

**Range Commanders Council Meteorology Group Meeting (RCC-MG)  
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NASA Marshall Space Flight Center Range Report- May 2015  
(RCC-MG Member)**

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The following is a summary of the major meteorological/atmospheric projects and research that have been or currently are being accomplished at Marshall Space Flight Center (MSFC). Listed below are highlights of work done during the past 6 months in the Engineering Directorate (ED) and in the Science and Mission Systems Office (ZP).

**NASA MSFC Natural Environments Branch (EV44) Terrestrial and Planetary Environments Team**

**Space Launch System**

The purpose of the Space Launch System Program (SLSP) is to develop a heavy lift launch vehicle for future NASA exploration missions. EV44 is responsible for the development and implementation of natural environment specifications for the program. There are also two programmatic documents maintained by EV44. The “Cross Program Design Specification for Natural Environments”, SLS-SPEC-159 Revision C was released in April 2015. It included recently updated space and terrestrial natural environments specifications. The document provides natural terrestrial and space environment specifications for NASA Headquarters’ Explorations Systems Development programs, which include the 21<sup>st</sup> Century Ground Systems Program, the Orion Multi-Purpose Crew Vehicle (MPCV) Program and the SLSP. The “SLSP Vehicle Design Environments Volume 7: Natural”, SLS-SPEC-07-044 Revision C was also released in April 2015. It contains applicable natural environments from SLS-SPEC-159 and updated tailored natural environments for the SLS, Orion MPCV and GSDO Programs.

**Range Reference Atmospheres**

Work was completed on a task funded by the RCC to generate 10 additional Range Reference Atmospheres (RRA’s) in addition to the 4 that were developed this year. The new RRA’s were delivered to Phil Harvey at Edwards Air Force Base.

**Planetary Exploration Programs**

The Natural Environments Branch Terrestrial and Planetary Environments Team continued to support the Mars Global Reference Atmosphere Model (GRAM) on an as-needed basis.

**NASA MSFC Earth Science Office (ZP11):**

Activities at the MSFC Earth Science Office can be found at their web site located at <http://weather.msfc.nasa.gov/>.