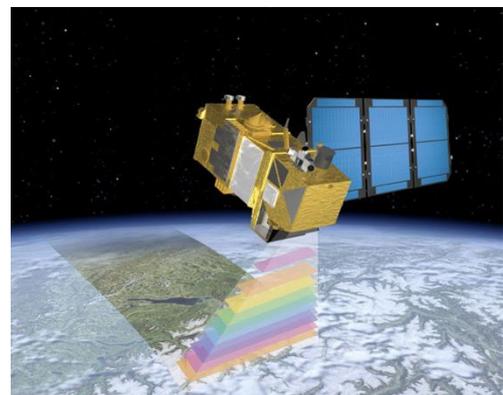


TOPIC GUIDE: Earth Observation in Climate and Environment Development Programmes

This document provides a summary of the *Topic Guide on Earth Observation in Climate and Environment Development Programmes*, part of the series of Evidence on Demand Topic Guides produced for Climate, Environment, Infrastructure and Livelihoods Advisers in the UK Department for International Development (DFID). The full, interactive Topic Guide can be accessed [here](#).

Summary and key lessons

With the first weather satellite launched into orbit in 1960 and the first mapping satellite, Landsat 1, launched in 1972, Earth Observation (EO) satellite systems have been operational for decades. There are currently over 200 operational EO satellite systems in space that are constantly collecting data. This is used to monitor and assess the status of, and changes in, both the natural and the built environment of planet Earth. EO data has made and continues to make significant contributions to the areas of climate and environment, agriculture, livelihoods, biodiversity, water, energy, infrastructure, health, disaster monitoring and humanitarian assistance, amongst myriad of other applications. These contributions cover both contextual data and continuous monitoring, including hazard diagnostics, as well as programme specific data supporting business cases, programme design, implementation, monitoring and evaluation, annual reviews and project completion reports.



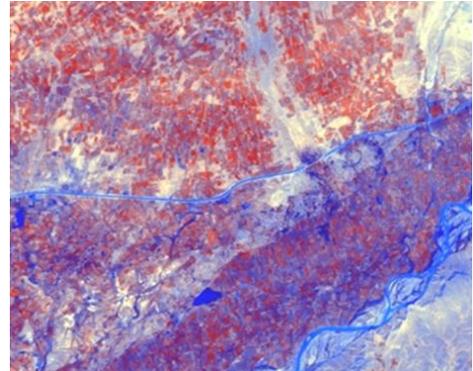
The pace of change - around the number and sophistication of EO satellite systems in space and the associated resolution of collected data - is phenomenal and the pace continues to quicken. There was on average just over one new EO satellite launched each week in 2015 and the rate of new satellites coming online will increase exponentially over the next decade. Moreover, the pace of change of the wider enabling technologies - around hardware, data storage, data processing and visualisation software along with cloud serving technologies and bandwidth - also continues to quicken and the opportunity to exploit the benefits grows.



There are now rapidly developing opportunities for individuals, organisations and institutions to more easily engage with this data, especially in climate and environment programmes, but also across the spectrum of DFID's interests and programmes. However, despite these benefits and advances, there remain a number of technical and institutional challenges to the use of this data in development programmes.

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Through the use of a wide range of examples and case studies, this Topic Guide demonstrates the many ways in which EO data can help teams working on climate and environment and wider development programmes. It also explains the recent developments in EO technologies in a relevant and accessible way. Importantly, the Topic Guide highlights the current opportunities and challenges in the use of EO data and makes suggestions about how a requirements-based approach to the use of EO data in development programmes might be applied.



In order to maximise the visual impact of EO data, as well as link out to a wide range of examples and case studies, this Topic Guide has been produced in Sway as an online, interactive report. The Topic Guide can be accessed by personal computers as well as mobile phones and tablets with access to the internet at the following link: <https://sway.com/nbsOAdhP0dHQwFXo> (Note for DFID users – please view through Google Chrome rather than Internet Explorer, to ensure settings are compatible)



About the authors

This Topic Guide was written for Evidence on Demand by Richard Brittan and Matt Angell, of Alcis Holdings Limited, a geographic information services company that enables better understanding of complex environments.

Richard Brittan is the Managing Director of Alcis and has extensive field experience in Afghanistan, working on design and implementation of data collection, decision support and monitoring and evaluation systems in support of UK and other Government programmes continuously since 2002. Current areas of development cover enhanced effects based targeting and multi criteria decision analysis as well as sophisticated online geospatial environments.

Matt Angell is GIS Technical Manager at Alcis, and previously spent 3 years living in Afghanistan conducting geospatial analysis as well as generating GIS related datasets, and training and mentoring local GIS staff.

About Evidence on Demand

Evidence on Demand supports the professional development of Climate, Environment, Infrastructure and Livelihoods Advisers at DFID. Technical Competency Frameworks for the advisory groups guide the support provided. Evidence on Demand also supports cross-cutting or development competencies which cover areas of technical knowledge and skills needed by advisers to effectively deploy their core technical skills and knowledge in development policy and operations.

The Evidence on Demand team is led by a DAI (which incorporates HTSPE Limited) and IMC Worldwide Limited Joint Venture. Both firms are established development consultancies with considerable experience in managing resource centres. The Joint Venture is backed by a core consortium of specialist organisations. The consortium provides technical support for developing quality assured resources, answering helpdesk enquiries and supporting consultancy services. Please go to the Evidence on Demand website (www.evidenceondemand.info) for further details.