MODIS data analysis by use of GLI L2 algorithms.

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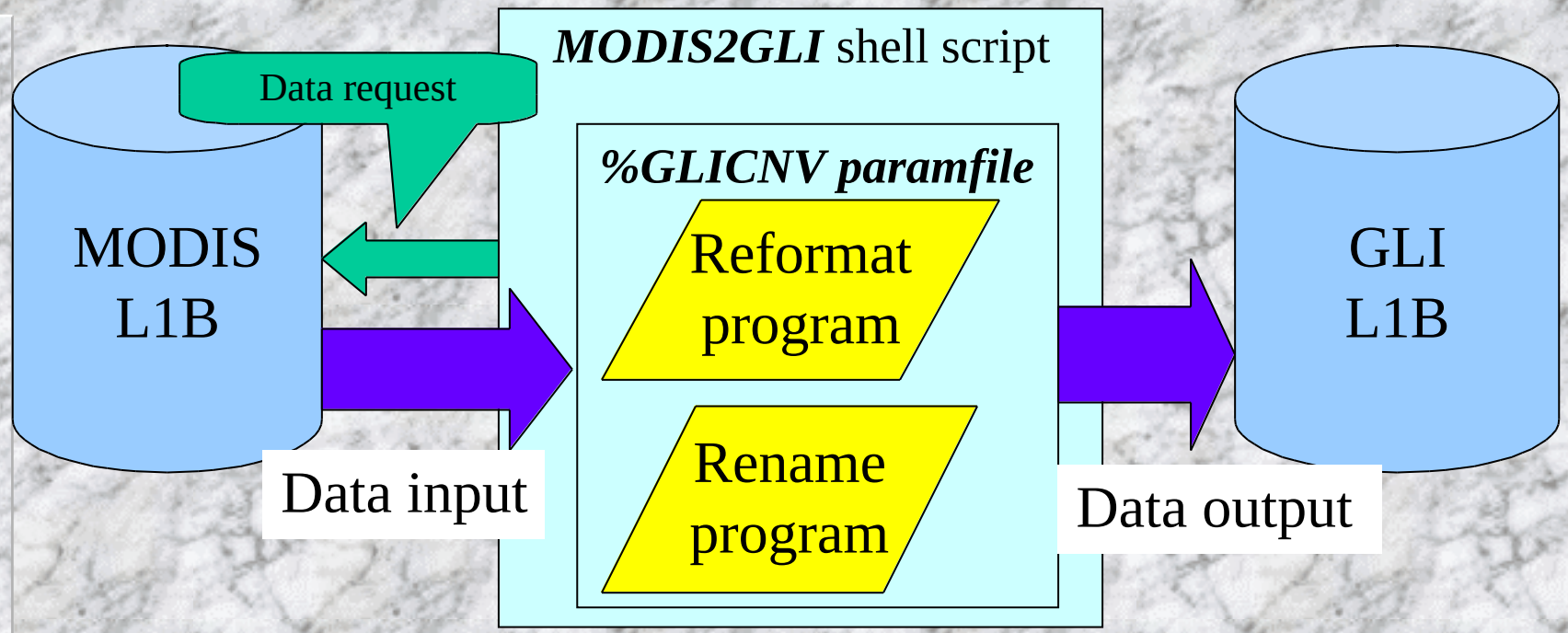
Reformatted MODIS data

- ***GLICNV*** command converts MODIS Level-1B data to GLI data format.
- GLI L2 system can analyze MODIS data.

	MODIS	GLI
Format	EOS-HDF	NCSA-HDF
Bit structure	16bits (flag (1)+DN(15))	16bits (flag(4*)+DN(12))
Overlap	No overlap	8 scan lines
DN-Radiance converting table	Simple	Complex due to Piece-wise channels

***Lost data/Saturation/Bright target recovery/Gain**

Reformat flow

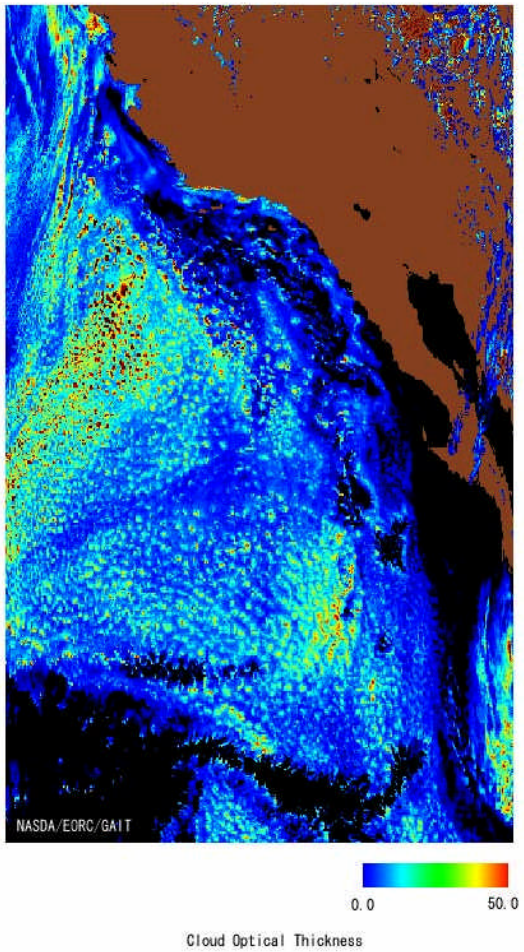


An easy operation.

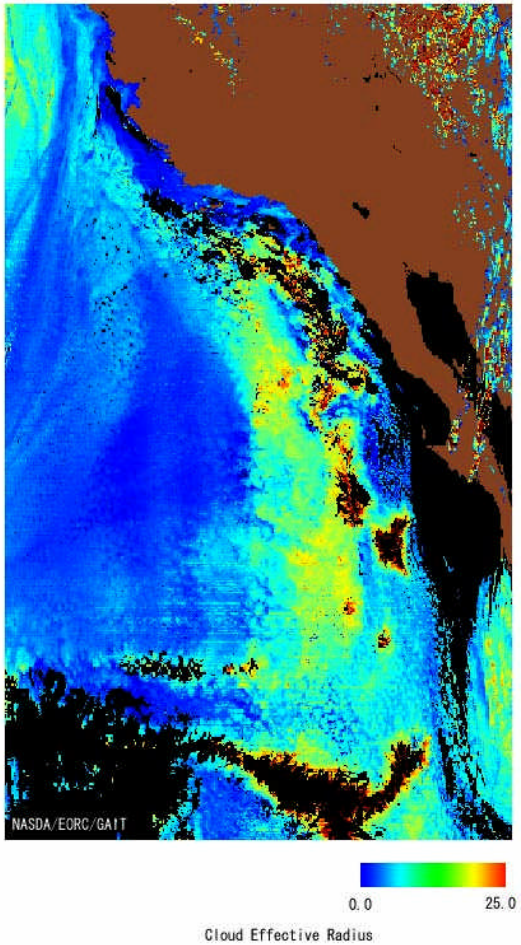
Operator sets name of input and output directory and starts the shell !

Water cloud (Regional)

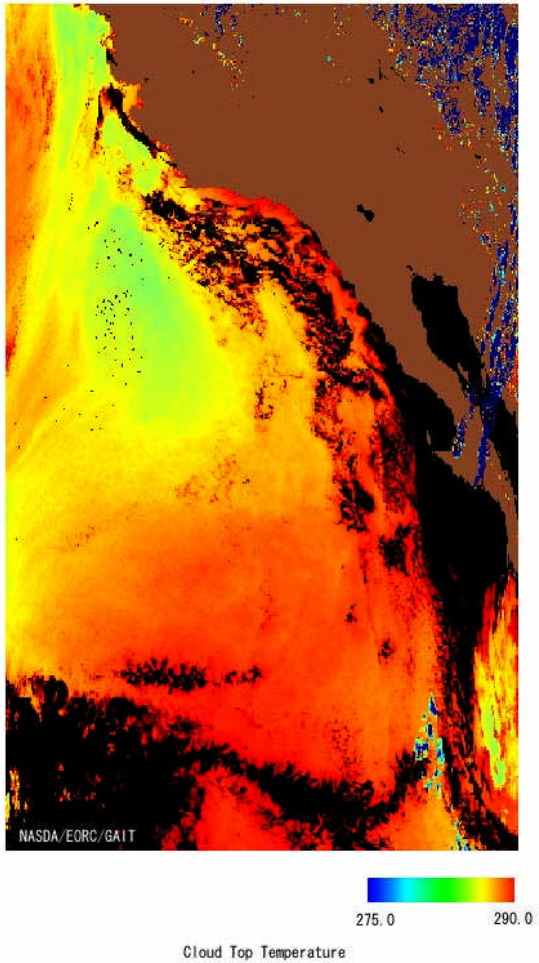
June 18, 2000



Optical Thickness



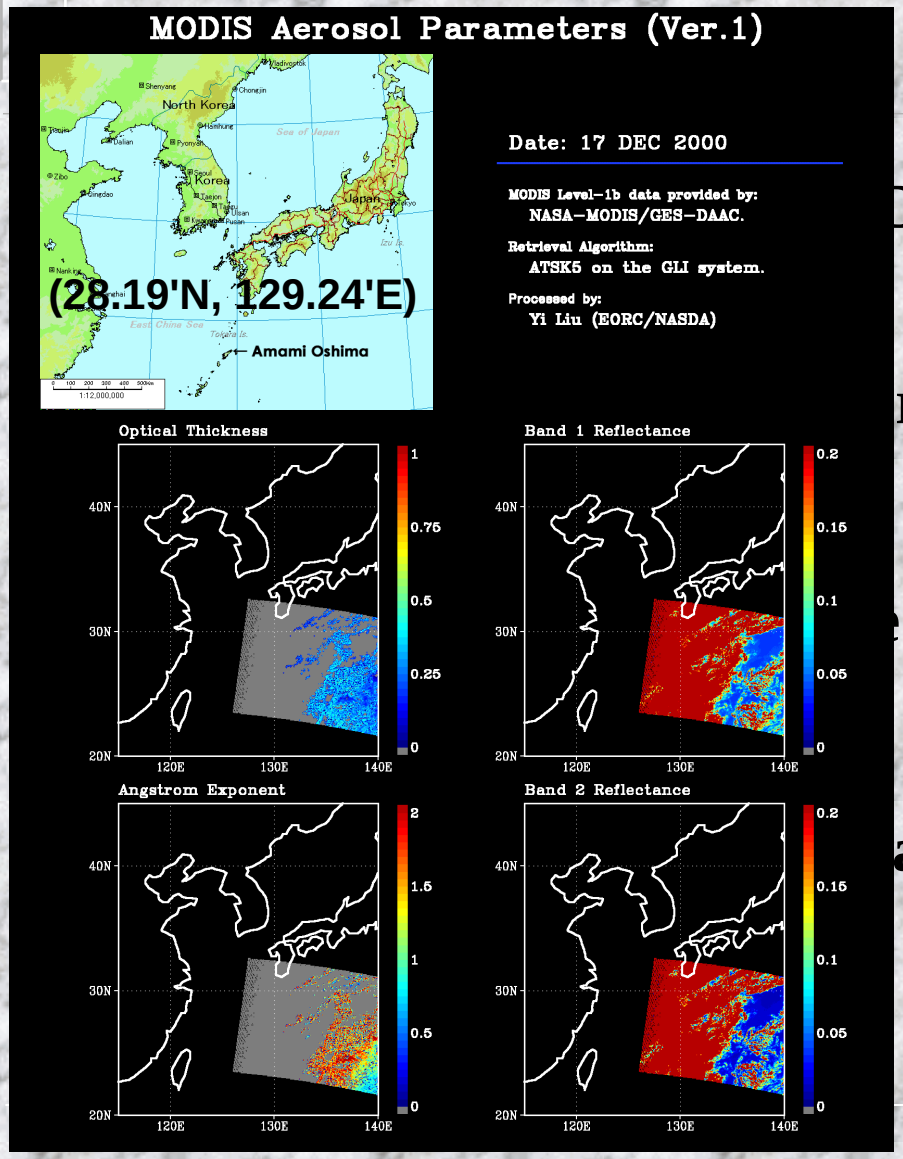
Effective Radius (µm)

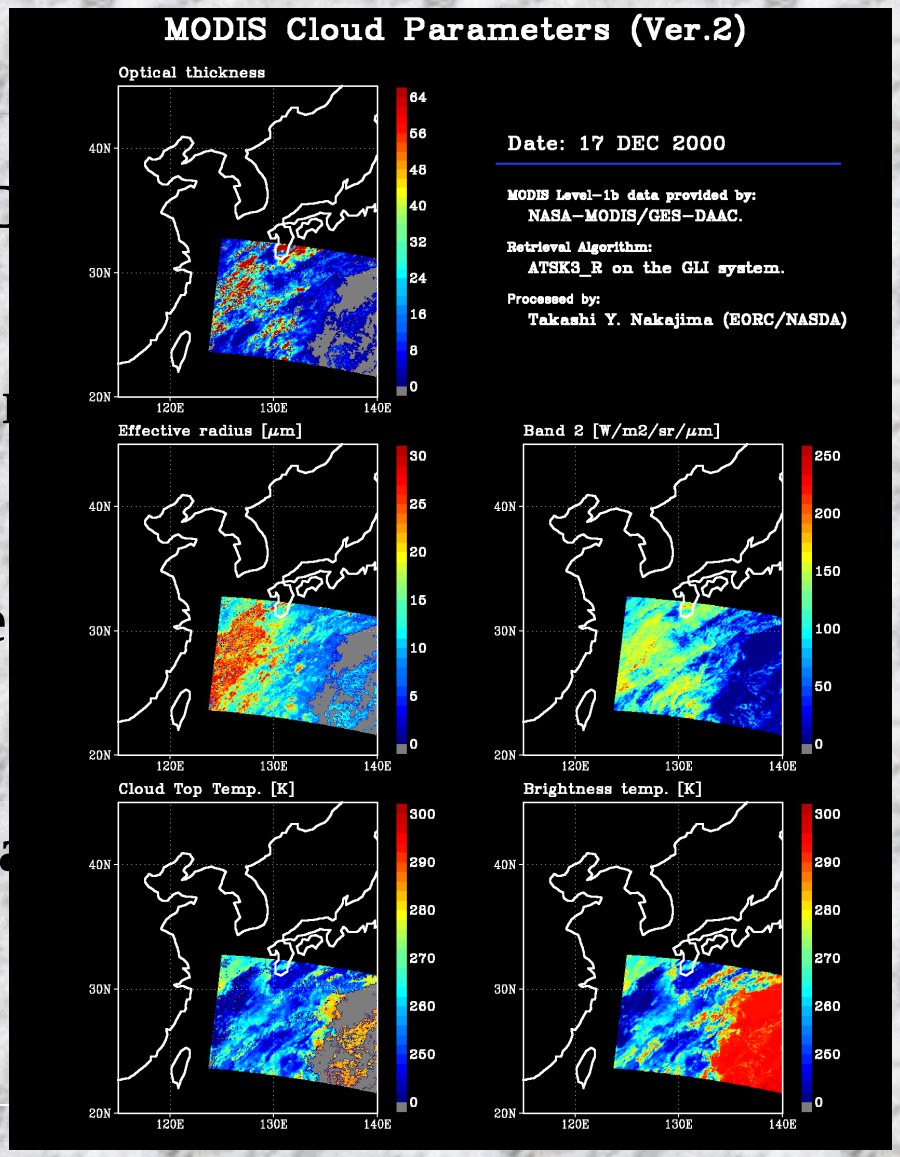


Cloud Top Temperature (K)

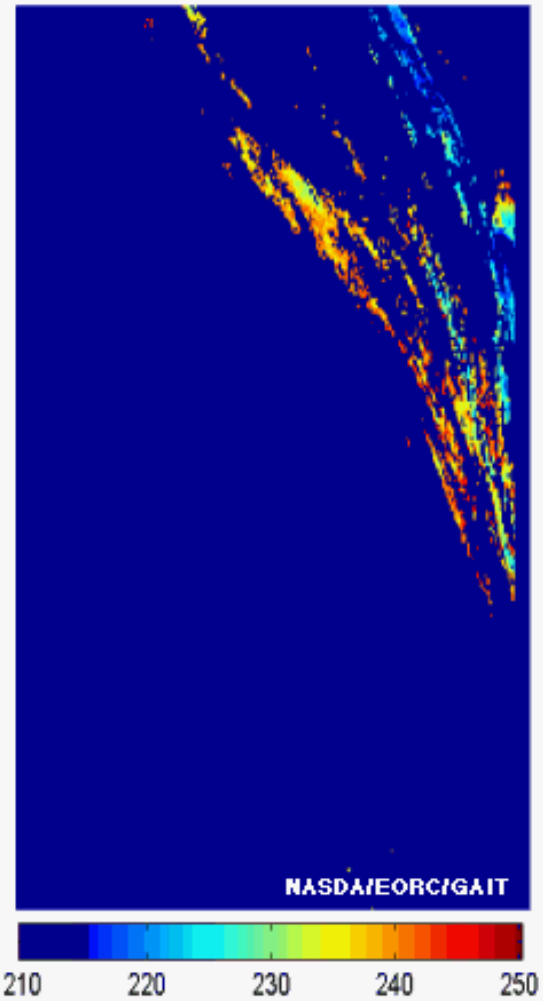
Fast MODIS analysis (Aerosol and Cloud)

APEX-E1 Field Experiment (Dec. 11-22, 2000)

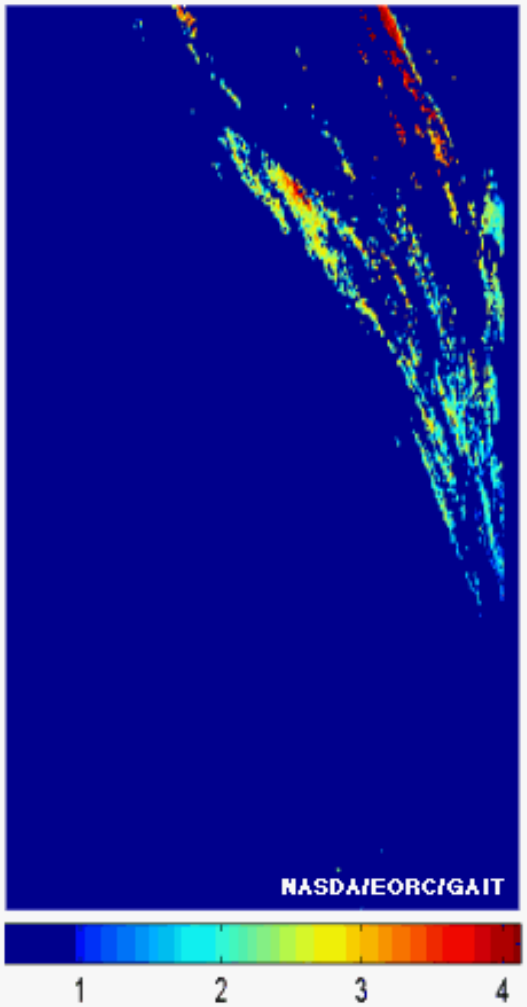




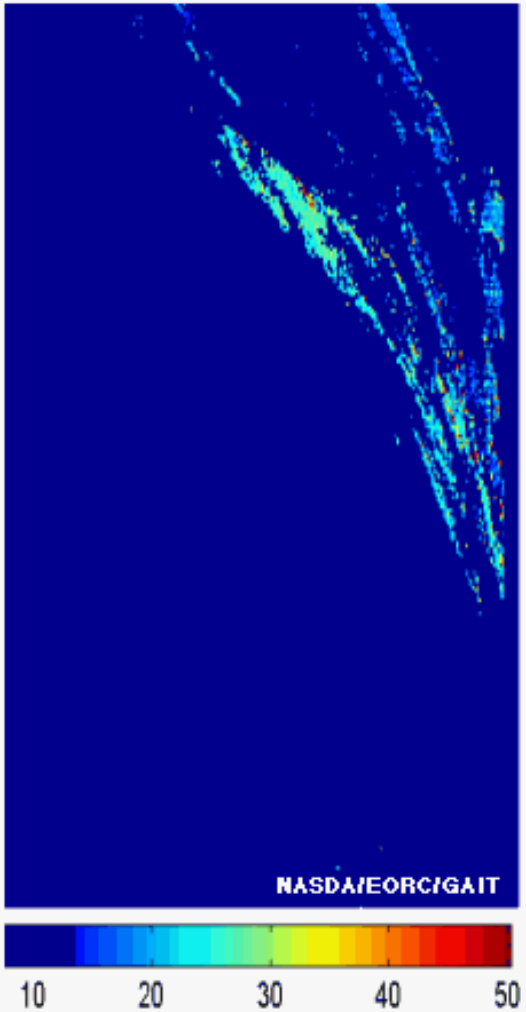
Cirrus cloud (Regional)



Top temperature of Cirrus
Cltp_Min = 210.1 K
Cltp_Max = 244.9 K

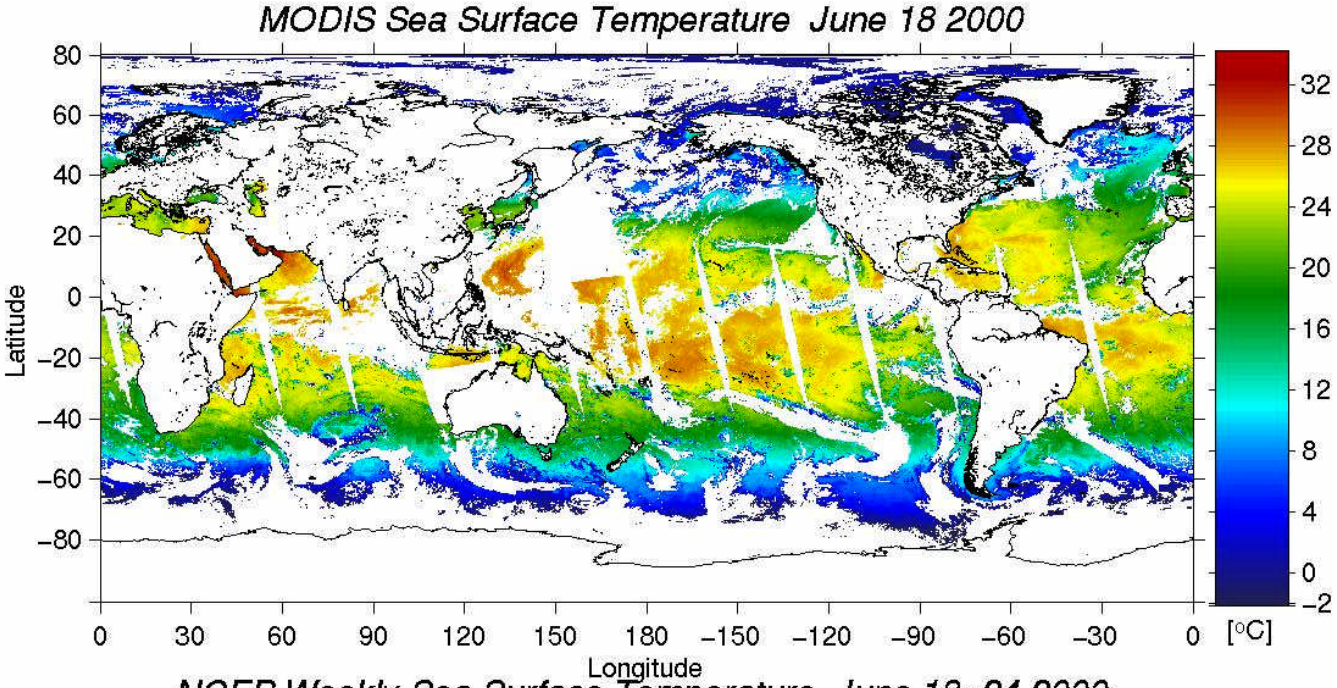


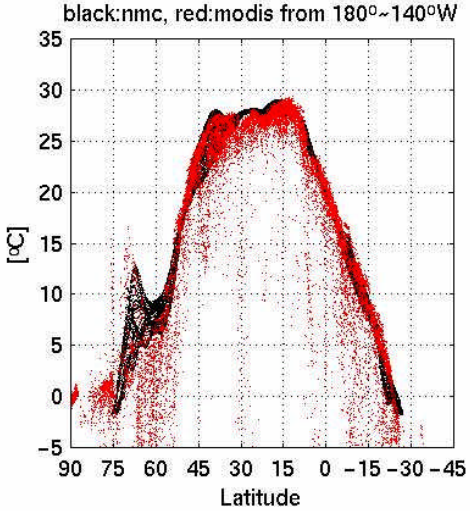
Optical Thickness
Opt_Min = 0.71
Opt_Max = 4.08

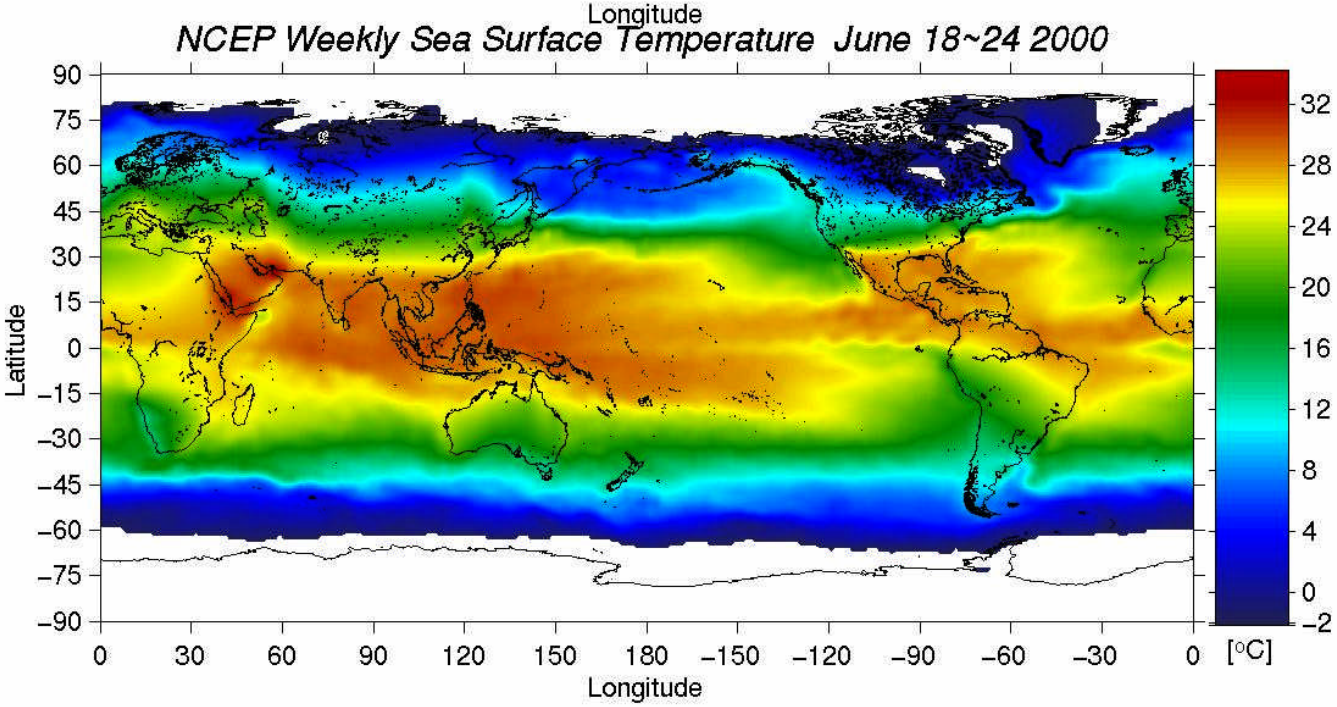


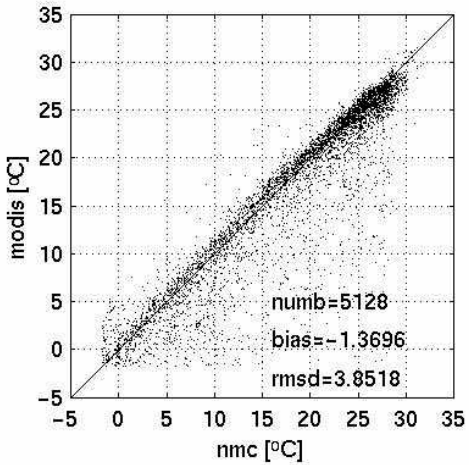
Particle effective radius
Re_Min = 8.47 micron
Re_Max = 43.42 micron

Sea surface temperature (Global)



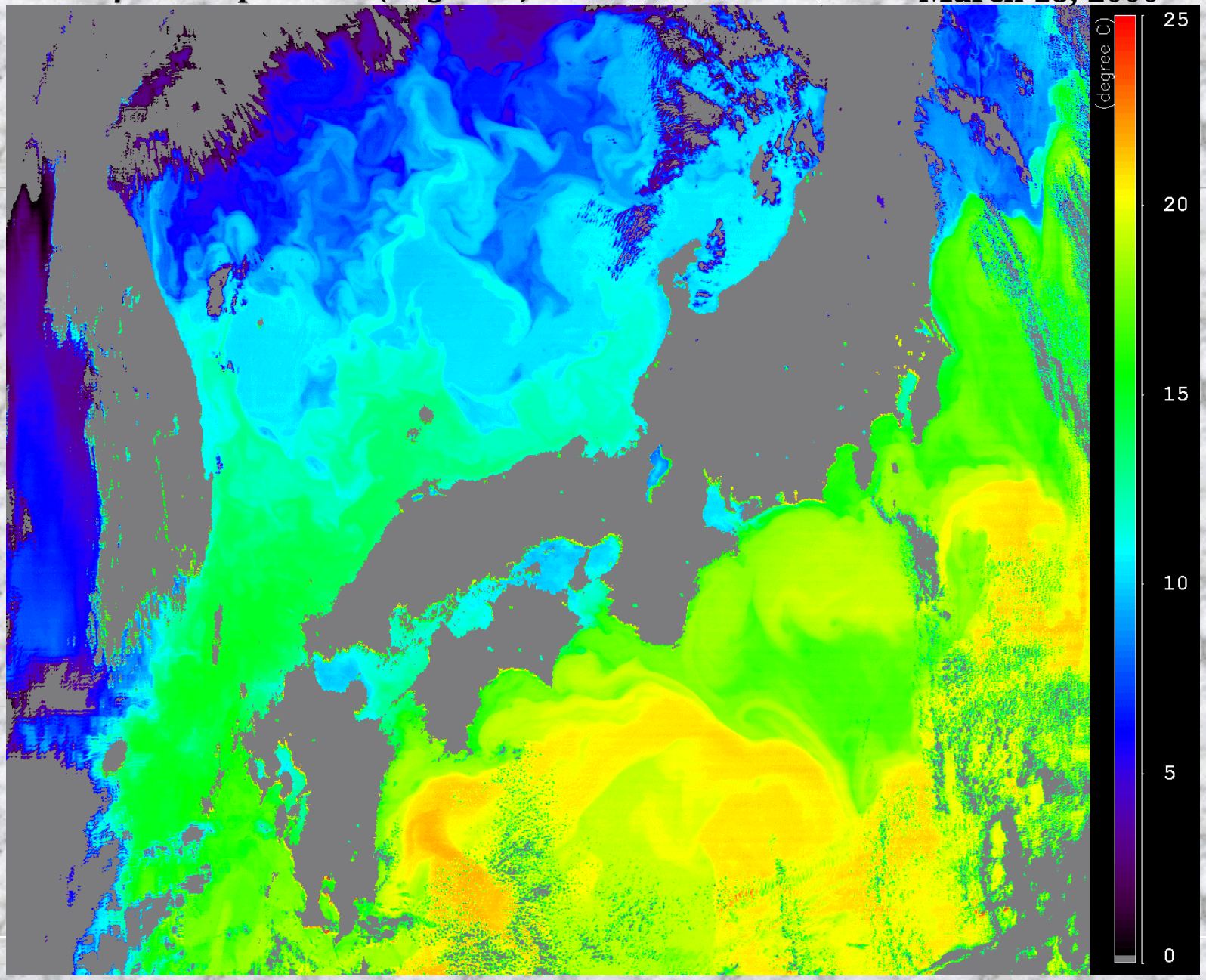




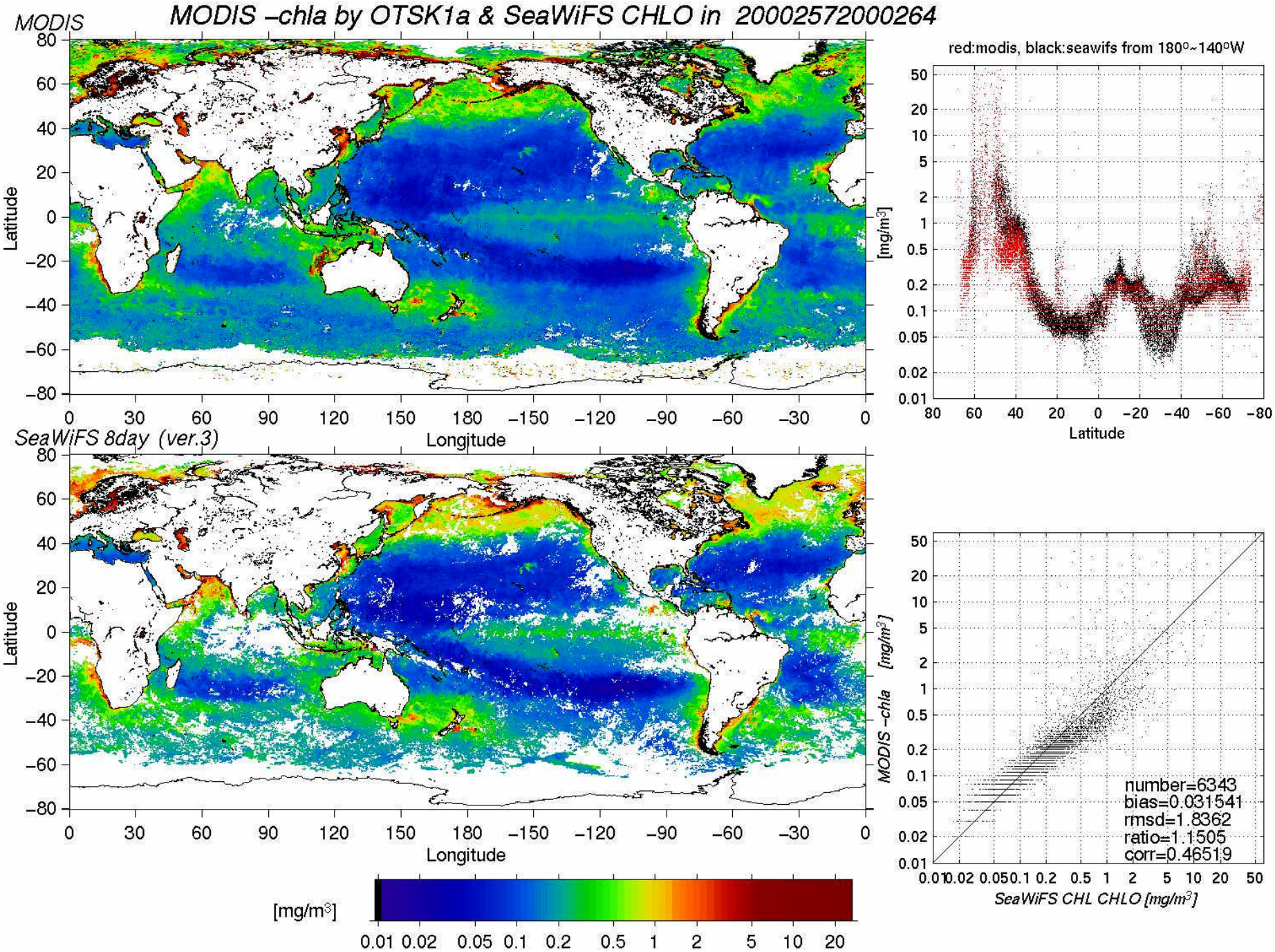


Sea surface temperature (Regional)

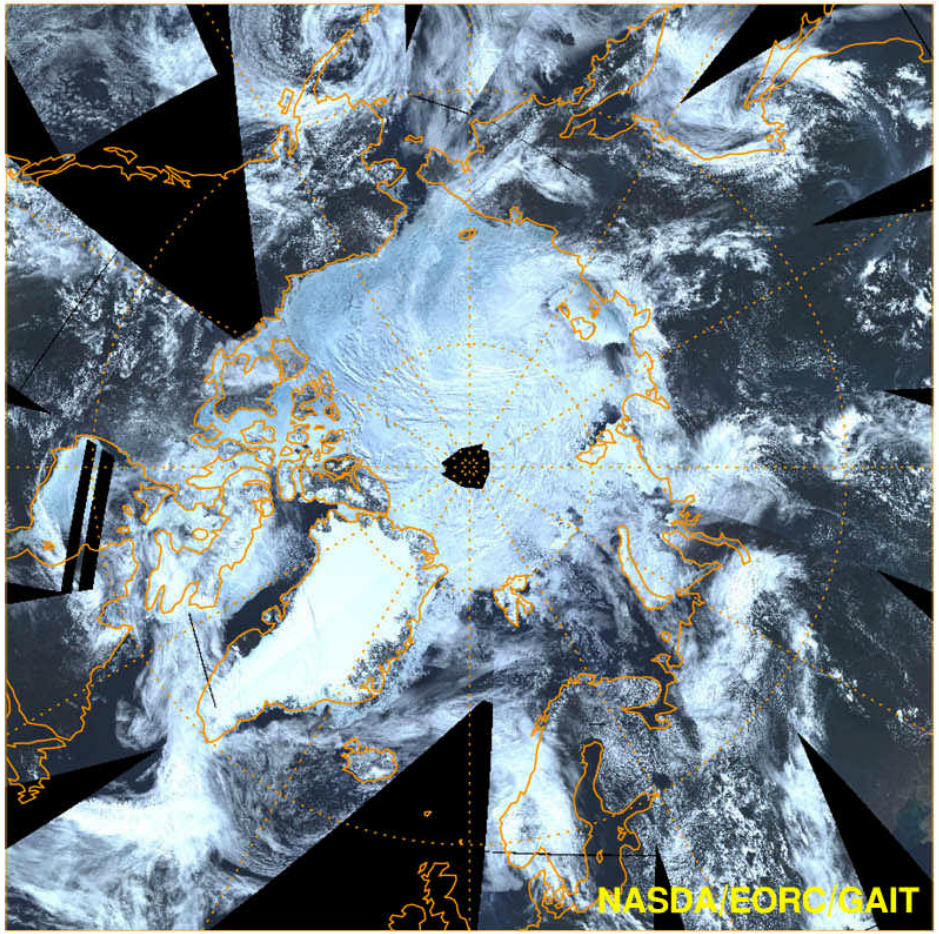
March 18, 2000

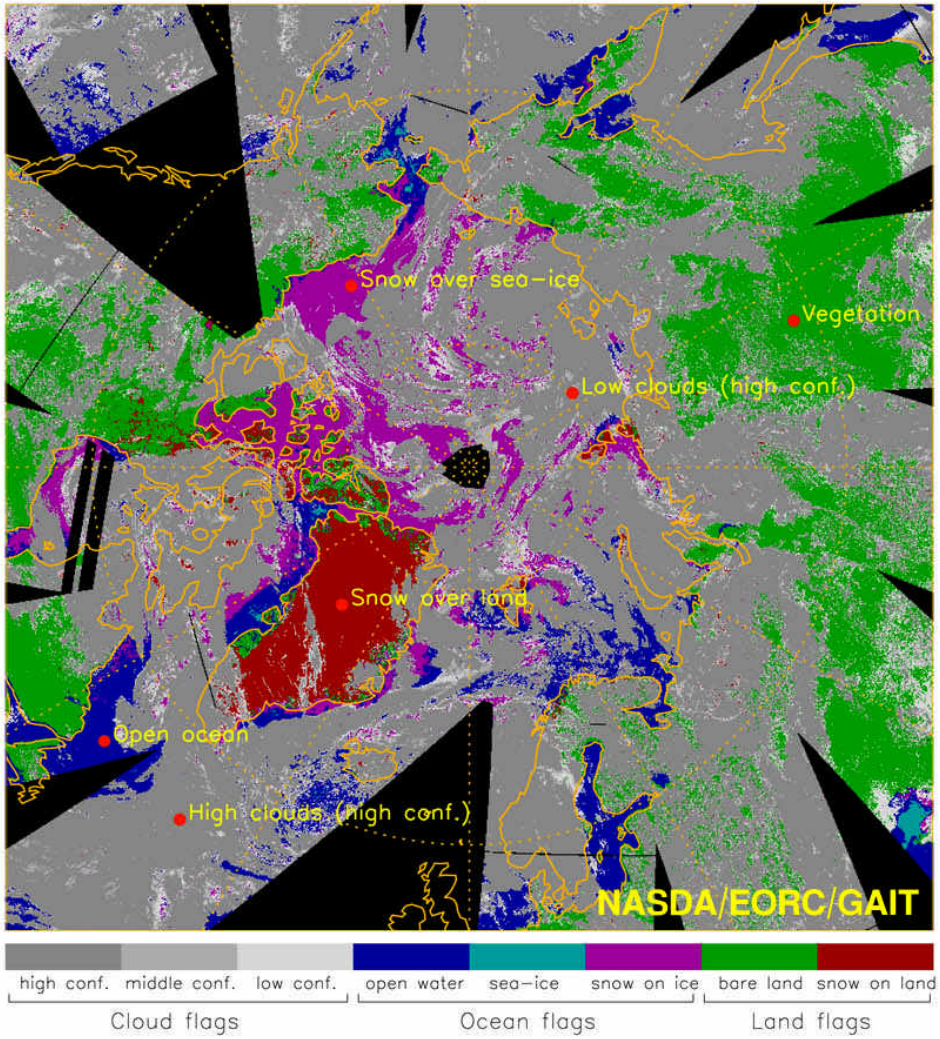


Chlorophyll-a (8days, Global)



RGB composite & Cloud flags June, 18, 2000



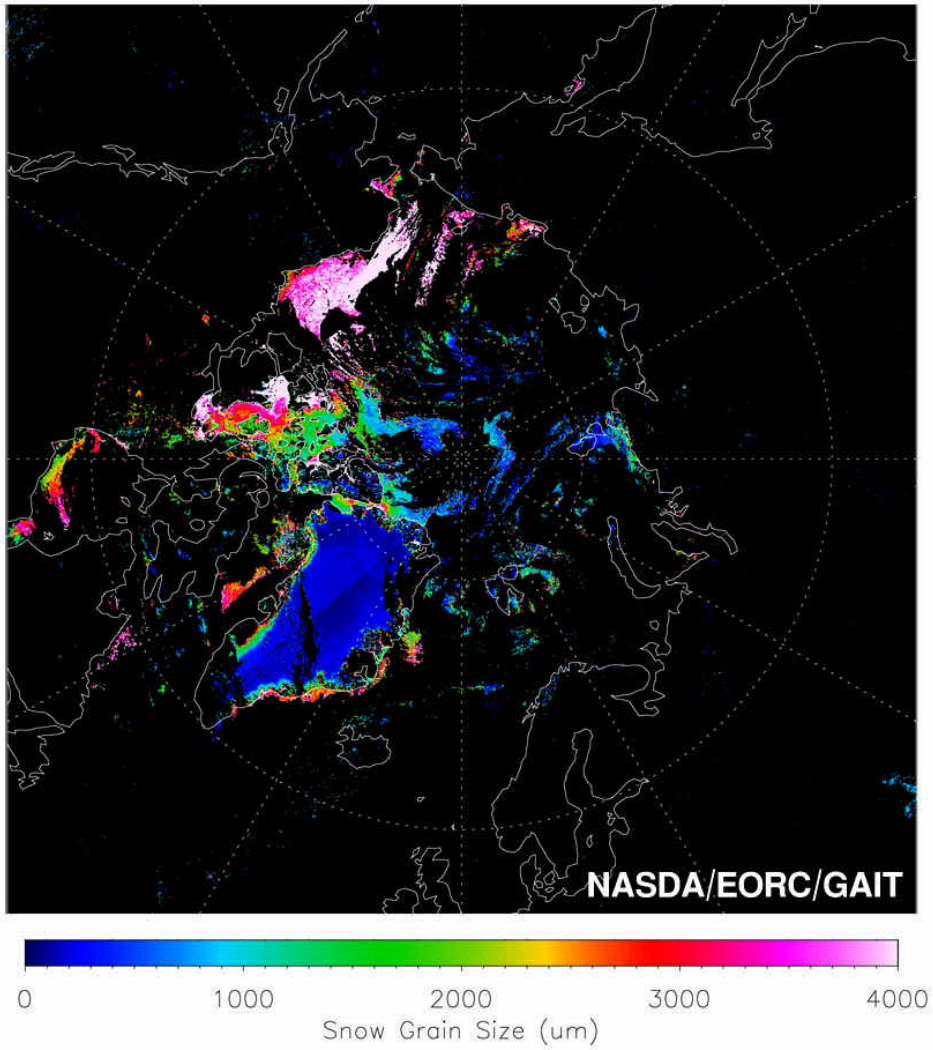


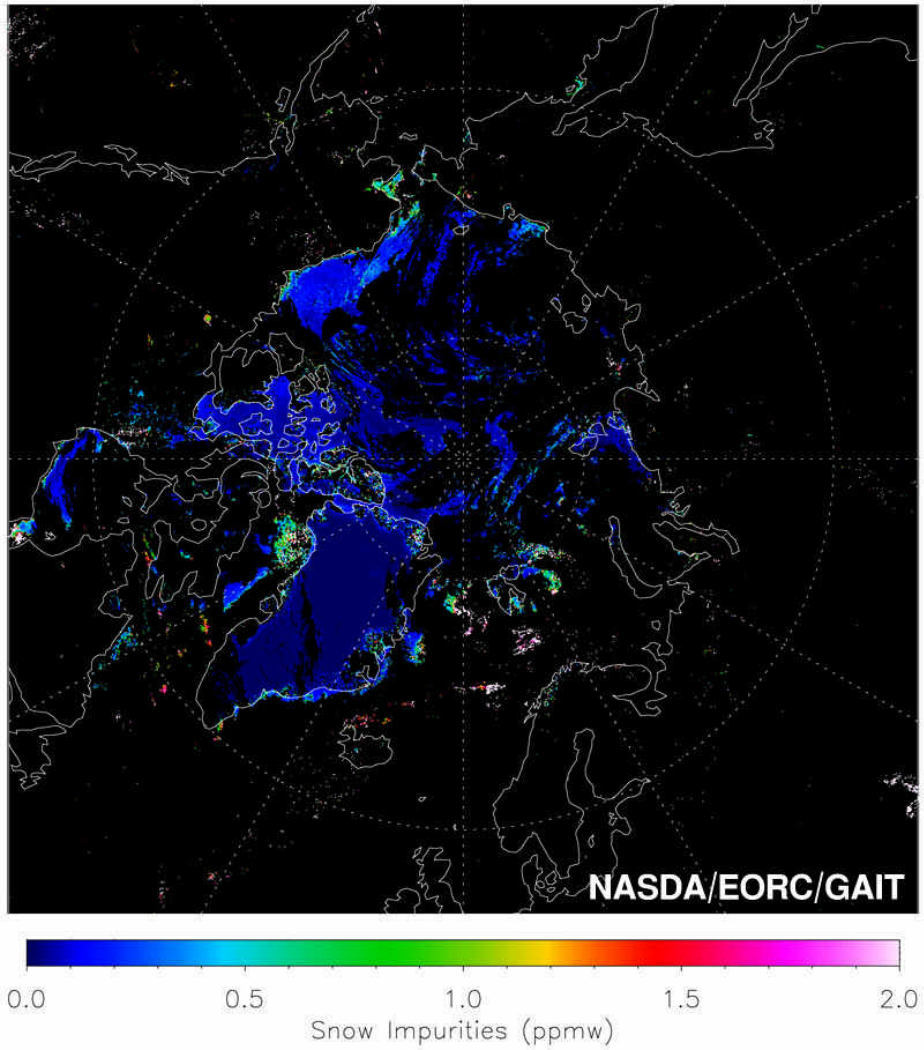
RGB image: NPS

MODIS image: 2000/170 cloud/clear & snow/sea-ice discriminator (test version)

Snow grain size & impurity

June 18, 2000



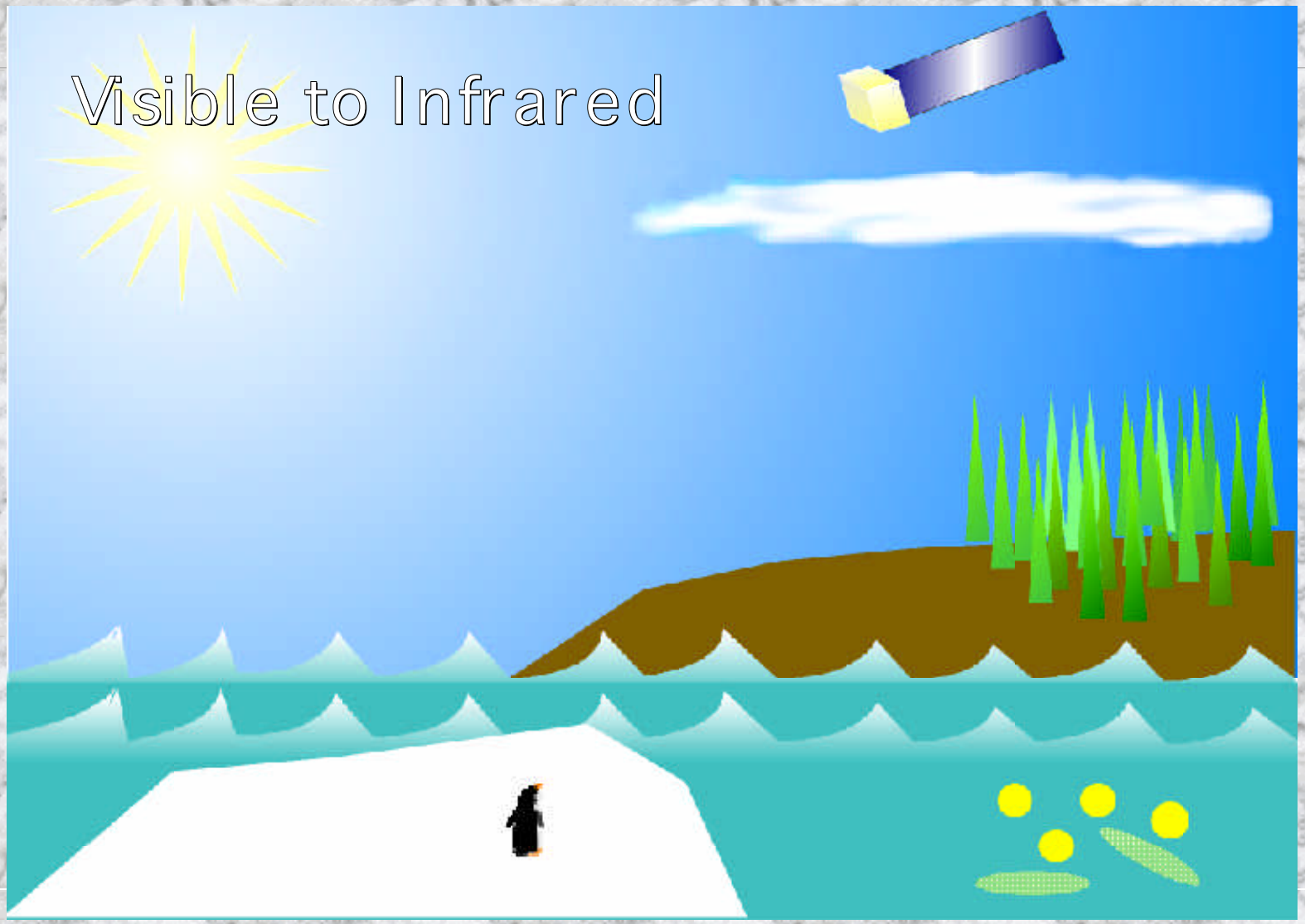


MODIS image: 2000170_Ver.7a snow grain size & impurities (test version)

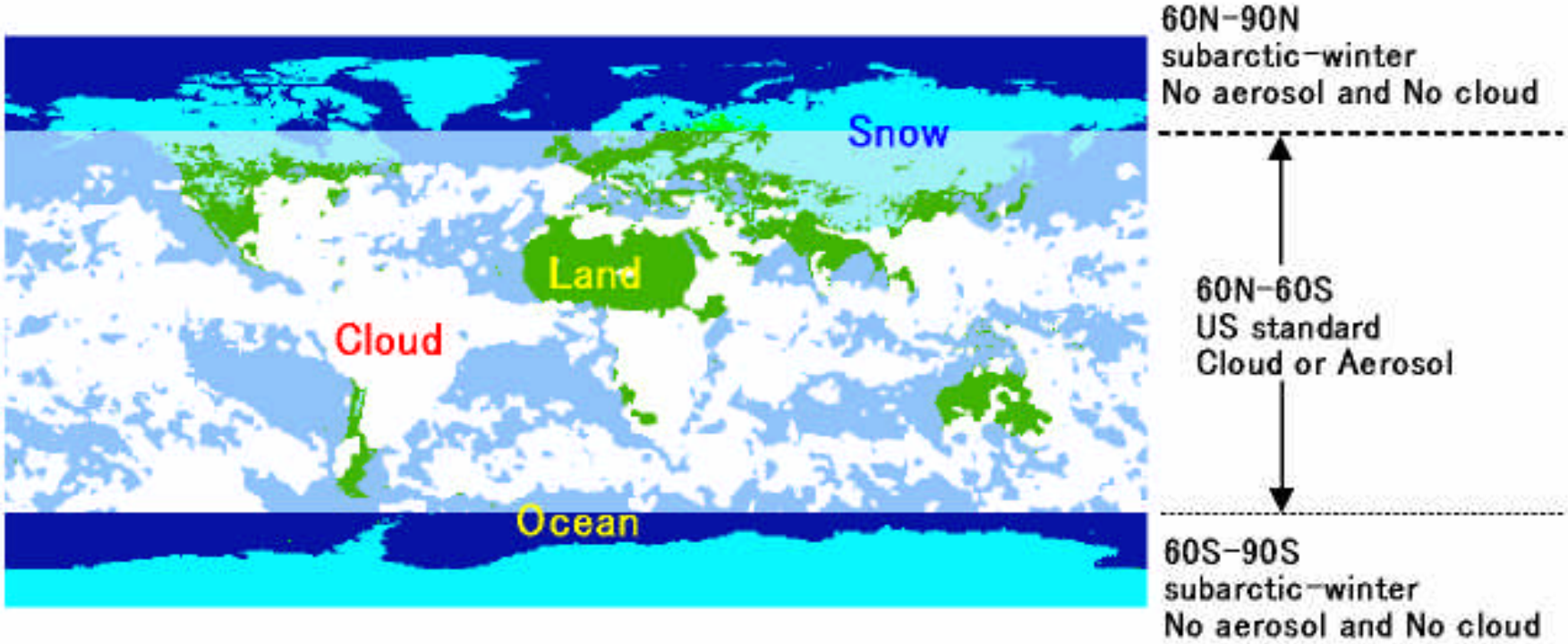
Summary(MODIS data analysis)

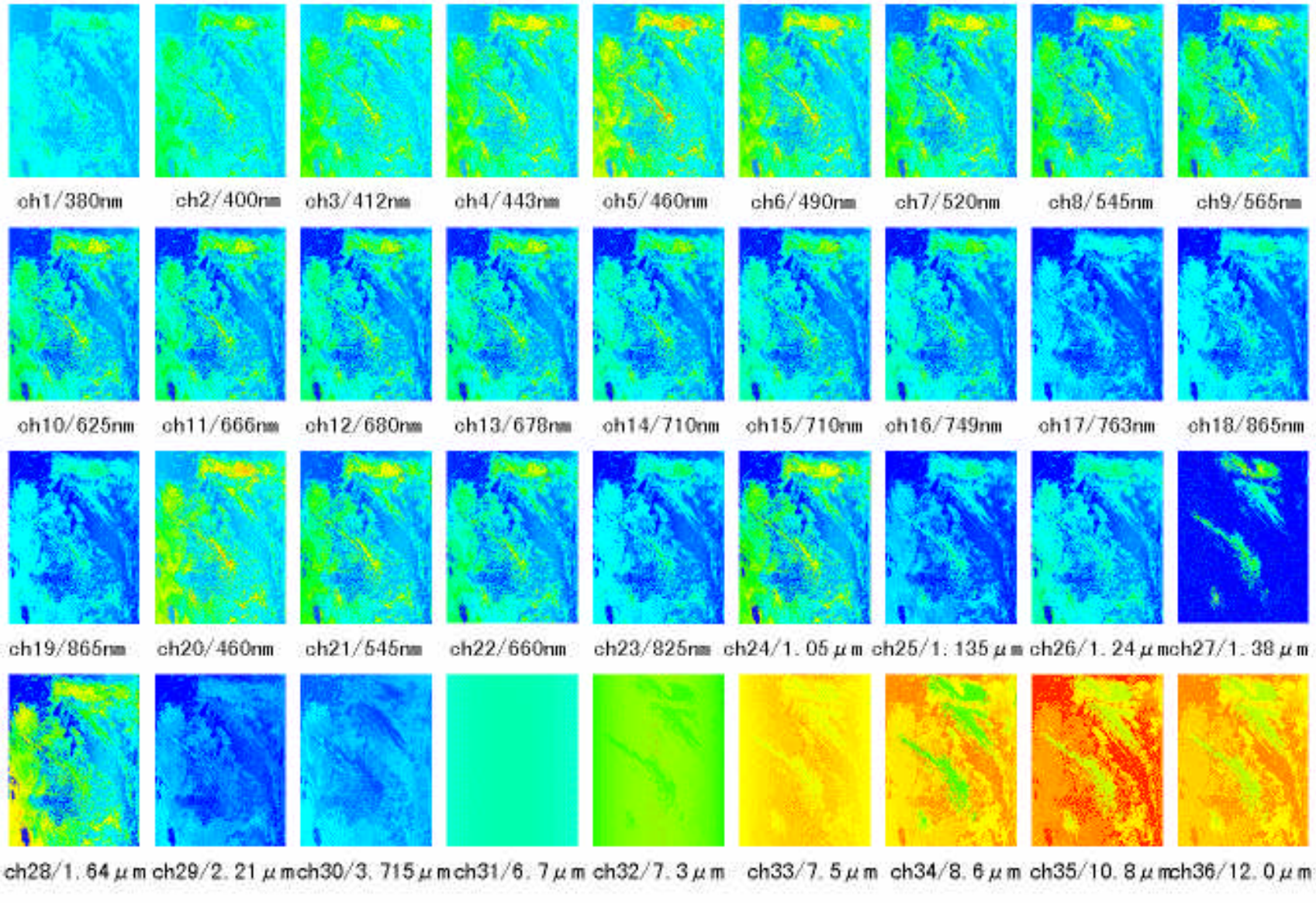
- GAIT developed ***GLICNV*** command and controlling shell script that converts MODIS Level-1b data to the GLI format.
- GLI L2 algorithms analyzes MODIS data to retrieve physical parameters.
- The ***GLICNV*** contributes to the GLI system development and activation of collaborative researches between MODIS and GLI teem.

GLI Signal Simulator (GSS)



Model Land&Atmosphere system



Simulate realistic GLI Level-1b dataset.

GLI Synthetic Data