

Managing the Spectrum for Scientific Services

for the National Academies of Sciences, Engineering, and Medicine, Committee on Radio Frequencies:
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1. Extended Abstract

The Committee on Radio Frequencies (CORF), under the auspices of the U.S. National Academies of Sciences, Engineering, and Medicine, represents the needs of scientific users for allocation and protection of radio frequencies. Frequency allocations for the Radio Astronomy Service (RAS) and Earth Exploration Satellite Service (EESS) are particularly vulnerable to interference because the signals from natural phenomena and processes being detected are faint. Over the past few years, protecting these critical allocations has become even more challenging with increasing demands on the radio spectrum for telecommunication services. New allocations for incompatible services adjacent to the RAS and EESS allocations significantly increase the potential for losing vitally important scientific data due to interference from emissions/transmissions spilling from the adjacent bands.

CORF uses different venues to inform, educate, discuss, and recommend spectrum management for scientific uses. It forms committees that write in-depth scientific reports [1,2,3]. These reports are used by radio astronomers, remote sensing scientists, spectrum managers, and relevant commercial interest around the world. In addition, CORF provides independent, external advice to the U.S. government through comments on public rulemaking by the US Federal Communications Commission (FCC). It also brings together representatives from spectrum management offices, public/private sector, and scientists from various fields in RAS and EESS in the US and elsewhere to discuss best approaches to spectrum management. This presentation will discuss recent CORF activities and the potential scientific impacts of new frequency allocations that have been proposed in the agenda items of the World Radio Conference to be held in 2019 (WRC-2019) [4].

2. References

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- [4] Judge, J., L. van Zee, W. Blackwell, S. Cruz-Pol, T. Gaier, N. Kassim, D. LeVine, A. Lovell, J. Moran, S. Ransom, G. Rebeiz, and P. Siqueira, "Views of the U.S. NAS and NAE on agenda items at issue at the world radiocommunications conference 2019", *In preparation, National Academies Press, Washington DC*, 2017.