



22 July 2013

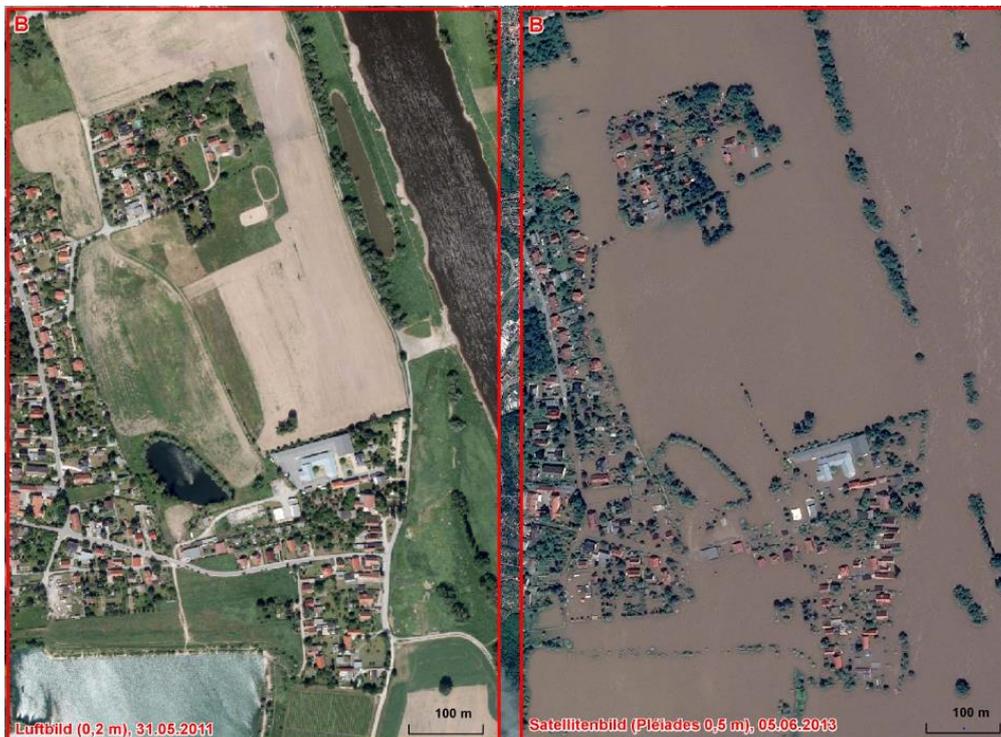
Issue 6

## Floods in Germany in June

Extreme, torrential rainfall has caused this century's second record flood in Germany. The rain has filled the tributaries of the rivers Danube and Elbe to the brim, transforming these two large waterways into raging flood waters, devastating entire districts and turning dry land into lakes. Many cities and districts have formally declared a state of emergency. The Charter was activated, and DLR's Centre for Satellite Based Crisis Information (ZKI) provided situational maps based on satellite and aerial images of the most affected regions, to support disaster response teams on the ground:

Which roads and bridges are still passable? How many houses or residential estates have been damaged? Which parts of a river bank need additional flood protection?

First, it was the radar satellites of the Charter, such as Radarsat-2 and TerraSAR-X which provided valuable imagery. The good thing about these satellites is that their radar pulses work in any weather. Thus, flooded and non-flooded areas can even be distinguished through a thick cloud cover. When the weather improved, images of the Charter's optical satellites, such as the French Pleiades, the British DMC, and the German RapidEye, proved very helpful.



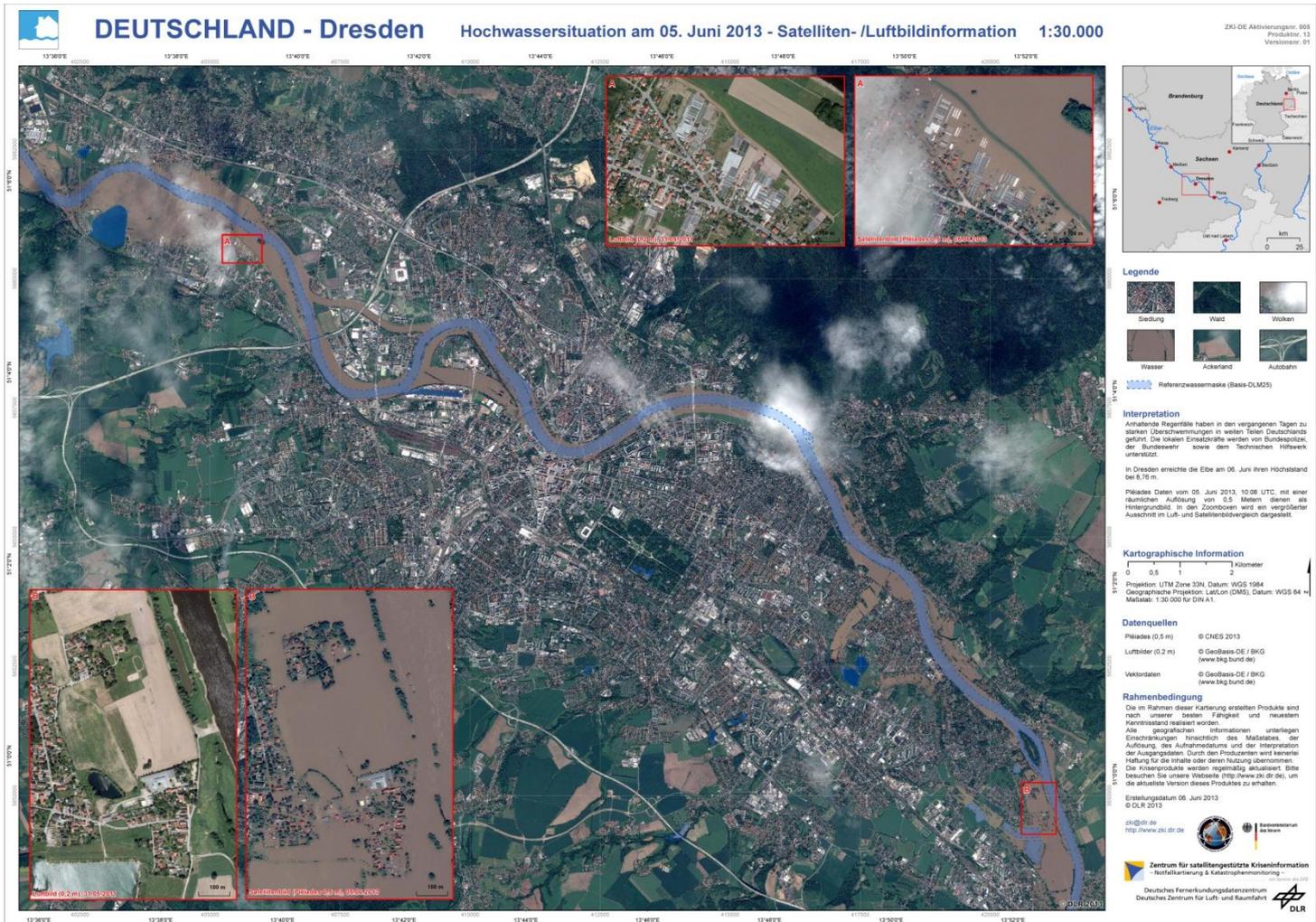
### Recent Activations

- [Earthquake in China](#)
- [Petroleum oil fire in Lac-Mégantic, Canada](#)
- [Flood in Argentina](#)
- [Flood in India](#)
- [Floods in Germany](#)

### Charter Members

- [European Space Agency \(ESA\)](#)
- [Centre national d'études spatiales \(CNES\)](#)
- [Canadian Space Agency \(CSA\)](#)
- [Indian Space Research Organisation \(ISRO\)](#)
- [National Oceanic and Atmospheric Administration \(NOAA\)](#)
- [Argentina's Comisión Nacional de Actividades Espaciales \(CONAE\)](#)
- [Japan Aerospace Exploration Agency \(JAXA\)](#)
- [US Geological Survey \(USGS\)](#)
- [DMC International Imaging \(DMC\)](#)
- [China National Space Administration \(CNSA\)](#)
- [German Aerospace Centre \(DLR\)](#)
- [Korea Aerospace Research Institute \(KARI\)](#)
- [National Institute for Space Research \(INPE\)](#)
- [European Organisation for the Exploitation of Meteorological Satellites \(EUMETSAT\)](#)
- [The Russian Federal Space Agency \(ROSCOSMOS\)](#)

Bringing together new and efficient space technologies to support disaster management



Flood in Dresden on 5 June 2013  
(Map produced by DLR/ZKI based on Pleiades data © CNES 2013 and aerial photos © GeoBasis-DE/BKG.)

## RADARSAT-1 ends 17-Year run mapping the Planet

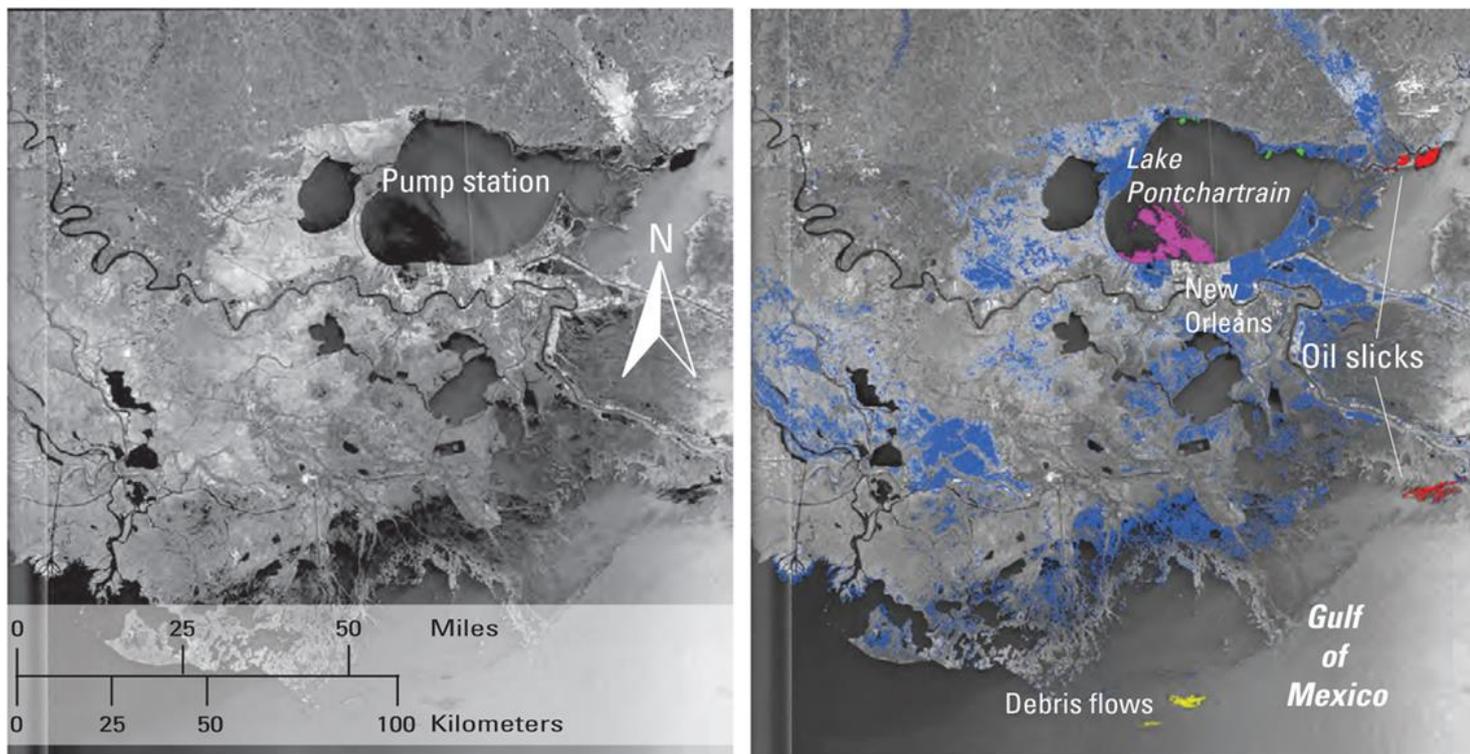
Canada's first Earth Observation satellite, RADARSAT-1, has ceased functioning after 17 years of faithful service, well beyond its designed five-year lifetime.

The last contact with the spacecraft occurred on March 29th, 2013 at 20:39:03 (UTC), when it experienced a technical anomaly. After numerous attempts to resolve the technical issue, the CSA, and its commercial distributor MacDonalD Dettwiler and Associates Ltd. (MDA) concluded that the RADARSAT-1 mission could not be continued.

RADARSAT-1 was launched on November 4, 1995 from Vandenberg Air Force Base in California. As early as February 1996, the CSA's first sun-synchronous polar-orbiting mission began providing critical information to scientists and commercial users in the fields of cartography, ice studies and observation, hydrology, oceanography, agriculture and forestry.

During its 90,828 orbits around the earth, RADARSAT-1 provided 625,848 images to more than 600 clients and partners in Canada and 60 countries worldwide. It assisted with information gathering during 244 International Charter events and literally mapped the world, providing complete coverage of the World's continents, continental shelves and polar icecaps.

Among its many accomplishments, RADARSAT-1 conducted Antarctic Mapping Missions (AMM) in 1997 and 2000 and delivered the first-ever, unprecedented high-resolution maps of the entire frozen continent. It also delivered the first stereo-radar coverage of the planet's landmass, the first high-resolution interferometric coverage of Canada, and produced complete single season snapshots of all the continents. Archival images covering the 17 years of operation are available and may be ordered.



Hurricane Katrina (New Orleans), 2005, Activation 85. RADARSAT-1 Wide 2 image acquired September 9, 2005. Flooding shown in blue, oil slicks shown in red, debris flow shown in yellow. Large plume of oil contaminated water being pumped into Lake Pontchartrain shown in purple.

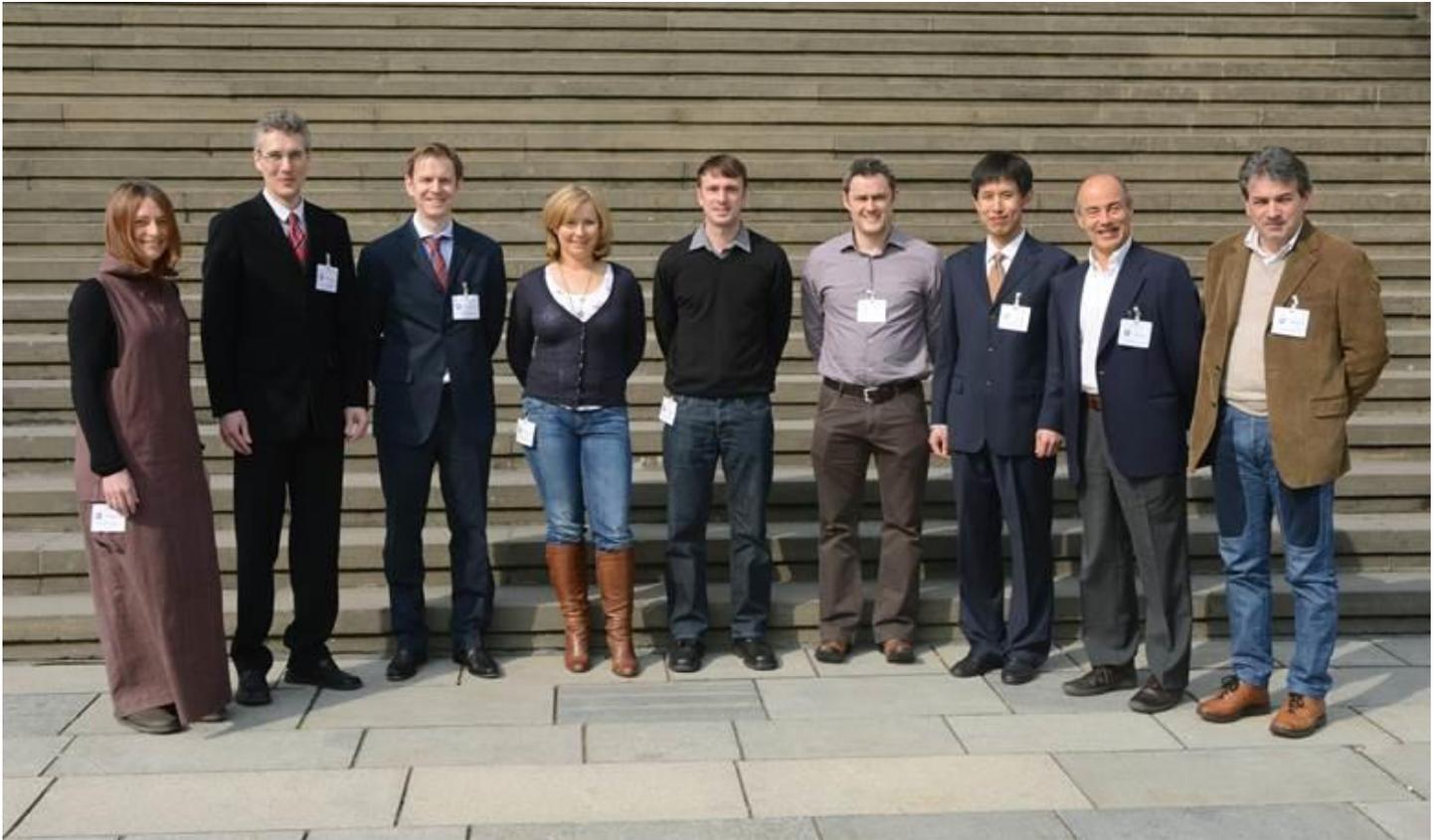
RADARSAT-1 Data © Canadian Space Agency 2005. Image interpretation by USGS.

## Charter On-Call Officers met in Berlin

On the occasion of the last Charter Board meeting in Berlin an Emergency On-Call Officers (ECO) side meeting was attended by ECOs from CNES, CNSA, DLR, DMC and ESA.

The ECO executes a key role within the Charter operational loop. He is available at 24 hours and 7 days a week and starts his duty immediately when help of the Charter is requested. The ECO verifies the validity of the request, develops a data acquisition plan, and orders appropriate satellite data of the Charter member agencies. The ECO function is ensured on a weekly rotational basis by the Charter members.

Participants of the meeting in Berlin discussed “day-to-day matters” of the ECO role and exchanged experiences gained during their most challenging duty times. The meeting was completed by a discussion on future tools which could ease and further improve the Charter’s operational workflows.



© DLR (Berlin, Germany, April 2013)

## Landsat Data Continuity Mission launched

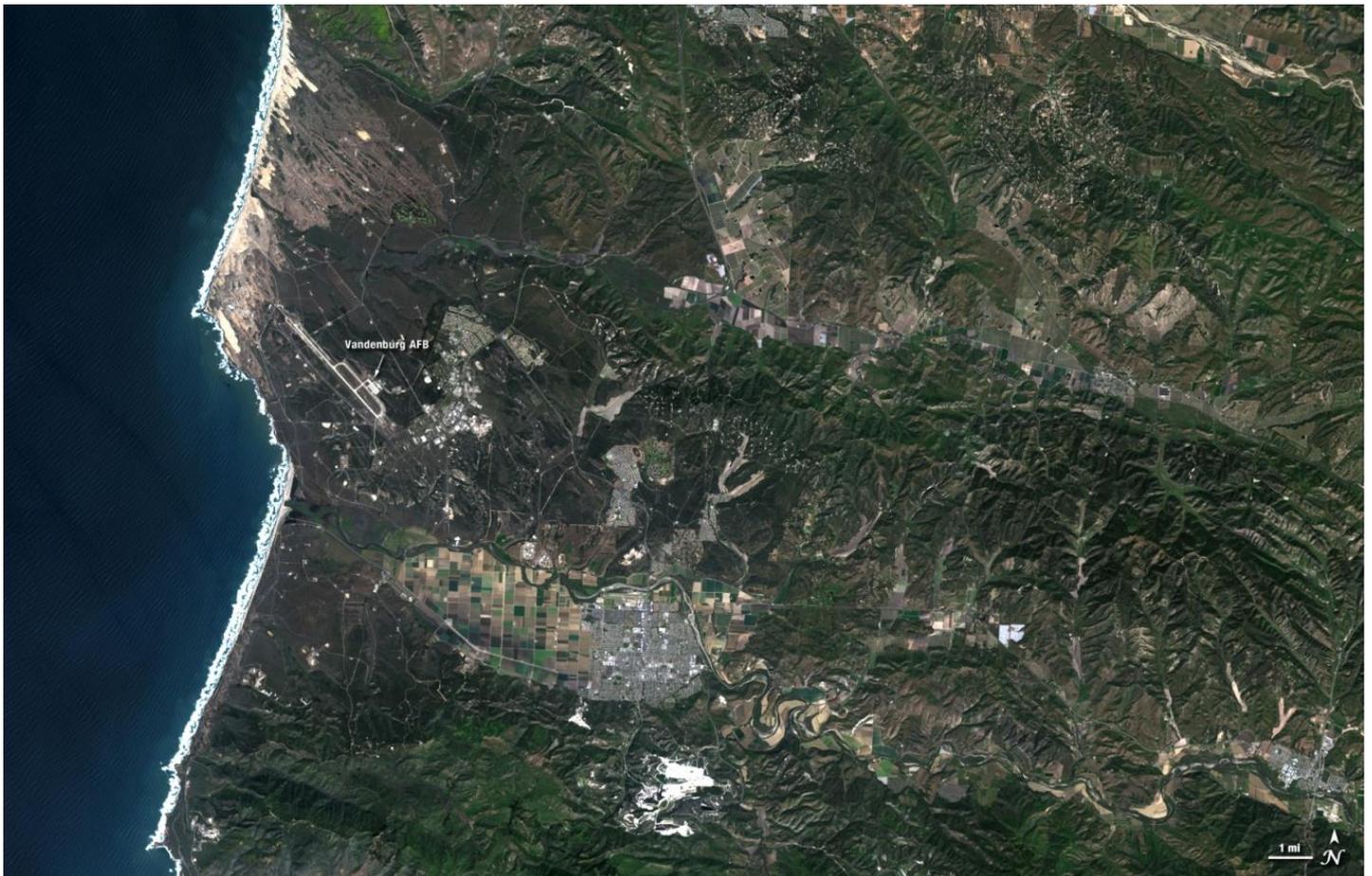
On February 11, 2013 the Landsat Data Continuity Mission (LDCM) was launched from Vandenberg Air Force base in California. LDCM continues the earth observation series of the Landsat Program, a program that dates back to 1972.

All systems aboard LDCM are functioning well. LDCM carries two science instruments, the Operational Land Imager (OLI) and the Thermal Infrared Sensor (TIRS). The instruments measure roughly the same spectral bands as recent Landsat satellites. Additionally the OLI instrument provides two new spectral bands - one tailored especially for detecting cirrus clouds and the other for coastal zone observations.

NASA was responsible for the satellite and instruments during a phase-in period, which was completed at the end of May, 2013. Since that time, the U. S. Geological Survey (USGS) has assumed responsibility for the system and for data distribution. With the LDCM system fully operational, it has been renamed Landsat 8, and is now collecting 400 scenes per day (compared to the 250 scenes required by Landsat 7). All data are available at a no-cost download from the USGS.

Data can be previewed and accessed through the USGS' [EarthExplorer.usgs.gov](http://EarthExplorer.usgs.gov), [GloVis.usgs.gov](http://GloVis.usgs.gov), or the [Landsat Look Viewer \(landsatlook.usgs.gov\)](http://LandsatLookViewer.usgs.gov).

Additional information on LDCM (Landsat 8) and updates are available at [Landsat.USGS.gov](http://Landsat.USGS.gov) and [Landsat.NASA.gov](http://Landsat.NASA.gov).



Landsat 8 true color image of Vandenberg Air Force Base  
Courtesy of USGS/NASA Landsat Program