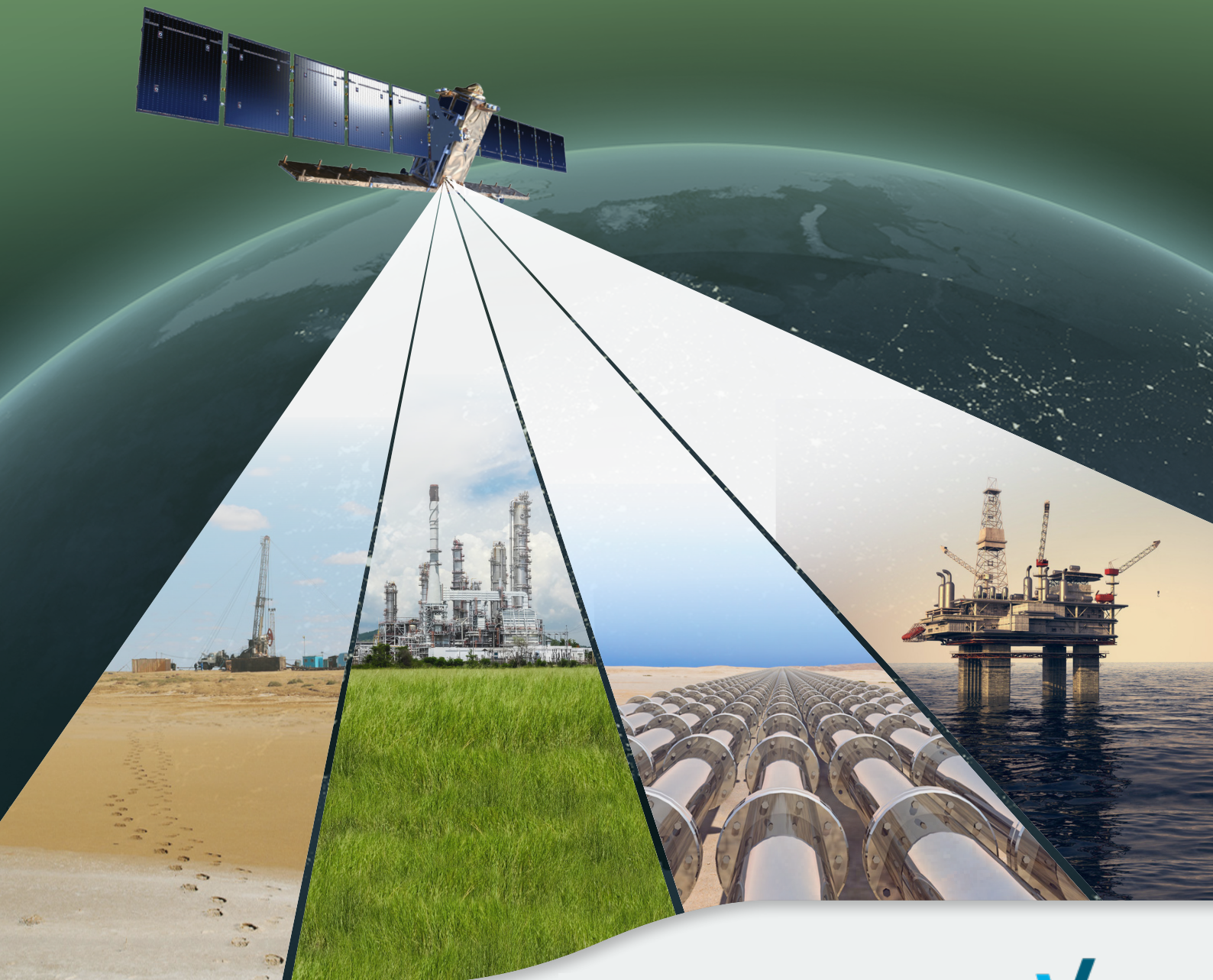
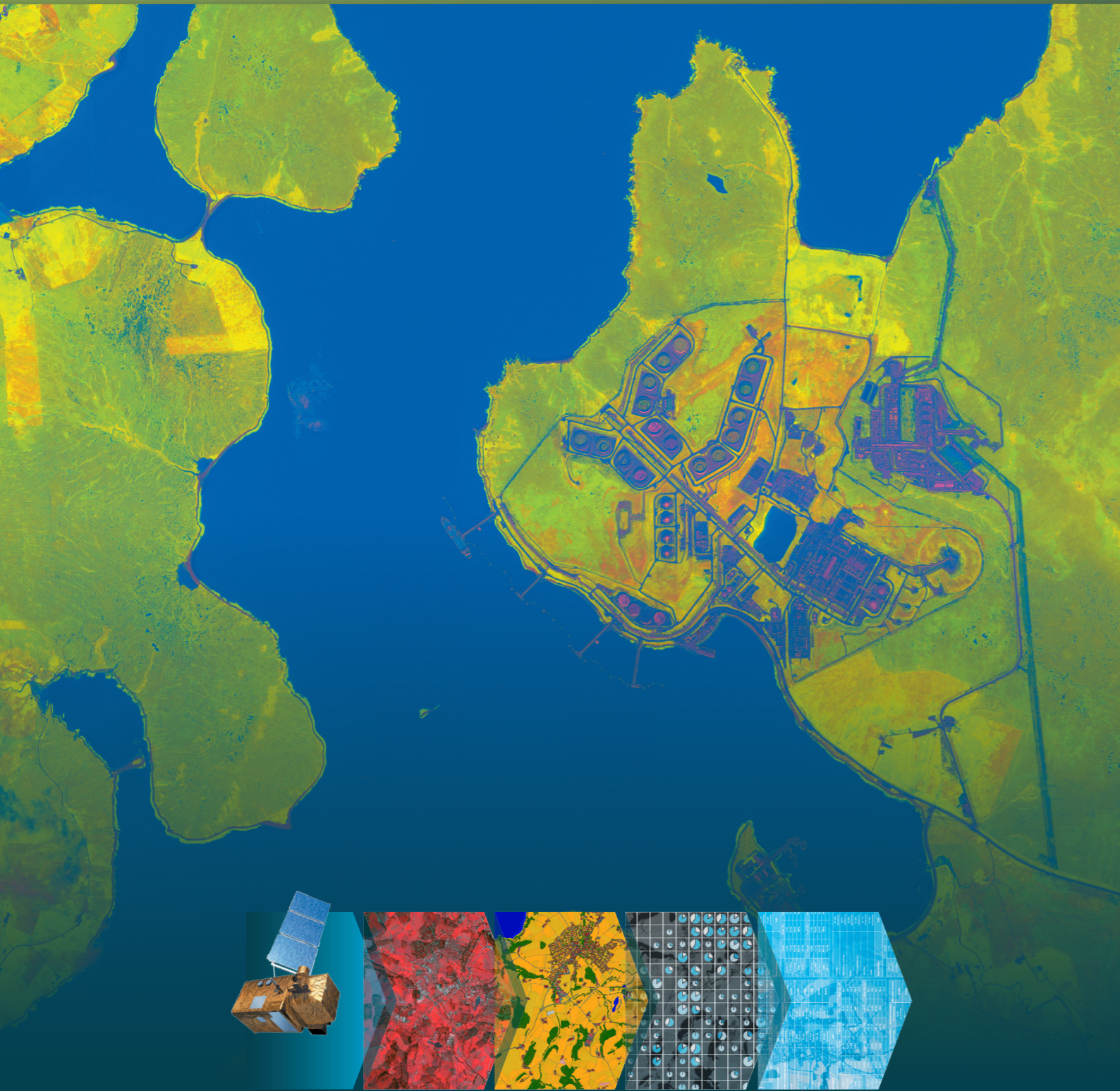


# GEOGRAPHIC ACCOUNTING SOLUTIONS FOR OIL AND GAS







# GEOGRAPHIC ACCOUNTING SOLUTIONS

[www.geoville.com](http://www.geoville.com)

## OUR BACKGROUND

**Type of business**  
Geo-Information Solutions

**Turnover 2013**  
\$ 5.2 Mio USD

**Managing directors**  
Christian Hoffmann; Stefan Kleeschulte

**Years of foundation**  
Austria: 1998; Luxembourg: 2007

**Staff**  
> 45 geo-experts

**Quality & environment system**  
ISO 9001 : 2008 & ISO 14001 : 2004



GeoVille GmbH, company seat Innsbruck



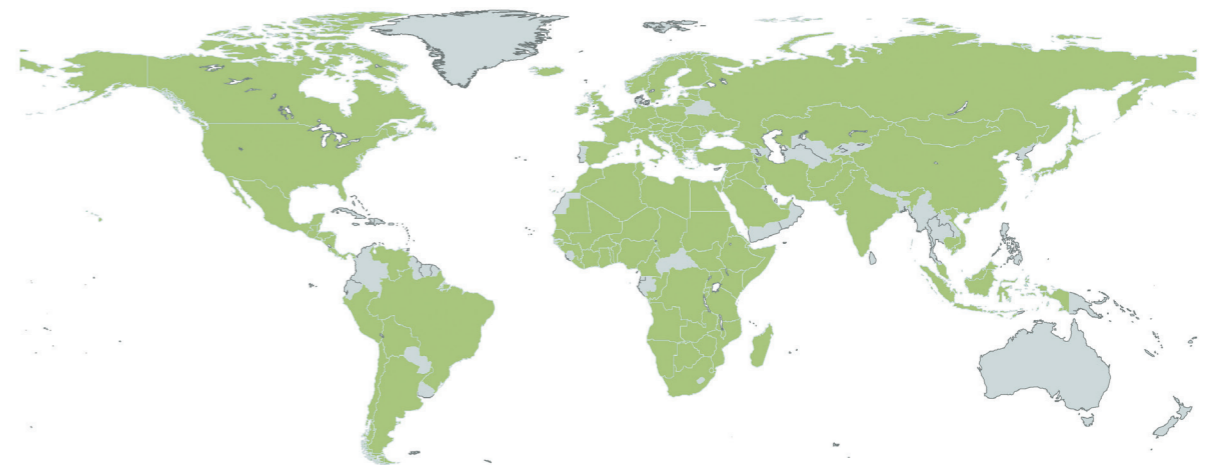
GeoVille sàrl, company seat Niederanven



GeoVille US Representation Washington D.C.

## WORLDWIDE SPOTLIGHT

Within the last 16 years, we successfully implemented **more than 400 projects in over 120 countries.**



Country with project references

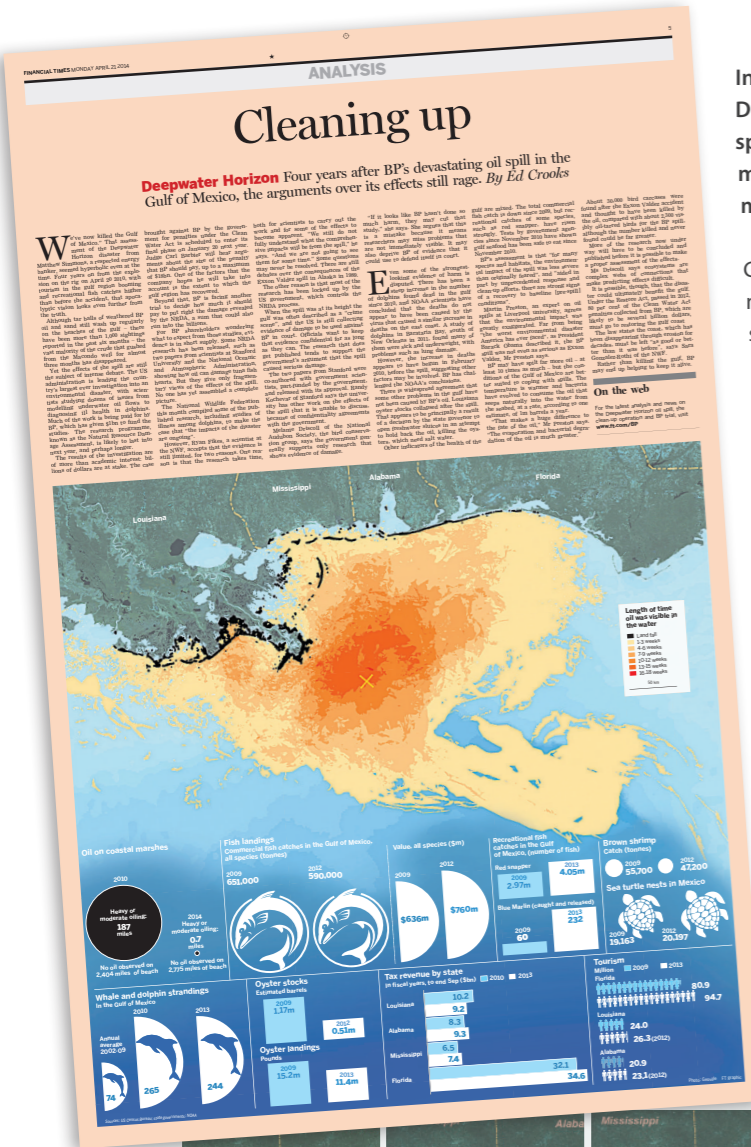




CASE STUDY 1

Oil spill mapping and habitat impact monitoring

Deepwater Horizon incident, Gulf of Mexico



In April 2010, the explosion and sinking of BP's Deepwater Horizon oil rig caused an exceptional oil spill in the Gulf of Mexico. The dynamic nature of the marine environment posed a particular challenge for mitigation operations and management authorities.

GeoVille provided continuous daily, satellite-based monitoring of the entire Gulf of Mexico with a standardised documentation featuring cumulative weekly map information (overall area impacted by oil spill during one week). Furthermore, statistics and reports have been provided, documenting the location and extent of the oil spill, as well as identifying and quantifying impacts on terrestrial and marine habitats of natural and economic value. Such operational monitoring provides an efficient mechanism for improved management and important documentation for solving post-event tasks.

→ Financial Times: 21 April 2014

↓ Cumulative weekly maps documenting the extent of the oil spill between week 19 and week 23.



CASE STUDY 2

Oil operations impact prevention measures

Sullom Voe Terminal, Shetland Islands



The Sullom Voe Terminal on the Shetland Islands is one of the biggest and most complex of its kind in Europe, with a high operational turnover and high risk for environmental impact to its unique surrounding.

GeoVille has been contracted to document and monitor in very high resolution the coastal land cover in the area of the Sullom Voe Terminal as a baseline for ecosystem survey and valuation. The solution enables the identification and assessment of any direct and indirect impacts from Sullom Voe Terminal's past, current and future activities guiding management decisions for enabling low impact operations.





CASE STUDY 3

Analysis & monitoring of oil production activities & oilfield performance

Ghawar oilfield, Saudi-Arabia



The Ghawar oilfield in Saudi-Arabia is by far the largest conventional oilfield in the world. Production exceeds almost 5 million barrels per day, with the north of the field around Shedgum being the most mature. Sanford C. Bernstein, a Wall Street's premier sell-side research and brokerage firm, partnered with GeoVille Information Systems GmbH to conduct an oilfield performance study in the Ghawar oilfield.

The main objective of the study was to analyse and monitor the Ghawar oilfield's current oil production and to forecast its performance for the near future. Information on the current drilling and construction activities relative to the location and density of past activities was required, this included data on the current position and number of oil rigs at Ghawar oilfield in comparison to the location of rigs in the preceding decades. New optical satellite-based technologies provided an innovative and efficient approach to derive information about production activities. The service provides a detailed documentation of oil field related infrastructure and performance related activities throughout an entire field over time.

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**Saudi Output Growth Can Help Forestall Peak Oil, Bernstein Says**

By Greg Walters - April 25, 2008 05:32 EDT

April 25 (Bloomberg) -- Saudi Arabian oil output has the potential to rise, helping avoid a peak in world crude production, according to Sanford C. Bernstein & Co.

Oil prices may fall toward the end of this year as worsening economic conditions reduce demand, analysts **Neil McMahon** and **Ben Dell** forecast in a report today. Prices will probably rise later, beyond 2010, and reach \$114 a barrel by 2015 as spare capacity declines, they wrote.

"Saudi and global oil production has the potential to grow slowly going forward," the authors wrote. "We do not believe world oil production supply is peaking today."

Proponents of peak-oil, the theory that global production has or is about to reach its zenith, say booming demand and dwindling supply are responsible for the rising price of oil. Analysts debate the extent and timing of a drop in crude production in Saudi Arabia, the world's biggest oil exporter. Some argue Saudi Arabian Oil Co., known as Saudi Aramco, is downplaying reservoir declines and that the country may be forced to reduce output.

Sanford Bernstein commissioned a survey by **GeoVille Information Systems** to use satellites to monitor drilling at Ghawar, Saudi Arabia's biggest oil field. The analysis "concludes that the Saudi peak oil production conspiracy theories, based on little or incomplete current field data, do not fit with our findings."

The study processed field data from recent years to try to detect subsidence, or sinking, in the reservoir. Rapidly depleting reservoirs tend to collapse slowly in small "micro-earthquakes" if oil and gas are extracted too rapidly for water or other substances to fill the gaps, McMahon told Bloomberg News in December.

The study suggests Ghawar is "not in significant reservoir trouble," the report said. The field may be showing signs of "mild production decline rates at worst." The field has been properly managed, it said.

Saudi oil output is likely to continue growth at a slower pace than forecast by Saudi Aramco.

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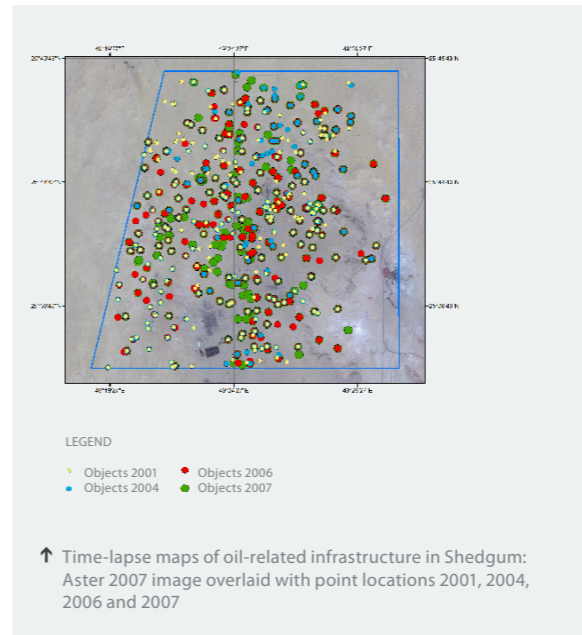
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↑ Bloomberg: 25 April 2008

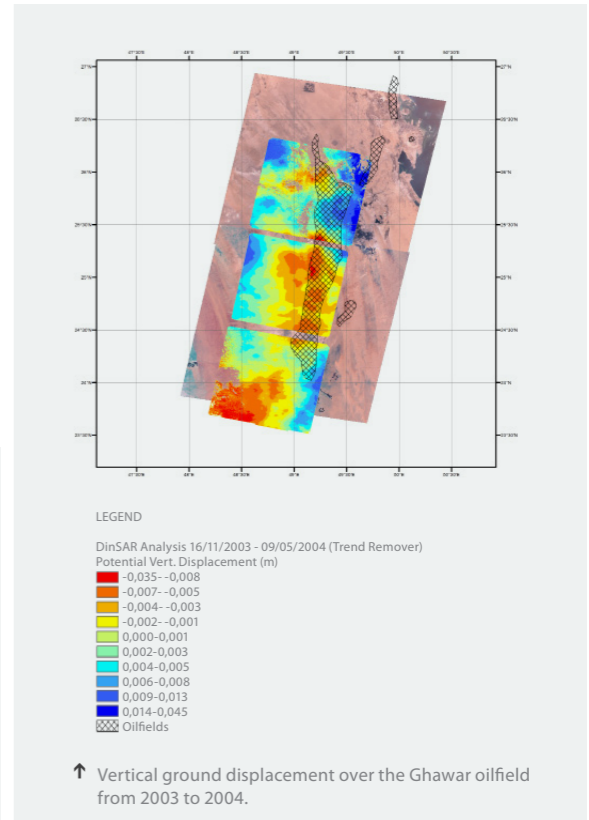
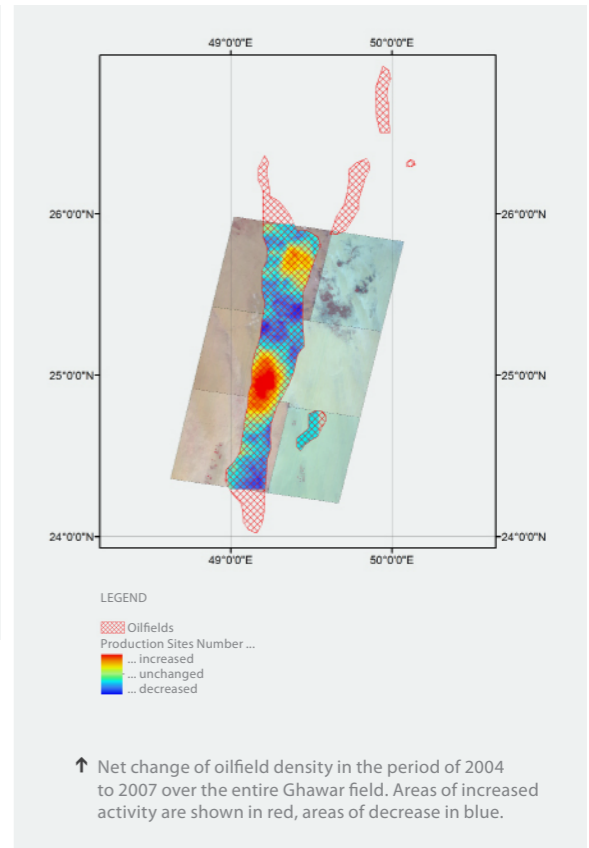
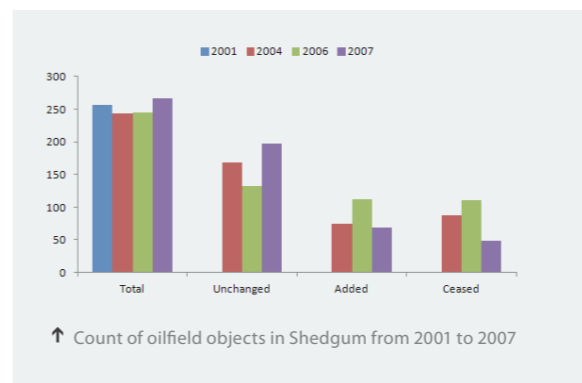


→ QuickBird satellite image highlighting oilfield infrastructure



MANAGEMENT OF OIL PRODUCTION RELATED SURFACE MOVEMENTS

GeoVille implemented a satellite-based monitoring system allowing analyses of ground subsidence in the field caused by oil exploration. Monitoring ground subsidence from satellites is a novel new technique that gives insights into reservoir management practices, reservoir fluid movement monitoring and potential decline rates. The basis for using this technique over an oil field is that oil reservoirs can collapse as the reservoir rock suffers compaction when the overburden weight exceeds the compressive strength of the rock. This has significant implications for reservoir connectivity, flow rates as well as reservoir economics. The solution allows operators to devise early counteraction plans such as preventive maintenance, reduction of production or even water or steam injection to offset pressure losses.







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