Copernicus Value for European Society

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Volker Liebig, ESA

Director of Earth Observation Programmes

21st Century: New Societal Challenges

- Population Growth
- Food Security
- Energy
- Pollution
- Geo-Hazards
- Climate Change

Important contribution of Copernicus

What is Copernicus

European Earth Observation System

European response to global needs:

- to manage the environment,
- to mitigate the effects of climate change and
- to ensure civil security

European independence, contribution to global system (GEOSS)

Copernicus

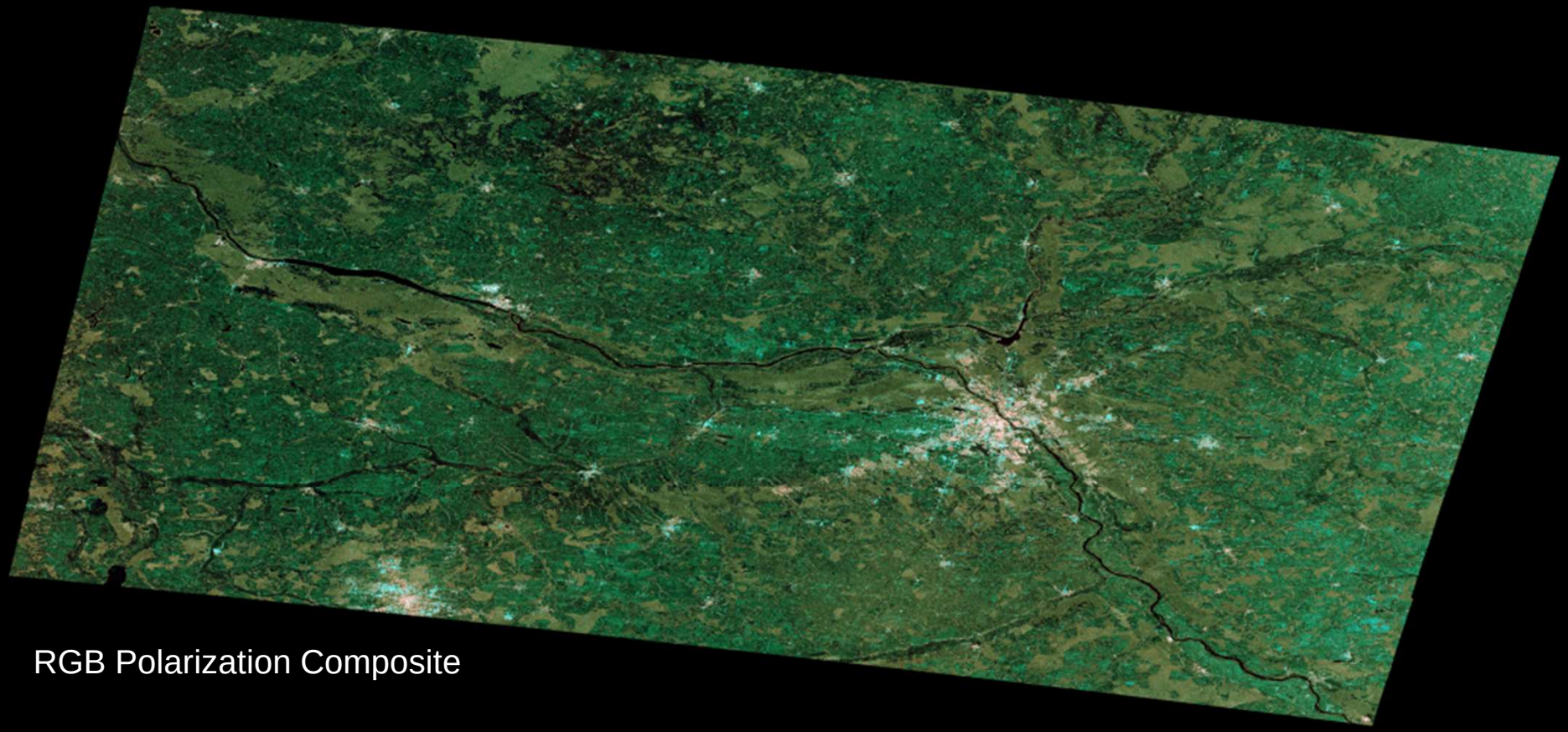
Launch Sentinel-1A

- 3 April 2014
- New era of Earth observation: from science stage to operational monitoring

Warsaw City

S-1 scene, Feb. 18, 2015

resolution 10m and 250km extend



RGB Polarization Composite

The Sentinel Family

- S1: Radar Mission
- S2: High Resolution Optical Mission
- S3: Medium Resolution Imaging and Altimetry Mission
- S4: GEO Atmospheric Chemistry Mission
- S5P/S5: LEO Atmospheric Chemistry Missions
- S6/Jason-CS: Altimetry Mission

Copernicus Data Policy

Free and open access – the key to success

- Data: The Oil of the Information Age
- Significant impact on economic activities
- Business opportunities, esp. in Downstream Sector
- Up to 83.000 jobs could be created
  (according to SpaceTec Partners)

Sentinel 1A Data Statistics

- free and open access

http://sentinel.esa.int

Users and Products Statistics:
(status 16 February 2015)

- 5170 registered users
- 40,000 products available for download
- 280.013 products downloaded, representing approx. 381 TB of data

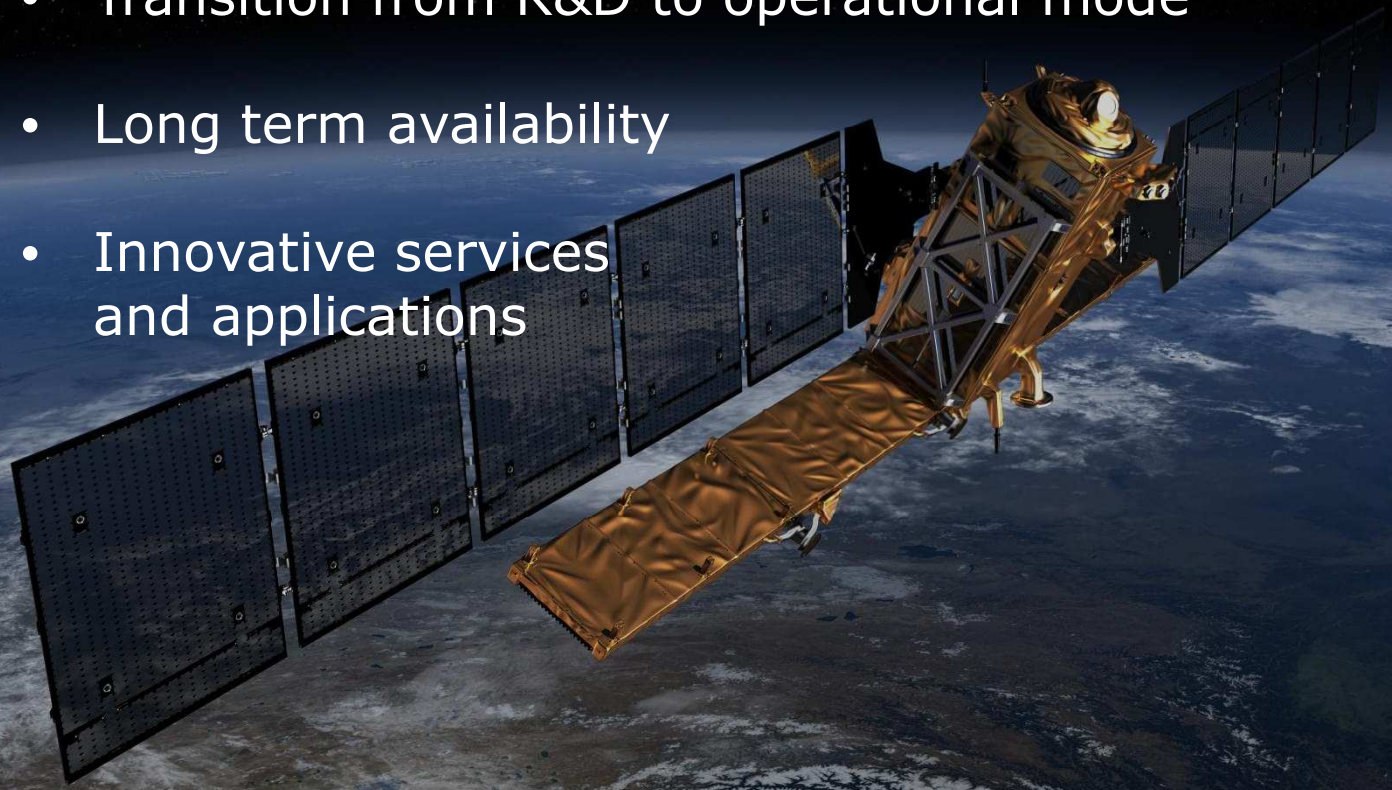
Copernicus and EU Policies

Support to relevant sectorial policies like:

- Economy and Growth
- Development
- Security and Foreign Policy
- Regional Policy
- Environment, Maritime Affairs and Fishery
- Digital Economy and Society
- Climate and Energy

Conclusions

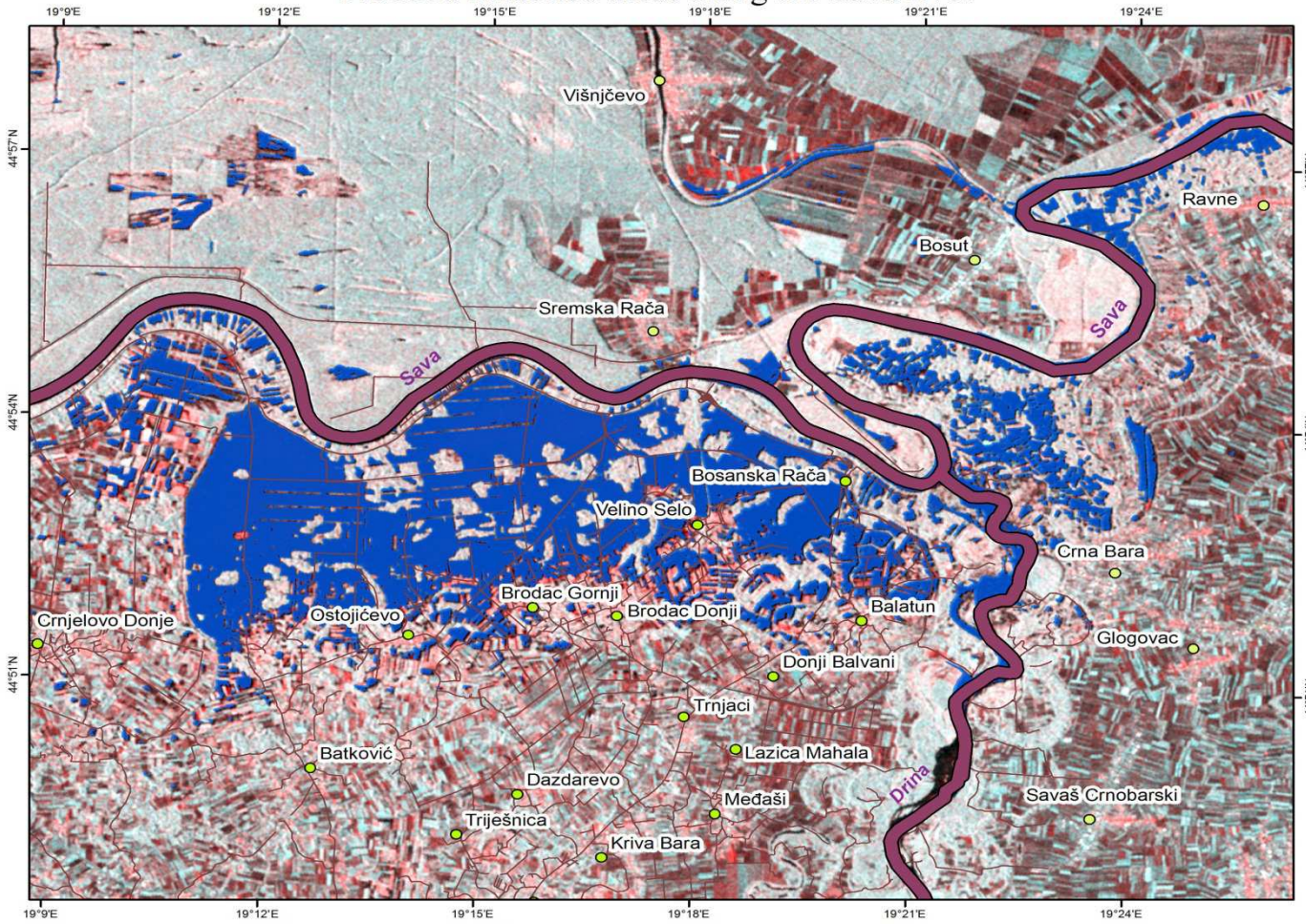
- Sentinels kick off a new age of Earth observation
- Transition from R&D to operational mode
- Long term availability
- Innovative services and applications



Sentinel-1A in Disaster Management

Flooding situation in the Balkans on May 24, 2014

Flooded inhabited areas along the Sava river



Area location

Cartographic information

Projection: WGS 1984 UTM Zone 34N

Scale: 1:80 000

Legend

- Flooded area mask
- Locations
- River mask
- Roads

N
W E
S

0 0,75 1,5 3 4,5 6 Km

Description

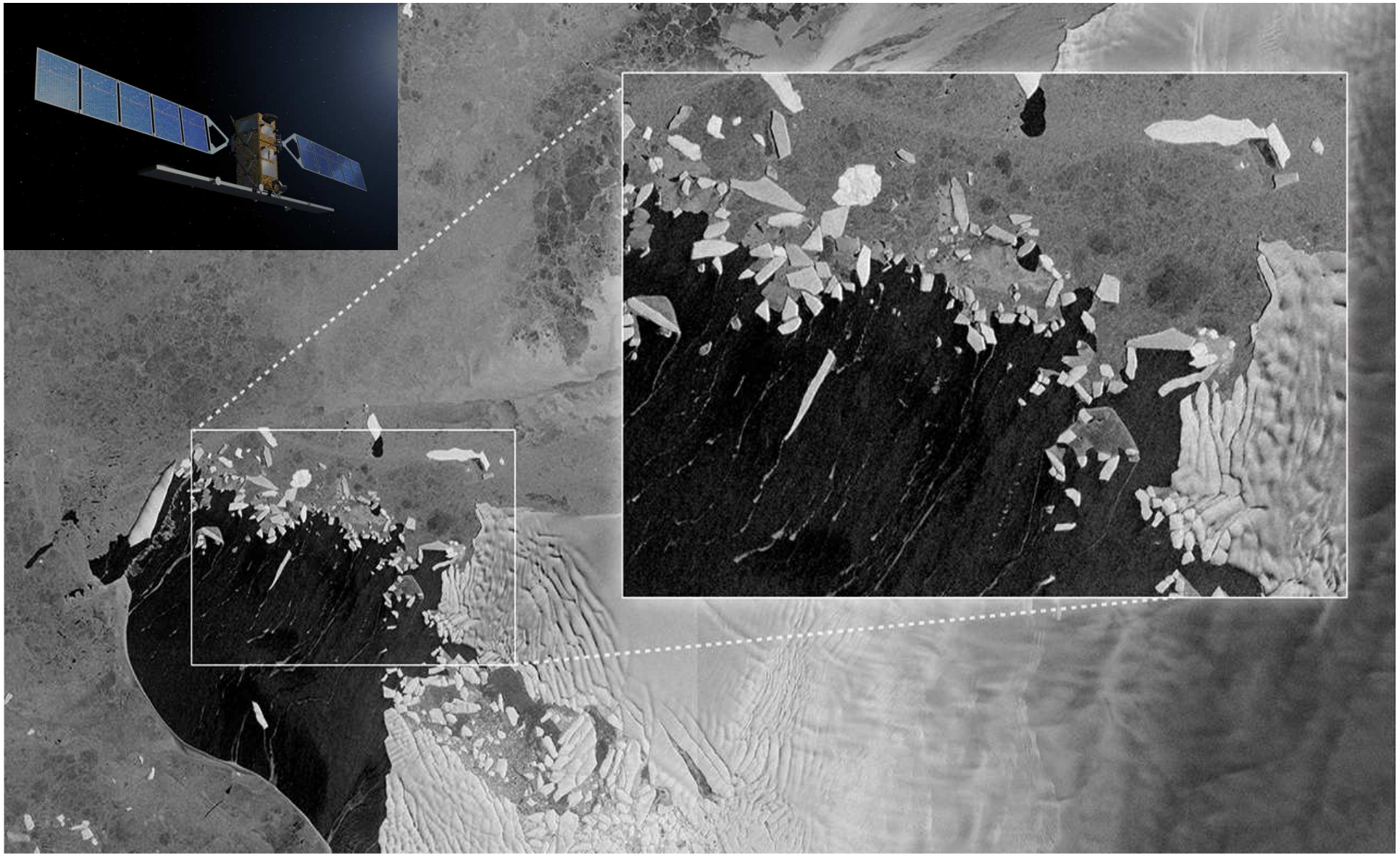
Torrential rain in the Balkans caused the worst flooding that the area had experienced in over a century. The rain caused rise of water level which resulted in inundation of all nearby inhabited areas. In Serbia it was estimated that 51 people died and more than 36 000 people were evacuated.

Data source

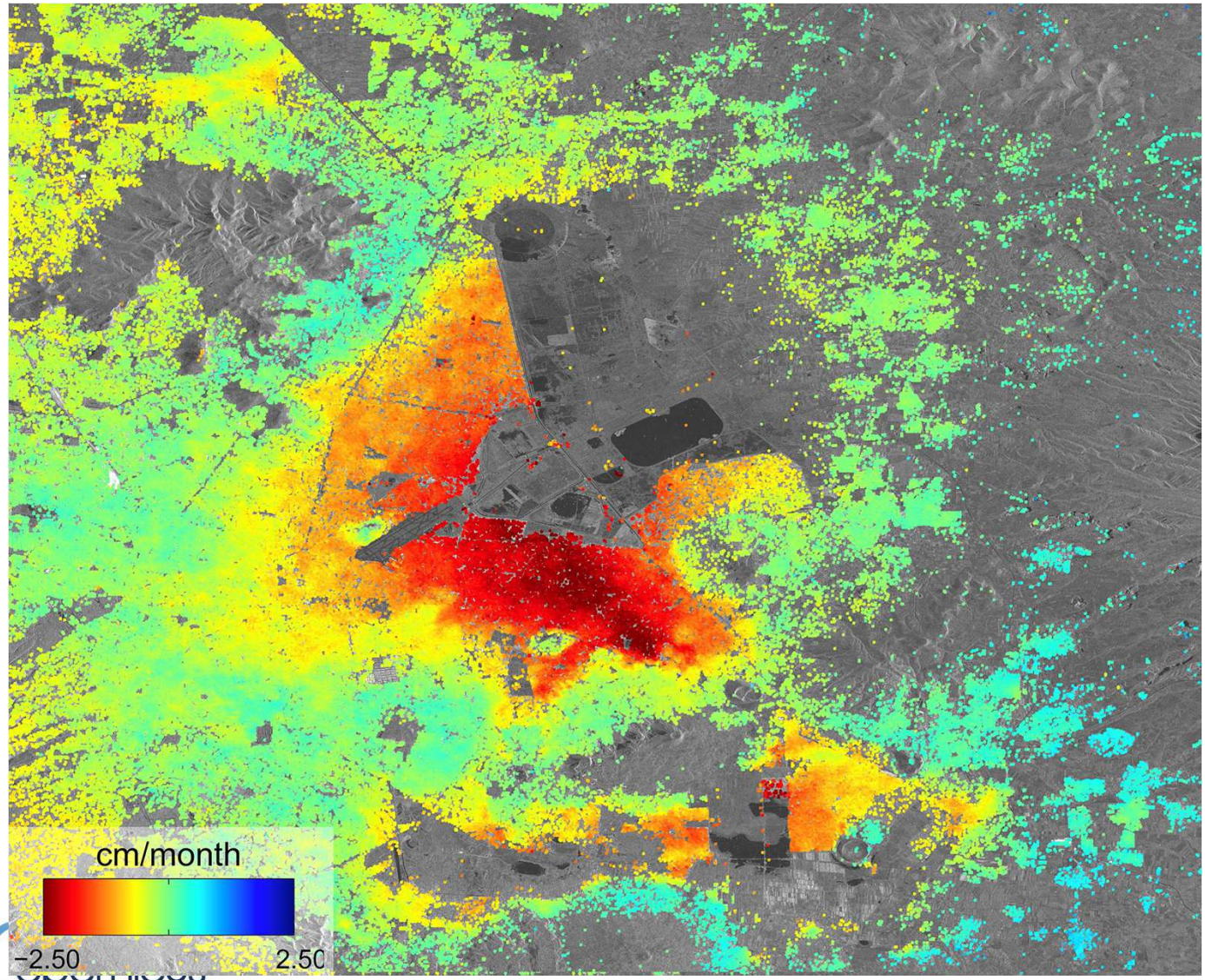
Sentinel image (HH,HV polarisation) acquired on 24.05.2014, resolution - 15 x 10 m

Data processed by Research Center for Earth Operative Monitoring (NTs OMZ)
JSC "Russian Space Systems "

Sentinel-1A captures West Antarctica



Sentinel-1A *Subsidence Monitoring*
Mexico City(DLR-HR))



Ground deformation in Mexico City.

The deformation is caused by ground water extraction, with some areas of the city subsiding at up to 2.5 cm/month (red).

Five Sentinel-1A radar scans between 3/10 and 2/12/2014

seom
scientific exploitation of operational missions