Appendix D:

Summary of WRC-97 Results from an Office of Earth Science Viewpoint

Comments below amplify the table following:

430-440 MHz: The Dutch and JPL want to use a Synthetic Aperture Radar (SAR) in this band to get to the ground under vegetation. The US WP-7C did its homework, DoD overruled at the national level. Nationally, we got what "we" wanted. The Dutch may re-propose if there is time/money for this in WRC-99.

1.559-1.610 GHz: This band covers the L1 Frequency of GPS. INMARSAT submitted a paper which claimed that communications could co-exist with GPS; the US, based on the same data, had a paper which drew the OPPOSITE CONCLUSION. A nasty fight came up. The White house was involved in getting out the US diplomatic corps to stop this INMARSAT-sponsored effort. The International Civil Aviation Organization also supported us. The result was that the INMARSAT proposal was stalled off until WRC-99 to allow further studies to take place. This fight will continue. We will use GPS for space-to-space spacecraft of our satellites as well as for science purposes.

3.1 - 3.3 GHz: Previously, this allocation was only in a footnote referenced by the tables, and footnotes have a bad history of being overlooked and/or ignored. Getting directly listed in the tables is still a plus.

5.35-5.46 GHz: This expansion of the 5.25-5.35 GHz active band was engineered by the Canadians, and we will benefit by it. We did some of the homework, but they charged ahead with it.

18.6-18.8 GHz: Stalled out. There was fierce opposition from the communications groups who already had worldwide primary (especially the Europeans). We need this band for passive sea wind and sea ice observations. Nearby bands at lower frequencies do not have the bandwidth; higher frequency bands nearby are adversely affected by rain and water vapor (and are used to observe them). Rather than risk losing what we had (primary in the Americas), this issue was tabled until WRC-99. We may look for a new nearby, less contentious band.

50.2 - 50.4 GHz; 51.4 - 59.3 GHz: Primary allocations, used to measure atmospheric temperature via Oxygen absorption band. An additional band of 60.3 - 61.3 GHz was considered to allow temperature measurement into the mesosphere, but 59.0 - 59.3 GHz should suffice. These bands are being realigned to prevent communications services from interfering with passive sensors. The communications services are moving out of "our" band and into one of their own (Fixed services in the 50.2-50.4 GHz and 54.25 - 55.78 GHz bands are being moved to above 65 GHz). In return, passive allocations in the 51.4 - 52.6 GHz band are being given up. Inter-satellite links in the 54.25 - 58.2 GHz band are limited to geosynchronous satellites, except for 56.9 - 57.0 GHz band. Fixed and mobile services are to be added in the 58.2 - 59.3 GHz band where sharing is possible. Instruments affected: AMSR (ADEOS-2, Japan), AMSU-A (NOAA, USA; METOP, ESA), MSU (NOAA, USA), and MTZA (METEOR, CSR).

71-300 GHz: Wanted this item deferred until 1999. It was >50 GHz, but 50-70 GHz was covered in WRC-97.

The following active remote sensing bands were not elevated to primary allocation at WRC-97, due primarily to a lack of desire by the community.

9.975 - 10.025 GHz: No requirements known and no data were provided to JWP 7-8R; hence, no decision. This band is footnoted to include secondary allocation for weather radars in meteorological satellite service.

13.75 - 14.0 GHz: Allocation lost in WRC-92, protection ends January 1, 2001.

24.05 - 24.25 GHz: : No requirements known and no data were provided to JWP 7-8R; hence, no decision. This band is useful for observing water vapor and liquid.

OVERALL ASSESSMENT: 14 clear wins, 1 bonus win, 1 "official win", 1 partial win, and 2 draws (fights deferred to WRC-99) -- Not bad!