

## **Enhancing NPP Case Study Capabilities**

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**Motivation:** Case studies and other meteorological post analyses are crucial for improving operational forecasting capabilities. Examining past weather events and investigating any potential indicators for advance warning of those events enables NPP forecasters to provide the most accurate information to keep USAP participants and partners safe in extreme Antarctic conditions. Heuristic approaches have been developed and optimized over several decades and comprise the foundation of internal training for new forecasters. However, as new weather data have become available in recent years, few advancements have been made to NPP's operational forecasting knowledge base. Therefore, a series of procedures, techniques, and templates are being created which will provide a path for anyone to participate in case study development.

**Future plans:** While the procedures and templates will be tailored for NPP operations, the techniques and methods should be derived from meteorological community standards. To achieve more advanced results, collaboration with Antarctic meteorological experts and researchers will be required. Collaborations between NPP operations and the scientific community in the past have been productive in developing new forecasting utilities and rules of thumb. More joint ventures between such as these will enhance and innovate NPP forecasting.

**Conclusions:** The availability of new Antarctic meteorological research and data does not necessarily ensure improved forecasting techniques. Through NPP's Case Study program, new research and data will be analyzed for possible benefits to operational weather forecasting. It is hoped that having a broad range of input in case studies, from knowledgeable operational weather forecasters to researchers with many years of case study experience, will advance NPP predictive capabilities. Documenting and passing along these advances are critical to an organization with high turnover rate due to seasonality of operations.