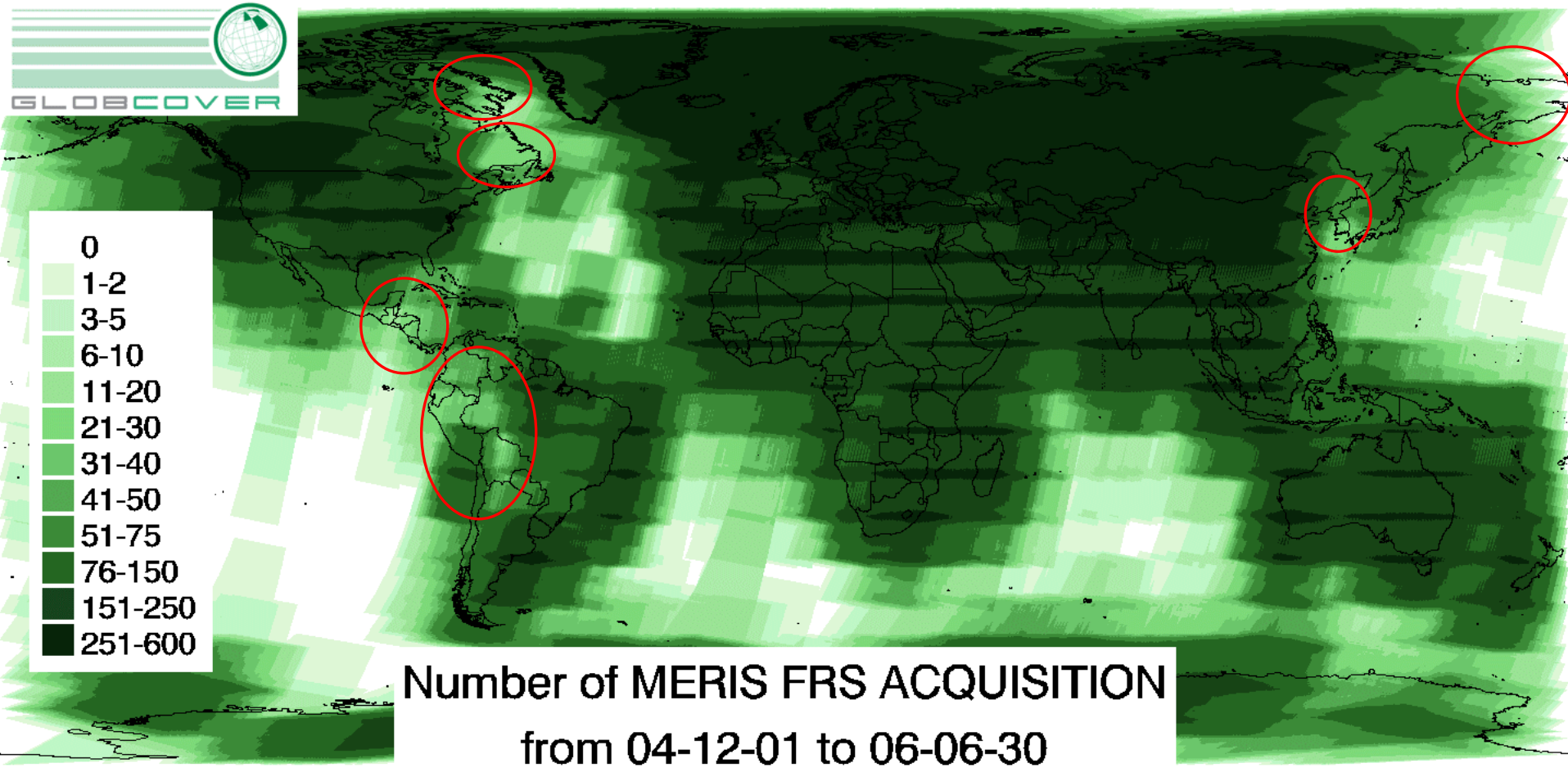
1st Users Consultation

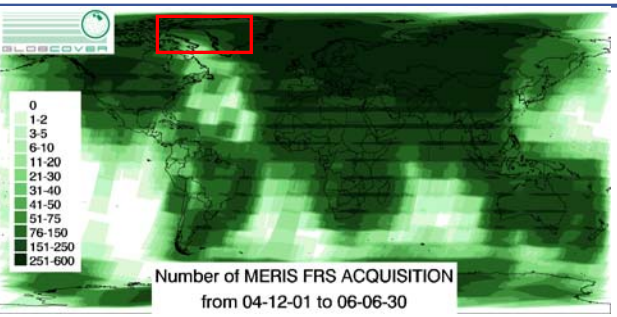
- Result of Previous review (CDR,QR, AR, SU…)
  - Reflectance composite Quality
    - ✓ Snow ⇨ V2
    - ✓ coastline
    - ✓ blue shade effect ⇨ V2
    - ✓ Singular Processing issue
  - Geo-location information reliability
    - ✓ Relative
    - ✓ Absolute
- New Input
  - External user's feedback = Missing area
- Main Input data = Annual composite
    - ✓ New product
    - ✓ Most valuable product in terms of coverage

Reflectance Quality

- Missing areas = Key issue from user's feedbacks
- Density of MERIS FRS products over 1 year and Half



Critical Area 1: Greenland



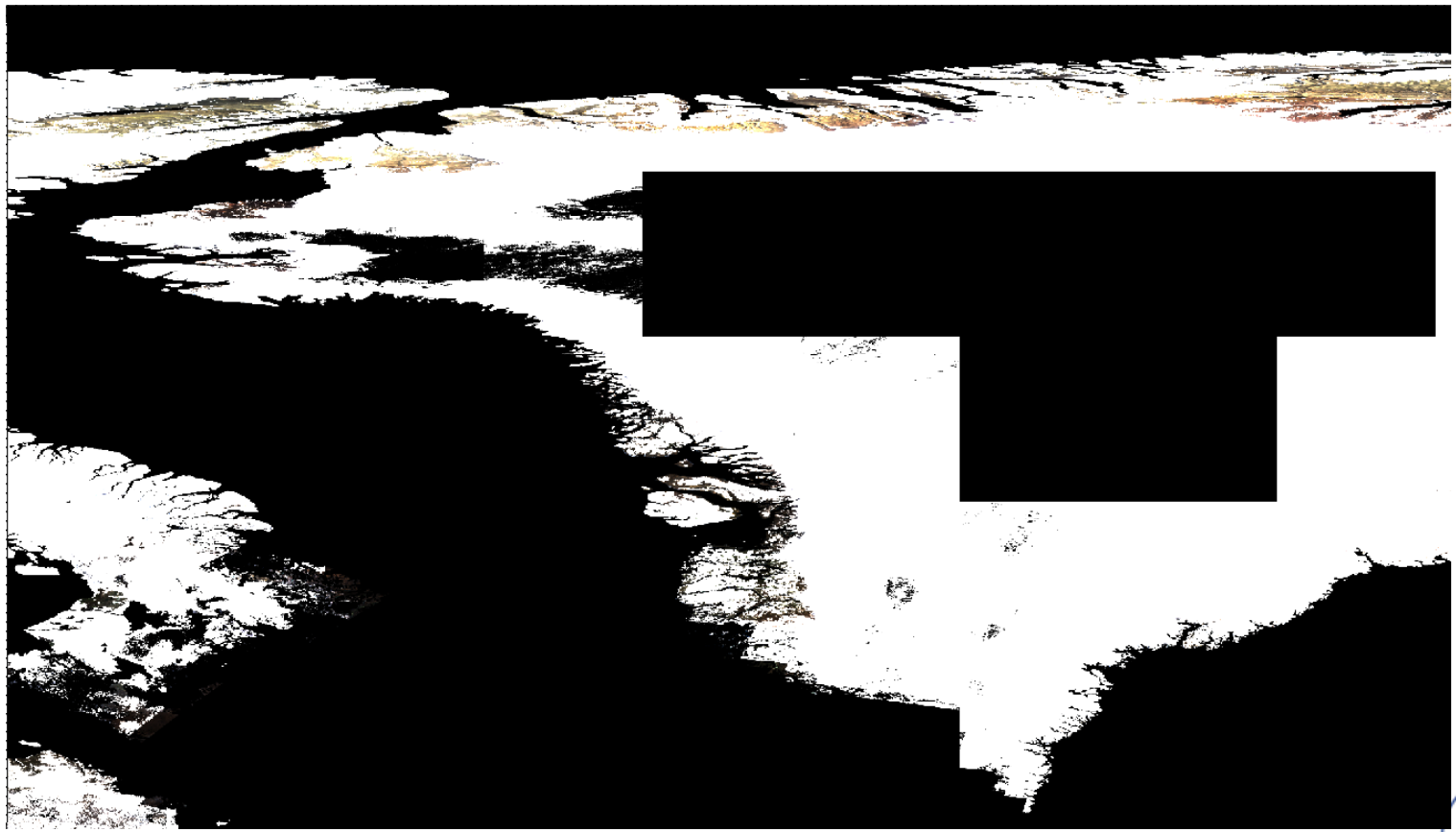
Effect	Status	
Snow	Y	
Blue Shade		N
Coastal		N
Singular issue	Y	
Missing Value	Y	

Annual Composite

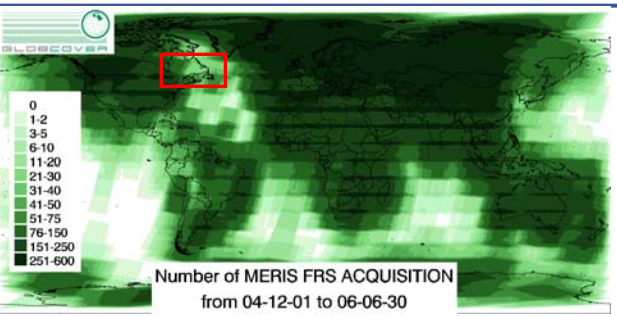
R = 7

G = 5

B = 3



Critical Area 2: Newfoundland



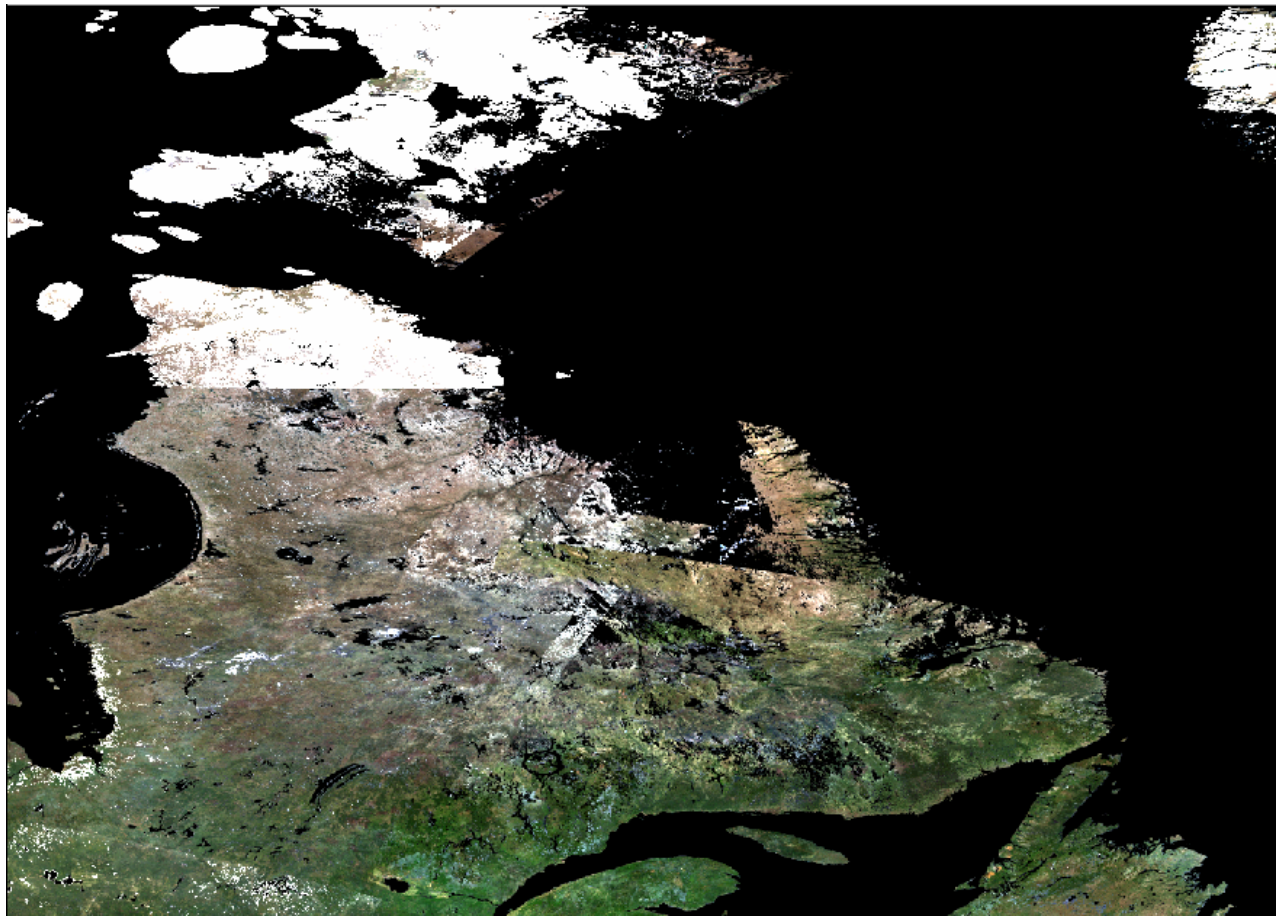
Effect	Status	
Snow	Y	
Blue Shade	Y	
Coastal		N
Singular issue	Y	
Missing Value	Y	

Annual Composite

R = 7

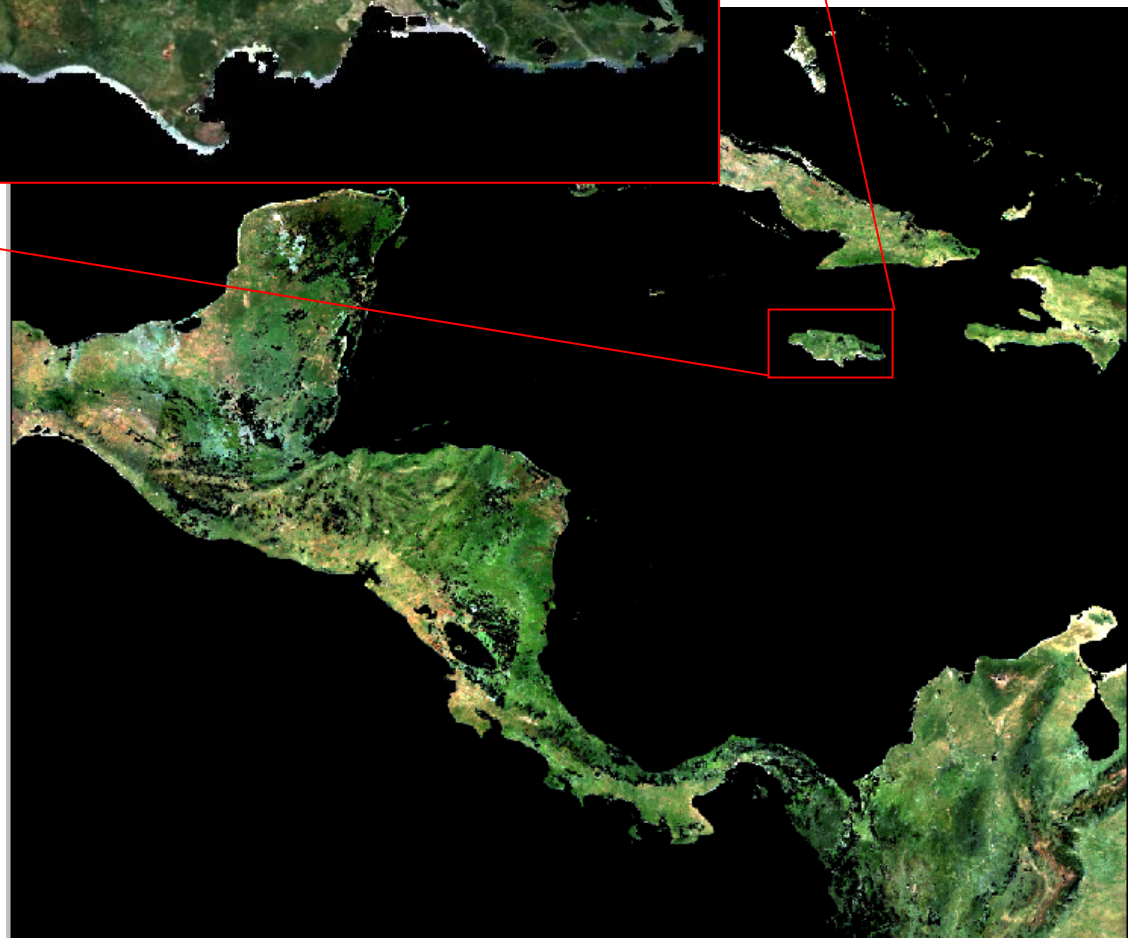
G = 5

B = 3



al America

Status	
	N

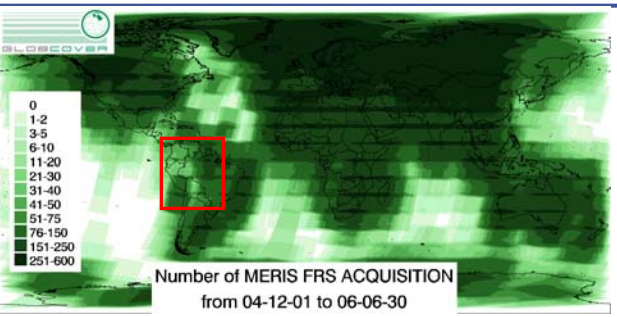


R = 7

G = 5

B = 3

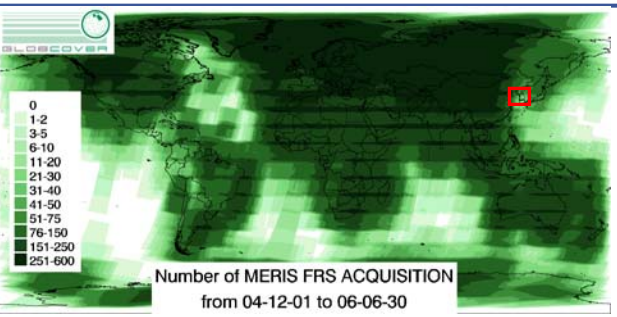
Critical Area 4: South America



Annual Composite

R = 7, G = 5, B = 3

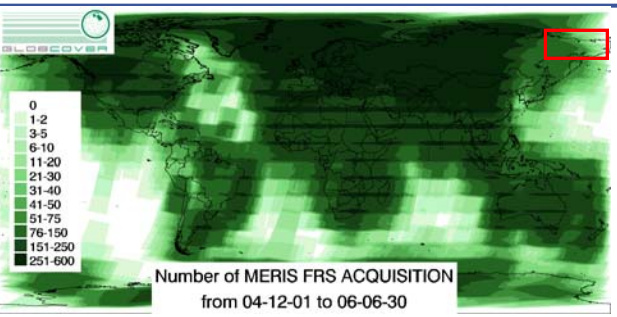
Critical Area 5: Korean Peninsula



Annual Composite

R = 7, G = 5, B = 3

Critical Area 6: Siberia

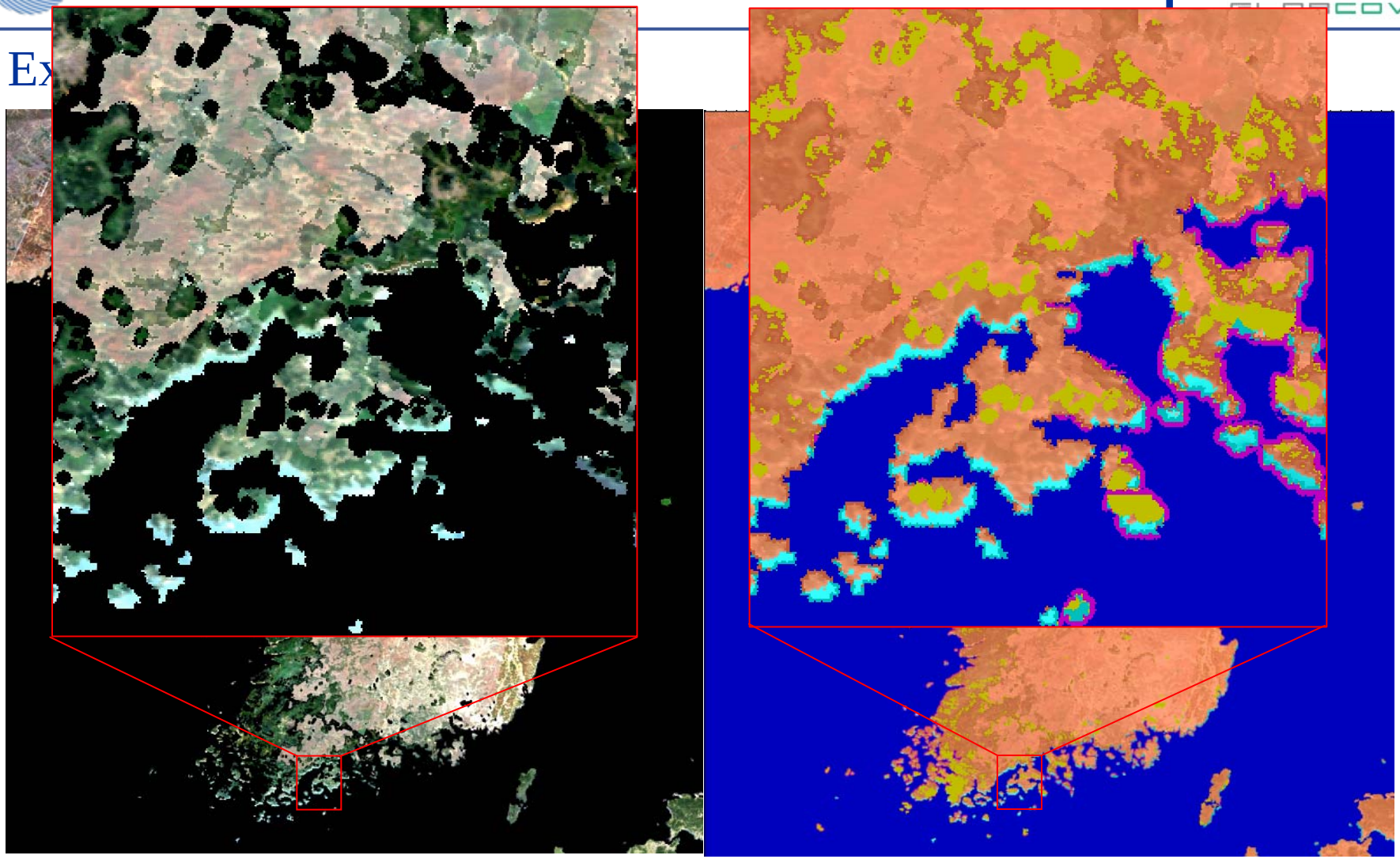


Annual Composite

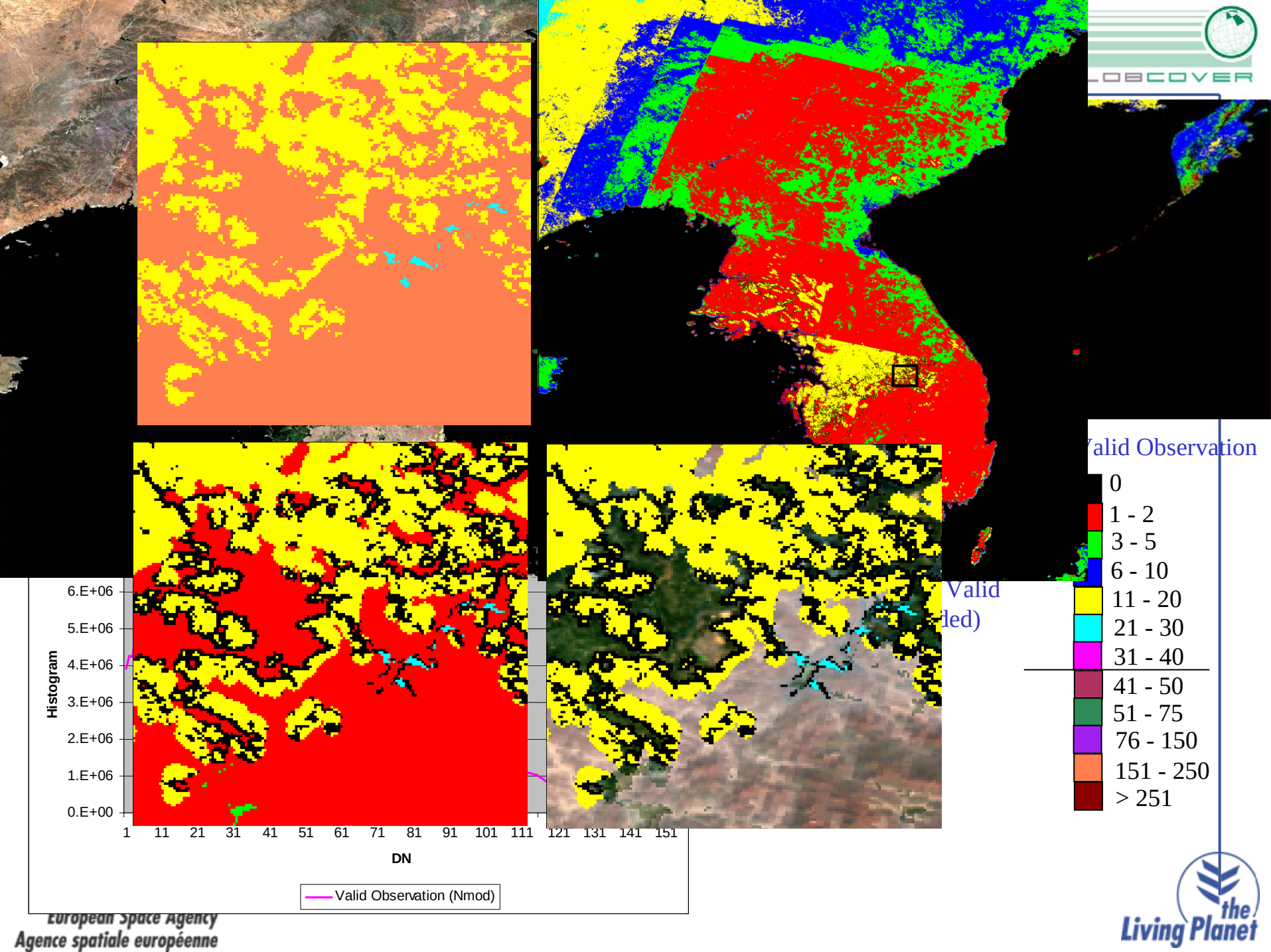
R = 7, G = 5, B = 3

Reflectance vs. Status Map

Ex

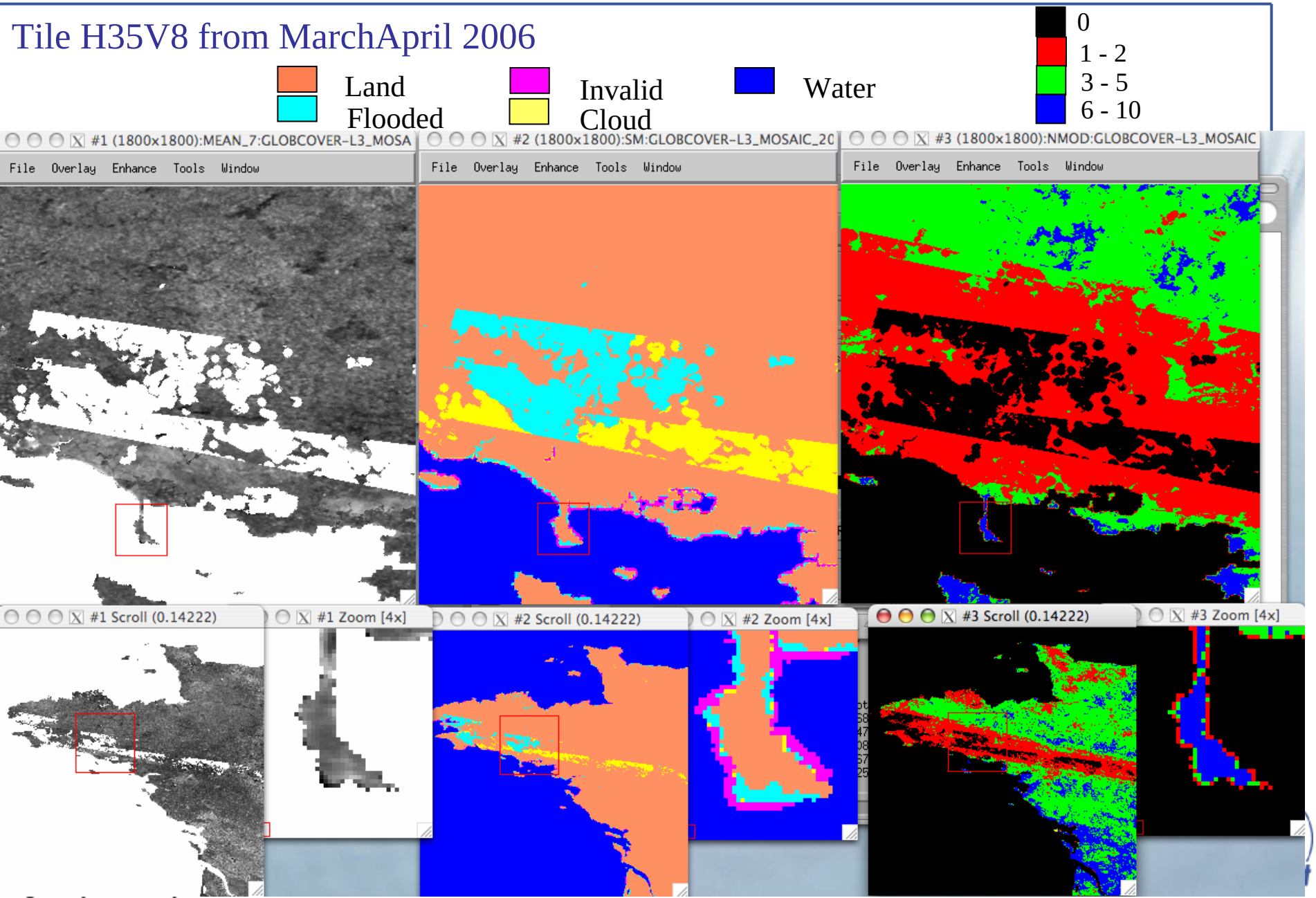


Land
Suspect
Water
Invalid
Flooded
Cloud
Snow

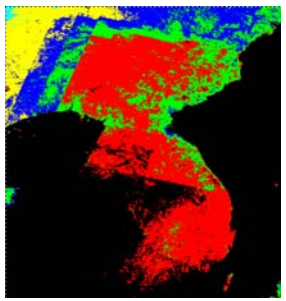

Valid Observation
0
1 - 2
3 - 5
6 - 10
11 - 20
21 - 30
31 - 40
41 - 50
51 - 75
76 - 150
151 - 250
> 251
Histogram
6.E+06
5.E+06
4.E+06
3.E+06
2.E+06
1.E+06
0.E+00
1
11
21
31
41
51
61
71
81
91
101
111
121
131
141
151
DN
Valid Observation (Nmod)

Status Map reliability

Tile H35V8 from MarchApril 2006



Reflectance: Conclusion

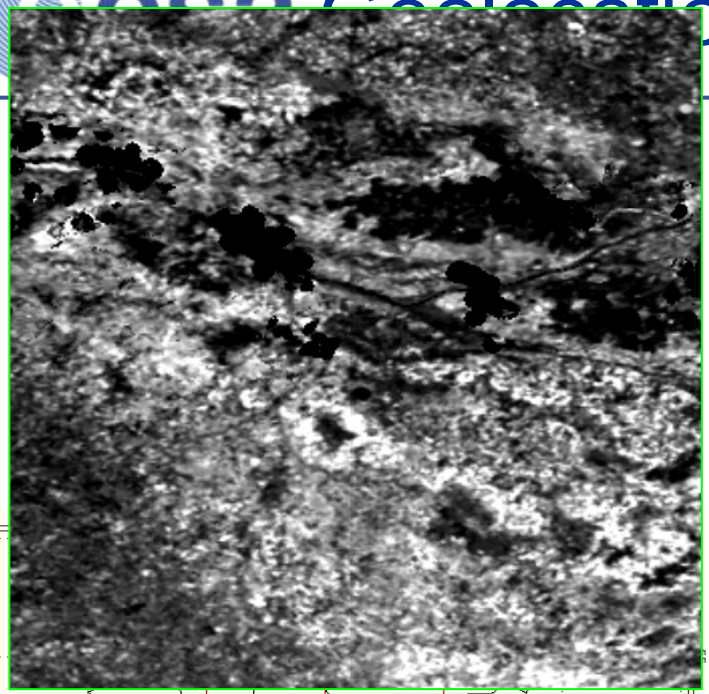


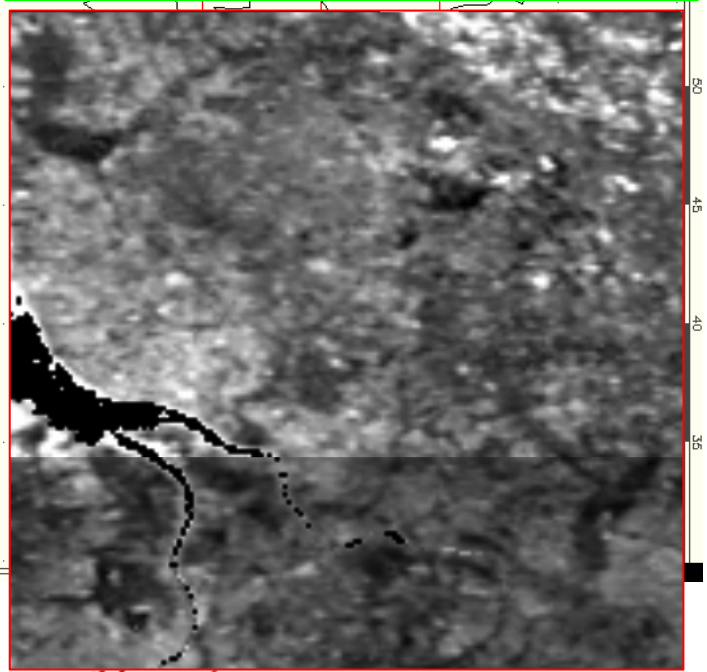
- Undesirable effect still exist
  - ✓No Snow detected (or standard snow spectrum)
  - ✓Blue shade effect
  - ✓Coastline
  - ✓Singular issue
- Missing Area/Singular effect = low coverage
  - ✓Nmod band shows that critical areas still exist
  - ✓Status Map = info for No reflectance
  - ✓Issue with SM = Land pixel but no reflectance, “misclassification”

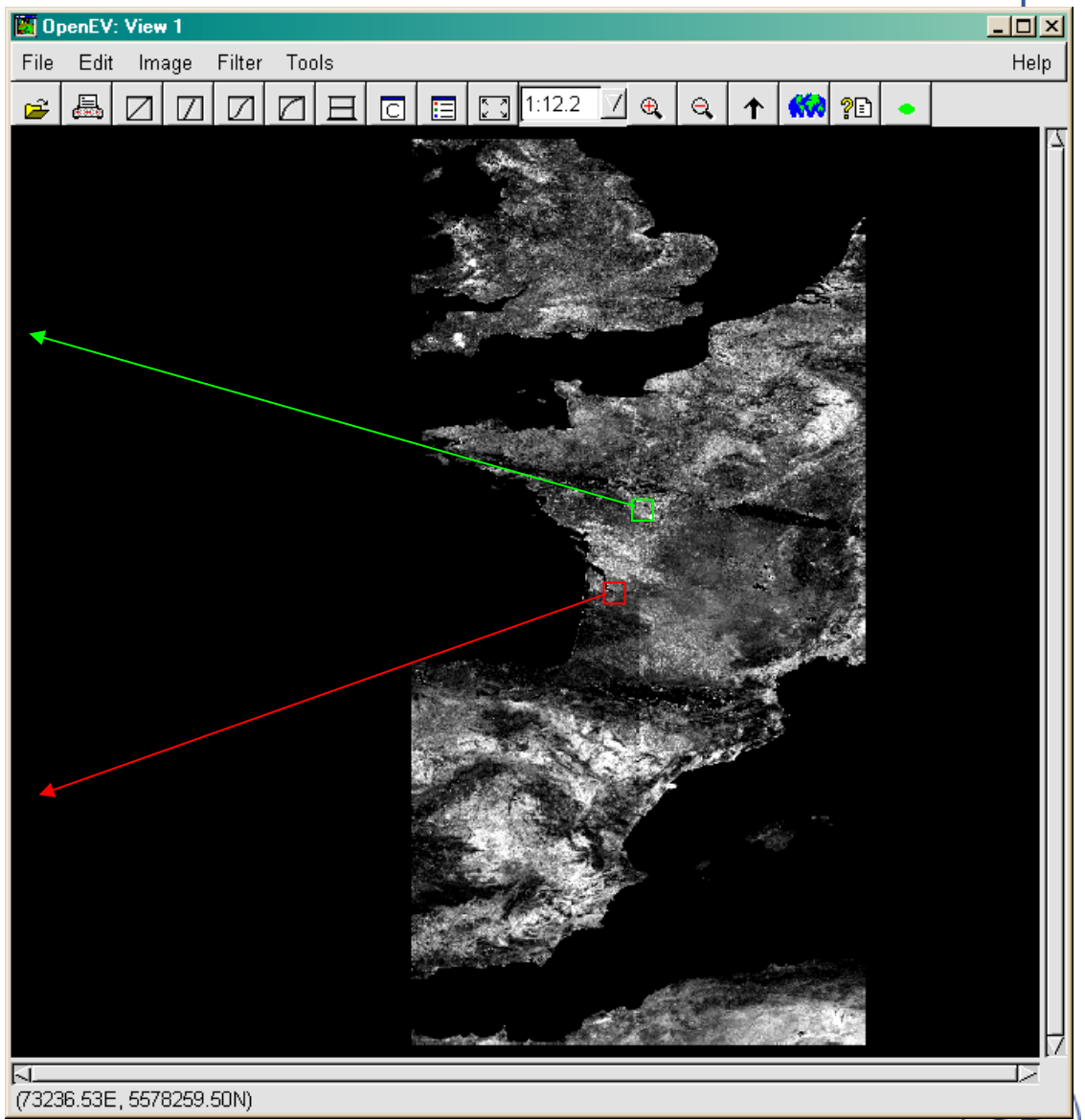
⇨Improvement for V2

- ✓Reflectance value for Snow
- ✓Aerosol correction with LARS database
- ✓Coastline improvement (other land mask …)
- ✓Low coverage = new strategy (ENVISAT acquisition plan, other data source as MERIS RR…)

Geolocation : Relative Accuracy

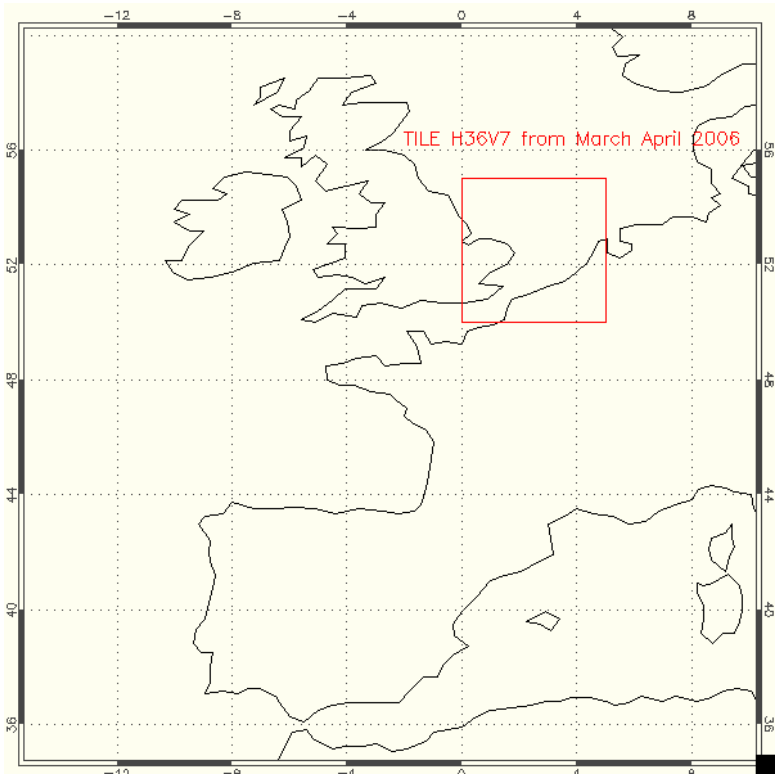
- 

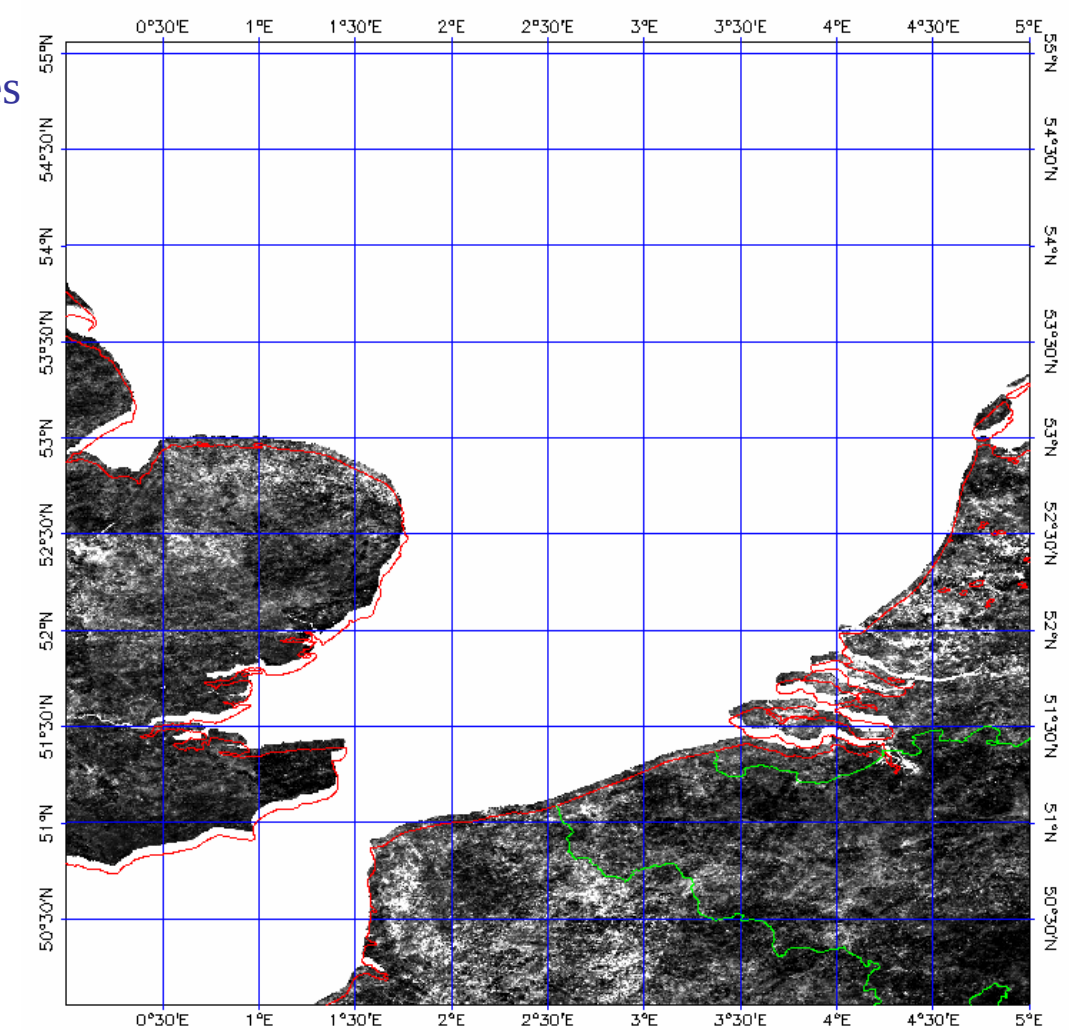




Geolocation: Absolute Accuracy

- Methodology
  - Tile H36V7 (band 7, March- April 2006)
  - Save in Geotiff
  - Overlaid a vector and grid lines





Geolocation: Conclusion

- Relative reliability :
  - ✓Perfect matching
  - ✓No boundary issue
- Absolute reliability
  - ✓Minor shift observed but various source of error (geotiff, envi…)
  - ✓Additional tests to be conducted
    - – with larger dataset (Landsat ETM) for accuracy assessment
    - – At different latitude
- Geolocation information
  - ✓GridName CYCLOPE ? (Subliminal message)

```
      HDFEOSVersion  STRING    12 HDFEOS_V2.12
    StructMetadata.0  STRING  32000 GROUP=SwathStructure
END_GROUP=SwathStructure
GROUP=GridStructure
        GROUP=GRID_1
                GridName="CYCLOPES"
                XDim=1800
                YDim=1800
                UpperLeftPointMtrs=(1113194.907933,5009377.085697)
                LowerRightMtrs=(1669792.361899,4452779.631731)
                Projection=GCTP_EQRECT
                ProjParams=(6378137,0,0,0,0,0,0,0,0,0,0,0,0)
                SphereCode=12
                GROUP=Dimension
                END_GROUP=Dimension
```

Conclusion

•Reflectance :

Undesirable effects (snow, blue shade, coastline)

⇨Solved in V2 version

Status map (misclassification, “black” pixel)

⇨Refinement of flags

Low coverage (missing area, virtual line…)

⇨consequence in working with a single sensor (MERIS) over a specific and limited time window (2 month and 1 year)

•Geolocation

⇨Additional tests needed in V2 version

•Future

next output = Global Land Cover map

Classification over critical areas = creation of a flag ?