

Marine Mammal Commission 2025 Annual Meeting

Eyes in the Sky Session Summary

This session highlighted cutting-edge satellite and cloud-based technologies enabling remote marine mammal detection and assessment. Presentations showcased the National Oceanic and Atmospheric Administration's GAIA project, which is developing automated whale detection via annotated satellite imagery, and a new open-source workflow to preprocess raw Maxar satellite data. The U.S. Geological Survey shared promising results in estimating Pacific walrus abundance using satellite imagery and telemetry data. The Nature Conservancy discussed their machine learning models for whale detection, now available via the public-facing whalesAI.org tool. The British Antarctic Survey presented feasibility frameworks for satellite-based monitoring of cetacean strandings in remote areas. A panel discussion emphasized the importance of marine mammal expertise, collaboration across disciplines, the need for explainable AI, and challenges like data access, licensing, and detection limitations. While satellite imagery offers promise, especially in remote or data-poor regions, current limitations—such as image resolution, species-specific constraints, and licensing barriers—highlight the need for ongoing innovation, transparency, and international coordination.