BDA for agricultural monitoring using Copernicus Sentinels and EU open data

EAP progress review - 25 February 2021
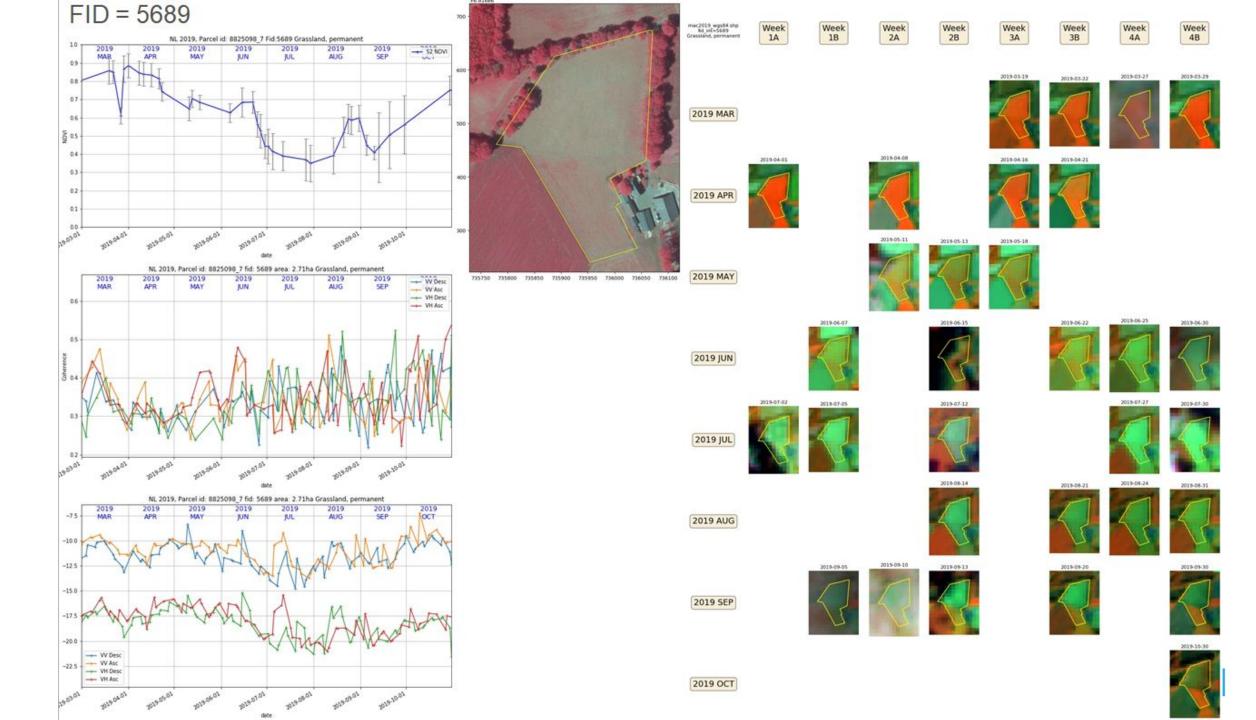
Guido Lemoine, European Commission,
Joint Research Centre

Overall objectives

- show how federated EOSC resources can facilitate a range of Sentinel data applications across **agricultural** user domains (science, public, private)
- demonstrate the use of advanced Big Data Analytics approaches applied to multi-annual high resolution Copernicus Sentinel time series and EU open access reference data sets
- project the EOSC as the reference platform that will host the **permanent Sentinel data archive**, so that access by European science users will be guaranteed on a European e-infrastructure

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NL 2019, Parcel id: 8825098_7 Fid:5689 Grassland, permanent

NL 2019, Parcel id: 8825098_7 fid: 5689 area: 2.71ha Grassland, permanent

NL 2019, Parcel id: 8825098_7 fid: 5689 area: 2.71ha Grassland, permanent

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	Week 1A	Week 1B	Week 2A	Week 2B	Week 3A	Week 3B	Week 4A	Week 4B
2019 MAR					2019-03-19	2019-03-22	2019-03-27	2019-03-29
2019 APR	2019-04-01		2019-04-08		2019-04-16	2019-04-21		
2019 MAY			2019-05-11	2019-05-13	2019-05-18			
2019 JUN		2019-06-07		2019-06-15	2019-06-22	2019-06-25	2019-06-30	
2019 JUL	2019-07-02	2019-07-05	2019-07-12			2019-07-27	2019-07-30	
2019 AUG			2019-08-14		2019-08-21	2019-08-24	2019-08-31	
2019 SEP	2019-09-05	2019-09-10	2019-09-13		2019-09-20		2019-09-30	
2019 OCT								2019-10-30

Status update

- EOSC resource use has significantly accelerated development and uptake.
- The code is now released as open source on [github](#).

- Our EOSC experience is **an essential contribution** to ongoing discussions on European infrastructure solutions (DG DEFIS, CNECT)
- Used as a demonstrator for JRC cloud onboarding discussions
- Excellent basis for further integration on new components

- Overall very satisfied with the EOSCHub support, quality of the resources provided by CloudFerro, CESNET and EODC.

European Commission

Next steps

- We need to migrate resources to other contractual arrangements (CloudFerro easy, CESNET more difficult, EODC lower priority)
- Development will continue on github repository
- Additional resource solutions via C-SCALE (advisors), EGI-ACE

- We're the first talk at the [GeoPython 2021 conference](#)!
- We are actively involved in Copernicus, Destination Earth, Digital Europe, European Green Deal Data spaces, etc.
- All very relevant to get European capacities sorted out and aligned!

- There is endless new nifty techno stuff for further integration (currently focussed on GPU, dask, k8s)

European Commission

Thank you

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