

Malaysia

Remote Sensing Malaysia equips to boost production efficiency

Remote Sensing Malaysia (formerly the Malaysian Centre for Remote Sensing, MACRES) is the central national provider of remote-sensing data in Malaysia. It receives SPOT 2, SPOT 4 and SPOT 5 satellite data at its ground station in Temerloh, located in the centre of the Malaysian peninsula, as well as data from other optical and radar satellites. Remote Sensing Malaysia has developed a high level of service quality for national users and recently obtained ISO 9001 certification.

Continuing its close cooperation with Spot Image, Remote Sensing Malaysia recently integrated an Andorre system into its operations to improve production efficiency and speed delivery of pan-sharpened, natural-colour and orthorectified products to users through an automated, seamless production system. The Andorre system naturally complements the SPOT receiving terminal for production of high-quality, high-value data.

ISO 14001

Commitment rewarded

At the start of this year Spot Image obtained ISO 14001 certification. This achievement rewards several months of effort from employees, working together to implement the company's environmental management system (EMS) and apply the good practices that this entails.

This certification also reflects Spot Image's commitment to being a good corporate citizen, attentive to the environmental impacts of its operations. It is an integral part of the company's long-term strategy to protect the planet, which it is already pursuing through the Planet Action initiative.

Spot Image also achieved ISO 9001:2000 certification in 2001 and is engaged in a process of continuous improvement.



Alaska

High-resolution DEMs of Alaska

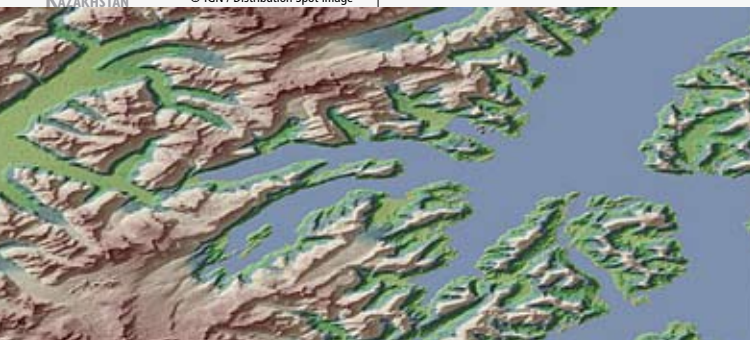
Spot Image recently completed 13 Reference3D geocells over the Chugach National Forest region of Alaska, providing the first high-quality DEM coverage of this vast region.

Reference3D offers an excellent DEM solution to fill in areas of Alaska where Shuttle Radar Topography Mission (SRTM) DEM data are not currently available. The US Government has already purchased these data as a cost-effective solution for its project in the Chugach National Forest region.

Reference3D is a unique geospatial product made up of a DTED-2 DEM, a 5-metre orthoimage and a series of eight quality masks to allow users to view imagery that has been overlaid on a multi-dimensional landscape. Reference3D is produced in partnership by Spot Image and IGN Espace from data acquired by the HRS instrument on the SPOT 5 satellite.

Currently, Spot Image has collected over 112 million sq.km of qualified HRS coverage from which Reference3D can be produced.

Representation of part of
the Chugach Forest derived
from a DEM generated with
HRS stereopairs.



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Poles

Polar project reaches cruising speed

The SPIRIT project (SPOT 5 stereoscopic survey of Polar Ice - Reference Images and Topographies), launched in June 2007 for the 4th International Polar Year (IPY), will end on 30 June. Over two years, this initiative funded by the French space agency CNES and pursued jointly by Spot Image, the LEGOS space geophysics and oceanography research laboratory and the French mapping and survey agency IGN, has built up a significant archive of SPOT 5 HRS imagery of the polar regions and provided high-quality digital elevation models (DEMs) and orthoimages free of charge to the international polar research community.

Imagery collection in the northern hemisphere, which finished in November 2008, covered a total of more than 1.5 million sq.km. Collection in the Antarctic, which will end on 30 April, has already covered over 4 million sq.km of continental ice surfaces in the southern hemisphere. In all, more than 70% of regions delineated by LEGOS and CNES have now been covered.

This archive is easily consulted and exploited by research laboratories through the Polar DALI web interface. More than 100 labs from 20 countries have thus been able to examine imagery of their regions of interest. Forty labs have requested some 150 sets of free DEMs and orthoimages covering areas from the islands of North Canada to Svalbard, Greenland and Antarctica. IGN has processed imagery of more than 1 million sq.km of polar regions to date, and almost as much again is currently being processed.

The success of this initiative has been publicized through a quarterly SPIRIT newsletter. The project has also been presented at a range of conferences and seminars, notably ISPRS in Beijing, the SCAR/IASC Open Science Conference in St Petersburg and the AGU Meeting in San Francisco.

MYRDALS GLACIER, ICELAND

THE POLAR ICE CAP COVERS AN ACTIVE VOLCANO CALLED KATLA, WITH A CRATER 10 KM ACROSS. THE VOLCANO ERUPTS EVERY 40 TO 80 YEARS. THE LAST ERUPTION WAS IN 1918. THE VOLCANO IS ACTIVELY MONITORED BY SCIENTISTS. SINCE 930, 16 ERUPTIONS HAVE BEEN RECORDED.

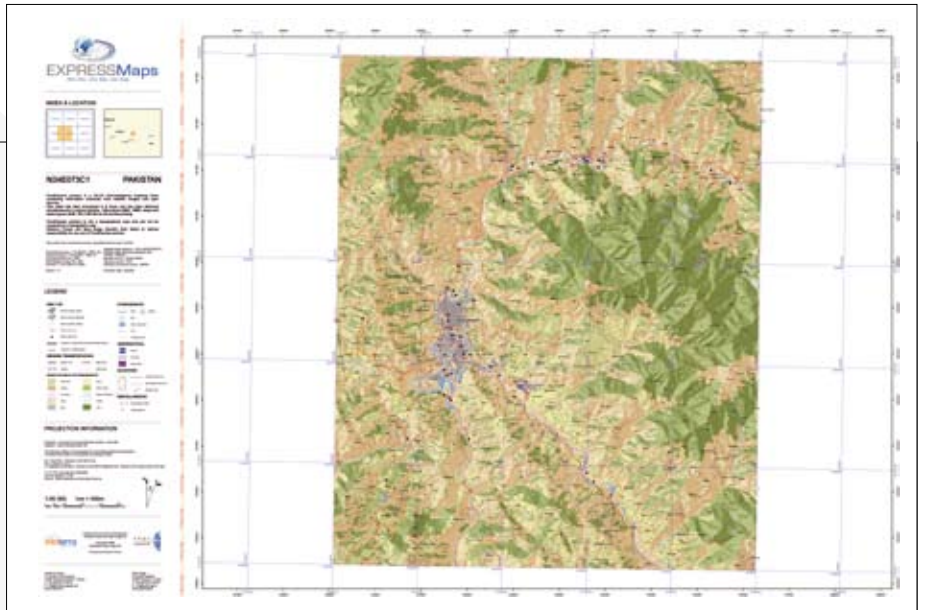
SPOT 5 orthoimage
draped over a DEM



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SPIRIT's good results are confirmed by a series of scientific papers already or soon to be published, based on analysis and interpretation of project data. Besides the SPIRIT reference article (SPOT 5 stereoscopic survey of Polar Ice - Reference Images and Topographies during the fourth international Polar Year, Korona et al.), several other publications will compare SPIRIT DEMs with other elevation datasets such as ICESat laser profiles, airborne radar data and field surveys (Ice thickness change of the Northern Patagonian Icefield using SPIRIT data, Lopez et al.; Increased flow speed on a large East Antarctic outlet glacier caused by subglacial floods, Stearns et al.). Last but not least, these papers will present the results of interpretation of data revealing the thinning of polar ice caps, the behaviour of melt lakes and accelerated retreat of outlet glaciers in Greenland (See Piercing the secrets of Jakobshavn Isbrae - Spot Magazine n°43).

While all SPIRIT products derived from the project will remain available until June 2010, most efforts are now being channelled towards securing the long term future of this initiative crucial to our understanding of the poles and our capacity to analyse the impacts of climate change.



New product

EXPRESSMaps supporting emergency response

“One click, one day, one map”: That’s the mantra of EXPRESSMaps, a new service from Spot Image and Infoterra that delivers 1:50 000 basemaps in record time. Via an FTP site, users can obtain map files for printing or ingestion into their GIS in less than 24 hours, covering anywhere in the world. This unique service is aimed at civil protection teams and first responders dispatched to poorly mapped areas. “EXPRESSMaps responds to strong demand from teams on the ground,” explains Infoterra’s Hervé Foch. “In certain regions, emergency relief teams are sometimes unable to obtain good maps. EXPRESSMaps will now provide them with the accurate, detailed maps that are so vital when dealing with a major crisis.” For this reason, Spot Image and Infoterra have designed EXPRESSMaps with speed and simplicity in mind. EXPRESSMaps also caters to users outside civil protection and crisis management agencies. Indeed, there are vast areas of the globe today that are still poorly mapped but which are of great economic or environmental value, and professionals are looking to EXPRESSMaps to obtain basic maps of regions where they are already working or plan to work in the future.

Putting SPOT 5 imagery to work

Here’s how it works: a dedicated website lets users open their account in a few clicks, pre-pay maps with a one-year MapPass and select maps to meet their needs through a specially designed interface. EXPRESSMaps are derived from recent archive SPOT 5 high-resolution imagery. As of mid-2009, EXPRESSMaps’ coverage zone spans 100 million sq.km., including more than 75% of the planet’s land surfaces (outside the USA and Canada, for which very accurate, recent maps are available). The 1:50 000 scale was chosen to match the inherent accuracy of the source data and the current accuracy of GPS receivers. This universal scale means maps can be used reliably on the ground and have a footprint of roughly 600 sq.km. A special multi-licence is also available for NGOs, making it easier for them to pool resources and rendering operations more effective on the ground. An innovative feature of the service is that the entire EXPRESSMaps production process is patented.



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Destination Brasil

Spot Image Brasil

Spot Image has opened its sixth subsidiary, Spot Image Brasil, in Sao Paulo to accompany the strong growth in the Brazilian geospatial information market fuelled by the growing environmental challenges the country is facing.



Headed by Pierre Duquesne, in charge of distributing Spot Image products and services in Brazil since 2004, Spot Image Brasil will work closely with the established network of distributors in the country to be closer to users.

Spot Image has been supplying satellite imagery to the Brazilian authorities for many years in support of their conservation efforts, particularly in the Amazon. Spot Image Brasil will extend this partnership through its broad portfolio of optical and radar imagery to develop services meeting the growing requirements of its Brazilian customers. It is currently working with Astrium subsidiary Infoterra to put together a specific package of professional services for the farming sector based on applications of Earth-imaging technologies, especially for sugar cane growers in the light of increasing demand for biofuels.

Managing Brazil's sugar cane plantations

Spot Image and Infoterra have launched SPOTCana, a new service tailored to monitoring sugar cane plantations, a crop that is being grown increasingly in the country, notably in the State of Sao Paulo where it is used to produce ethanol.

This online subscription service will give the sugar industry—cane growers, distilleries, environmental departments and insurance companies—precise, ready-to-use maps throughout the growth cycle.

Subscribers can thus acquire information to closely monitor their crops, precisely ascertain growth, maturity and stress for timely decision-making, and manage their priorities.

SPOTCana provides information on crop maturity derived from high-resolution satellite imagery. This information is delivered at key stages of the growth cycle to support estimation of available biomass and detection of yield disparities between fields.

Subscribers are alerted each time new data are available for their region of interest. Each delivery comprises a satellite image and two vegetation maps:

- a green vegetation map showing crop density, an indicator of healthy growth;
- a dry vegetation map pinpointing crop problems and indicating the degree of maturity at the end of the growth cycle.

A link on the portal is provided to retrieve data and view them in Google Earth.



DK

FOCUS

A preliminary experiment was conducted in 2008 for a test zone in the State of Sao Paulo. Because sugar cane quality is affected if the crop has to be transported more than 20 kilometres to the distillery, initial efforts focused on mapping fields around production facilities in order to define how many satellite images would be needed to cover all zones to be analysed.

Tasked SPOT imagery was acquired at four stages in the sugar cane's growth cycle. Spot Image automatically orthorectified images and applied a regular grid to them, then Infoterra processed the images to calculate biophysical parameters indicative of plant water stress, chlorophyll activity and other factors.

Following the success of this experiment, all growers in the State of Sao Paulo can now subscribe to the service through a dedicated Web portal.

Spot Image sponsored the Geotecnologias para o planejamento e Monitoramento da Cana-de-Açúcar symposium at the University of Campinas in March, attended by academia and numerous sugar/ethanol industry stakeholders. Chaired by Professor Jansle Viera Rocha, the day-long event provided an opportunity to present SPOTMaps products of the State of Sao Paulo, the SPOTCana service and a focus on the biophysical products delivered with orthorectified imagery.