

Presented by

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HAIC-HIWC flight campaign Cayenne 2015

Forecasting and Nowcasting

HAIC/HIWC Cayenne Field Campaign

Forecasting and Nowcasting

- Forecasting & Nowcasting

- ▶ MET-FR support on site:

- HAIC official request distributed on 30/01/2015
- **Confirmation received from Meteo-France = 1 dedicated forecaster for the whole campaign**

- ▶ Other forecasters support from HIWC:

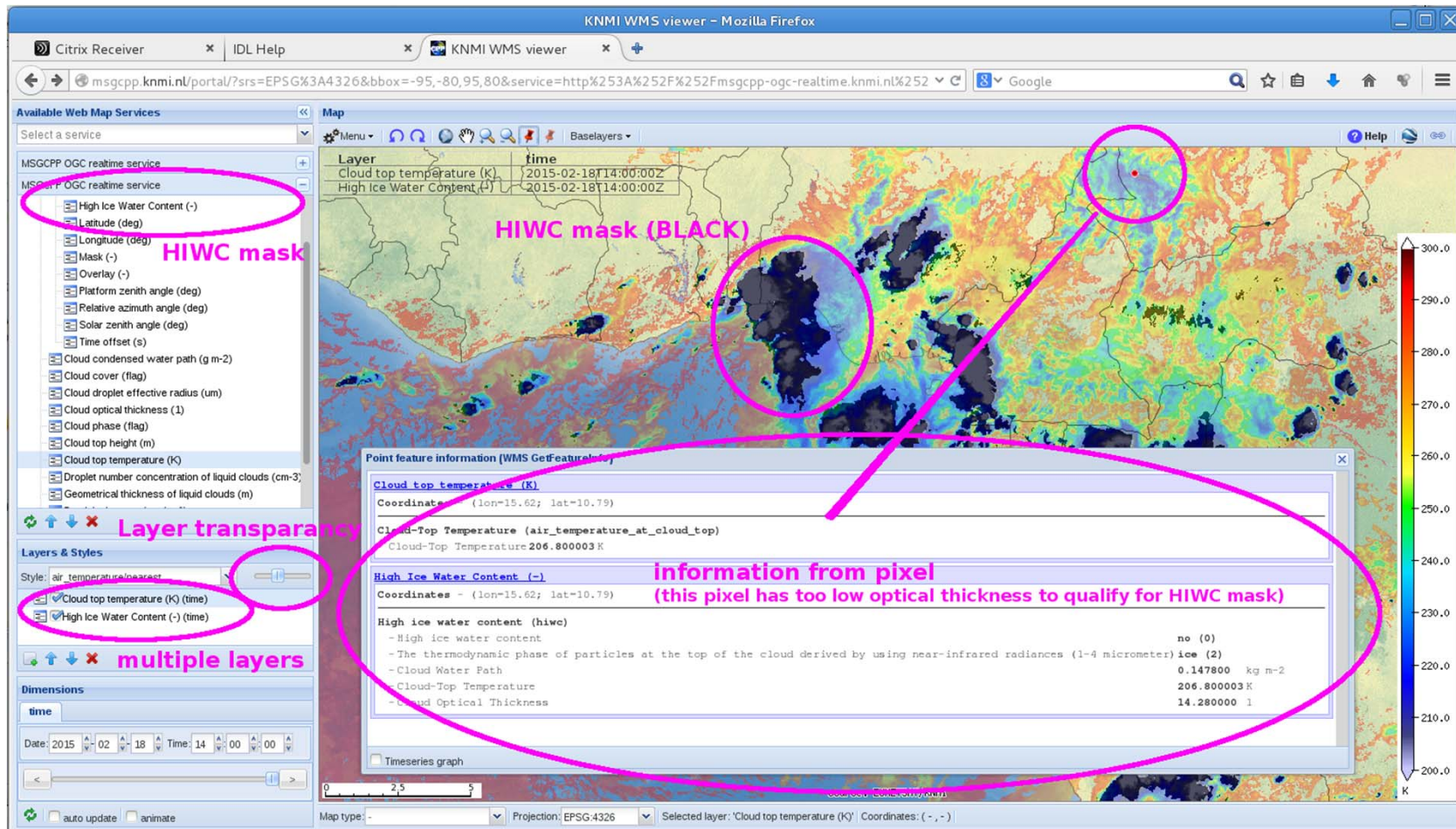
- Boeing (OK for 3 weeks, schedule TBD),
- Pat King (OK)
- BOM (OK)

HAIC/HIWC Cayenne Field Campaign Forecasting and Nowcasting

- Nowcasting

KNMI High IWC Mask

[Link](#)



HAIC/HiWC Cayenne Field Campaign Forecasting and Nowcasting

- Nowcasting

Meteo-France RDT Product

[Link](#)

The screenshot displays the 'Automatic Monitoring of Convective Systems' interface from Meteo-France. The main window shows a radar map of a convective system over Cayenne, dated 03 March 2015 at 19:37 UTC. A blue arrow points from a specific area on the radar map to a detailed data panel on the right. This panel contains three time-series plots:

- Time series of lightning strokes / 20mm**: A bar chart showing the number of lightning strokes per 20mm. The y-axis ranges from 0 to 0.5. The x-axis shows time from -8 to 0. The legend indicates: - strokes / + strokes / strokes or IC.
- Time series of area (1000 km2)**: A line graph showing the area of convective systems in 1000 km². The y-axis ranges from 0 to 340. The x-axis shows time from -8 to 0. The legend indicates: T <= -60°C, T <= -50°C, T <= -40°C, T <= -30°C, T <= -50°C.
- Time series of temperature**: A line graph showing temperature in degrees Celsius. The y-axis ranges from -80 to -40. The x-axis shows time from -8 to 0. The legend indicates: Minimum temp. (blue line), Threshold temp. (red line).

On the left, a smaller browser window shows the 'HAIC (High Altitude Ice Crystal) project' page, which includes the text: 'XPSP3 Cayenne experiment The RDT product (Rapid Developing Thunderstorm)' and an 'Archive of daily RDT production' with links for Tuesday 03 March 2015 and Wednesday 04 March 2015.

At the bottom of the main interface, it says 'Applet imap started'.

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HAIC/HIWC Cayenne Field Campaign

Forecasting and Nowcasting

- Nowcasting tools in PLANET

Weather Polygons Object Products

- KNMI High IWC Mask

- ▶ File size < 20 Kb (only reduced area)
- ▶ Product frequency = 15 minutes.
- ▶ Total delay between the observation and the display in the cockpit = ~ 20 min.

(10 min TBC for scan and data transfer to the data center, 8 min TBC for data process, and 2 min for data transfer to the aircraft).

- Meteo-France RDT

- ▶ File size < 20 Kb (only reduced area)
- ▶ Product frequency = 15 minutes.
- ▶ Total delay between the observation and the display in the cockpit = ~ 22 min.

(10 min TBC for scan and data transfer to the data center, 10 min TBC for data process, and 2 min for data transfer to the aircraft).

HAIC/HIWC Cayenne Field Campaign Forecasting and Nowcasting

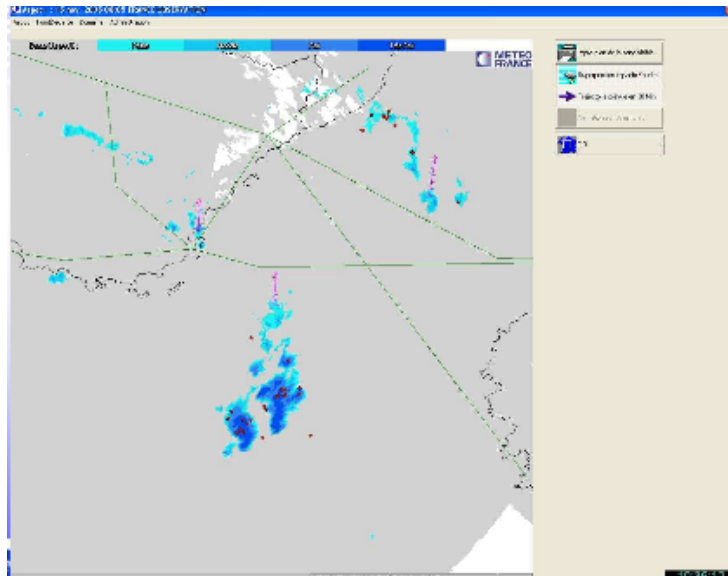
- Nowcasting tools in PLANET (cont'd)

Weather Polygons Object Products

- Meteo-France ASPOC 3D Product

- ▶ File size < 20 Kb (only reduced area)
- ▶ Product frequency = 5 minutes.
- ▶ Total delay between the observation and the display in the cockpit = ~ 10 min.

(2 min TBC for scan and data transfer to the data center, 6 min TBC for data process, and 2 min for data transfer to the aircraft).

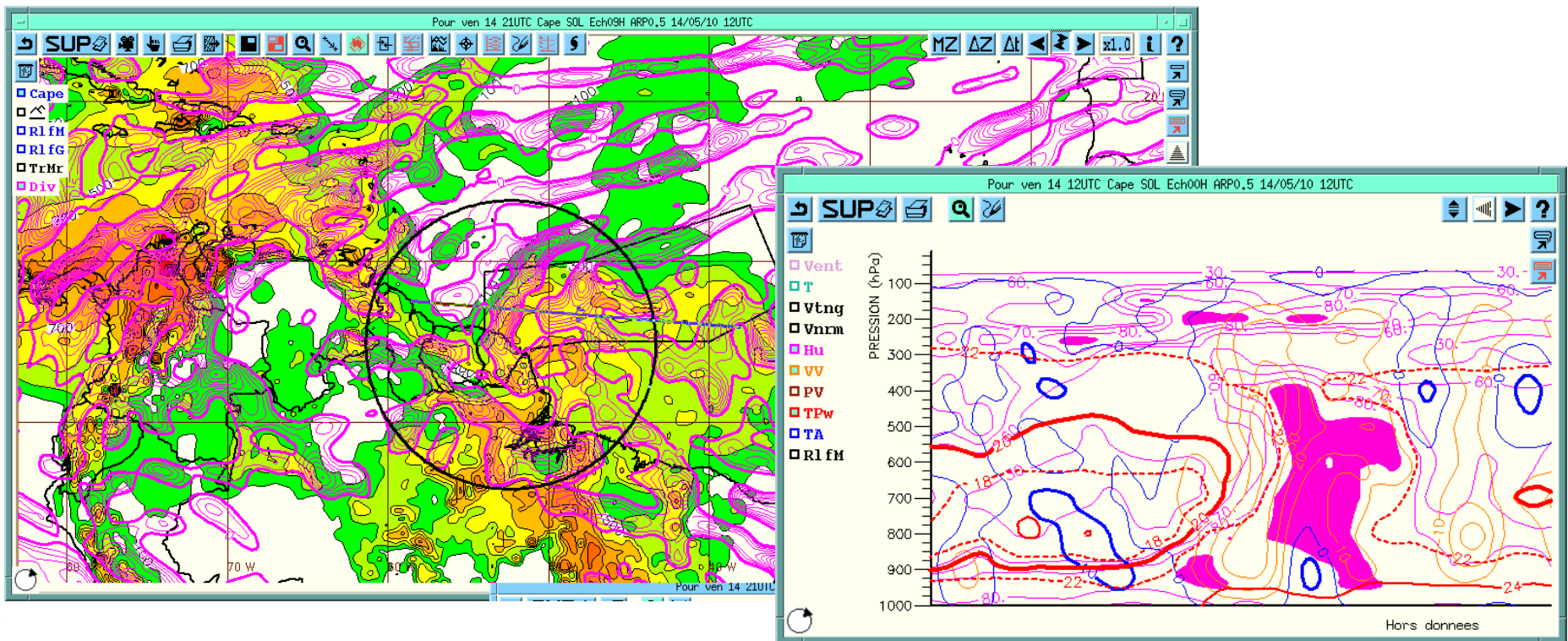


- Convection monitoring based on weather radar and lightning data
- 4 intensity (dBZ) levels relevant to ATC operations.
- 30-min forecast
- Trial ASPOC-3D, based on wx radar, lightning data and satellite imagery (cloud top, Zmax)

HAIC/HIWC Cayenne Field Campaign Forecasting and Nowcasting

- Forecasting

- ▶ MET-FR support on site: Possible use of ARPEGE models for CAPE Prediction



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Training on site prior to the campaign to learn how to use tools.

High Altitude Ice Crystals (HAIC, 314314)

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