

THE PHENOMENAL STORM OF JANUARY 25-26, 1978

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1. INTRODUCTION

New record low sea-level pressure, sustained blizzard conditions, and intense cold accompanied and followed a rapidly moving low-pressure center through the southern Appalachians, eastern Ohio Valley, and across Lake Erie into Canada. New records may also have been set for three-hourly pressure falls and rises accompanying an inland extratropical storm. Stations east of the Appalachians reported near-record warmth and even tornadoes. Heavy rains in the east, falling on a deep snow cover, produced widespread localized flooding.

2. SURFACE ANALYSES

Figures 1 and 2 show aviation observations, fronts, and isobars at 0300 and 0900 GMT, respectively,

during the period of maximum storm intensification. Symbols are the same as those used on the Daily Weather Maps.* During this period the central pressure of the low dropped 14 millibars (mb). A very cold air mass to the west was rapidly being drawn into the storm's circulation, undoubtedly playing an important role in the intensification process.

Note that six-hour temperature drops exceeded 25° in Kentucky, Indiana, and Ohio, 20° in South Carolina, and rises of almost 20° occurred in Pennsylvania. Temperatures reached 70° as far north as Virginia at 0700 GMT (more typical of a July night), while gales swept subzero readings into Illinois, Indiana, Iowa, and Missouri. Lack of space precludes showing hourly surface analyses.**

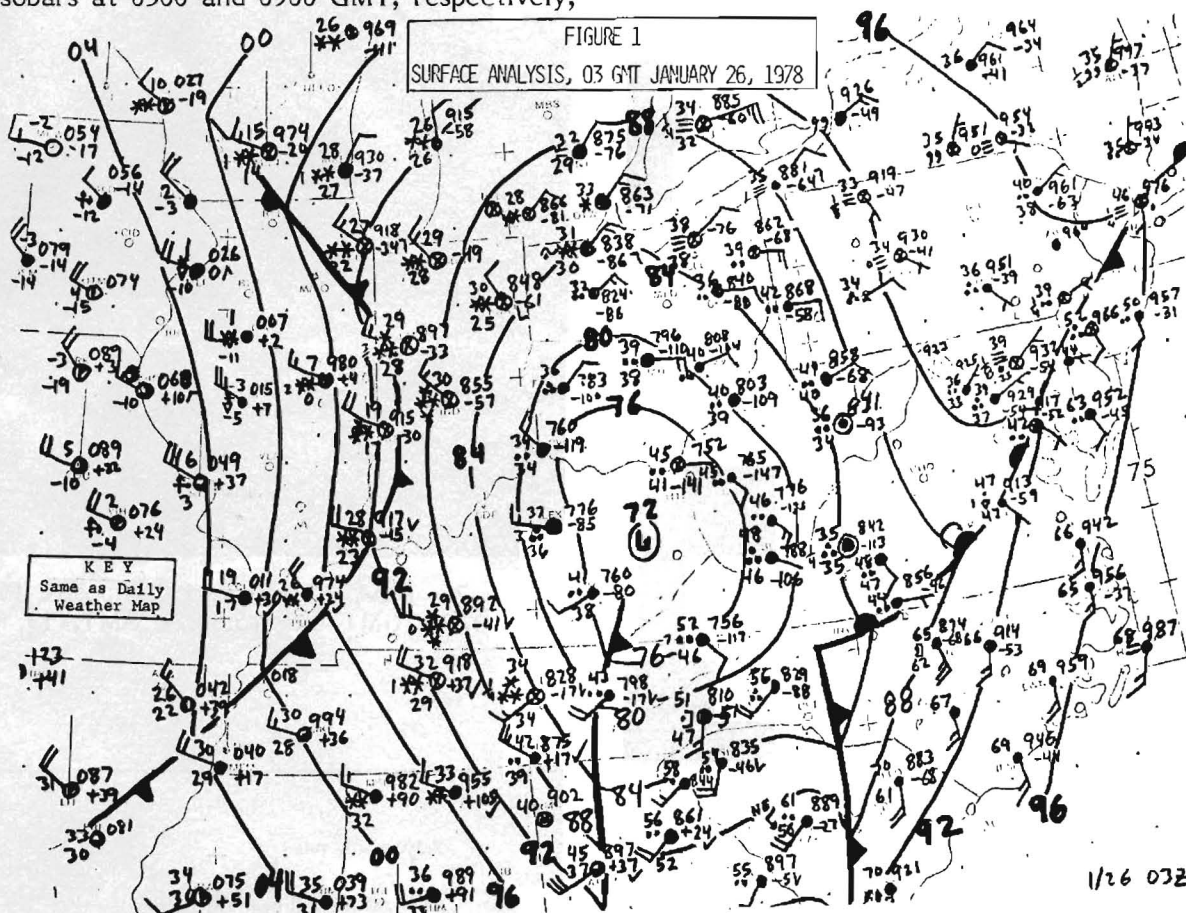


Figure 1. Surface Analysis, 0300 GMT, 26 January 1978.

*Daily Weather Maps, Weekly Series, U.S. Department of Commerce, NOAA Environmental Data Service.

**Hourly surface analyses and various other charts may be obtained free by writing Thomas Blackburn, W1x5, NOAA National Weather Service, Silver Spring, MD 20910.

