

ESA Network of Resources (NoR) Sponsorship Request

Request ID: 1a2939

Project Title: Time series analysis of Lebanese crops

Project Organisation: National Remote Sensing Center

Project Organisation Address: Mansourieh Maten, Beirut, Lebanon

Project Organisation Country: Lebanon

Project Coordinator Email Address: aghandour@cnrs.edu.lb

Objectives: Lebanese is suffering recently from a major economic crisis. Food safety has become a major challenge for our government and society. In the following project, we intend to:

1. study the time series of vegetation areas in Lebanon since the Year 2015.
2. assess the impact of COVID-19 on agricultural areas
3. assess the impact of recent economic crisis on farmlands
4. design and implement a deep learning model to detect crop areas (using pytorch library)

Methodology: The project will rely on Sentinel-2 images. We will limit our study area to the Lebanese territory. Sentinel-hub provides excellent API with easy access to NDVI layers.

We will also benefit from the NIR bands as input to the deep learning model for crop detection. During the model training phase, we will rely on ground truth data collected from our on-site surveys.

The project deliverables will include:

1. an online map of crop areas in Lebanon, in addition
2. to a research paper to disseminate the project results

Project type: Research

ESA Project: NO

Requested Service: EDC Sentinel Hub - DPaaS

Sponsored Resource List:

Offering ID	Units	Duration	Cost	Sponsoring Limit
Enterprise-S-yearly	1 Subscription(s)	1 year(s)	€5000	€5000
Total Cost			€5000	€5000

I will co-fund the cost: No

Voucher Amount Requested: €5000.00

Expected date of submission of the slides: November 2022

The undersigned herewith requests ESA sponsoring for the following project, declaring that: - no profit will be made using sponsored resources

In case my sponsoring request is fully or partly funded, I commit to:

- reference NoR on any papers/presentation published inserting the text 'project supported by ESA Network of Resources Initiative';
- provide quarterly feedback information when requested by ESA on my satisfaction with the sponsored service;
- Within two months of the end of the Sponsorship period, provide by email a set of slides highlighting the project achievements to nor@esa.int

I authorise ESA (also via 3rd parties from ESA member states under ESA contract):

- to store and process the information provided in the present email, also amending it with additional information as needed for the execution of the sponsoring process and feedback provisioning;
- to publish my provided feedback also in condensed form on the NoR portal in the context of the overall star rating for the selected provider;
- to use the submitted information (and also the set of slides highlighting the project achievements that I will provide within 2 months of the end of the project) to promote the NoR Initiative via ESA communication channels.

Best Regards,

Ali J. Ghandour, National Remote Sensing Center

Signature



16 Nov 2021