

# Satellite-based Environmental Monitoring

A group of Saudi Arabian and European partners have completed a project to implement and provide satellite based environmental information products and services to the Presidency of Meteorology and Environment (PME) of the Kingdom of Saudi Arabia (KSA). The environmental monitoring covers all four environmental domains "land - air - coast - marine" and follows previous experience gained in the European GMES - "Global Monitoring for Environment and Security" programme. The providers are Summit Geoservices (KSA) and a European team lead by GAF and consisting of DLR, Germany and e-GEOS, Italy.

The environment has become a synonym for quality of life, sustainability and global change. The environment and its preservation rank among the top priorities on the agendas of today's societies. Meeting environmental challenges require actions and cooperation on national, regional and global level. Throughout the last decades the Kingdom of Saudi Arabia has witnessed rapid development in its economy, industry and population. Environmental awareness is recently growing and becoming significant in all areas of daily life.

The Presidency for Meteorology and Environment of the Kingdom of Saudi Arabia (PME) aims at providing environmental information services in KSA according to its mandate and in fulfilment of Saudi Environmental Law. To support PME GAF and partners use space technology and satellite remote sensing to provide timely and nationwide information on the status and evolution of the environment.

Services that have been provided to PME:

- Detailed analysis of PME requirements and priorities vis à vis the current environmental applications of Earth observation
- Design and implementation of a range of Earth observation based products and services for the Kingdom:
- nationwide image maps, land use/cover mapping and monitoring
- air quality monitoring and forecasting services - designed and developed by DLR
- the demonstration of oil spill detection and monitoring in the Red Sea - designed and developed by e-GEOS
- a GeoPortal environmental information has been designed and implemented to facilitate easy access and dissemination of data and information products
- technical and strategic consultancy has resulted in the design of a GIS and remote sensing centre and development of business processes implementing international best practice. Strategic plan towards a future National Environmental Information Network has been developed
- Training and Know-How transfer
- Provision of expert staff and IT equipment, as well as office refurbishment - responsibilities of the partner SGS

GAF and its partners DLR and e-GEOS draw from their extensive experience and involvement in GMES - Global Monitoring for Environment and Security - the joint European Union (EU) and European Space Agency (ESA) initiative on the operational use of earth observation based products and services for the environment.

Project activities started in 2008 and have been successfully concluded now. The continuation is under preparation. The GAF team consists of the partners GAF as lead, DLR, Germany and e-GEOS, Italy. GAF cooperates with SGS in Saudi Arabia.