

NASA Langley Satellite Support Cayenne/PR 2015 Campaigns

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NASA Langley Satellite Support Cayenne Campaign

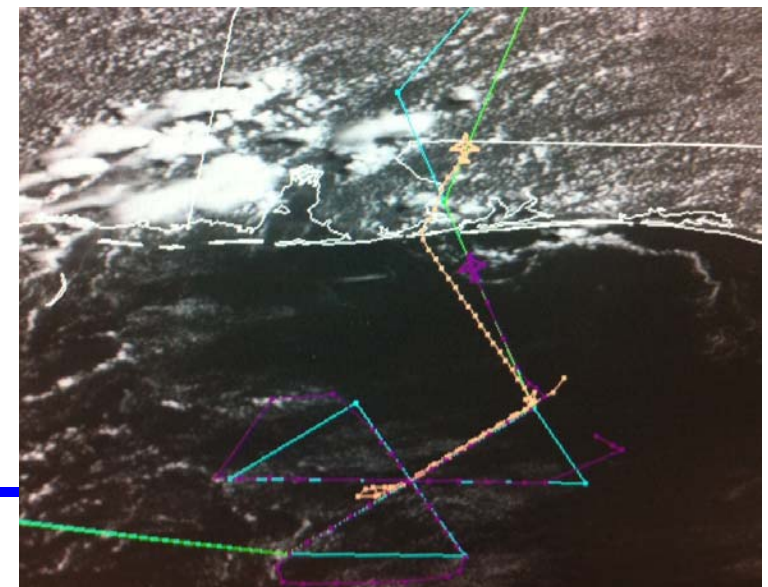
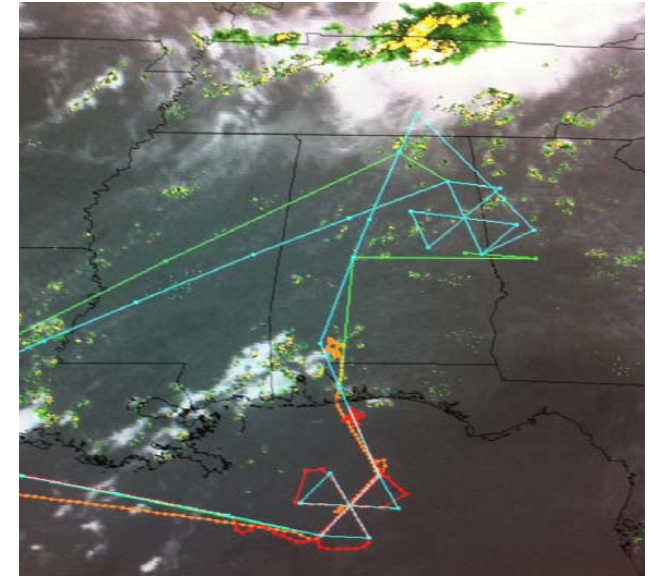
- Satellite support web page/tools for Cayenne
 - Cloud products from GOES and MSG
 - Near real-time GOES and MSG Imagery and Data
 - Aircraft track overlay on satellite imagery
 - Daily flight overlay for mission overview
 - KML for Google Earth and Planet integration
- Provide Archive for satellite data and cloud product



NASA Langley Satellite Support Cayenne Campaign

Onsite Satellite Support*

- Real-time McIDAS Satellite display
- Access to full-res GEO/LEO imagery
- Interactive, enhancement, multi-views
- LaRC Cloud Products, OT, HIWC
- Provides real-time Aircraft Tracking
- Support mission planning and aircraft guidance



**Pending funding
from NASA*



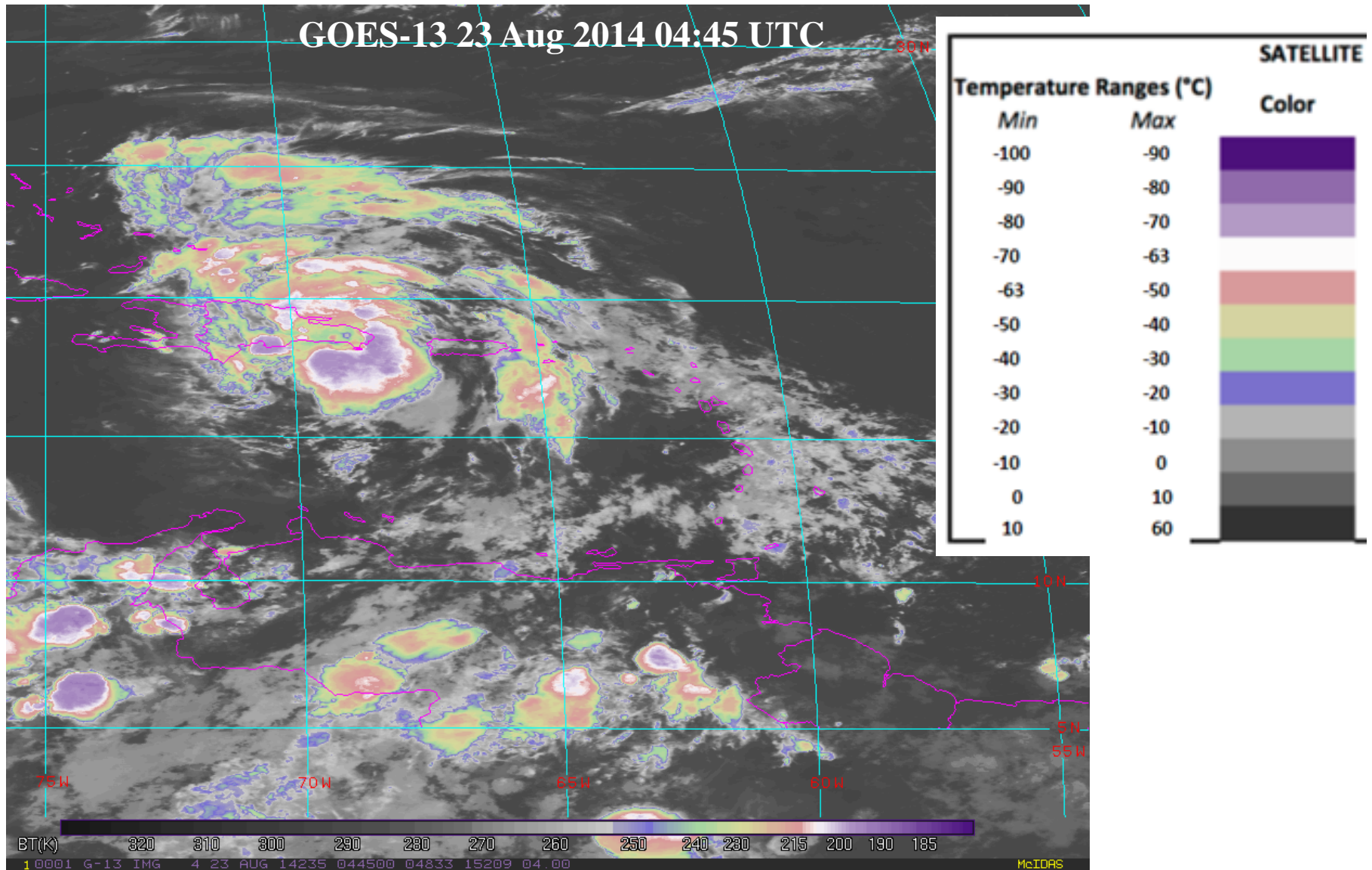
NASA Lan

Current Status

- Completed Color bar enhancement evaluation for IR
- Completed generation of GOES imagery Aug 1-31, 2014
- Real-time GOES retrievals operating
 - Currently producing test data over PR and Cayenne domain (data products and imagery)
- Generation of hi-res and low-res gif imagery
 - For limited bandwidth Internet and for Planet integration
 - Access via Web page or Google Earth
- Cayenne MSG cloud retrievals
 - Satellite imagery is currently available
 - Cloud products coming soon



IR Color Enhancement Imagery



Available dates: http://www-angler.larc.nasa.gov/cgi-bin/site/showdoc?docid=22&lkdomain=Y&domain=FEXP_HIWC2015_SG_P

Access to Real-time Satellite Imagery and Products

Via Web Browser

The screenshot shows the NASA Langley Satellite Product Archive web browser interface. At the top, there is the NASA logo and the text "NATIONAL AERONAUTICS AND SPACE ADMINISTRATION". To the right, there are links for "+ NASA Portal" and "+ Preferences", and a search bar with "Keywords" and a "+ GO" button. Below this, there are navigation tabs: "- Minnis Group Home", "+ HIWC Home Page", "+ Cloud Products", "+ Satellite Imagery", and "+ Viewers / Tools". The main content area is titled "HIWC 2015 - Louis Nguyen - Puerto Rico Satellite Image". It includes a "Domain" dropdown set to "HIWC 2015 Puerto Rico Satellite Imagery", a "Date" selector set to "2015 03 09", and an "Image" dropdown set to "Single Image". There are also "Satellite" and "Image Time" dropdowns set to "GOES-E" and "17:45 UTC", and an "Animate" dropdown set to "Frames". A red alert message states: "Alert: This is a sample domain created for Louis demonstration purposes. Viewing 1745 UTC C4RC image." Below the form is a large satellite image of Puerto Rico showing cloud-top heights in a color scale from black to red.

Google Earth

The screenshot shows Google Earth displaying a satellite image of Puerto Rico. The image is overlaid with a color scale representing cloud-top heights, ranging from 0 km (black) to >18 km (red). The scale is labeled "G13 CLOUD-TOP HEIGHT" and "MAR 09, 2015 16:45Z NASA LARC". Below the scale, there is text: "US Dept of State Geographer", "© 2015 Google", "Image Landsat", "Data SIO, NOAA, U.S. Navy, NGA, GEBCO", and "Google earth". At the bottom, there is a "Tour Guide" section showing coordinates: "3 2°10'49.36" N 61°23'11.41" W elev 444 m eye alt 4173.43 km".



Real-time Imagery and Cloud Products Support for Cayenne

- + NASA Home
- + NASA LaRC Home
- + Science Directorate
- + Minnis Group Home

High Ice Water Content (HIWC)

+ High Ice Water Content (HIWC) Research Official Home

Cloud Products

- + Darwin MT2
- + RapidScan MTSAT-1R
- + GOES-13
- + GOES-13 Cayenne

Satellite Imagery

- + G13 Costa Rica
- + Darwin MTS1
- + GOES-13 PR
- + GOES-13 Cayenne

+ MSG Cayenne

Flight Track Overlay

- + Falcon - Sat Imagery
- + Falcon - Product Imagery

GOES-13 IR

NASA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

+ NASA Portal + Preferences

Search: Keywords + GO

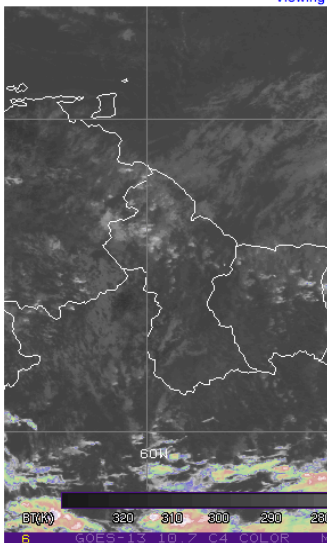
- Minnis Group Home + HIWC Home Page + Cloud Products + Satellite Imagery + Viewers / Tools

HIWC 2015 GOES-13 Cayenne

Domain: HIWC 2015 GOES-13 Cayenne

Date: 2015 03 09

Image: Single Image -----



GOES-13 Cld Top

NASA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

+ NASA Portal + Preferences

Search: Keywords + GO

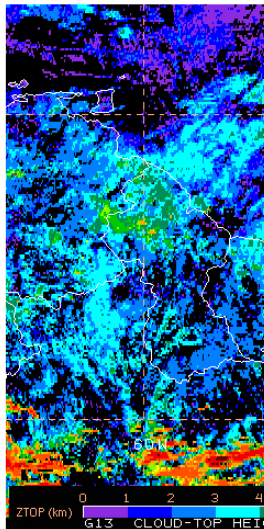
- Minnis Group Home + HIWC Home Page + Cloud Products + Satellite Imagery + Viewers / Tools

VISST Cloud Product Page

Domain: HIWC 2015 GOES-13 Cloud Products Cayenne

Date: 2015 03 09

Image: Cloud Top Height



9 Mar 2015 18:45 UTC

Meteosat-10 IR

NASA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

+ NASA Portal + Preferences

Search: Keywords + GO

Home Cloud Products Satellite Imagery Field Experiments References Options

VISST Cloud Product Page

Domain: HIWC 2015 MSG Satellite Imagery over Cayenne

Date: 2015 03 09

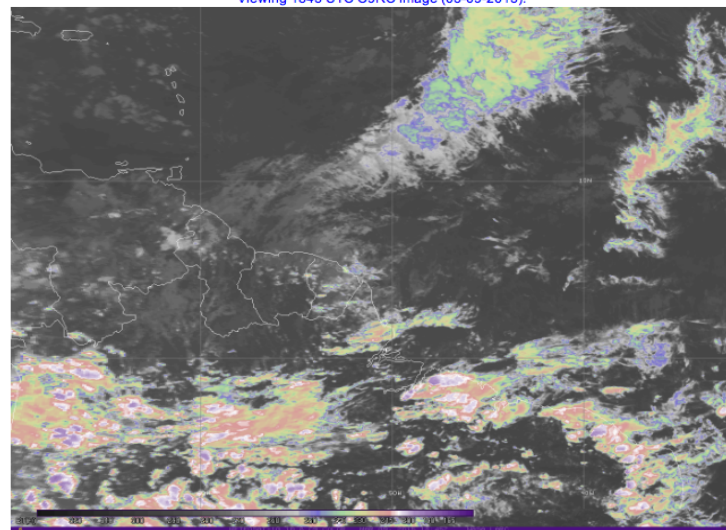
Image: 11µm Color

Satellite: Meteosat-10 (MSG)

Image Time: 18:45 UTC

Animate: Frames ---

Viewing 1845 UTC C9RC image (03-09-2015).



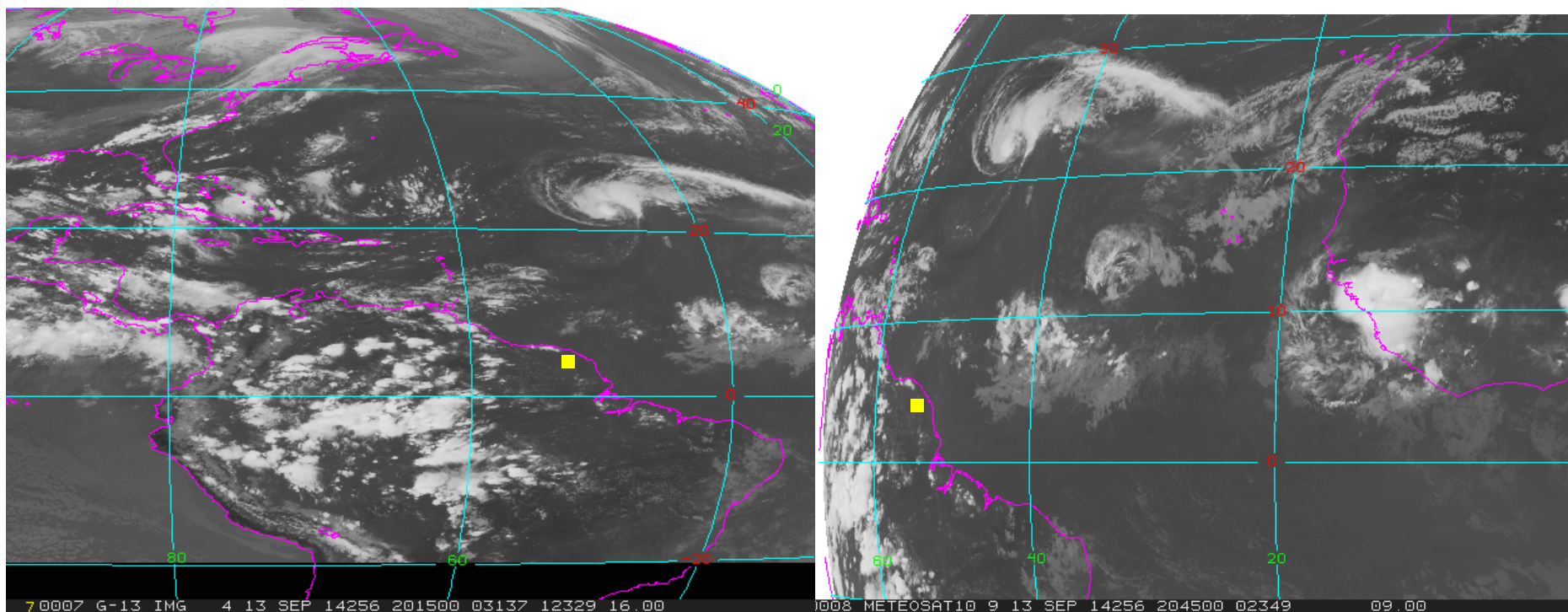
Satellite Coverage over French Guiana

GOES-East (-13)

- NH Scan Sector, 20S
- 30 min coverage at xx:15, xx:45
- vza = 26 deg
- latency ~1 min

Meteosat-10

- FD Scan
- 15 min coverage
- vza = 61 deg
- latency ~2-3 min

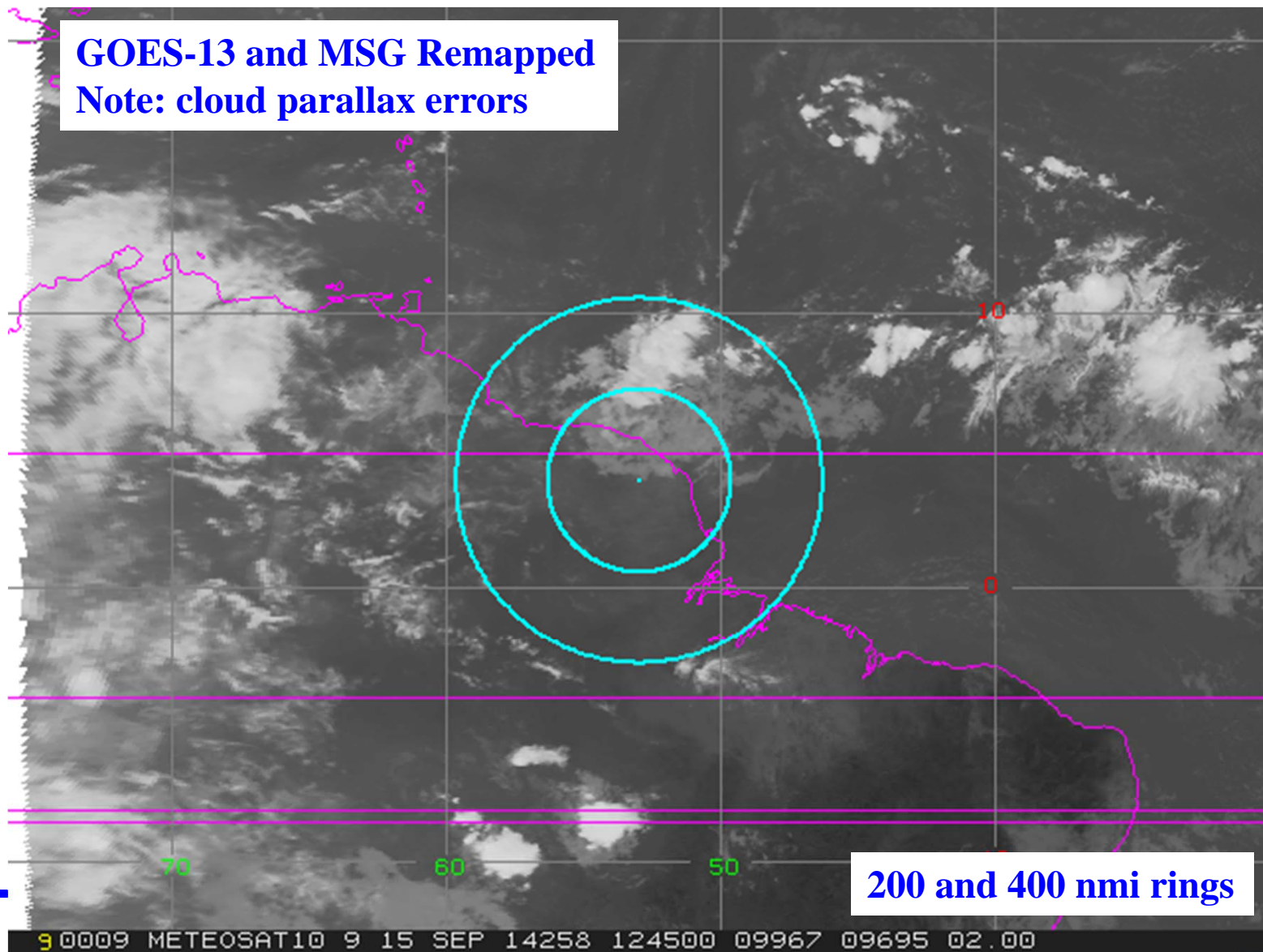


■ **French Guiana**



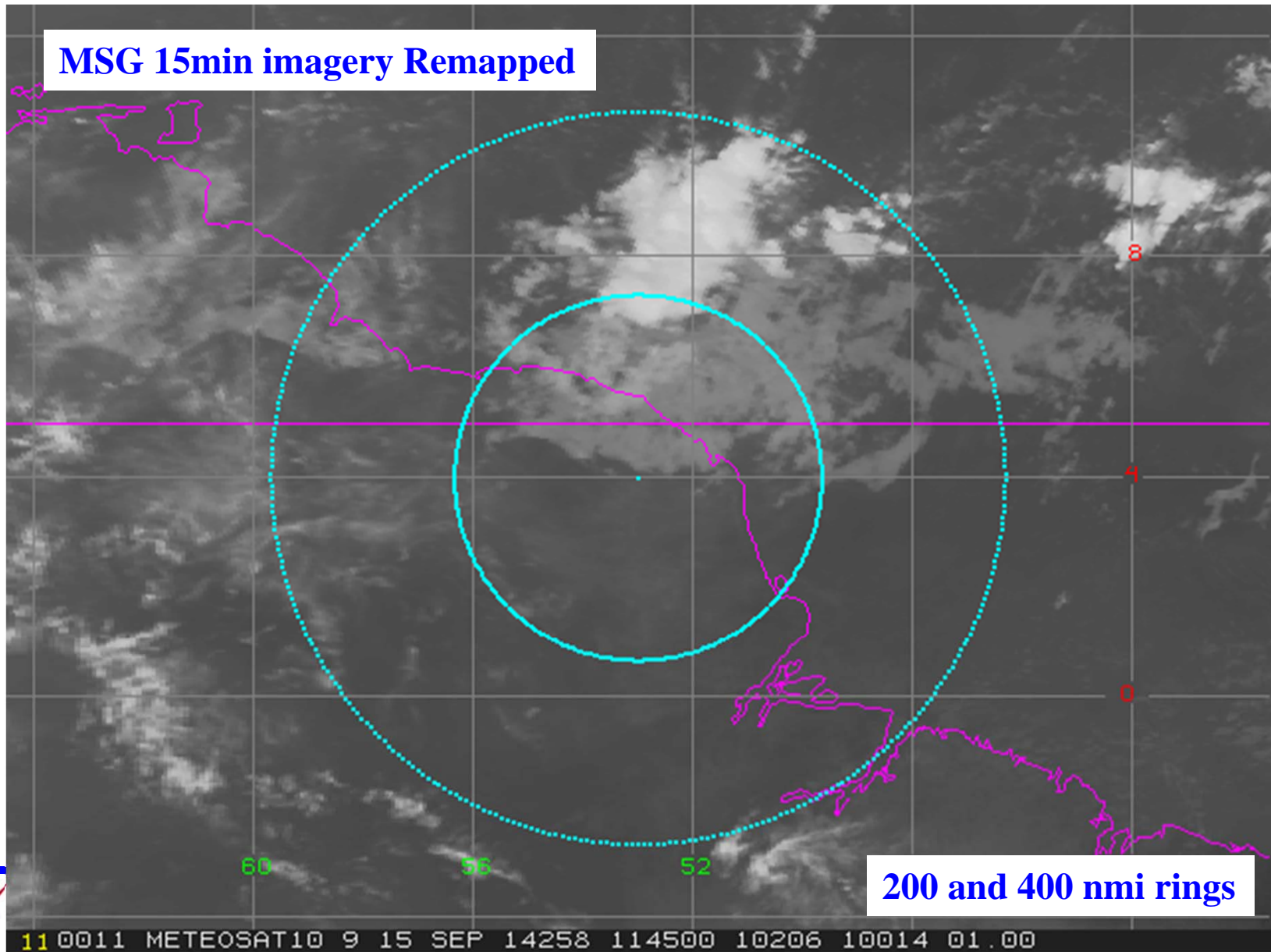
Satellite Coverage over French Guiana

GOES-13 and MSG Remapped
Note: cloud parallax errors



Satellite Coverage over French Guiana

MSG 15min imagery Remapped



200 and 400 nmi rings



Summary

- Cayenne and PR Campaigns
 - Real-time Imagery available for both GOES and MSG
 - Real-time GOES Cloud products now available
- GOES & MSG Google Earth files for Planet integration
 - <http://www-angler.larc.nasa.gov/prod/exp/hiwc/Cayenne/kml>
- Satellite support website for Cayenne: <http://www-angler.larc.nasa.gov/HIWC>
- Main Website: www-pm.larc.nasa.gov

