Forecast and Analysis Products

Analyses: Surface, 850, 200
CSU Skew-T, and sounding time-sections

Model: 0.5 deg NCEP GFS
15-km NCAR ARW
3-km NCAR ARW

Model forecast products

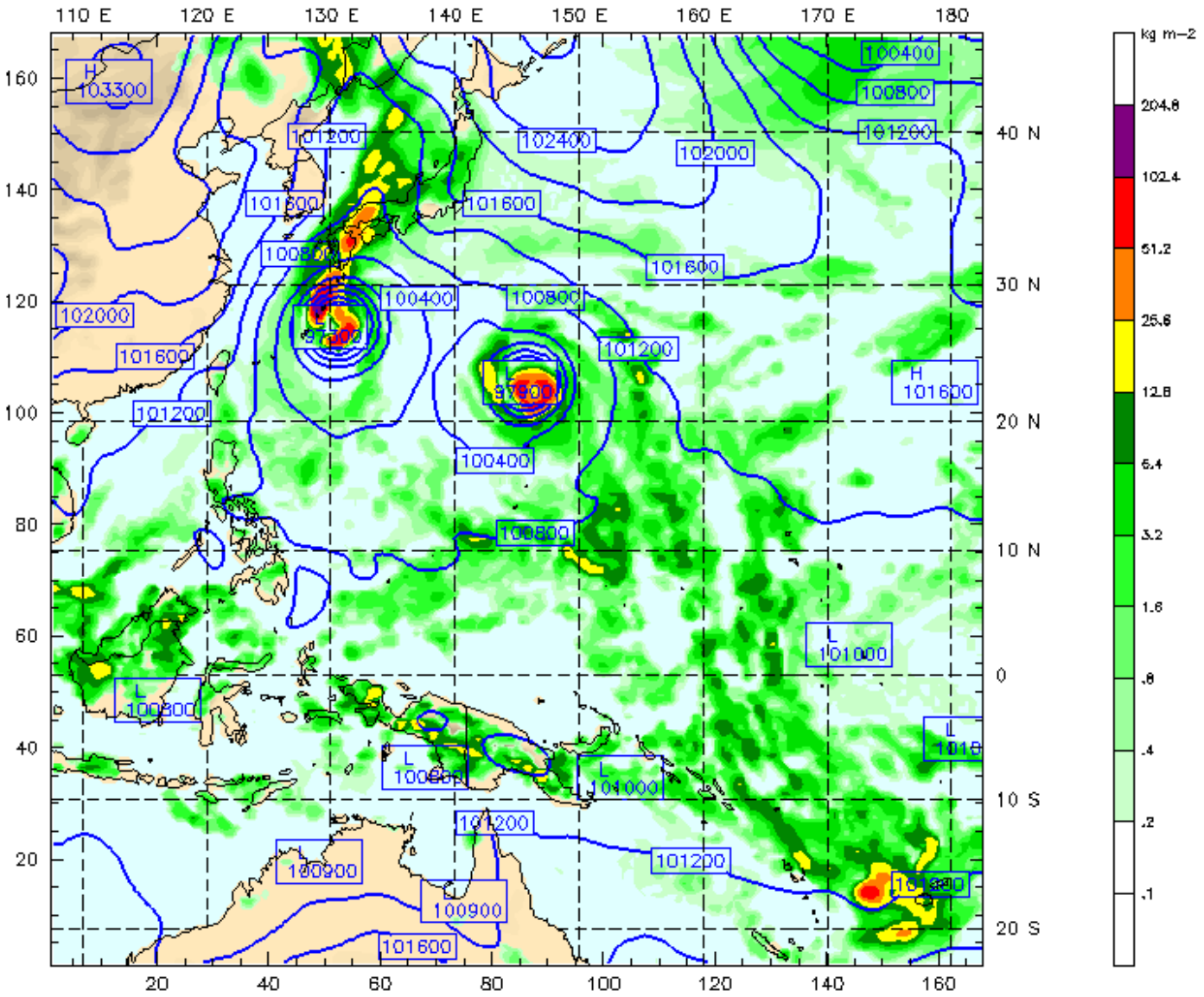
GFS and ARW:

- Standard upper air charts. Including streamlines for the tropics.
- Rainfall plots. (total, convective, grid-resolved)
- Cloud products – high-cloud fraction, integrated cloud, ceiling, cloud top.
- Tropopause temperature and pressure
- Wave-breaking
- PBL height
- Precipitable water

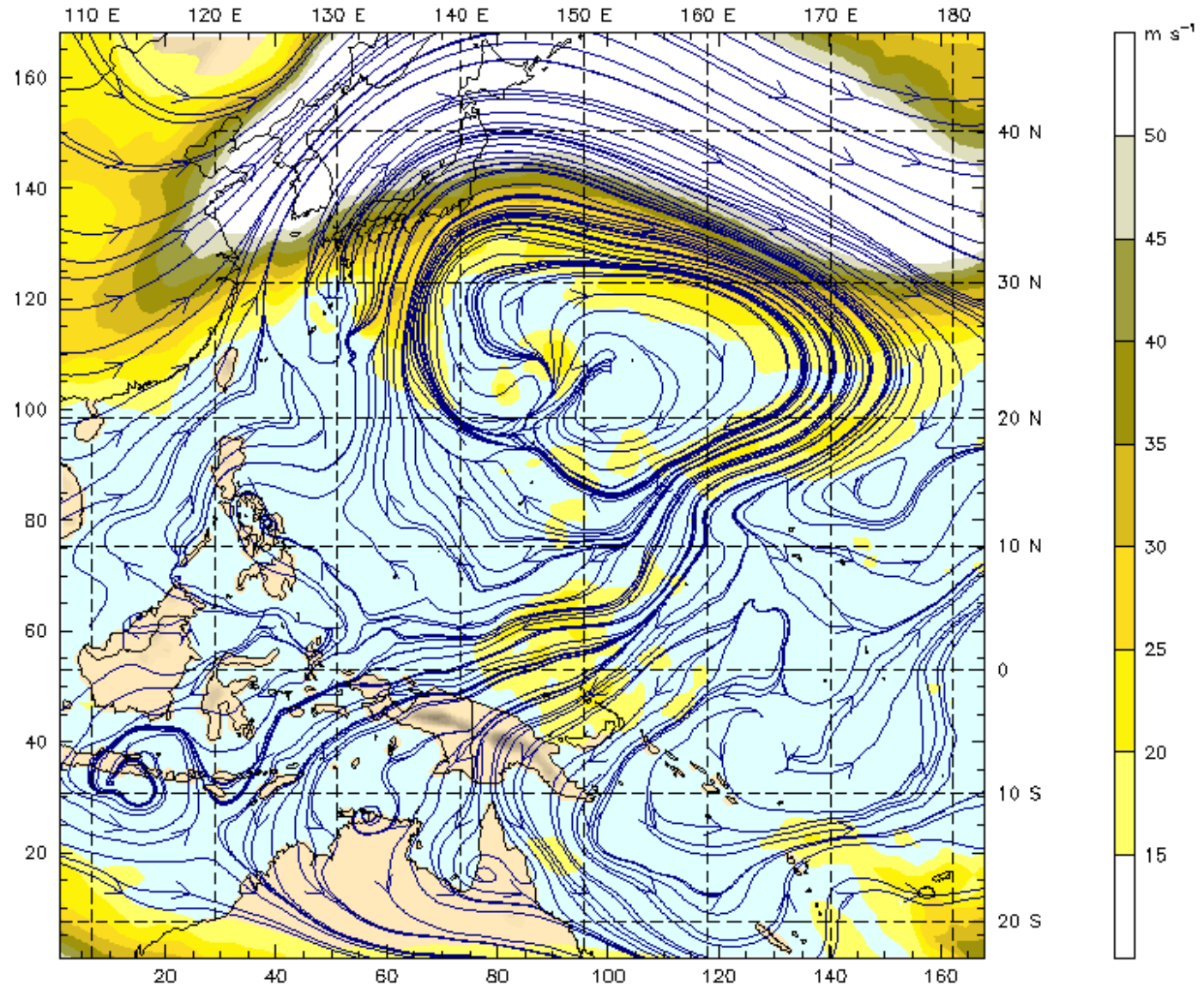
ARW:

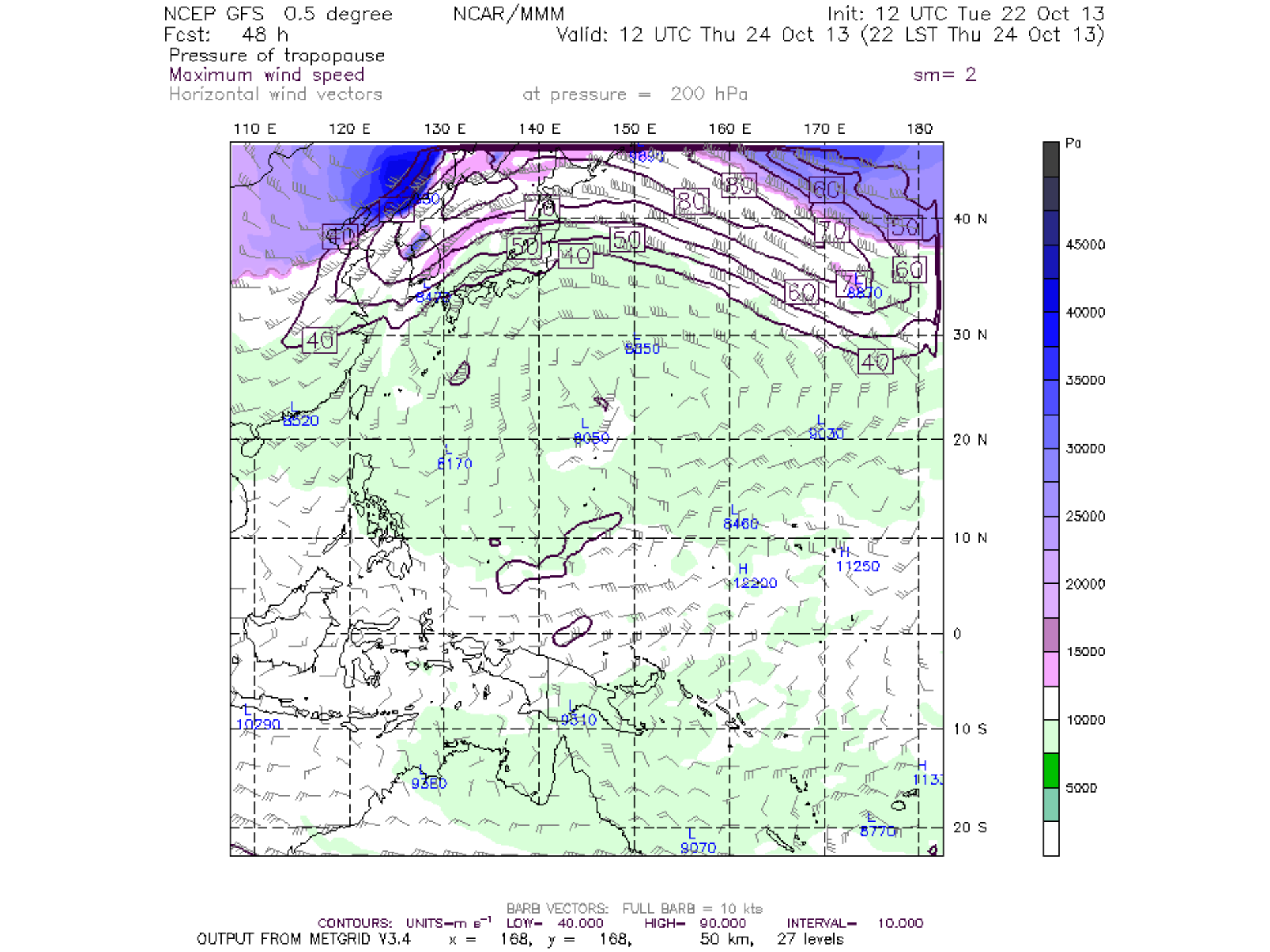
- Max reflectivity and reflectivity altitude
- Tracer plots – PBL and Stratospheric tracers. Age plots.
- Surface latent and sensible heat fluxes
- RH and microphysics cross-sections
- Skew-T plots

NCEP GFS 0.5 degree NCAR/MMM Init: 12 UTC Tue 22 Oct 13
Fcst: 48 h Valid: 12 UTC Thu 24 Oct 13 (22 LST Thu 24 Oct 13)
Total Precipitation
Total Precipitation
Sea-level Pressure

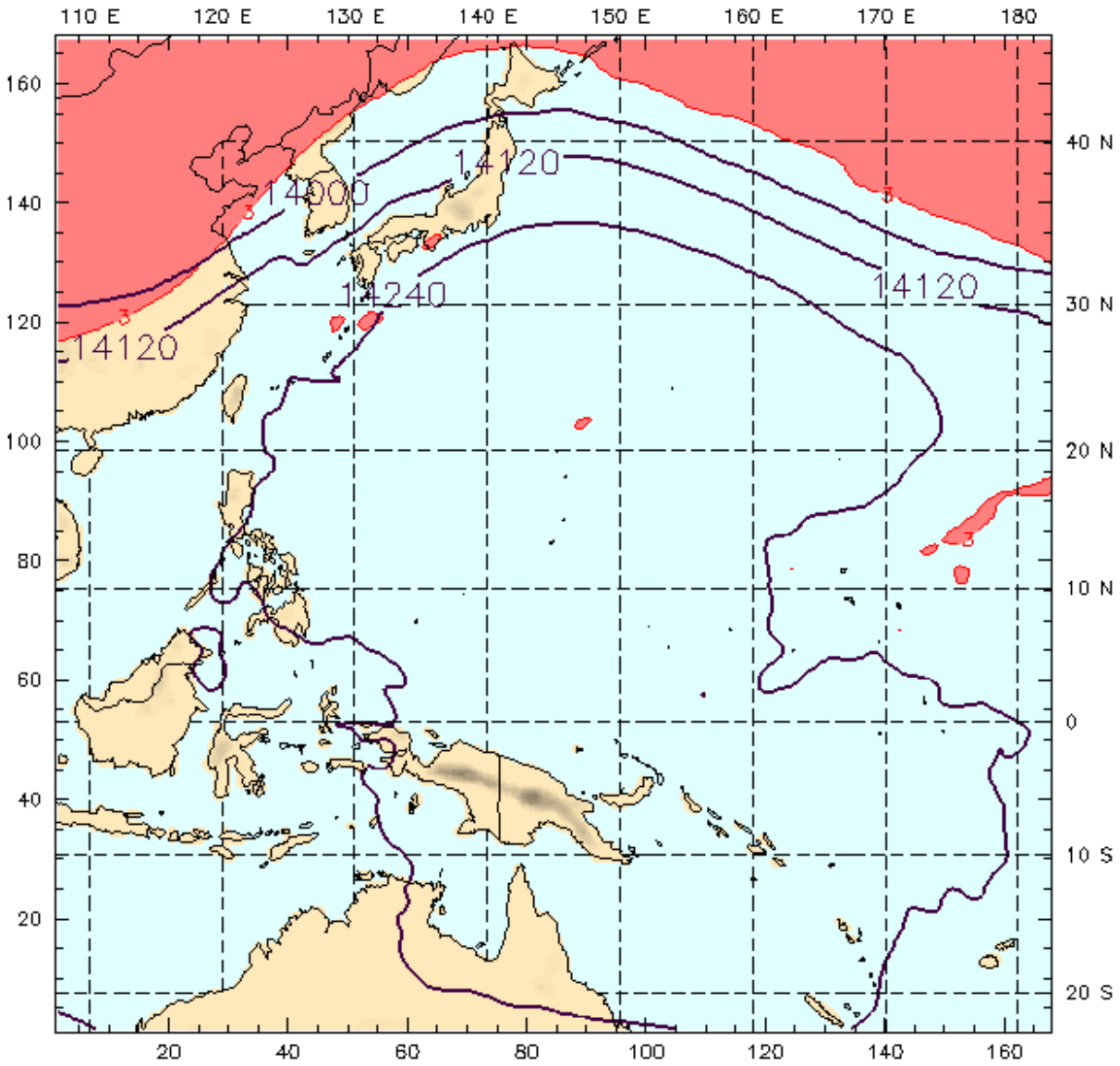


CONTOURS: UNITS=Pa LOW= 97600. HIGH= 0.10320E+06 INTERVAL= 400.00
CONTOURS: UNITS=kg m-2 LOW= 200.00 HIGH= 200.00 INTERVAL=X 2.0000
OUTPUT FROM METGRID V3.4 x = 168, y = 168, 50 km, 27 levels


NCEP GFS 0.5 degree NCAR/MMM Init: 12 UTC Tue 22 Oct 13
Fcst: 48 h Valid: 12 UTC Thu 24 Oct 13 (22 LST Thu 24 Oct 13)
Horizontal wind speed at pressure = 200 hPa sm= 1
Horizontal wind streamlines at pressure = 200 hPa sm= 1
110 E
120 E
130 E
140 E
150 E
160 E
170 E
180
160
140
120
100
80
60
40
20
40 N
30 N
20 N
10 N
0
10 S
20 S
m s-1
50
45
40
35
30
25
20
15
OUTPUT FROM METGRID V3.4 x = 168, y = 168, 50 km, 27 levels


NCEP GFS 0.5 degree
NCAR/MMM
Init: 12 UTC Tue 22 Oct 13
Fcst: 48 h
Valid: 12 UTC Thu 24 Oct 13 (22 LST Thu 24 Oct 13)
Pressure of tropopause
Maximum wind speed
Horizontal wind vectors
at pressure = 200 hPa
sm= 2
110 E
120 E
130 E
140 E
150 E
160 E
170 E
180
40 N
30 N
20 N
10 N
0
10 S
20 S
Pa
45000
40000
35000
30000
25000
20000
15000
10000
5000
L 8520
L 8170
L 8050
L 8460
L 9030
H 12200
H 11250
L 10290
L 9510
L 9370
L 9070
L 8770
BARB VECTORS: FULL BARB = 10 kts
CONTOURS: UNITS=m s-1 LOW= 40.000 HIGH= 90.000 INTERVAL= 10.000
OUTPUT FROM METGRID V3.4 x = 168, y = 168, 50 km, 27 levels

NCEP GFS 0.5 degree NCAR/MMM Init: 12 UTC Tue 22 Oct 13
Fcst: 48 h Valid: 12 UTC Thu 24 Oct 13 (22 LST Thu 24 Oct 13)
Potential vorticity at pressure = 150 hPa



CONTOURS: UNITS=m LOW= 14000. HIGH= 14240. INTERVAL= 120.00
OUTPUT FROM METGRID V3.4 x = 168, y = 168, 50 km, 27 levels

Requested Products for the Field Catalog

- MTSAT images:
  - full-resolution vis images from sub-regions (floater or fixed?)
  - enhanced IR (large domain w/ Indian Ocean and sub-regions)
  - colorized WV
- TMI 3-h rainfall
- MIMIC precipitable water
- CPC MJO phase diagrams, BoM Hovmoller plots
- Lightning plots
- AWC high-level progs
- Polar orbiter images?
- Guam radar images? BREF1, VAD, Echo tops, Long-range BREF

ECMWF data from operational model – available as plots

Analysis 00, 06, 12, 18

Forecast 00,12 –
T+0 to T+144 at 3 hour intervals
T+150 h to T+240 h at 6 hour intervals

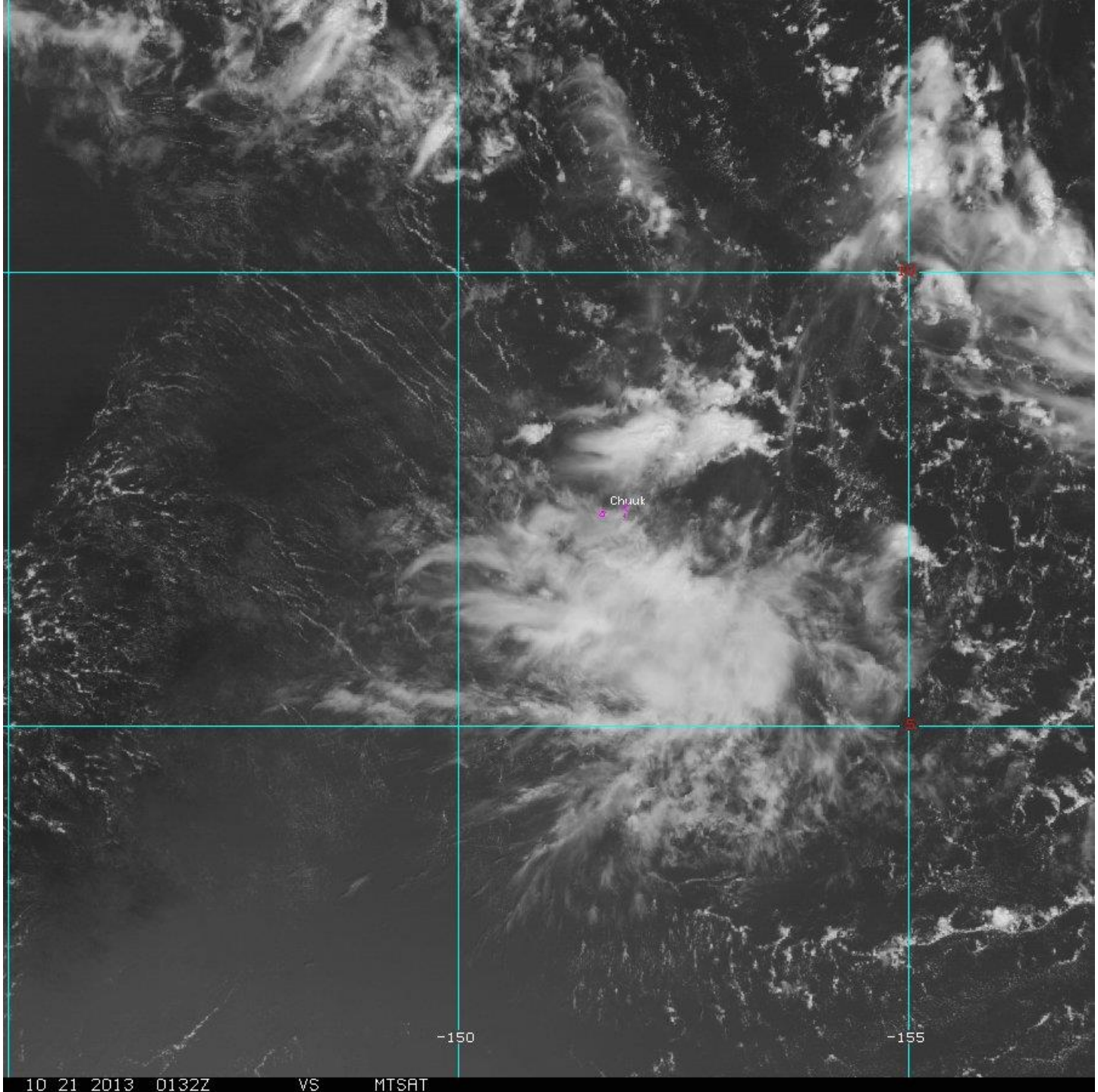
Grid: 0.125° x 0.125°

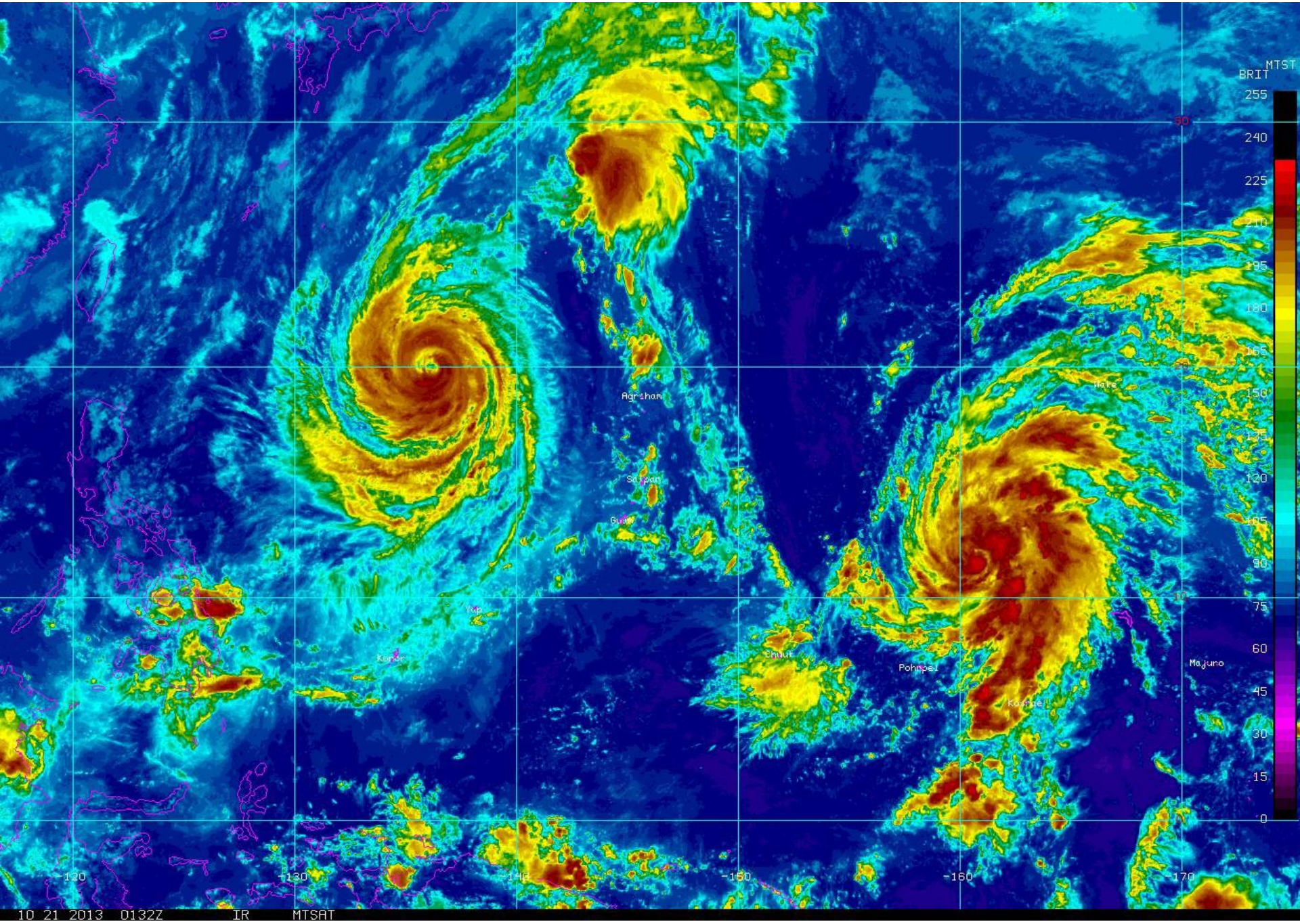
Area: 40°S - 40°N, 120°W - 80°E

Levels: 1000, 850, 700, 500, 300, 350, 200, 150, 100, 70, 50

Parameters: Divergence (D), Geopotential Height (GH), Potential Vorticity (PV), Relative Humidity (R), Specific Humidity (Q), Temperature (T), U-Velocity (U), V-Velocity (V), Vertical Velocity (W), Vorticity, (VO).

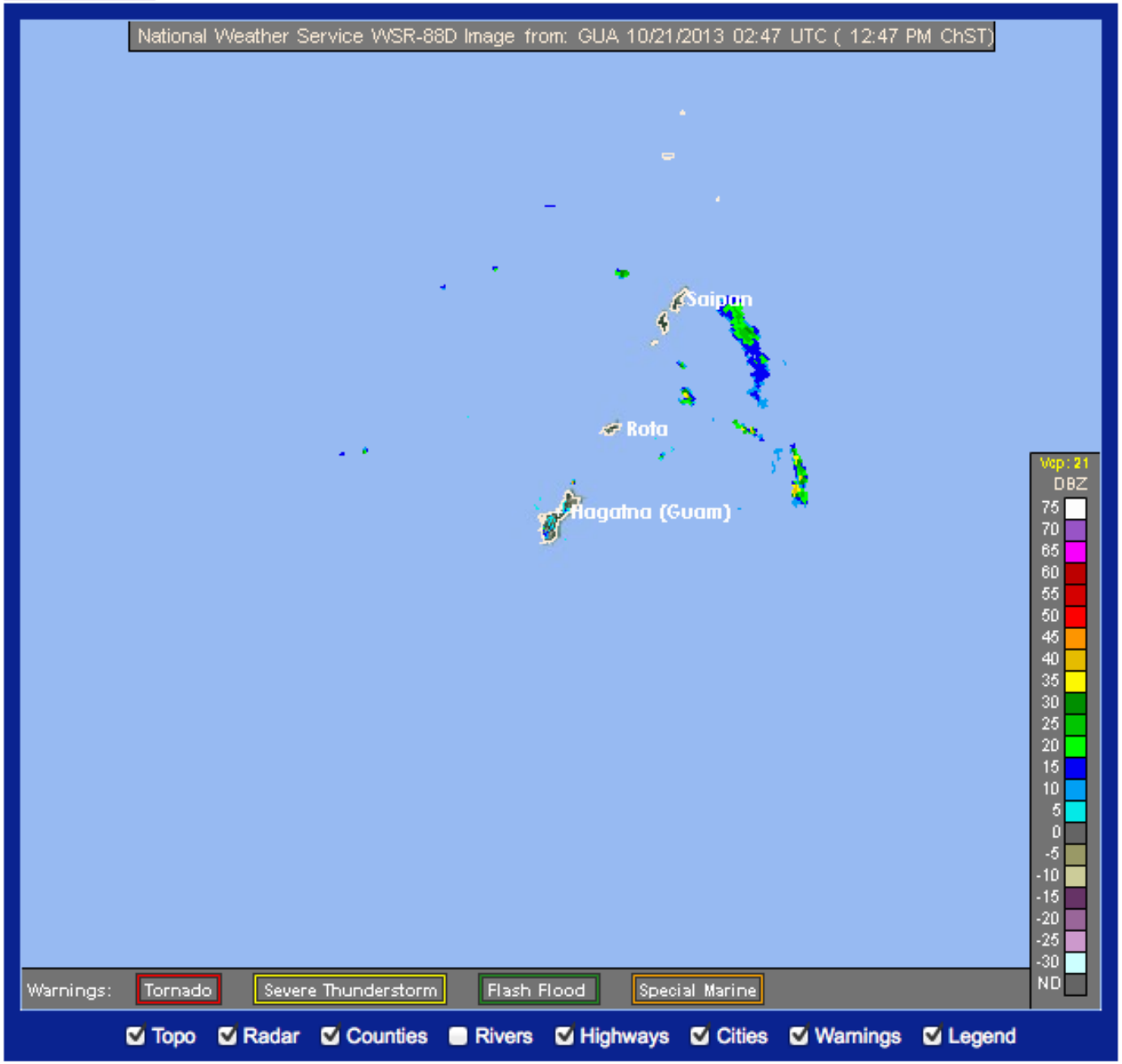
Surface parameters: 10 m U (10U), 10 m V (10V), 2 m dewpoint (2D), 2 m temperature (2T), high cloud cover (HCC), low cloud cover (LCC), mean sea level pressure (MSL), medium cloud cover (MCC), sea surface temperature (SSTK), Boundary Layer Height (BLH)

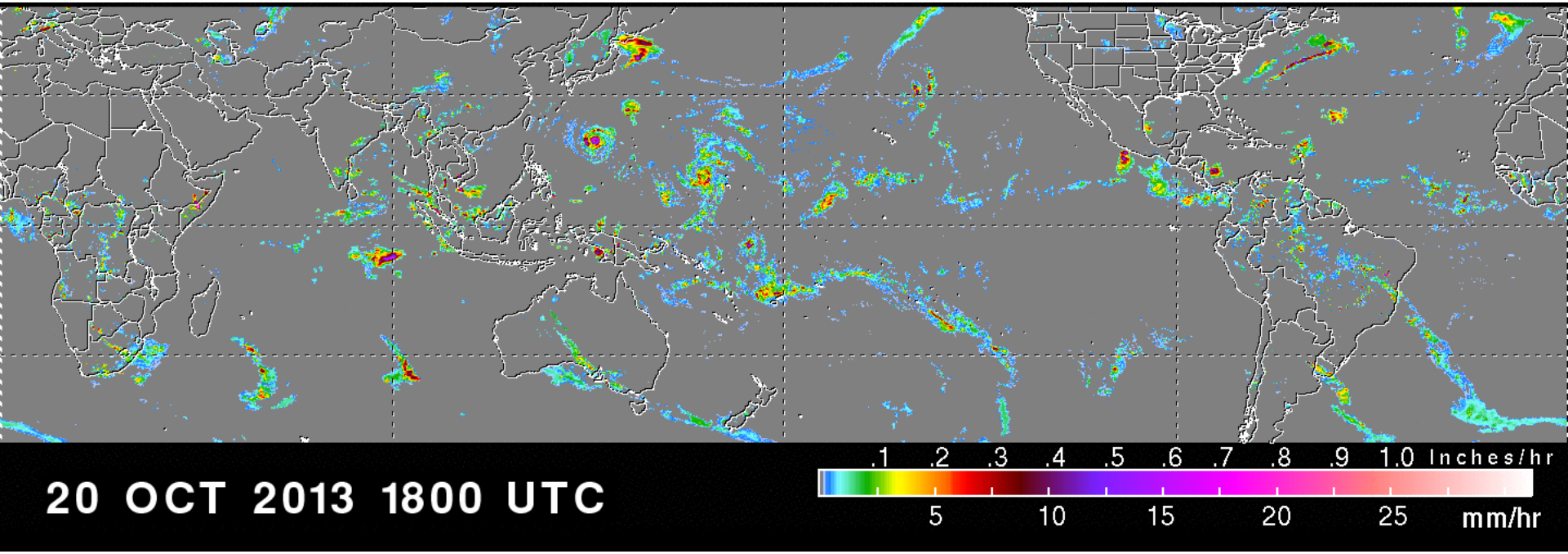

Chuuk
-150
-155
10 21 2013 0132Z VS MTSAT


MTST
BRIT
255
240
225
210
195
180
165
150
135
120
105
90
75
60
45
30
15
0
30
20
10
Agrihan
Saipan
Guam
Yap
Koror
Chuuk
Pohnpei
Kosrae
Majuro
Wake
-120
-130
-140
-150
-160
-170
10 21 2013 0132Z IR MTSAT

Long Range Base Reflectivity

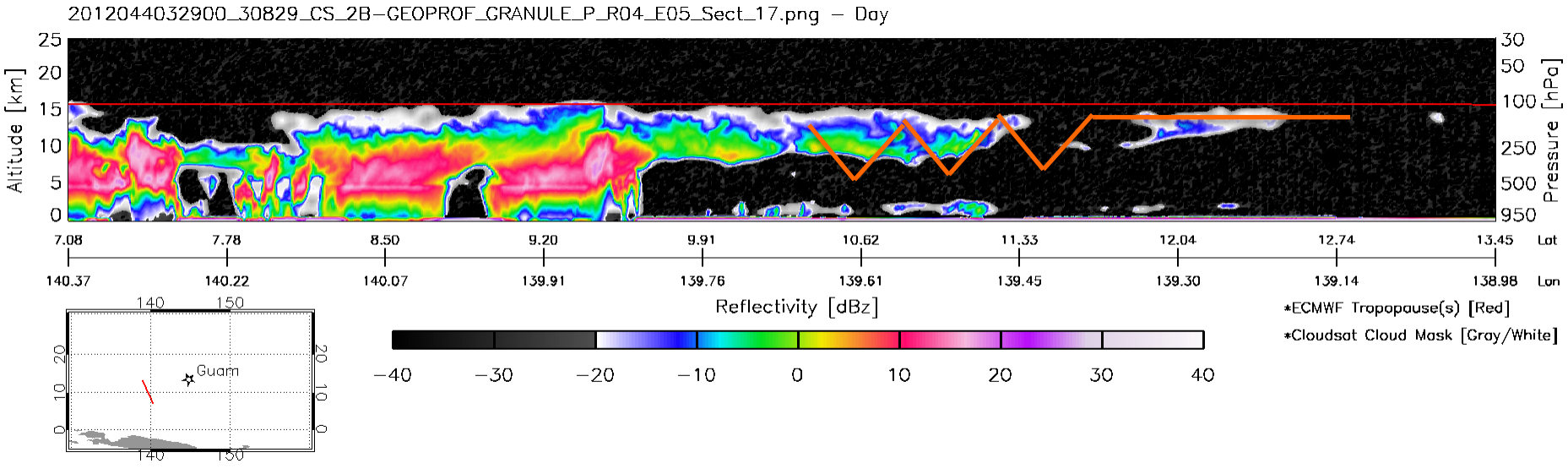
NWS Guam, GU

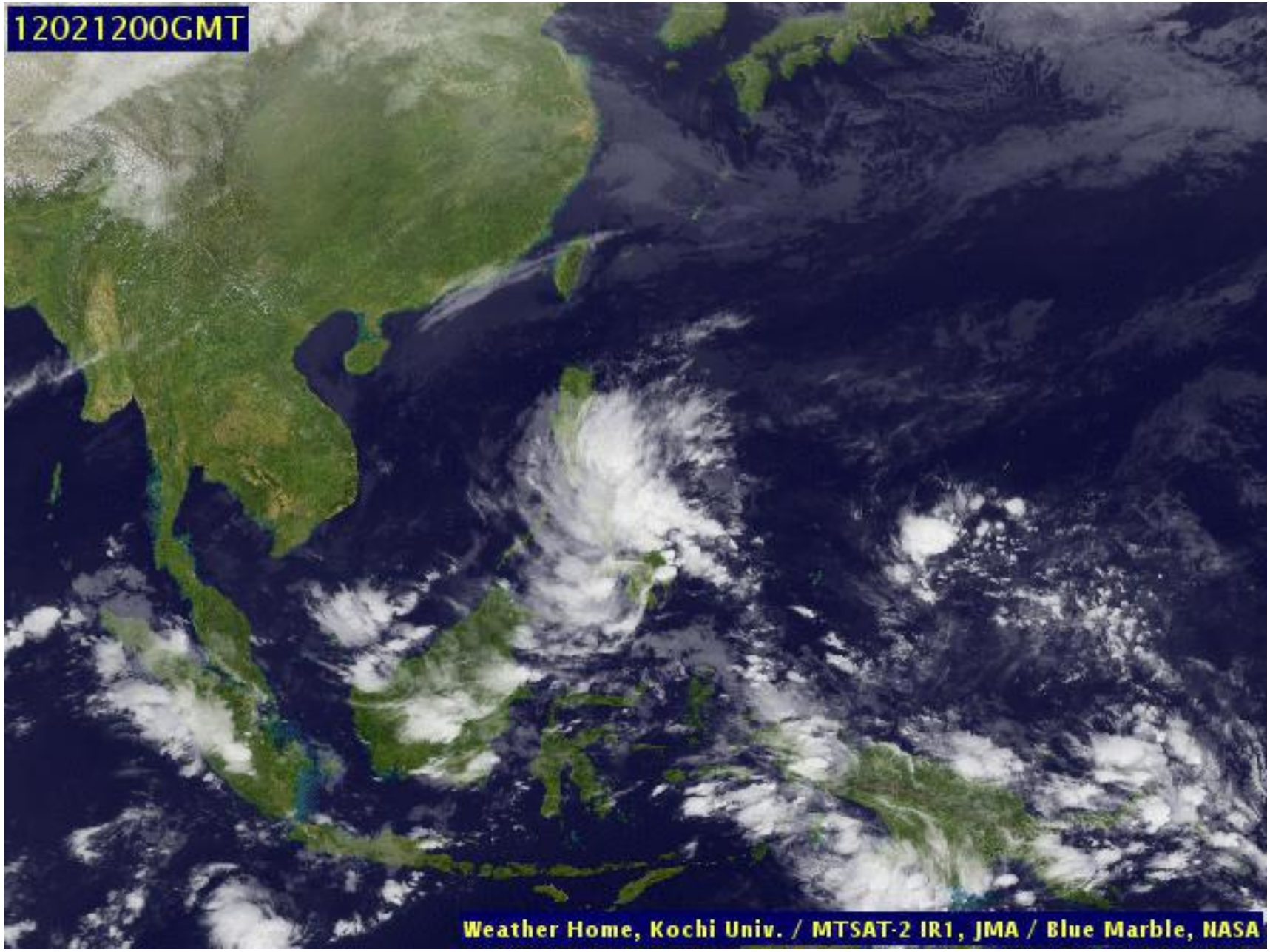




http://pmm.nasa.gov/TRMM/realtime-3hr-7day-rainfall

WRF Forecasting example
12-14 February 2012




12021200GMT
Weather Home, Kochi Univ. / MTSAT-2 IR1, JMA / Blue Marble, NASA