

## DubaiSat -1

Owner: Emirates Institution for  
Advanced Science and Technology

- Mohammed Bin Rashid Space  
Centre

Country United Arab Emirates

Sensor: DMAC (Dubai Medium  
Aperture Camera)

Launch Date: July 29, 2009

Resolution: 2.5m PAN, 5m MS

Swath: 20km

### **Bands:**

**Pan:** 420-720 nm

**MS1:** 420-510 nm (Blue)

**MS2:** 510-580 nm (Green)

**MS3:** 600-720 nm (Red)

**MS4:** 760-890 nm (NIR)

Data: 8 bit

Data Orbit: Sun-Synchronous 680km

## DubaiSat -2

Owner: Emirates Institution for  
Advanced Science and Technology

- Mohammed Bin Rashid Space  
Centre

Country United Arab Emirates

Sensor: HiRAIS

Launch Date: Nov. 1, 2013

Resolution: 1m PAN, 4m MS

Swath: 12.2km

### **Bands:**

**Pan:** 550-900 nm

**MS1:** 450-520 (blue)

**MS2:** 520-590 (green)

**MS3:** 630-690 (red)

**MS4:** 770-890 (NIR)

Data: 10 bit

Orbit: Sun-Synchronous 600km

# Image: 1m PAN Coliseum Rome, Italy



# Water Refinery – Al Ruwais, UAE



<https://directory.eoportal.org/web/eoportal/satellite-missions/d/dubaisat-2>

# Other Interesting Facts

- Images used to aid the United Nations to monitor relief efforts after 2011 earthquake + tsunami in Japan (DubaiSat 1)
- First satellite to contribute to science in the United Arab Emirates
  - Projects include: Dubai World Megaproject
- 2014 Launched 'Super Resolution Tool' to enhance images by .75m
- In process of launching a third – 2017

## Academic Contributions

Ali, T., Mortula, M., & Atabay, S. (2013). Study of Water Quality in Dubai Creek Using DubaiSat-1 Multispectral Imagery. In Bain, F (Ed.), *Geo-informatics in resource management and sustainable ecosystem* (pp. 200-2010). Springer.

- Study of water quality in Dubai Creek – chlorophyll-a (algae)

Muhairi, A., Ghedira, H. Shaheen, & A. (2010). Combining satellite-derived chlorophyll-a data and high-resolution dubaisat-1 data to detect and monitor red tide outbreaks in the Arabian Gul. In *2010 IEEE International Geoscience & Remote Sensing Symposium*. Institute of Electrical and Electronics Engineers.

- Develop an automated approach in real time to monitor red tide in Arabian Gulf

**Website:** <http://mbrsc.ae/en/page/space-projects>