

The Antarctic Meteorological Research and Data Center – A Data Repository for the Antarctic Meteorological Community

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The Antarctic Meteorological Research and Data Center (AMRDC) has developed a formal data repository in service to the entire Antarctic meteorological community. Built on the Comprehensive Knowledge Archive Network (CKAN) open-source data repository software system, the AMRDC repository aims to host meteorological datasets from a variety of sources including many that have historically been a part of the AMRDC's archive over the past 30 years. This project will expand beyond well-known Wisconsin datasets such as Antarctic satellite composite imagery and Automatic Weather Station (AWS) observations to host unique datasets such as United States Antarctic Program (USAP) field camp observations and USAP main station observations from South Pole, McMurdo, and Palmer Stations. This project seeks to not only host archived datasets, but will build in links to external data holdings found in other repositories (e.g. Pangea, Zenodo, etc.) to provide a “one-stop shop” experience for forecasters, researchers, educators, and others who seek Antarctic Meteorological data. Soon, the repository will take in investigator provided datasets, meeting USAP data expectations and requirements. All repository holdings offer a formal entry including the issuing of a Digital Object Identifier (DOI), hold proper metadata information, and follow all FAIR principals (Findable, Accessible, Interoperable, and Reusable). The AMRDC will provide additional capabilities that offer basic visualization of archive datasets in the service to the community. These efforts compliment ongoing efforts under the umbrella of this project with the continued building of satellite composite imagery, climatological analysis, and case study projects. An example of the AMRDC's special support was provided to the Year of Polar Prediction – Southern Hemisphere (YOPP-SH) Targeted Observing Period (TOP) with a special website offering weather forecast products, climate reporting, satellite imagery (including polar orbiting remapped imagery) in addition to AWS and satellite composite imagery.