band 3 = number of dates which are associated with the "snow" status Band 4 = number of dates which are associated with the other status ("cloud", "cloud shadow", "no data")	10	4	16	GEOTIFF	
	QLT	Confusion Matrix and validation results of the map	-	-	-	XML	-
./	MTD	Tile metadata file	-	-	-	XML	-
	PVI	Previsualisation Image	-	3	8	JPEG