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Invited Talk
(Invited Talk)
The mainstay of the global Radio Occultation (RO) system, the COSMIC constellation of six satellites launched in April 2006, is already past the end of its nominal lifetime and the number of soundings are rapidly declining because the constellation is degrading. For about the last decade, COSMIC profiles have been collected and their retrievals assimilated in numerical weather prediction systems to improve operational weather forecasts.

The success of RO in increasing forecast skill and COSMIC's aging constellation have motivated planning for the COSMIC-2 mission, a 12-satellite constellation to be deployed in two launches. The first six satellites (COSMIC-2A) are expected to be deployed in 2018 in a low-inclination orbit for dense equatorial coverage, while the second six (COSMIC-2B) are expected to be launched later in a high inclination orbit for global coverage.

In order to determine the potential value of future RO constellations in operational numerical weather prediction, NOAA has conducted comprehensive Observing System Simulation Experiments (OSSEs). The RO observations were simulated with the geographic sampling planned for the COSMIC-2 mission. During the talk, a description of the OSSE system, including the simulation of the RO observations, and the results of the experiments will be discussed.
OSTS session
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