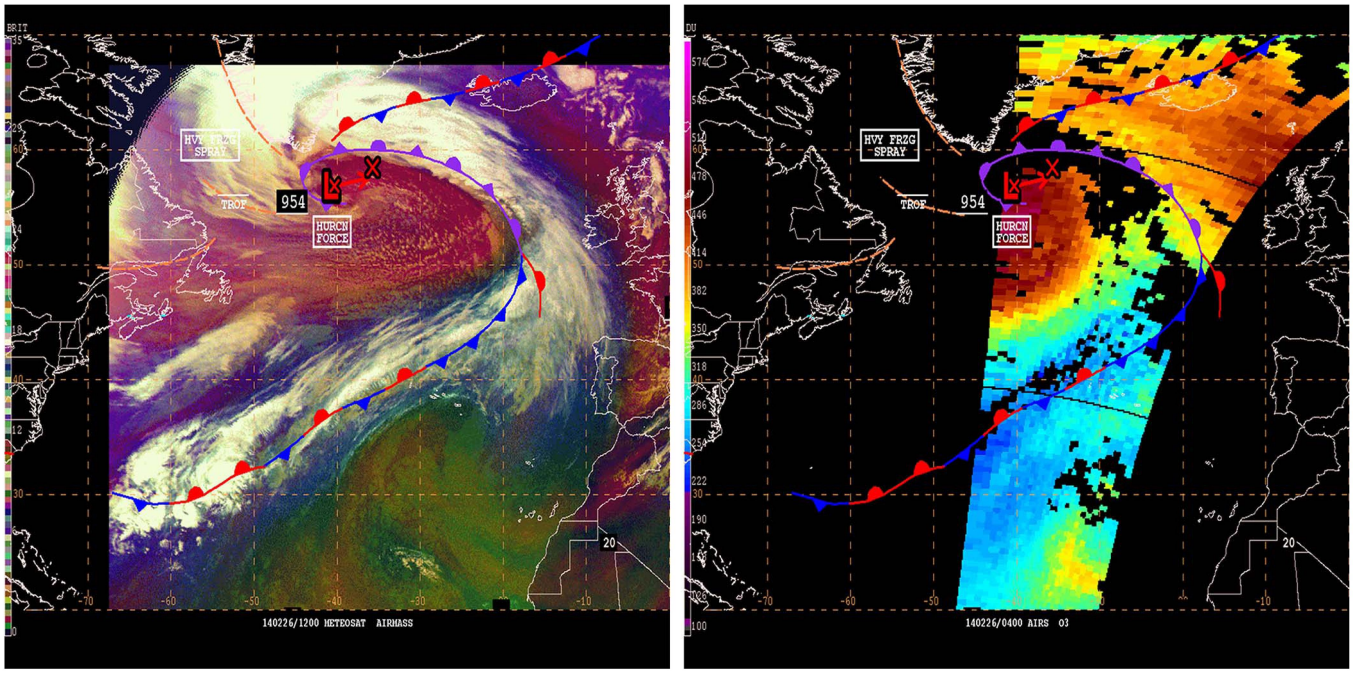
IEEE TRANSACTIONS ON

GEOSCIENCE AND REMOTE SENSING

A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY

FEBRUARY 2016 VOLUME 54 NUMBER 2 IGRSD2 (ISSN 0196-2892)



Satellite perspective of a rapidly intensifying North Atlantic extratropical cyclone. NOAA Ocean Prediction Center surface analysis overlaid on Meteosat Spinning Enhanced Visible and Infrared Imager RGB Air Mass imagery (left) and Atmospheric Infrared Sounder total column ozone (right).

IEEE TRANSACTIONS ON

GEOSCIENCE AND REMOTE SENSING

A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY

FEBRUARY 2016 VOLUME 54 NUMBER 2 IGRSD2 (ISSN 0196-2892)

PAPERS

(Contents Continued on Page 630)

(Contents Continued from Page 629)

(Contents Continued on Page 1244)

(Contents Continued from Page 630)

About the Cover: The cover shows a satellite perspective of a rapidly intensifying North Atlantic extratropical cyclone on 26 February 2014. Comparison of 1200 UTC Meteosat Spinning Enhanced Visible and Infrared Imager (SEVIRI) RGB Air Mass imagery (left) and 0400 UTC Atmospheric Infrared Sounder (AIRS) total column ozone in Dobson Units (Right). The Ocean Prediction Center surface analysis valid at 1200 UTC is overlaid on each image to show the location of the surface low pressure and region of anticipated hurricane-force winds. The RGB Air Mass imagery has been used by the Ocean Prediction Center to identify regions of stratospheric air (red/orange coloring south of the low-pressure center), which play a key role in rapid cyclogenesis and hurricane-force wind events. Due to the qualitative nature of the RGB Air Mass imagery, the NASA Short-term Prediction, Research, and Transition Center (SPoRT) worked closely with the Geostationary Operational Environmental Satellite-R (GOES-R) series and Joint Polar Satellite System (JPSS) Proving Grounds to develop ozone products derived from AIRS to enhance forecaster interpretation and confidence in the RGB Air Mass imagery during rapid cyclogenensis and high-wind events. Higher ozone values detected by AIRS correlate closely with the red/orange region on the RGB Air Mass image to indicate stratospheric air influence on the extratropical cyclone. For more information please see "Development and Application of Atmospheric Infrared Sounder Ozone Products for Operational Meteorology," by Berndt *et al.*, which begins on page 958.