

SATELLITE PHOTOS LOCATE CENTER OF HIGH

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1. INTRODUCTION

Satellite visual and infrared imagery, in addition to locating clouds and determining cloud types, can also be used to determine wind direction and speed (Fritz, 1965; Brandli, 1974; Dickinson, et al, 1974). Information concerning a multitude of other meteorological parameters can be deduced from this imagery. This paper discusses locating the gradient-level, high-pressure center using visual and infrared satellite photos.

2. DISCUSSION

Figure 1 is a Defense Meteorological Satellite Program (DMSP) visual photo, 12 December 1975, 1322 GMT. Closed, cellular stratocumulus clouds are seen off the southeast coast of the United States. These clouds form over the warm Gulf Stream as cold air moves out over the water (Weldon, 1975). North of 30°N latitude and west of 75°W longitude, the stratocumulus clouds are aligned parallel to the gradient-level flow. These stratocumulus lines curve in an anticyclonic man-

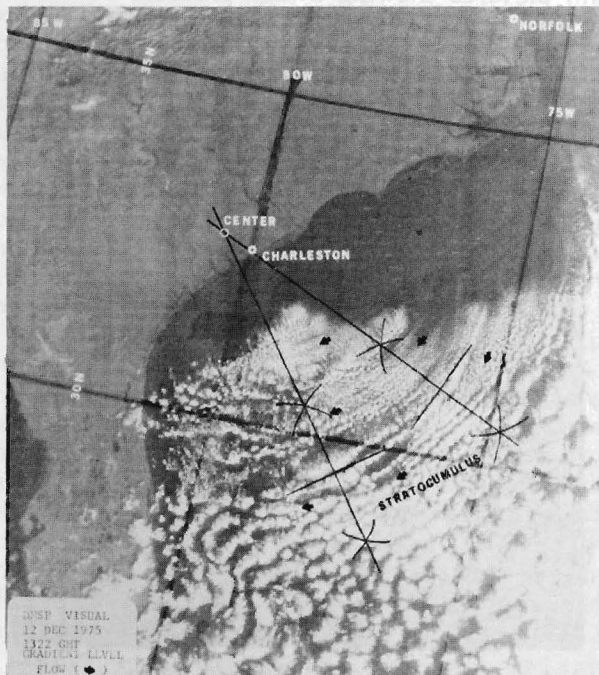


Figure 1. DMSP Visible Picture (0.62-km resolution), 1322 GMT, 12 December 1975.

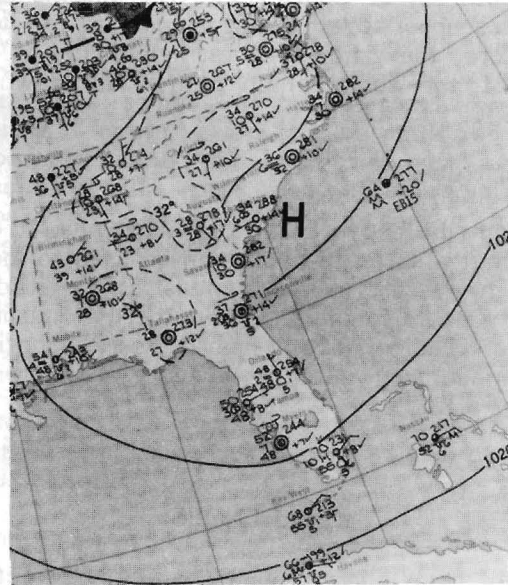


Figure 2. Surface Analysis, 1200 GMT, 12 December 1975.

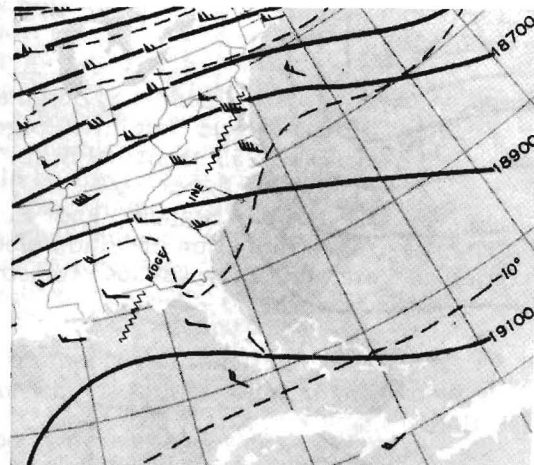


Figure 3. 500-mb Analysis, 1200 GMT, 12 December 1975.

ner and have average bases and tops of 800 meters and 1400 meters respectively (Brandli, 1976).

By constructing perpendicular bisectors of the more pronounced curved cloud lines, one should be able to locate the center of curvature of these stratocumulus cloud's pressure center. The gradient-level, high-pressure center will be close

