

Collection of Ground Biophysical Measurements in support of Copernicus Global Land Product Validation: The ImagineS database

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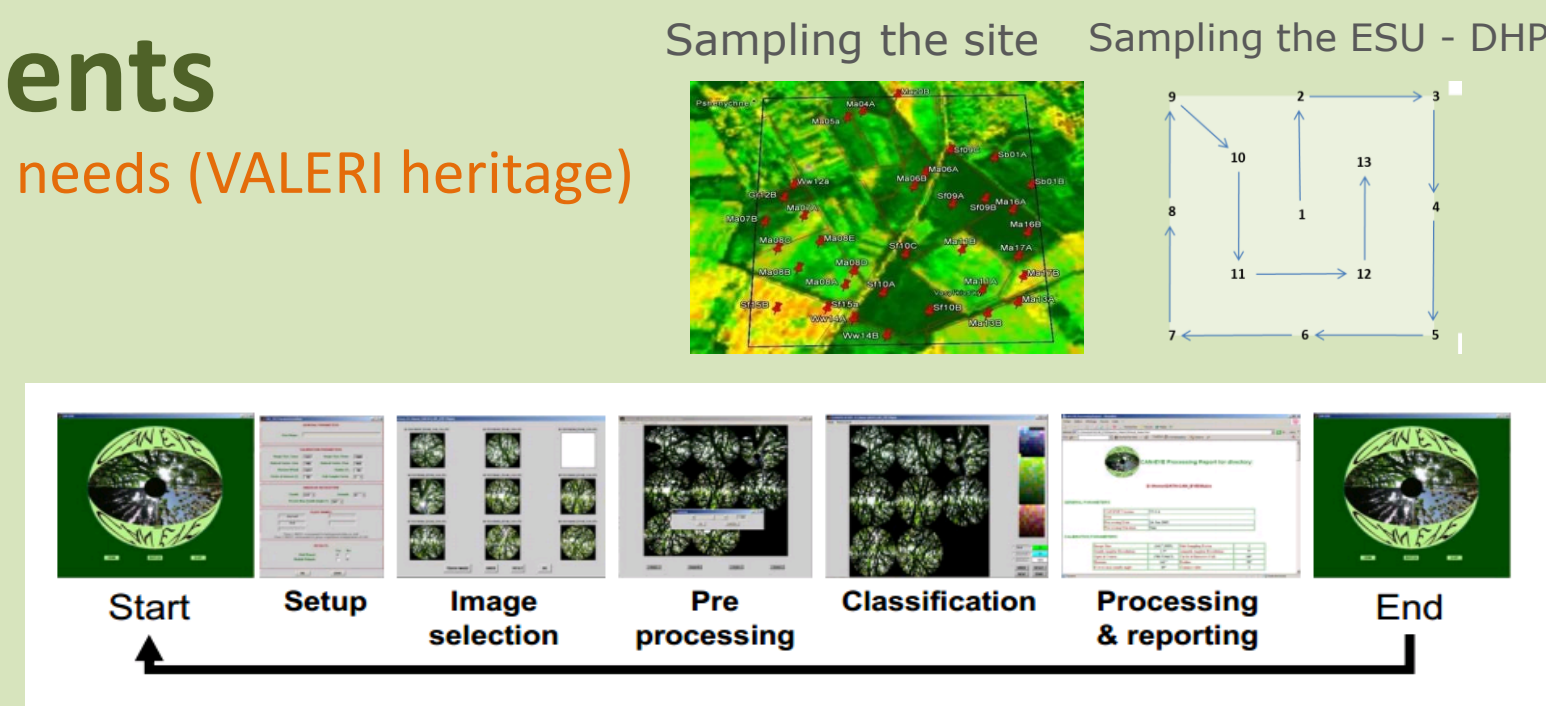
This poster describes a network of demonstration sites established within the FP7 **ImagineS** project (Implementing Multi-scale Agricultural Indicators Exploiting Sentinels), in support of the validation of **Copernicus Global Land** biophysical vegetation products where ground measurements are being collected.

- ❖ A comprehensive database will be shared through the Imagines website for the validation of biophysical products.
- ❖ Mean values at 3x3 km² could be shared through the CEOS On-Line Validation Experiment (**OLIVE**) tool for the validation of medium resolution satellite biophysical products.

PROTOCOL – Field Measurements

Guidelines for field campaigns are provided considering up-scaling needs (VALERI heritage)

- Size of the site: 3x3-km
- Number of ESUs: 30- 50 sampling units
- Size of the ESU: ~ 20x20 m (GPS at centre)
- Sampling the site: Stratified, based on land cover
- Sampling the ESU: 13 shots
- Instruments: Digital Hemispherical Cameras (DHP)
- Processing: CAN-EYE software (INRA)



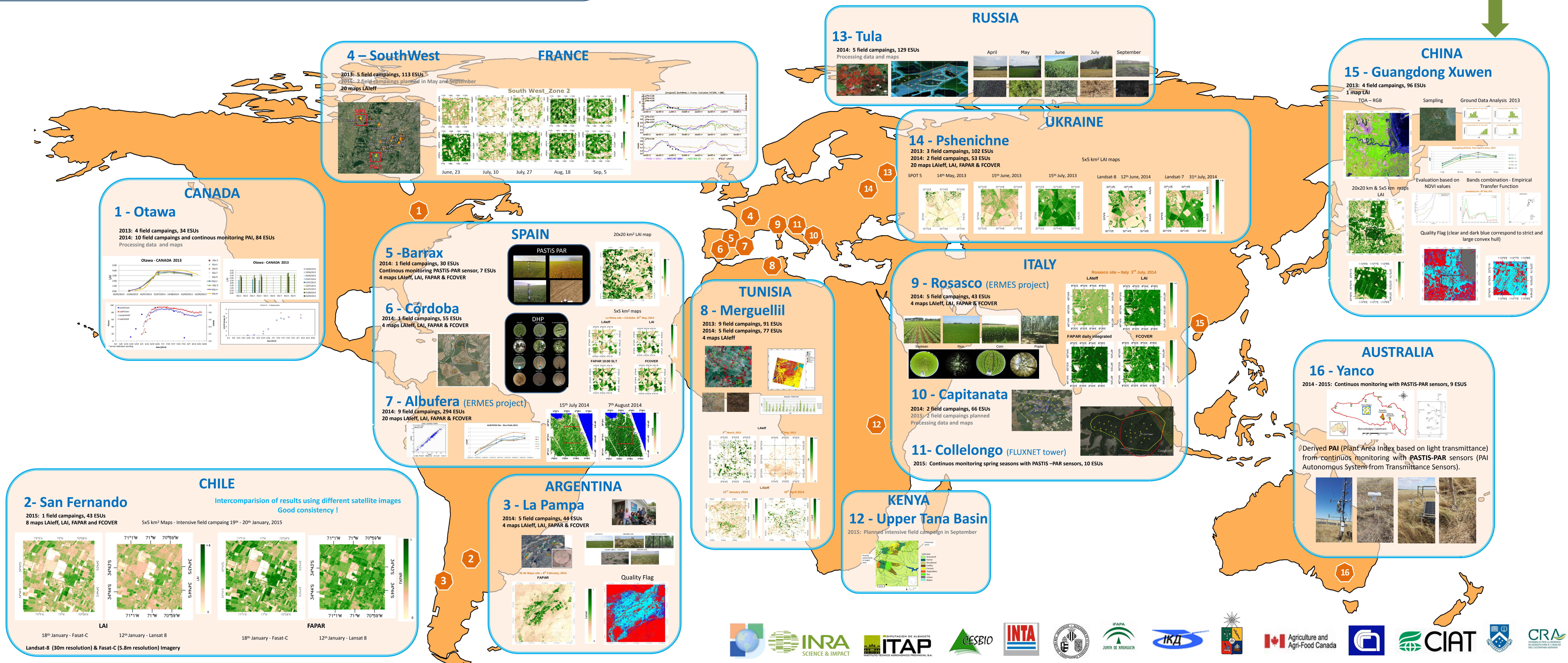
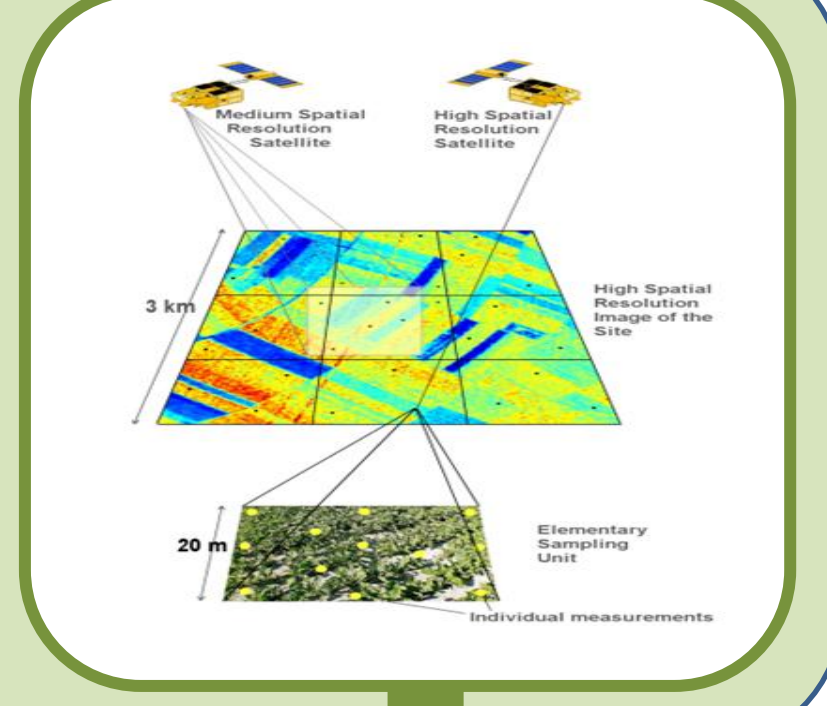
Methodology



PROTOCOL – Upscaling

Ground-based maps according to **CEOS LPV** best practices for up-scaling (VALERI)

- High resolution imagery (SPOT-5, Landsat-8, Fsat-C)
- Evaluation of the sampling
- Regression method: iteratively re-weighted least squares algorithm
- Selection of band combination (lower RMSE) – Transfer Function
- Convex Hull: Quality Flag
- TF is applied to HR data for upscaling and empirical maps are produced



SUMMARY

	FIELD CAMPAIGNS	ESUS	ESU-MEASURES	MEASUREMENTS - INSTRUMENTATION					TOTAL
				IMAGES	ACCUPAR	LAIZX00	PASTIS	OTHERS	
2013	25	436	436	4080	-	96	-	-	6672
2014	28	766	1242	6943	66	291	34	205	19957
2013-2014	53	1202	1678	11023	66	387	34	205	26629

- > 85 biophysical maps (2013 - 2015)
- > 54 field campaigns over the world
- > 11000 ESUS
- > 27000 measurements (2013 - March 2015)

Available dataset at: <http://www.fp7-imagines.eu/>