

Report 629

Environmental sampling and monitoring from airborne and satellite remote sensing

Remote sensing data has been increasingly used for environmental monitoring in recent years. The International Association of Oil and Gas Producers (IOGP) has recognized this trend and created a Task Force to develop a document to provide good practices and lessons learned for the oil and gas industry.

The objective of the document is to provide clear guidance to the environmental professional on how remote sensing may be applied to the range of common use cases encountered across the asset life cycle.

Developing Report 629

The development and content for Report 629 was informed by peer-reviewed publications, reports and direct input from oil and gas member company examples. A series of seven online and face to face presentations from key groups that develop remote sensing data for environmental monitoring were also shared. These included presentations from the National Aeronautics and Space Administration (NASA), the European Space Agency (ESA) and the United Nations Environment Program World Conservation Monitoring Centre (WCMC). The scope of the document was defined to include satellite, manned airborne and unmanned aerial vehicle (UAV) platforms across a broad range of sensors and spectral wavelengths.

Who should get a copy

- Industry Environmental Professionals
- Environmental Consultants
- Remote Sensing Specialists



At a glance...

Report 629 covers six chapters:

- **Chapter 1** provides a view of remote sensing processing steps. The process starts with data collection and initial use, then moves through processing, analyses and interpretation.
- **Chapter 2** makes the case for expanded use of remote sensing in the oil and gas industry.
- **Chapters 3, 4 and 5** are structured in the same manner. Each chapter includes subchapters representing specific environmental sampling/monitoring needs that can be completed with the use of remote sensing data. Each subchapter includes one or more direct environmental applications with descriptions of the requirement, application of remote sensing technology, benefits and challenges. Each application of remote sensing section includes a table of preferred, feasible and not applicable classification based on the remote sensing platform, sensor technology and spatial resolution. Additionally, each subchapter includes an illustrative use case either directly from an oil and gas example or one that is directly applicable to the oil and gas project life cycle.
- **Chapter 6** provides real-world guidance and good practices for the use of remote sensing data for environmental monitoring.