

8.2 CURRENT ACTIVITIES OF THE RANGE COMMANDERS COUNCIL METEOROLOGY GROUP

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1. INTRODUCTION

In August, 1951, the Range Commanders Council (RCC) was created to address common concerns and needs of operational ranges within the United States Department of Defense. Within the RCC, the Meteorology Group (MG) was established to specifically address those needs involving weather support to member range facilities. Currently the 13 member ranges and 12 associate members of the RCC MG meet yearly. Sub-committee meetings on lightning detection and warning and range instrumentation, upper air measurement, and modeling are also held during the yearly meeting. Recent activities of the RCC MG include validating and documenting new Range Reference Atmospheres generated by the Air Force Combat Climatology Center, a study of lightning climatology, a mesoscale modeling improvement task, and an initiative to investigate a standardized method for calculating wet bulb globe temperature.

2. MEMBER RANGES

The 13 member ranges and 12 associate members of the RCC-MG are shown in Table 1. The members include Weather Squadrons (WS) and weather support elements of Army, Navy and Air Force ranges located across the continental United States and extending into the Pacific. While membership is limited to Department of Defense armed services ranges, associate membership is open to government funded agencies or non profit organizations that are either customers of member ranges or provide support to the member ranges. The yearly meeting provides an excellent opportunity for the member ranges and associate members to share and learn about the latest weather support technology available and to jointly work together to identify, coordinate, and improve specific areas of weather support that will benefit the ranges. Commercial vendors are also invited to the yearly meeting to share their latest products they believe the ranges will have an interested in, and to gather customer feedback from representatives of the ranges geared toward future product development.

Table 1. Member and Associate Members of the RCC Meteorology Group (RCC MG)

Member Ranges	Element
- Patrick Air Force Base (AFB)/Cape Canaveral Air Force Station	45 th WS
- Air Armament Center Eglin AFB	46 th WS
- 30 th Space Wing Vandenberg AFB	30 th WS
- White Sands Missile Range	CSTE-DTC-WS
- Dugway Proving Ground	WD-ME-M
- Yuma Proving Ground	WX Support Office
- Reagan Test Site, Kwajalein Atoll	3DRC Inc.
- Aberdeen Proving Ground	AET
- Naval Air Warfare Center Weapons Division (NAWCWD) Pt Mugu and China Lake, CA, Patuxent River, MD	NAVAIR METOC
- AFTTC Edwards AFB	412 OSS/OSWM
- Nevada Test Site	US DOE
- Pacific Missile Range Facility-Hawaii	WX Support Office
Associate Members	Element
- NASA Johnson Space Center	Spaceflight Meteorology Group
- NASA Kennedy Space Center	Weather Office
- NASA Marshall Space Flight Center	Natural Environments Branch
- Federal Aviation Administration	AST-300
- AF Operational Test & Evaluation Ctr	Staff Meteorology
- Wright Patterson AFB	88 th WS
- Office of the Federal Coordinator for Meteorological Services and Research	Air Force/Army Met Coordinator
- National Center of Atmospheric Research	Research Applications
- National Oceanic & Atmospheric Administration Air Resources Lab	Met Research Office
- AF Combat Climatology Center	Dir of Operations
- Space & Naval Warfare Systems Command	PMW-185
- Naval Strike & Air Warfare Center	METOC Office

3. STANDING SUBCOMMITTEES

Most of the technical activities done by the RCC-MG are conducted within the subcommittees. There are currently three standing subcommittees in the RCC-MG. These are the Lightning Detection and Warning and Range Instrumentation Subcommittee, the Upper Air Measurement Subcommittee, and the Modeling Subcommittee. Each subcommittee conducts a forum on the latest technological advances and ongoing research programs within their area of interest, and also

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reports on current technical activities during each annual RCC-MG meeting.

The subcommittees also often meet several times during the year to put together proposals for tasks that they believe will be beneficial for member ranges. They also work on activities requested by the RCC-MG. Many of these activities are eligible for funding from the RCC.

4. CURRENT ACTIVITIES

The RCC-MG is currently involved in a number of activities. Funding has recently been allocated to begin an extensive study of lightning climatology patterns around the Kennedy Space Center (KSC) complex. The 45th Weather Squadron from Patrick Air Force Base, FL working in conjunction with National Aeronautics and Space Administration (NASA) KSC meteorologists and engineers, has been at the forefront of research in lightning phenomena for the past three decades. Personnel at the NASA Marshall Space Flight Center have been working with the Staff Meteorology office at Edwards AFB and Air Force Combat Climatology Center to validate and publish an updated version of the Range Reference Atmosphere data set that is used by test engineers throughout the RCC network of facilities.

Proposals have also been submitted to fund research by personnel at the Dugway Proving Ground and the NASA Dryden Flight Research Center to explore improved methods in computing Wet Bulb Globe Temperature (a measure of heat stress) as well as for the National Center for Atmospheric Research (NCAR) to evaluate the mesoscale modeling needs of each range. Finally, the Upper Air Committee has been evaluating rawinsonde systems in an effort to update RCC-MG publications that deal with sounding data standardization and methods for comparing performance of rawinsonde systems manufactured by different vendors that each utilize different means of obtaining atmospheric parameters, particularly winds.

The RCC MG has also been working with other groups within the RCC on improving sound modeling products. As urban areas continue to grow toward what was formerly remote lands on which these military ranges were constructed, encroaching more and more into the test missions, sound generated by tests, and

how these sounds spread into surrounding communities is an increasingly hot-button topic.



RCC Member Range Locations

The Range Commanders Council seeks to preserve and enhance the nation's warfighting superiority by ensuring that affordable technical capability and capacity are available to test and operate the worlds most effective weapons systems and to train the warfighters who use them.