

# **Arab Countries and Space Technology -Requirements and Applications**

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## **Abstract**

The main objectives of the current work are to identify the most important Space Technology for the Arab Countries and recognizing their requirements and Applications. Several millions were spent to finance space technology represented by remote sensing in Arab countries .It was expected to improve the natural resources i.e., mineral wealth, water resources and agricultural management. These countries were represented by Egypt, United Arab Emirates, Saudi Arabia, Jordan, Tunisia, Morocco, Lebanon and the Arab Water Council. Arab countries have to make an agreement to foster effective cooperation and collaboration in the interest of economic integration and knowledge sharing. Regarding remote sensing application, one of the most important applications of remote sensing are identifying land and water resources as well as freshwater pollution. Better data about land and water locations and supply will help these countries to make more informed decisions about how to use these resources they have, and how to manage them more sustainably. In the current work, remote sensing techniques were used to monitor water quality parameters (i.e., turbidity and temperature). Used optical, Radar, thermal and Hyperspectral sensors on aircrafts, and satellites provided both spatial and temporal information needed to monitor changes in land and water quality parameters. The obtained results showed that, using hyperspectral data resulted in identifying sediment types and oil spill in the Nile river across Sohag-Qena governorates ,Upper Egypt that help in economic employment of land resources in agriculture and mining, using Radar technique integrated with ETM+image helped in recognizing paleo-features in Beer Safsaf area,South Egypt which considered the suitable sites for drilling freshwater wells. On the other hand,Pollution at Tushka freshwater lakes, South Egypt because of sediments was determined,

**Keywords:** Hyperspectral, Radar, Thermal bands ,Natural resources.