وكـالة الإمـارات للفضـاء
UAE SPACE AGENCY

Space Analytics and Solutions (SAS) Program


مجمع البيانات الفضائية
Space Data Center


GEO-SPATIAL ANALYTICS PLATFORM
منصة تحليل البيانات الفضائية
Geo-Spatial Analytics Platform


برنامج ساس للتطبيقات الفضائية
Space Analytics and
Solutions (SAS) Program


المركز العلمي
لبيانات مسبار الأمل
EMM Science
Data Center

SAS Overview

The UAE Space Agency established a dedicated program for space downstream applications named “Space Analytics and Solutions (SAS)”.

This program shall facilitate and expedite the development of downstream applications of satellites with the long-term goal of establishing a sustainable space ecosystem in the country.

It is an opportunity for Start-Ups, SME’s, R&D Centers, Academics and Innovators to participate and accelerate the UAE’s knowledge-driven economy

SAS Program Goals

Create commercially-viable applications based on satellite data.

Promote space downstream applications, and increase demand for value-added services.

Solving local and international challenges in areas of Climate Change, Food Security and other challenges

Stimulating innovation and encourage public-private partnerships.

Benefits

- Access to Funds
- Consultancy
- Market Access

Program Themes

Climate Change

Mapping and Monitoring greenhouse gases and contribute to building GHG inventory and emission management system

Food Security

Monitor vegetation health, accurate mapping and studies for soil moisture and, increase agricultural productivity

Environment Monitoring

Focuses on agriculture and water studies (waste monitoring , water quality monitoring etc.)

Loss and Damage

use satellite data to show devastation caused by climate change

Energy

Renewable resource Mapping, Oil Spell Detection and Smart Grid Planning

Infrastructure

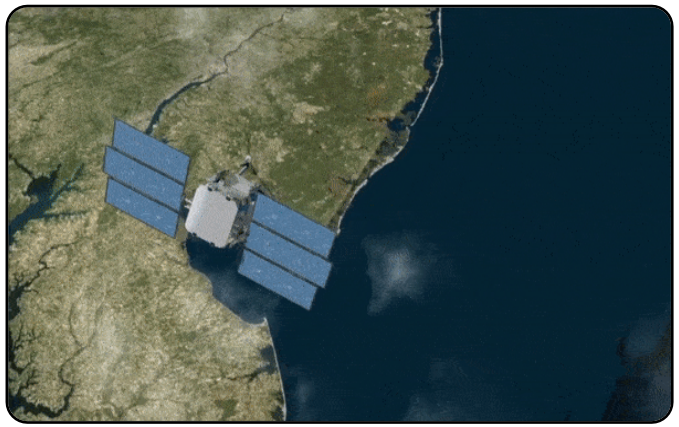
Enhancement of Infrastructure monitoring, maintenance and operations solutions

Climate Change

Mapping and Monitoring greenhouse gases and contribute to building GHG inventory and emission management system

SDG ---------->

Climate Change - Enhancing the Monitoring of Greenhouse Gases (GHG) Emissions



Awarded Team:

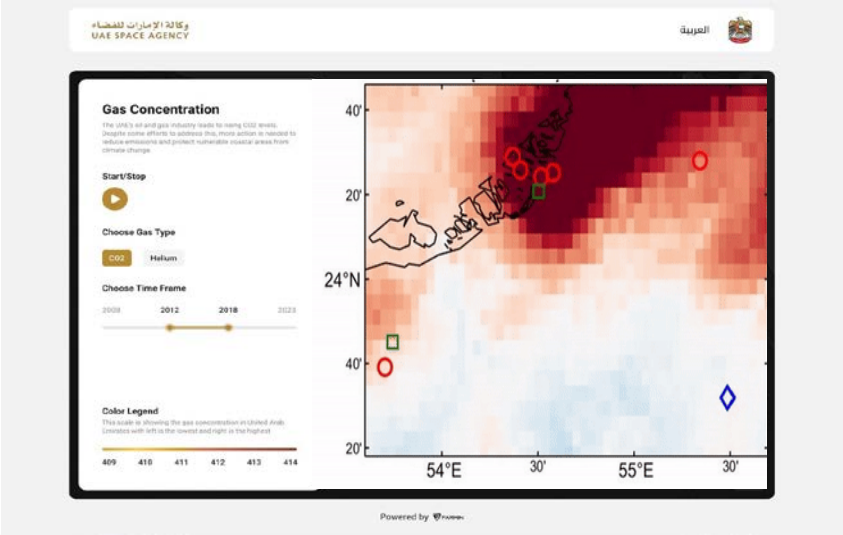
FARMIN

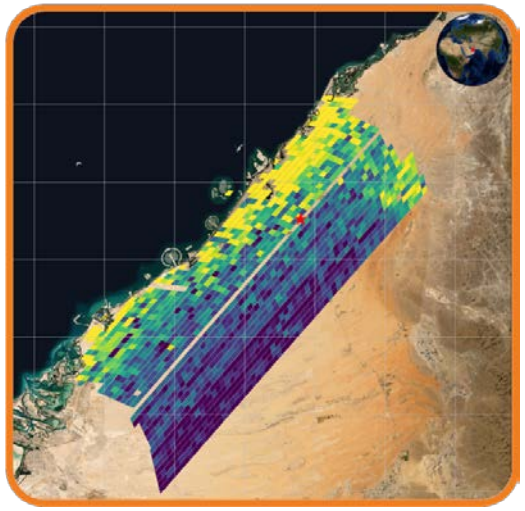
Aim:

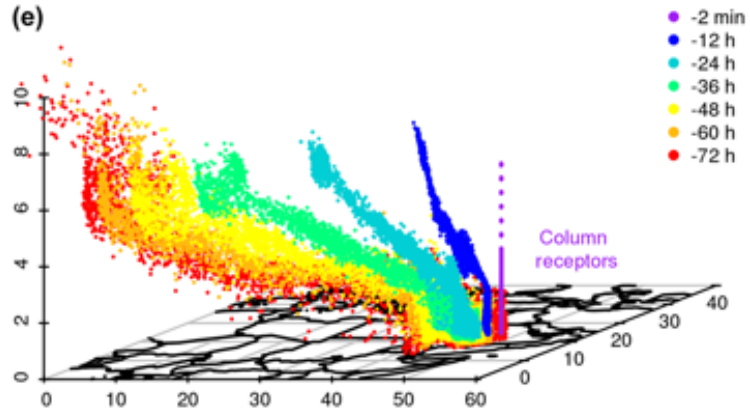
- To build a tool to provide reliable and highly accurate products of GHGs emissions over the Arabian Peninsula using Satellites images and AI.

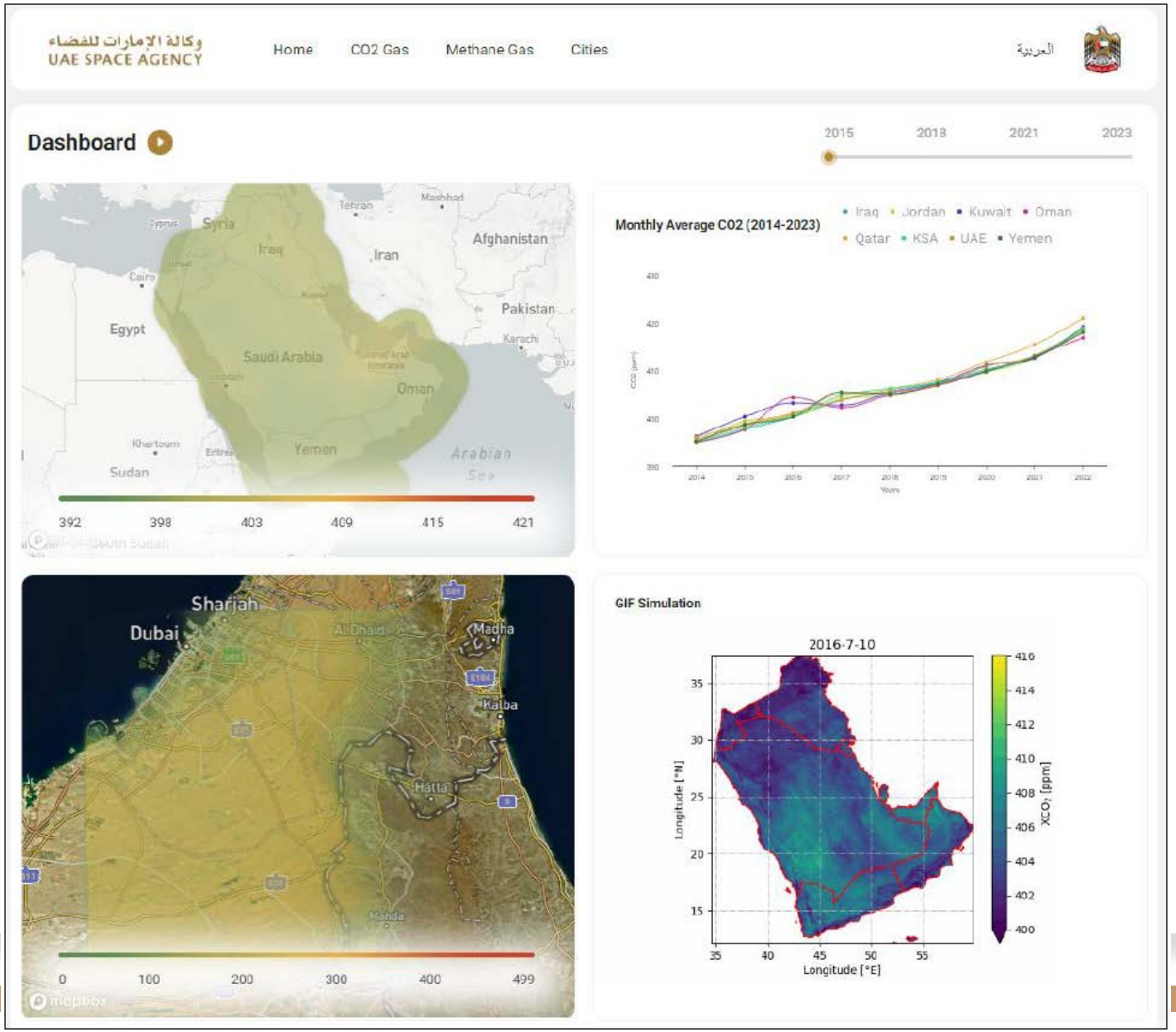
Objectives:

1. Identifying hot spots generating GHGs and the daily changes.
2. Detecting emissions sources 10x smaller than public satellites
3. Include effect of extreme humidity and dust level on estimating the GHGs








وكالة الإمارات للفضاء
UAE SPACE AGENCY
Home
CO2 Gas
Methane Gas
Cities
العربية
Dashboard
2015
2018
2021
2023
Syria
Iraq
Iran
Afghanistan
Pakistan
Egypt
Saudi Arabia
Oman
Yemen
Sudan
Arabian Sea
392
398
403
409
415
421
Monthly Average CO2 (2014-2023)
Iraq
Jordan
Kuwait
Oman
Qatar
KSA
UAE
Yemen
Sharjah
Dubai
Madha
Kalba
Hatta
0
100
200
300
400
499
GIF Simulation
2016-7-10
Longitude [°N]
Longitude [°E]
XCO2 [ppm]

Food Security

Monitor vegetation health, accurate mapping and studies for soil moisture and, increase agricultural productivity

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Food Security - Nationwide Agricultural Baseline Advanced (NABAT)

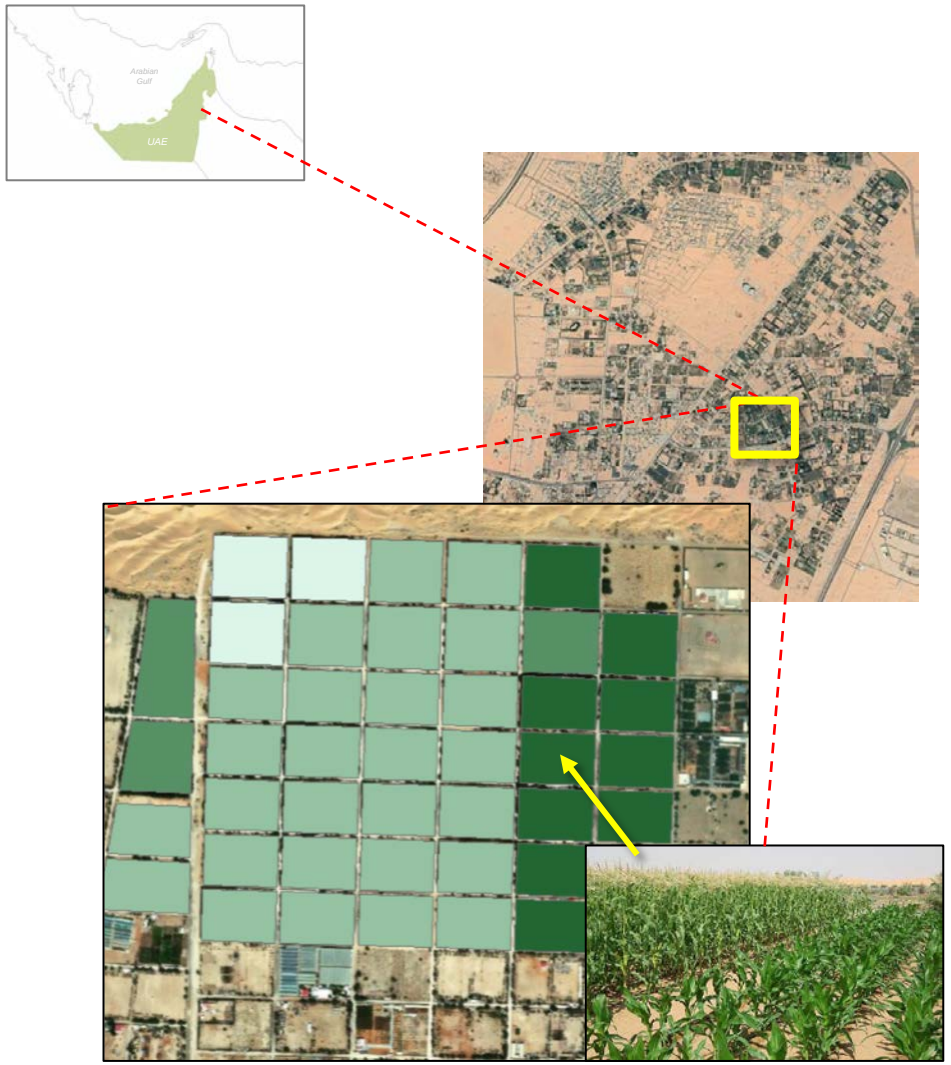
Awarded Team: 431

Aim:

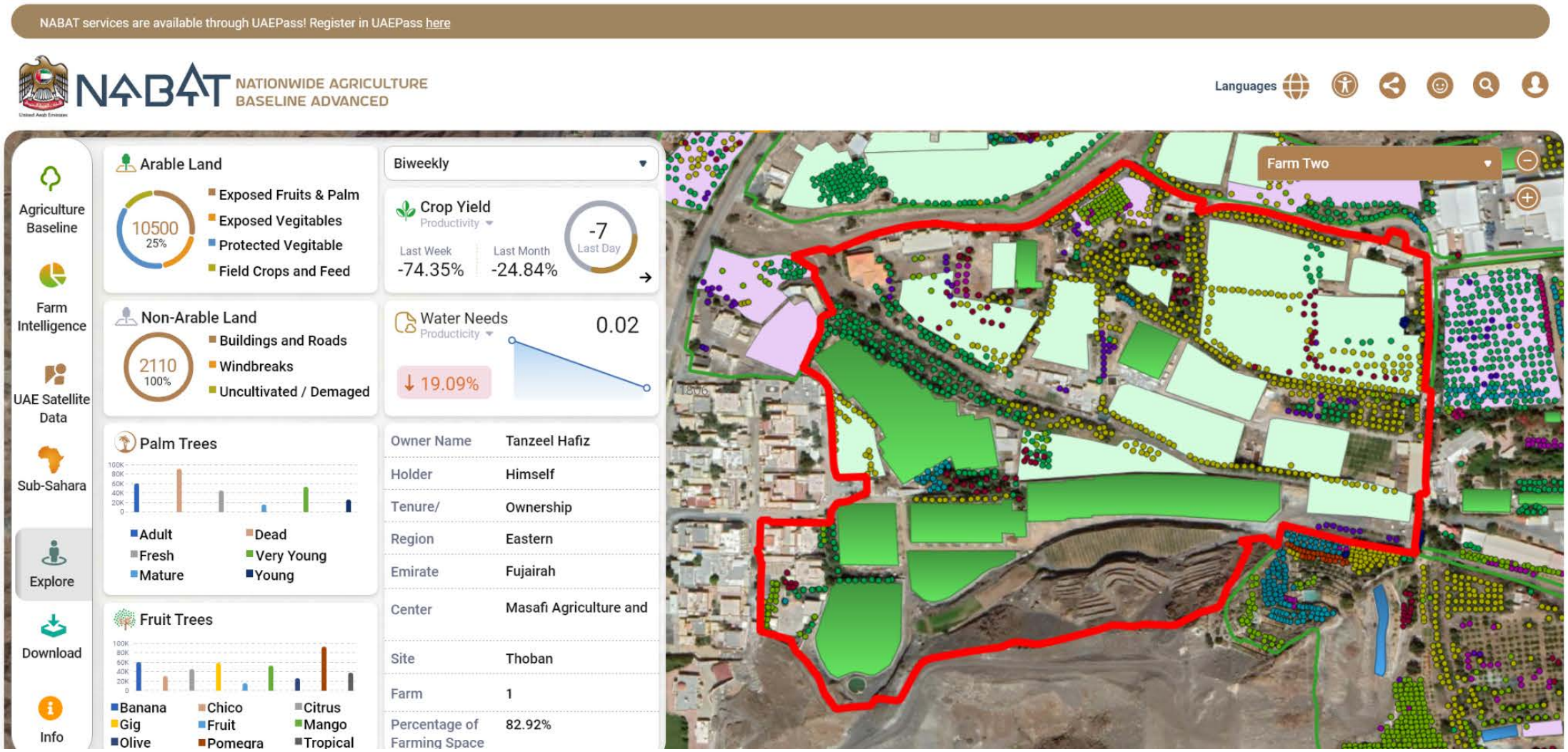
- Provide a dynamic nationwide agricultural baseline, to monitor farms throughout UAE providing bi-weekly intelligence to the UAE people.

Objectives:

1. Monitor irrigation practices and efficiency
2. Estimate Food and Agriculture Organisation (FAO) aligned **Crop Coefficient** (Kc) for basic irrigation schedules
3. Estimate current and forecast **crop water needs** for future climates
4. Estimate future **crop yields**
5. Study the impact of **climate change on food security**



Nationwide Agriculture Baseline Advanced Technology



Environment Monitoring

Focuses on agriculture and water studies (waste monitoring , water quality monitoring etc.)

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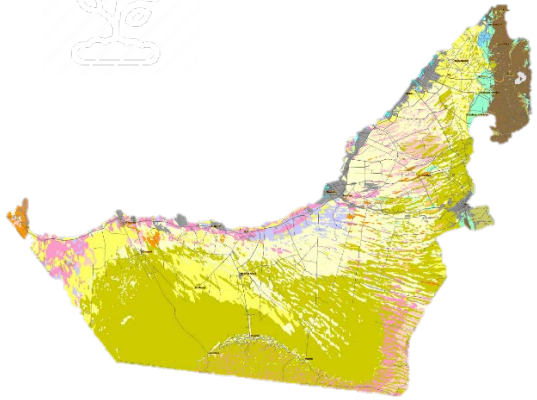
Environmental Monitoring - Monitoring soil properties using satellite Data



Awarded Team:

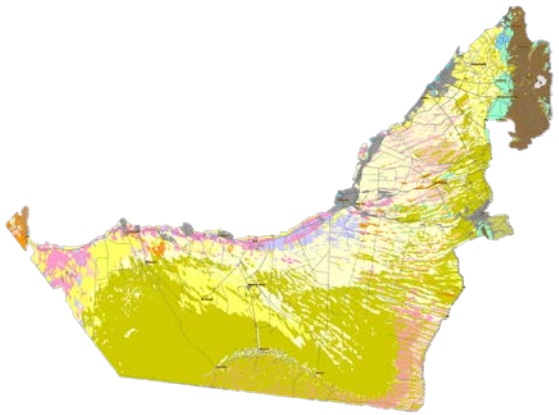
جامعة خليفة
Khalifa University

Aim:

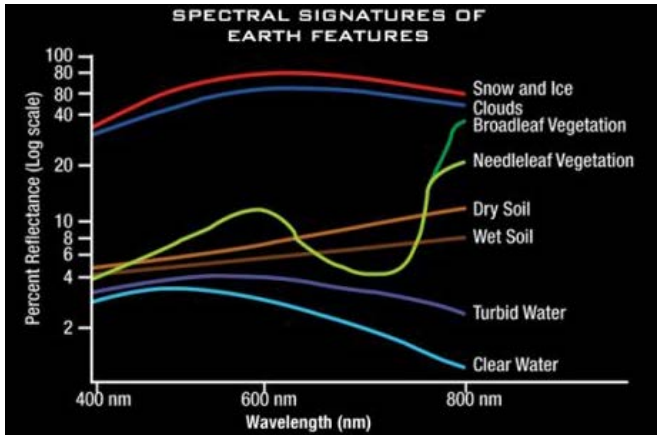
- Monitoring a seasonal change of organic matter and related soil properties in agriculture fields from Venus sensor under climate change era

Objectives:

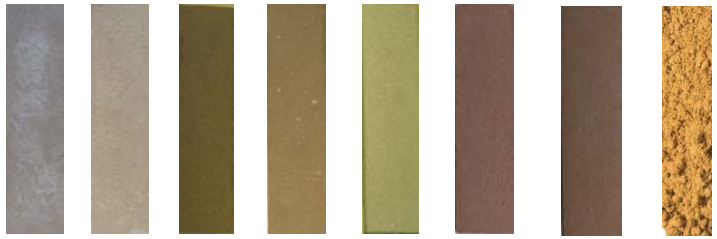
1. Modeling of soil attributes from the spectral measurements in the lab
2. Mapping of soil attributes of the UAE using VENuS satellite images.



UAE Soil Mapping



Developing Soil Spectral Library (SSL)



Identifying Soil Types

Loss and Damage

use satellite data to show devastation caused by climate change

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Loss and Damage Atlas for Climate Resilience

In Partnership with:

planet.

In collaboration with:

UAEU

بيانات
BAYANAT

FARMIN

421

Aim:

- To construct an innovative loss and damage atlas, driven by satellite data, that will empower nations to confront the challenges posed by a changing climate.

Objectives:

1. To extend technology and expertise to developing countries to tackle the loss and damage resulting from climate change
2. Enhance the availability and accessibility of early warning systems for hazards such as extreme weather, water, and climate-related events in climate-vulnerable countries.

THANK YOU