2018 Evaluation of Meteorological and Oceanographic Support for Joint Task Force - Support Forces Antarctica and Operation DEEP FREEZE

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1. OVERVIEW

Atmospheric and Oceanographic conditions play a significant role in the Department of Defense's (DoD) logistical support to National Science Foundation (NSF), the lead agency in the United States' scientific mission in Antarctica. The DoD logistical support is consolidated under Joint Task Force (JTF) Support Forces Antarctica led by Brigadier General Stephen Williams, located under Pacific Air Forces at Hickam Air Force Base, Hawaii. In the last two seasons, the Joint Task Force has seen a multitude of canceled Southbound launches and Boomerangs which continues to create additional costs to NSF that could otherwise be used elsewhere to further scientific research. Additionally, Air Force pilots are expressing growing concerns about the safety of landings in poor weather conditions on the Ross Ice Shelf, South Pole Station, and outstations on-continent with the lack of sufficient alternates. With safety of flights being the primary concern and the secondary being the excess funds currently needed to support boomerang fuel consumption, Joint Task Force leadership tasked United States Air Force Weather to conduct a thorough evaluation of the Meteorology and Oceanography (METOC) program supporting the Joint Task Force, address any key concerns, and propose recommendations for improvements to program efficiency and accuracy.

2. PROGRAM EVALUATION

The evaluation consisted of face-to-face interviews and explanations of training processes, data and equipment availability, processes and procedures for providing atmospheric and oceanographic forecasts, meteorological forecast reasoning, and relationships/interaction with DoD customers and fellow forecast/observing professionals.

3. KEY FINDINGS

Primary findings include (1) integration shortfalls, both within the meteorology community as well as between forecasters and pilots/ship captains; (2) room for improved communication, including coordination between observers and forecasters, between different meteorological agencies, and between SOPP and the McMurdo community; (3) insufficient meteorological data and equipment availability; (4) the need for optimized manpower utilization; and (5) clarification and guidance needed for vessel and port operations.

4. JOINT TASK FORCE ACTIONS AND RECOMMENDATIONS

Based off of the findings, JTF leadership made the following changes within Operation DEEP FREEZE: (1) Approval for contract forecasters on LC-130 familiarization flights; (2) mandatory pilot reports (PIREPs) during takeoff, recovery, and while transitioning waypoints on-continent; and (3) METOC support requirements for port operations solidified in the Operation DEEP FREEZE Operations Order.

Additionally, JTF leadership made recommendations to NSF, including: (1) approve funding for the deployment of a DoD portable Doppler RADAR to Phoenix Airfield, (2) research methods for mitigating current McMurdo Station METSAT Blackout window, (3) install visibility markers and require visibility charts at all airfields that DoD aircraft operate, and (4) institutionalize seasonal

refresher briefings by SOPP weather to both C-17 and LC-130 aircrew.

5. ACKNOWLEDGEMENTS

This information is based upon interviews and consolidated information from National Science Foundation, Antarctic Meteorological Research Center, Antarctic Support Contract, Space and Naval Warfare Systems Command, Scientific Research Center, United States Coast Guard, United States National Guard, and United States Air Force.

6. REFERENCES

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