

64<sup>TH</sup> COPUOS MEETINGS | UAE SPACE & CLIMATE CHANGE

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## UAE International Climate Change Efforts | Disaster Charter

- UAE became an official member of the International Charter on Space and Major Disasters in 2017



UNITED ARAB EMIRATES  
THE SUPREME COUNCIL FOR NATIONAL SECURITY  
National Emergency Crisis and Disasters  
Management Authority

وكالة الإمارات للفضاء  
UAE SPACE AGENCY



مركز محمد بن راشد  
للفضاء  
MOHAMMED BIN RASHID SPACE CENTRE

- The UAE is the first Arab-Islamic country to obtain membership to the organization
- Member States pledge to share the imagery obtained from their respective satellites orbiting Earth to provide other members with high-quality images at frequent intervals to contribute to the management of natural or man-made disasters.



# UAE International Climate Change Efforts | Space Climate Observatory (SCO)

- UAE Space Agency was part of the SCO since its inception in June of 2019
- The SCO aims to study, monitor and adapt to the impacts of climate change through satellite based earth-observation tools
- 29 Space agencies and 3 International Organizations are members
- UAE Space Agency has been active in SCO especially with the recent efforts of charter drafting



## SCO MEMBERS

Signers of the SCO Declaration of Common Interest



**Transparency**  
of its actions, of data used and provided



**local capacity building**



**Sharing of knowledge**



**effective applications**  
for climate change adaptation

# UAE Space Regulations & National Space Strategy | UAE Space Policy

- The UAE National Space Policy was issued in September 2016

## National Space Policy

Principles

Goals

Key Enablers

Guidelines

Implement-ation

- Enhancing the Lives of our Citizens
- Support UAE National Interests

- Promote Regional and International Coordination and Collaboration

- Enhance Land and Climate Observation and Support Environment Protection



United Arab Emirates

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September 2016

# UAE Space Regulations & National Space Strategy | UAE National Space Strategy

- The UAE National Space Strategy was launched in March 2019



**Initiative 1.1.4** Develop and promote the contribution of space services and applications in achieving the Sustainable Development Goals (SDGs)

**Initiative 3.1.1** Develop and implement research projects in space sciences and astronomy

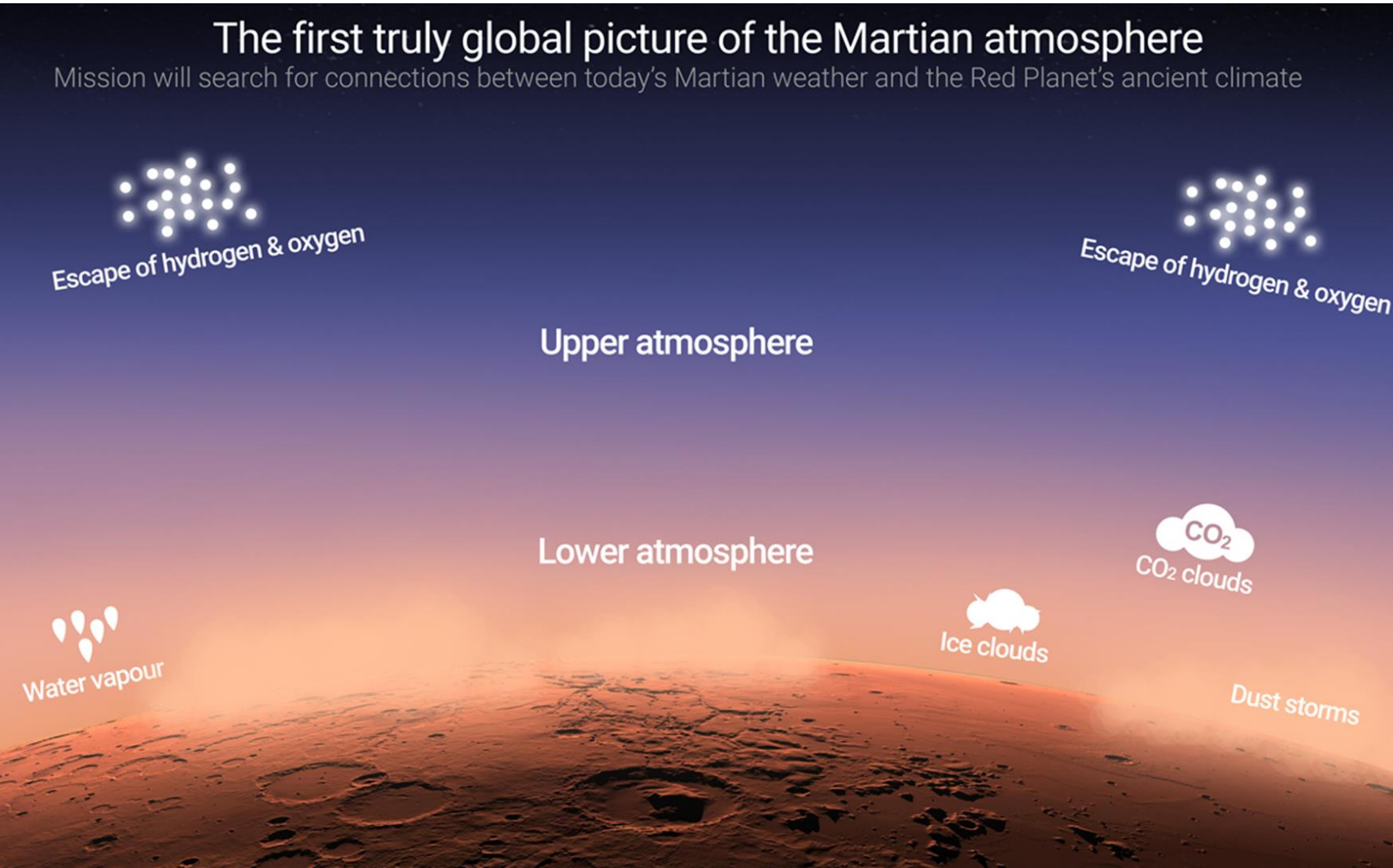
**Initiative 5.1.4** Join international alliances for the exchange of space data and expertise related to the protection of the environment and the management of disasters and crises



## UAE Space Projects Contributing to Climate Change | Emirates Mars Mission

### The first truly global picture of the Martian atmosphere

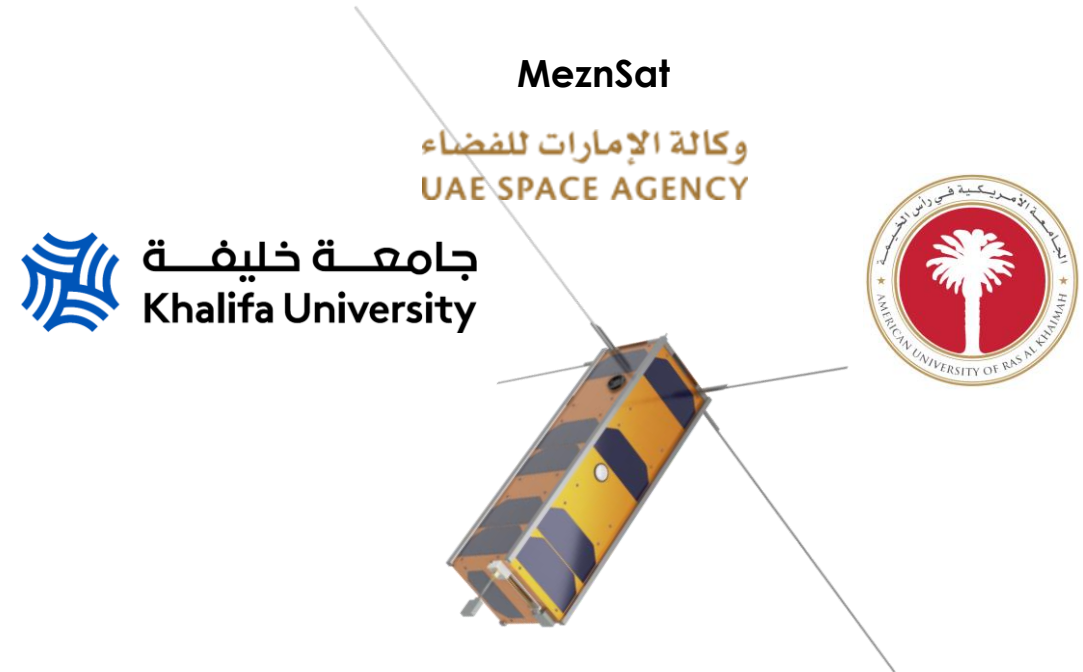
Mission will search for connections between today's Martian weather and the Red Planet's ancient climate



## UAE Space Projects Contributing to Climate Change | Greenhouse Gasses Monitoring



- Environmental Monitoring Satellite - *15kg Nanosatellite*
- Hosts 2 payloads:
  - Multispectral Polarization Imager
  - SWIR Spectrometer (1215-2400nm)
- Launched March 2021



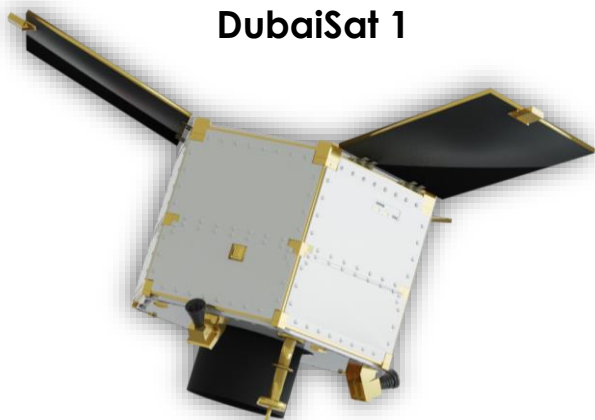
- Educational / Environmental Monitoring Satellite – *3U CubeSat*
- Hosts 2 payloads:
  - SWIR Spectrometer (900-1600nm)
  - RGB Camera
- Launched September 2020



## UAE Space Projects Contributing to Climate Change | Disaster & Crisis Management

مركز محمد بن راشد  
للفضاء  
MOHAMMED BIN RASHID SPACE CENTRE

DubaiSat 1



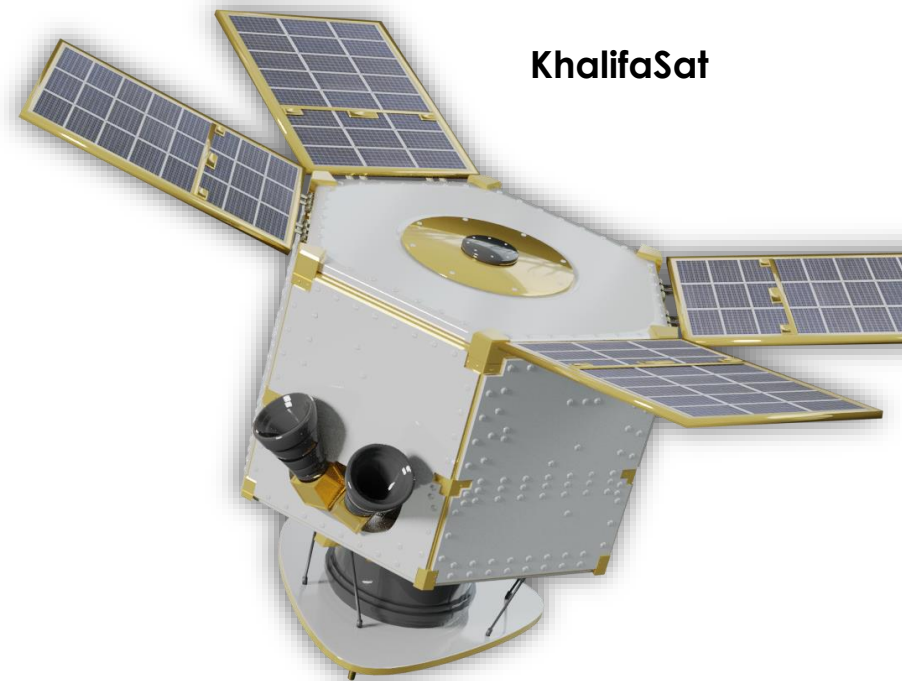
- Remote Sensing Satellite – 190kg
- High Resolution Optical Images:
  - GSD 4m @ 680km
  - Visible & NIR
- Launched 2009

DubaiSat 2



- Remote Sensing Satellite – 300kg
- High Resolution Optical Images:
  - GSD 1m @ 600km
  - Visible & NIR
- Launched 2013

KhalifaSat



- Remote Sensing Satellite – 330kg
- High Resolution Optical Images:
  - GSD 0.7m @ 618km
  - Visible & NIR
- Launched 2018

## UAE Space Projects Contributing to Climate Change | Upcoming Projects

- The downstream program stimulate the space asset and encourage the increase in demand for value-added services from space-based satellite tools.
- Two focus areas
  - Food Security (Enhancement of Farming operations and solutions using remote sensing tools and modelling)
  - **Climate Change (Climate Change Impact Assessment using remote sensing tools and modelling)**
    1. Study the CO<sub>2</sub>/CH<sub>4</sub> source/sinks mapping and monitoring
    2. Contribute to the UAE's efforts in building GHG inventory and emission management system.
    3. To implement AI techniques for assessment of future trends and impacts of Climate Change
    4. To embed solutions and AI techniques into an Interactive platform



# Summary & Conclusions

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- UAE has considerable efforts towards climate change at the international level
  - *International Charter on Space and Major Disasters*
  - *Space Climate Change Observatory (SCO) Membership*
- Climate change is embedded within UAE Space Policies and National Space Strategy
- UAE heavily focuses on space projects to contribute towards climate change and continues to do so in its future plans
- UAE remains committed and will continuously support climate change initiatives