



# ANGWIN

Antarctic Gravity Wave Instrument Network



## 7<sup>th</sup> ANtarctic Gravity Wave Instrument Network (ANGWIN) Workshop & 7<sup>th</sup> Atmospheric Waves Experiment (AWE) Science Team Meeting

6-10 October 2025 – Utah State University – Logan, Utah

Modern theory and modeling indicate that atmospheric gravity waves (GWs) play an important role in the vertical coupling of the atmosphere-ionosphere system. However, their sources, variability, and influences are still major unknowns. This combined workshop will bring together two complementary projects designed to better understand GW generation, propagation, and effects:

- The ANtarctic Gravity Wave Instrument Network (ANGWIN) is a highly successful international grassroots program that was started in 2011. ANGWIN takes advantage of the network of instrumentation operating at several research stations covering Antarctica, with the primary research goal of quantifying and understanding the dominant sources, propagation and impact of a broad spectrum of GWs on a continental-wide scale.
- The Atmospheric Waves Experiment (AWE) is a NASA-funded mission operating an Advanced Mesospheric Temperature Mapper (AMTM) imager on the International Space Station since November 2023. This instrument maps the nighttime mesospheric temperature at the altitude of the hydroxyl (OH) layer (~87 km), providing 2D GW fields over a 600-km field-of-view, every 1.1 second, and with a 2x2 km resolution, between +/- 55° latitude. In addition, four state-of-the-art models help to address three science objectives: (1) Quantifying the seasonal and regional variabilities and influences of GWs near the mesopause, (2) Identifying the dominant dynamical processes controlling GWs observed near the mesopause, (3) Estimating the wider role of GWs in the Ionosphere/Thermosphere system.

The ambition of this meeting is to provide a venue for discussions and collaborations between scientists involved in studying GWs and associated mechanisms. The intention is to have contributions from recent satellite missions, ground-based airglow, lidar, and radar observations, theory, and atmospheric modelling.

More information to follow soon...