

COMS RGB Products

- Convective Clouds RGB
- Water Vapor RGB
- Fog RGB

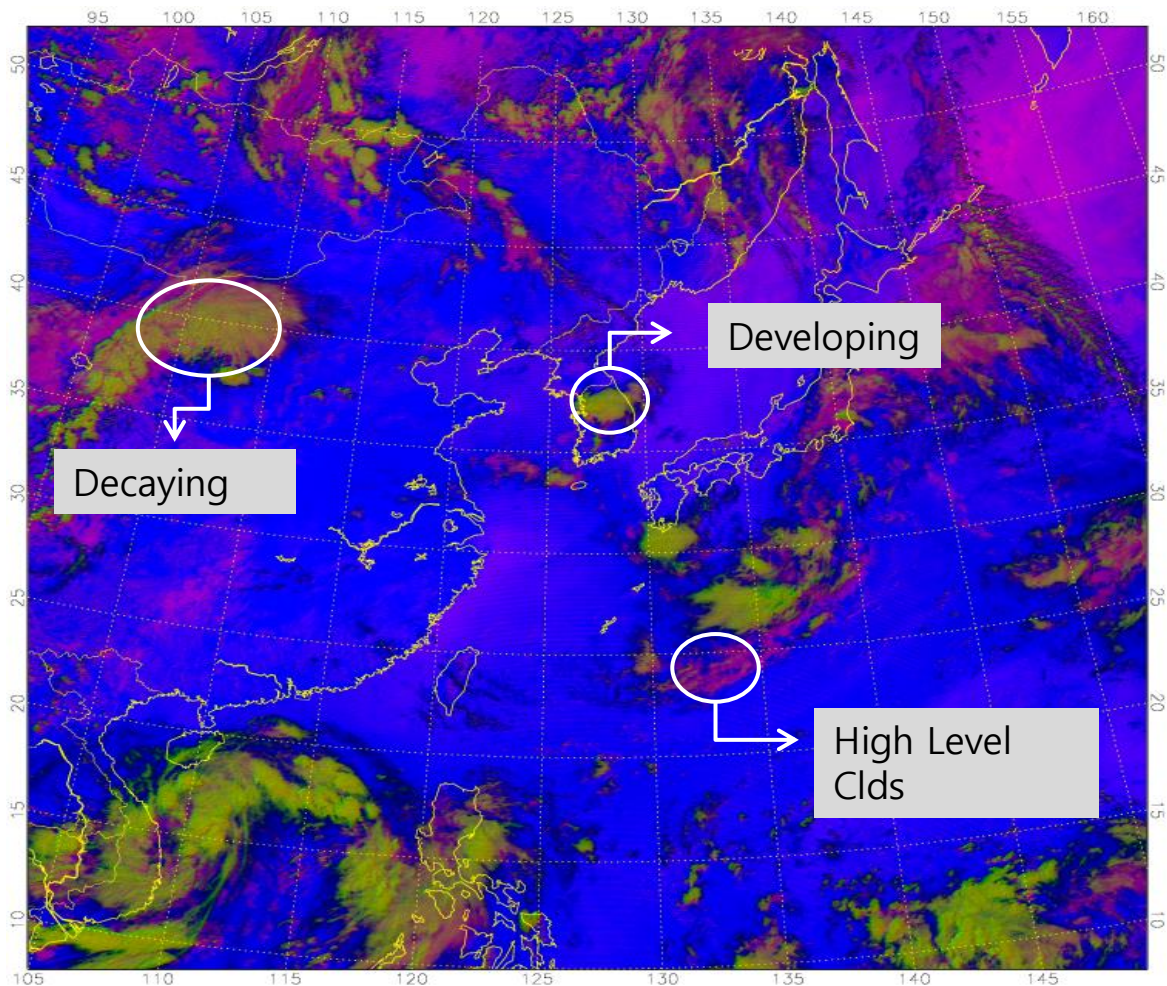
May 2017

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Satellite Analysis Division, National Meteorological Satellite Center

1. Convective Clouds RGB from COMS



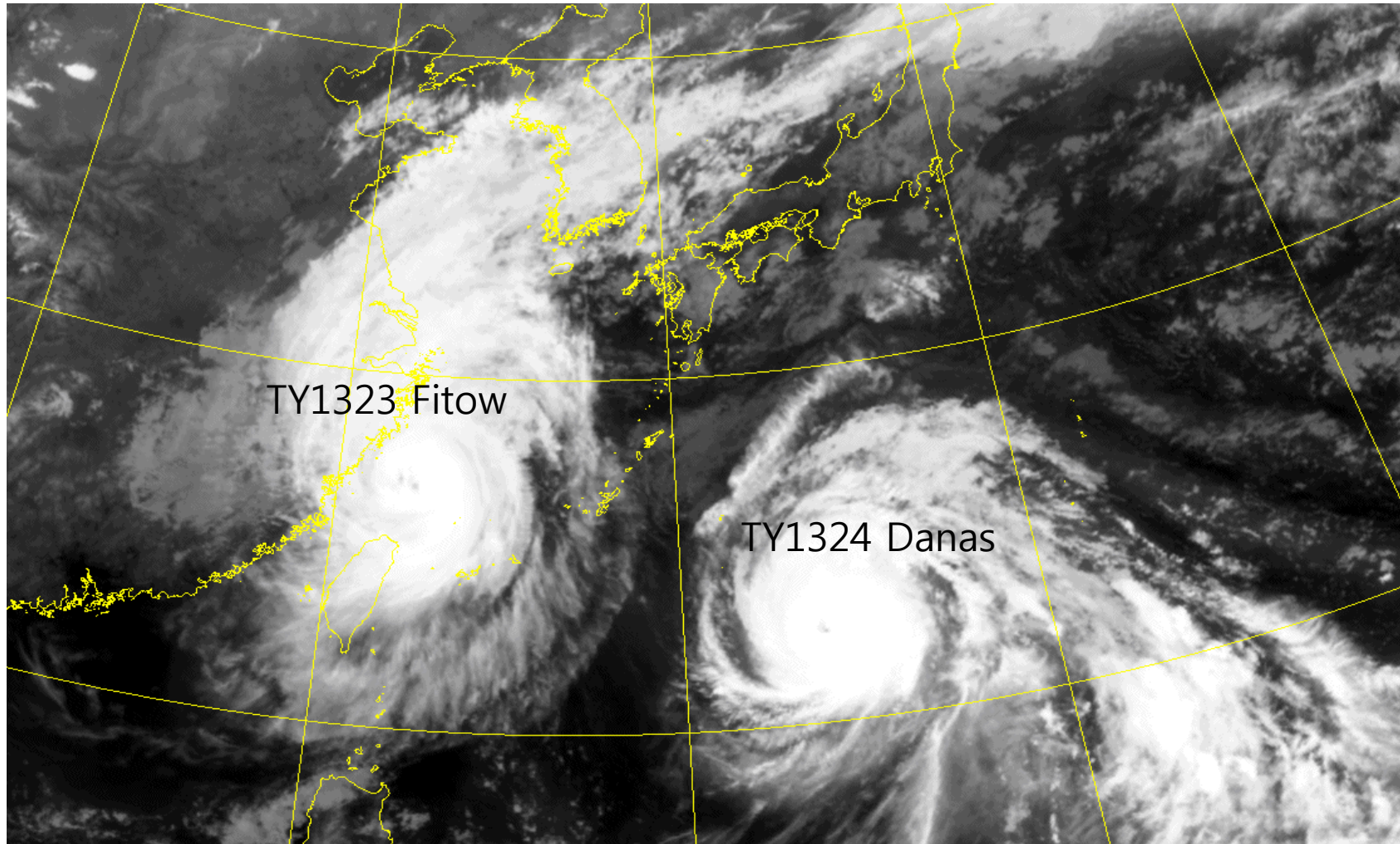
	Used Channels(μm)	Threshold (K)
Red	IR2(12.0) – IR1(10.8)	-4~2
Green	WV(6.75) – IR1(10.8)	-20~15
Blue	IR1 (10.8)	200~310

-  **Developing Conv. Clds**
-  **Decaying Conv. Clds.**
-  **High level Cld.**
-  **Low/Mid level Cld.**
-  **Land/Ocean**

2013.08.06.05:45UTC 국지성 호우

Usage of Convective Clouds RGB images

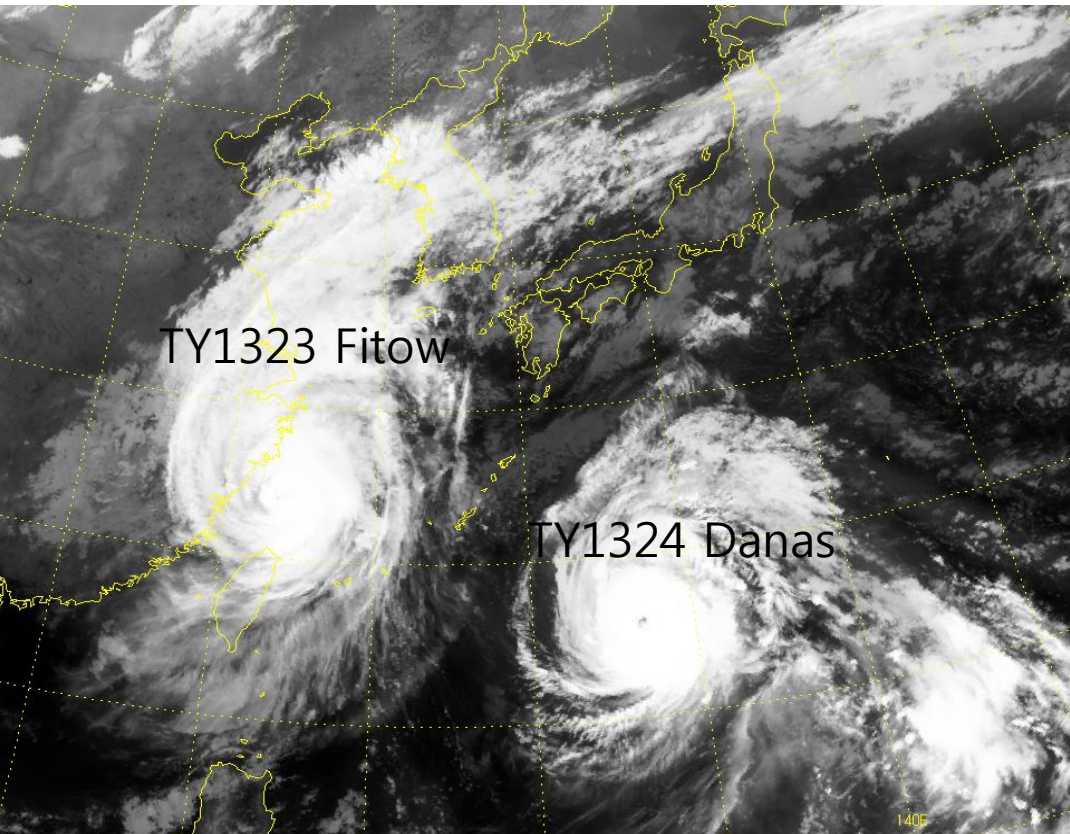
Animation COMS IR1, 10:00~12:00UTC 6th OCT 2013(nighttime)



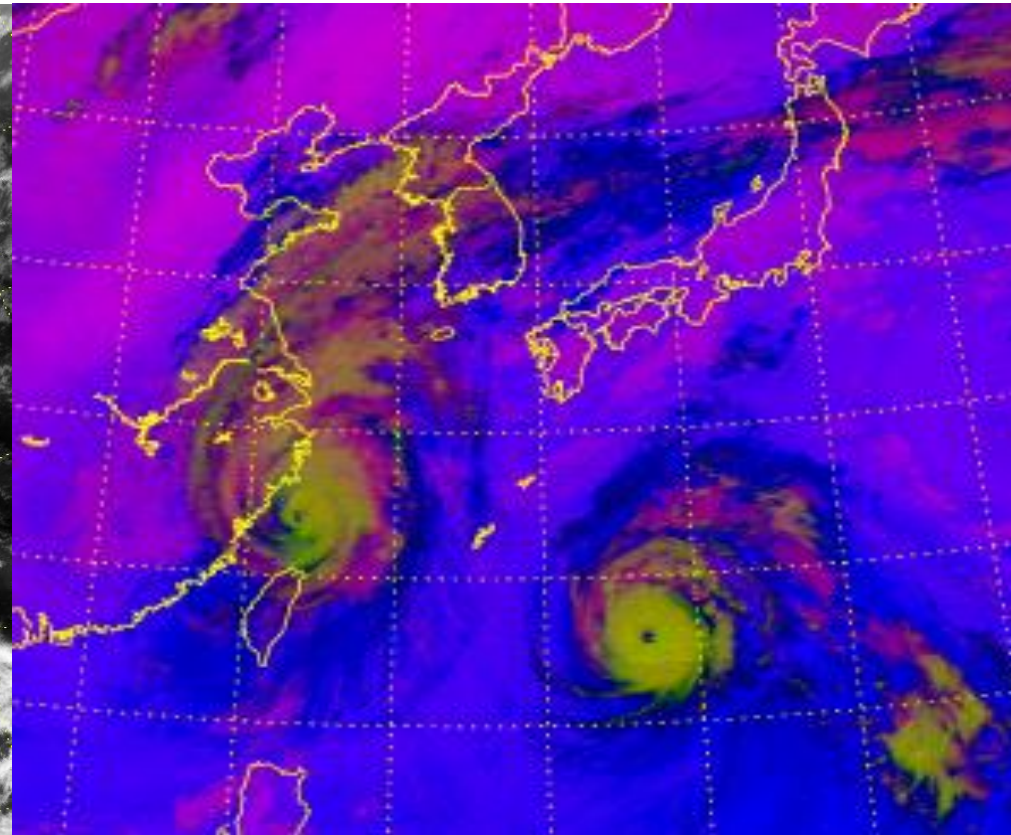
Where is the typhoon Center on 12UTC 6th OCT?

Usage of Convective Clouds RGB images

B/W IR image



COMS convective clouds RGB image



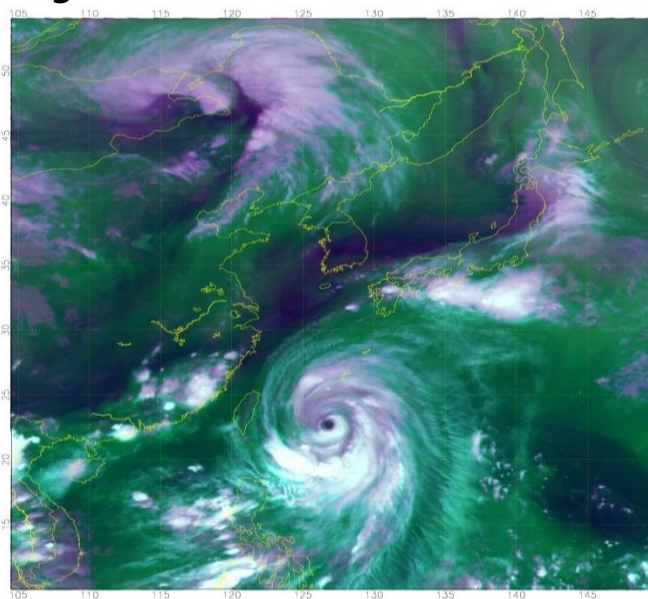
2013. 10. 6. 12:00UTC(nighttime)

- Helpful to find typhoon Center or Convective clouds during nighttime

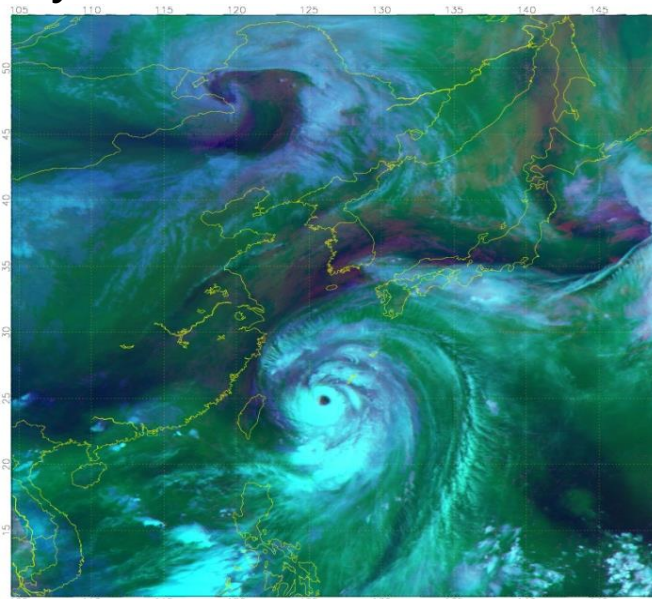
2. Water Vapor RGB from COMS

- Monitoring of the WV distribution in the middle/upper level atmosphere with low level clouds distribution
- Detection of the well-developed high clouds shown white
- Discontinuity during the dawn/dusk

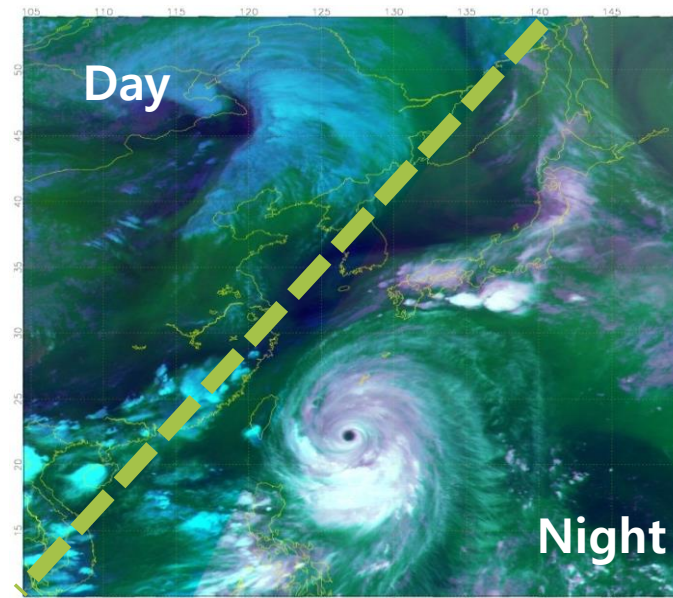
Nighttime (SWIR + WV + IR1)



Daytime (VIS + WV + IR1)



Discontinuity
- solar zenith angle 85°



	Channels (μm)	Threshold
RED	SWIR(3.75)	200~300
GREEN	WV(6.7)	210~255
Blue	IR1(10.8)	210~320

	Channels (μm)	Threshold
RED	VIS(0.675)	0~100
GREEN	WV(6.7)	210~255
BLUE	IR1(10.8)	210~320



Water Vapor



High level cloud
Well developed clouds



Dry area



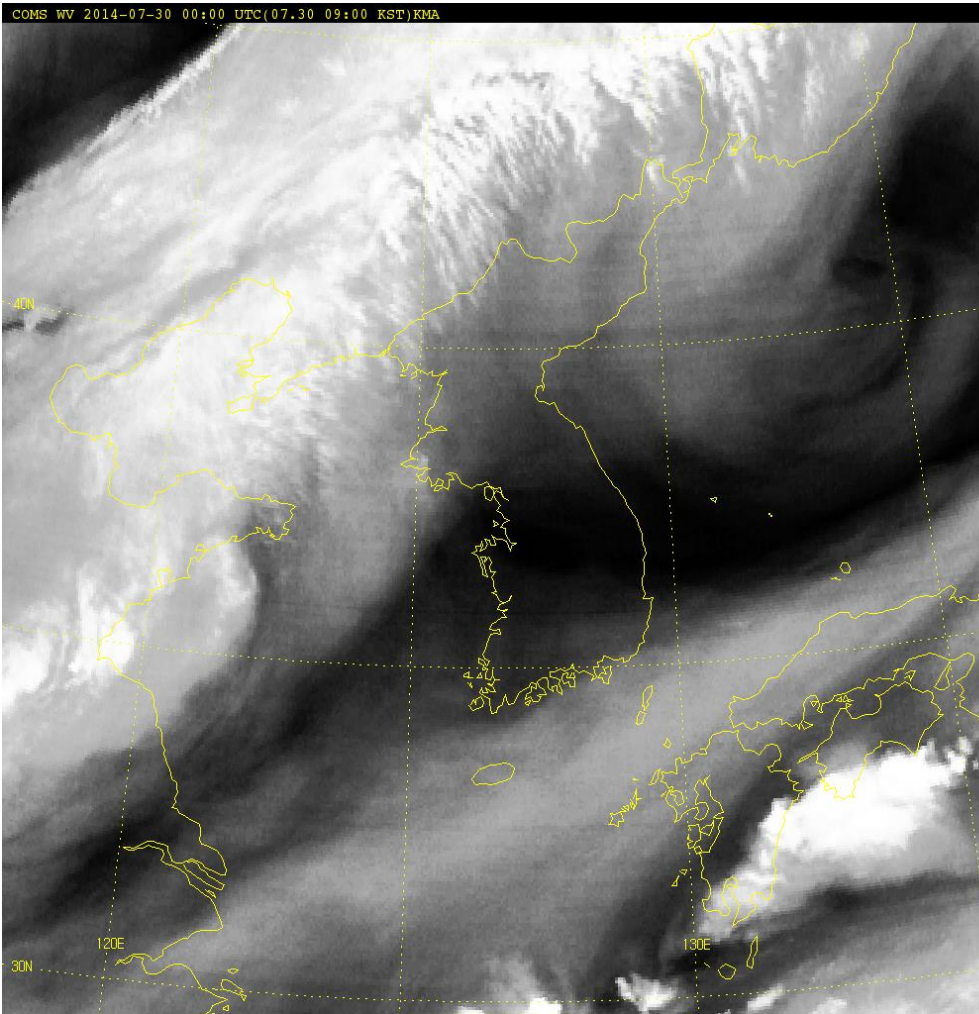
Low level
Clds

Advantage of WV RGBs

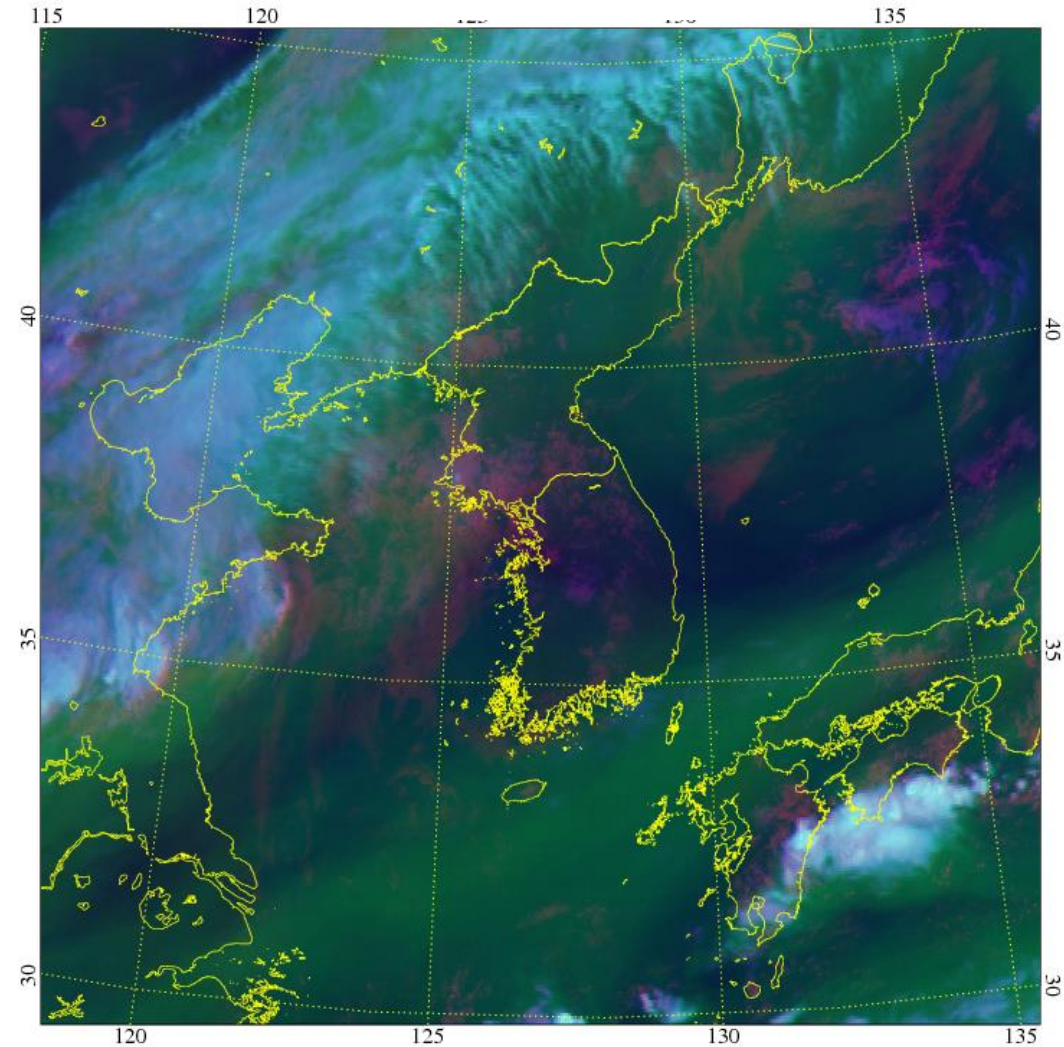


National Meteorological
Satellite Center

WV



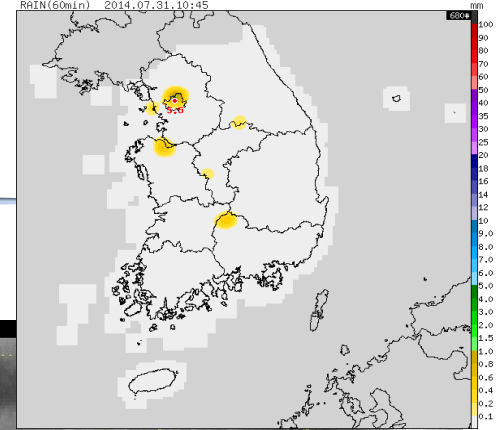
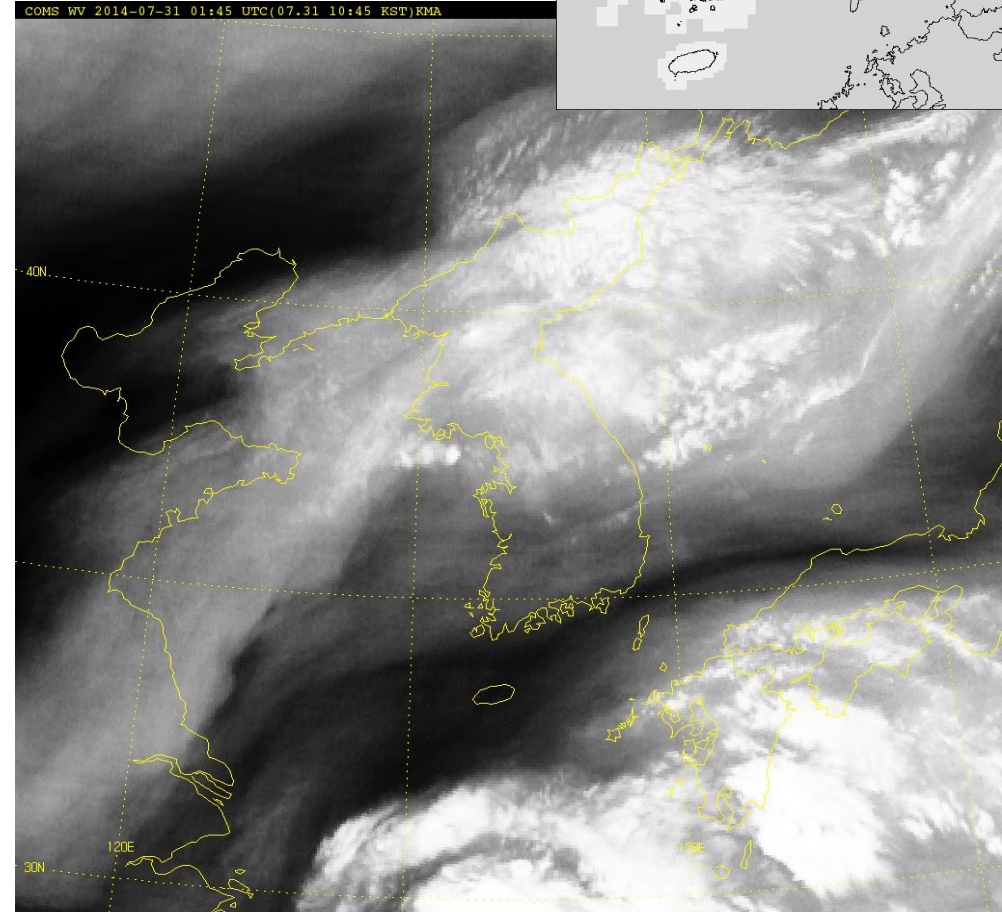
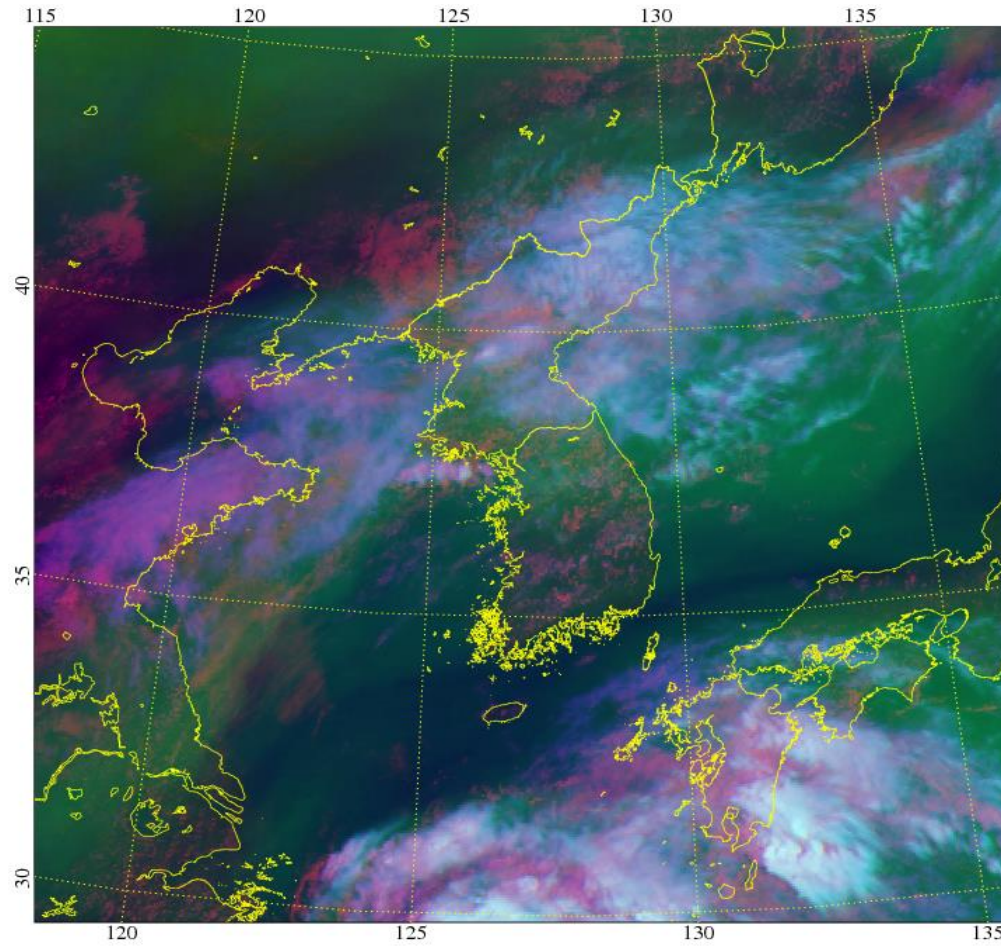
WV RGB



0000UTC 30th July, 2014

Usage of WV RGBs

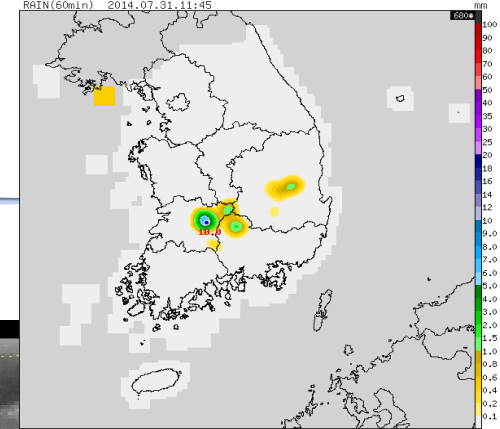
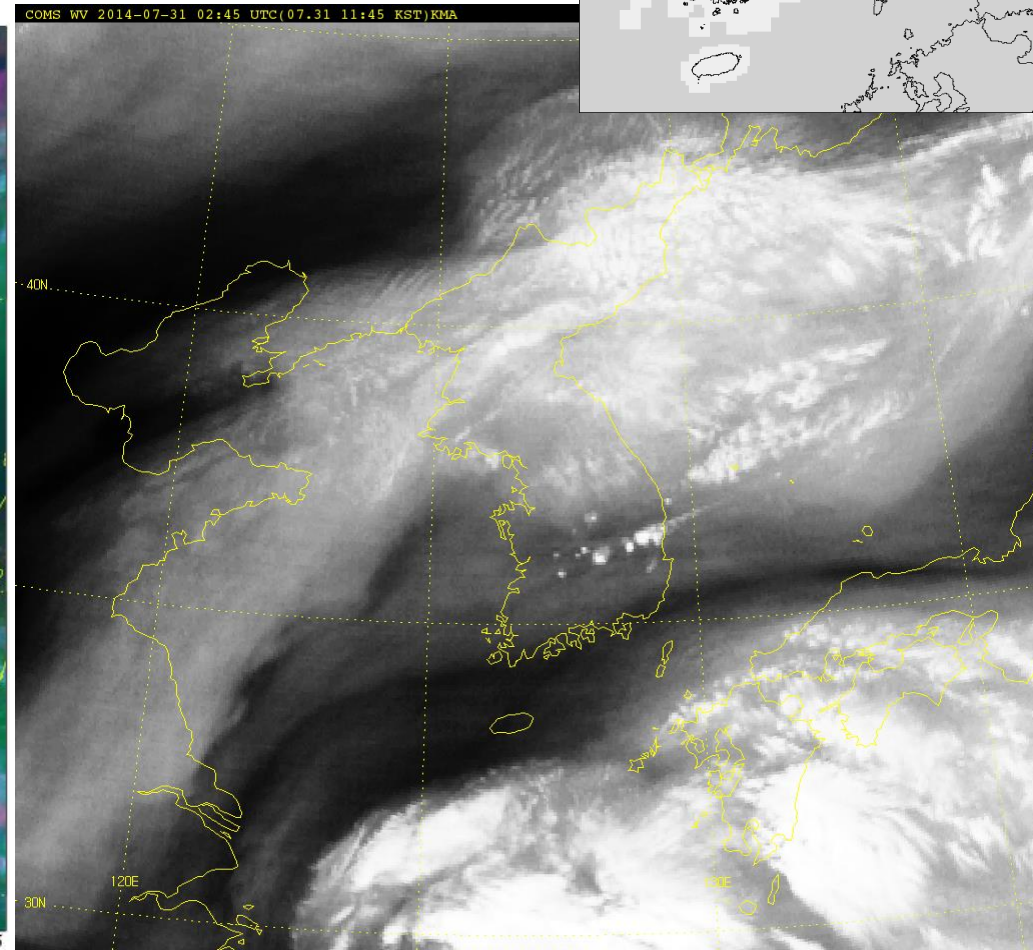
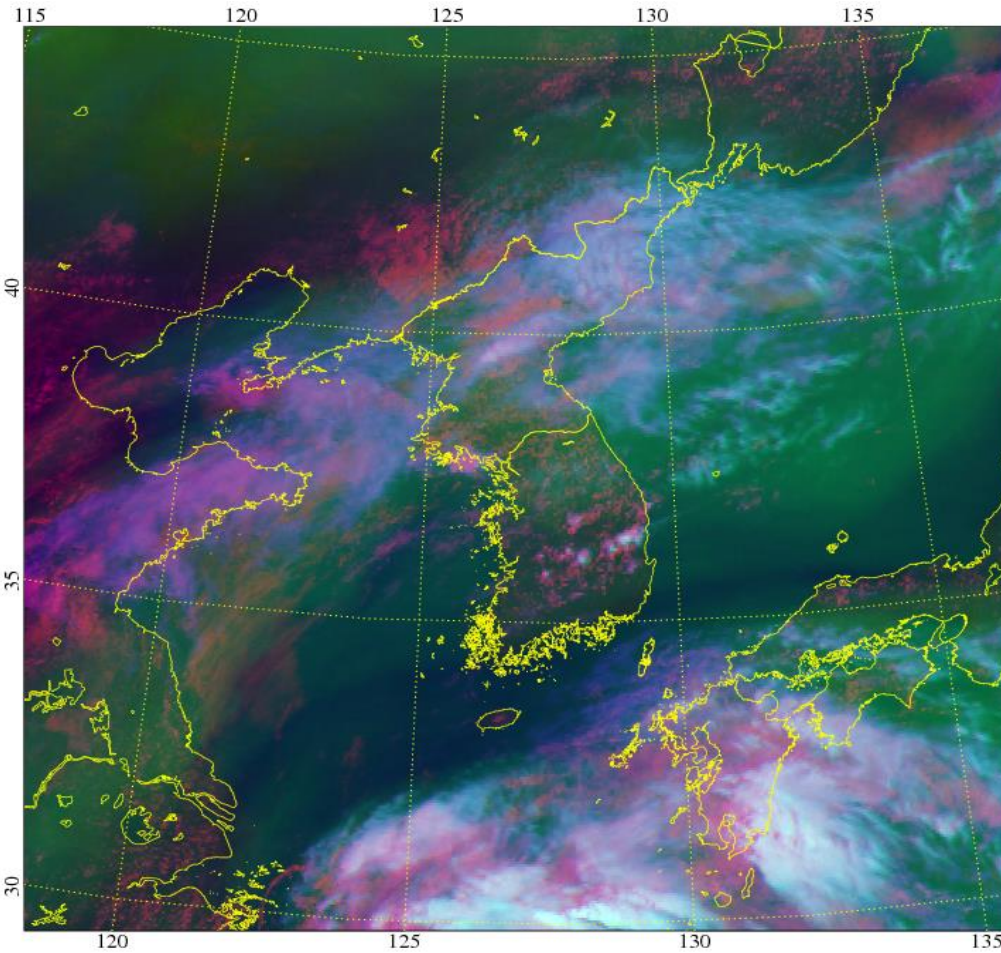
Before the Convective clouds



0145UTC 31st July, 2014

Usage of WV RGBs

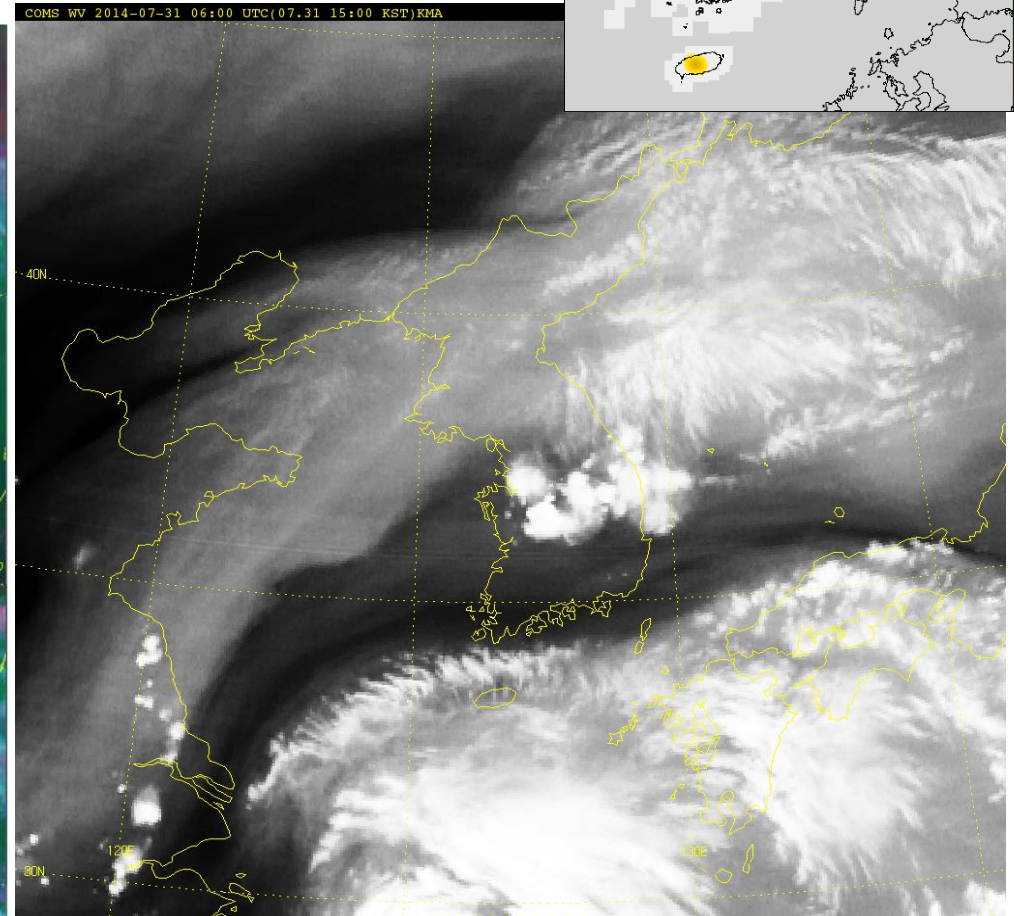
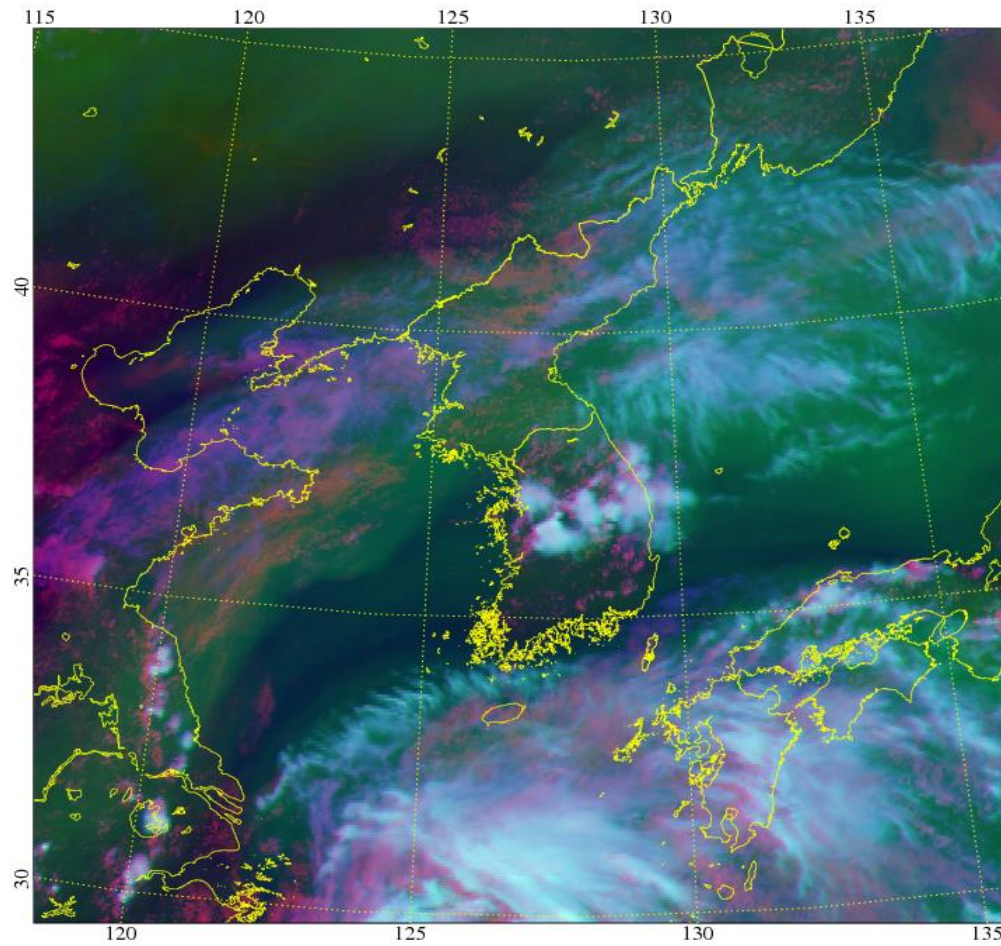
Early stage of Convective clouds



0245UTC 31st July, 2014

Usage of WV RGBs

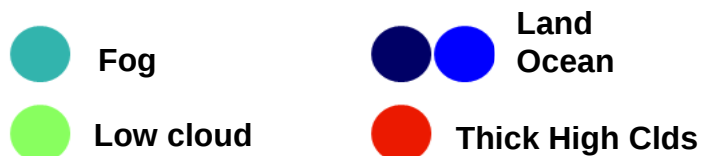
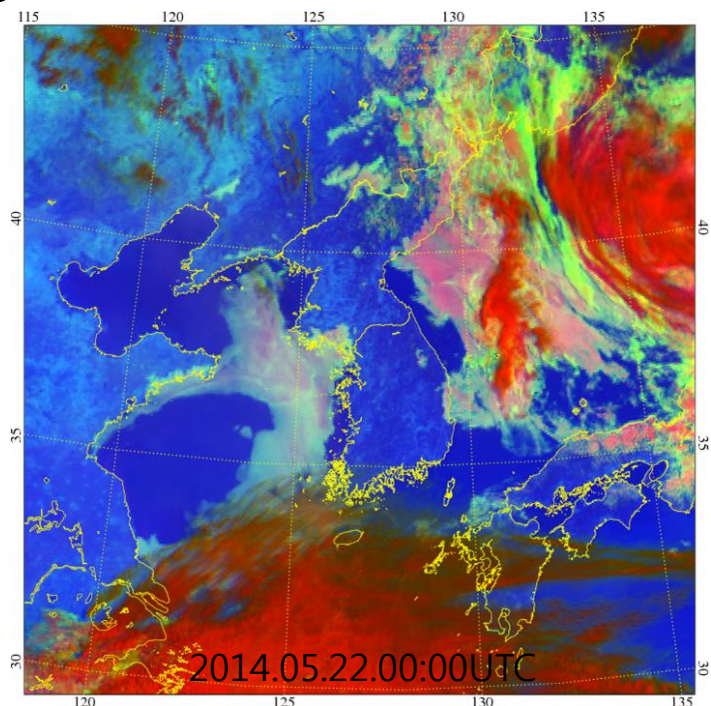
Mature stage of Convective clouds



0600UTC 31st July, 2014

3. Fog RGB from COMS

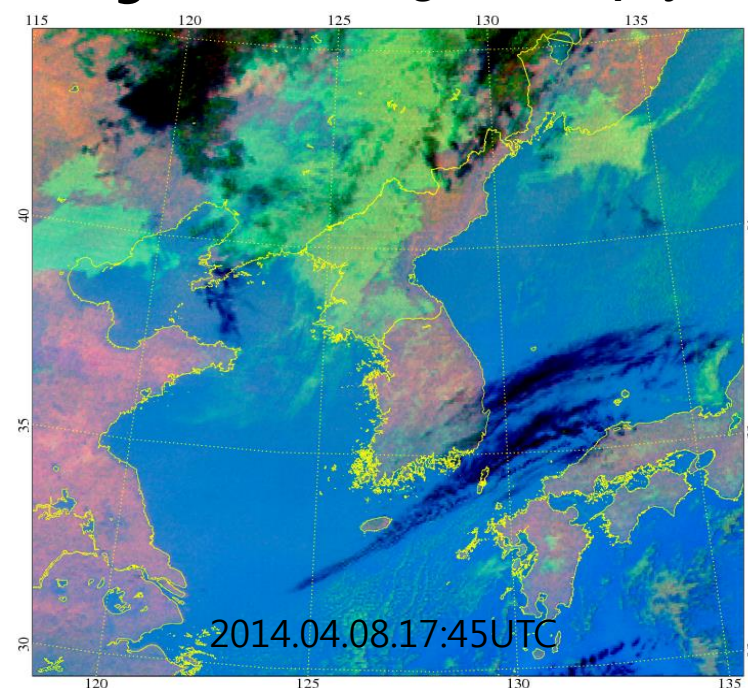
Daytime



	Channels (μm)	Threshold
RED	VIS(0.675)	0~50
GREEN	SWIR(3.7)	0~20
Blue	IR1(10.8)	250~300

Day microphysics RGB use 0.8 μm instead of 0.6 μm

Nighttime (Night Microphysics RGB)



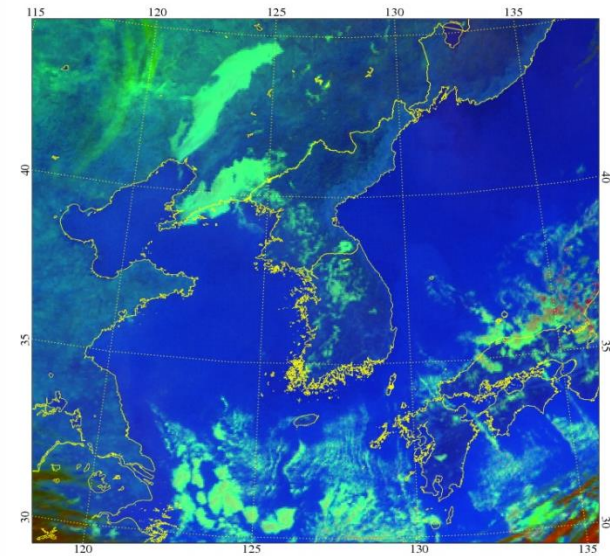
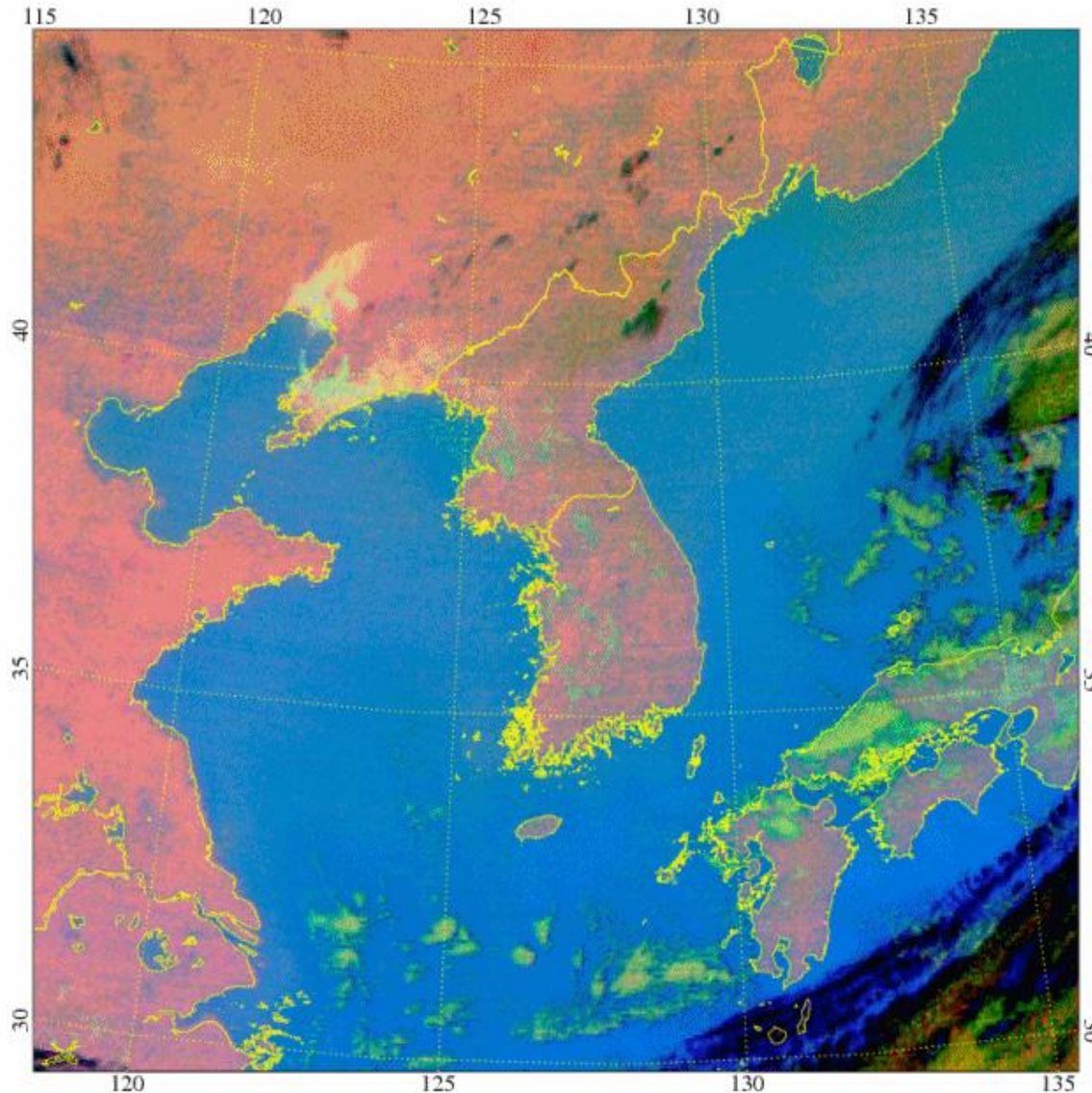
	Channels (μm)	Threshold(K)
RED	IR1(10.8)-IR2(12.0)	-1~1
GREEN	SWIR(3.75)-IR1(10.8)	-8~8
Blue	IR1(10.8)	250~300

Use KMA's own threshold values though SAME recipe 10

Monitoring of Fog areas

00UTC 3rd Nov., 2015

1745UTC, 2nd Nov.~00:45UTC 3rd Nov. 2015



Visibility

