

K&C Mosaic generation at the JRC

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JRC mosaic generation

Siberia - winter 2007

Product: 50 m mosaic
Area: Siberia
Mode: FBS (HH)
No. passes: 280
No. coverages: 1 (cycle 9)
Av. strip length: 2050 km
Data amount: 45 Gbyte

JAXA strip delivery: June-July 2007

Download time: ~8 h

Download SRTM/GTOPO: 40 mins/strip
=> ~180 h

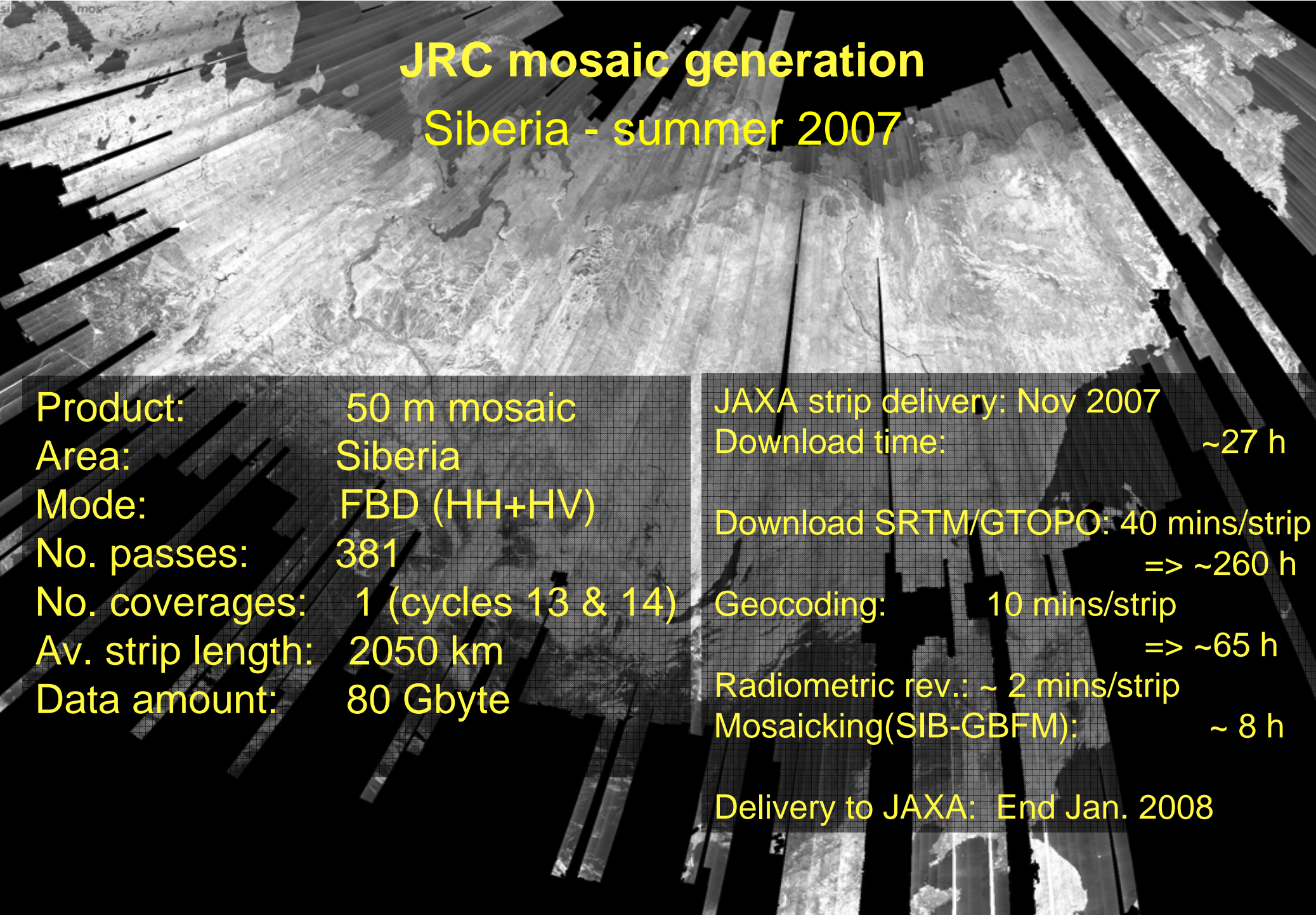
Geocoding: 10 mins/strip
=> ~45 h

Radiometric revision: ~ 2 mins/strip

Mosaicking(SIB-GBFM): ~ 8 h

Delivery to JAXA: Nov 2007

(FBS strip: 2700*33,000 pixs)



JRC mosaic generation

Siberia - summer 2007

Product: 50 m mosaic
Area: Siberia
Mode: FBD (HH+HV)
No. passes: 381
No. coverages: 1 (cycles 13 & 14)
Av. strip length: 2050 km
Data amount: 80 Gbyte

JAXA strip delivery: Nov 2007
Download time: ~27 h
Download SRTM/GTOPO: 40 mins/strip
=> ~260 h
Geocoding: 10 mins/strip
=> ~65 h
Radiometric rev.: ~ 2 mins/strip
Mosaicking(SIB-GBFM): ~ 8 h

Delivery to JAXA: End Jan. 2008



JRC mosaic generation Europe

Product: 50 m mosaic
Area: Europe
Mode: FBD (HH+HV)
No. passes: 83
No. coverages: 1 (cycle 12)
Av. strip length: 2300 km
Data amount: 20 Gbyte
Est. download time: 7 h

JAXA strip delivery: Nov 2007
Download time: ~9 h

Download SRTM/GTOPO: 40 mins/strip
=> ~56 h

Geocoding: 10 mins/strip
=> ~14 h

Radiometric rev.: ~ 2 mins/strip
Mosaicking: ~ 3 h

Delivery to JAXA: Autumn 2008

JRC mosaic generation

Africa

Product: 50 m mosaic
Area: Africa (all)
Mode: FBD (HH+HV)
No. passes: 333
No. coverages: 1 (cycles 12 & 13)
Av. strip length: 1900 km
Data amount: 75 Gbyte
Est. download time: 25 h

Est. strip delivery: Nov 2007
Est. download time: 25 h

Download SRTM: 40 mins
=> ~220 h
Geocoding: 10 mins/strip
=> ~55 h
Radiometric rev.: ~ 2 mins/strip
Mosaicking: ~ 8 h

Delivery to JAXA: April. 2008

JRC mosaic generation

Ob river

Product: Multi-temporal (seasonal sequence)
100 m (50 m?) mosaic
Area: Ob river basin
Mode: ScanSAR WB1
No. passes: 192 (8 x 24)
No. coverages: 8 (cycles 9-16; Jan-Dec 07)
Av. strip length: 2100 km
Data amount: 55 Gbyte

Est. strip delivery: Nov 07 - March 08
Est. download time: 2 h/coverage

(Download SRTM/GTOPO: 40 mins/strip)
($>N60^\circ$ oversampled GTOPO-30)

Geocoding: 15 mins/strip
=> ~6 h

Radiometric rev.: ~ 2 mins/strip

Mosaicking: ~ 1h

Delivery to JAXA: Summer 2008

(WB1 strip: 5000*12,000 pixs)

JRC mosaic generation

Congo river

Product: Multi-temporal (seasonal sequence)
100 m (50 m?) mosaic
Area: Congo river basin
Mode: ScanSAR WB1
No. passes: 162 (9 x 18)
No. coverages: 9 (cycles 12-20; June 07 - June 08)
Av. strip length: 1300 km
Data amount: 30 Gbyte
Est. download time: 10 h

Est. strip delivery: Nov 07 - March 08
Est. download time: 2 h/coverage

(Download SRTM: 40 mins/strip)
($>N60^\circ$ oversampled GTOPO-30)
Geocoding: 15 mins/strip

Radiometric rev.: ~ 2 mins/strip
Mosaicking: ~ 1h
=> ~5 h

Delivery to JAXA: Autumn 2008

(WB1 strip: 5000*12,000 pixs)

Assuming that:

- Jaxa delivers strips within 1 cycle after acquisition
- Problem in factor_m -> 400 pix shift in azimuth (0 shift in rg)
 - Presently 1 GCP is required for each strip.)
 - With 1 GCP:
 - FBS: N: 40 m E: 30 m
 - ScanSAR: N: 70 m E: 150 m

JRC issues:

- Mixing of SRTM & GTOPO possible problem. Needs to be assessed.
- Download of SRTM data
- Albers proj. not yet supported in SARSCAPE
- Radiometric correction of incidence angle effect not implemented yet.