



## Global VLF Datasets and the Legacy of Don Carpenter

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As a tribute to the legacy of Don Carpenter, we present a collection of datasets both of which he had a hand in acquiring and bolstering. Today these datasets are unified under the Worldwide Archive of Low Frequency Data and Observations (WALDO) [1, 2]. Don Carpenter was one of the pioneers analyzing Siple station data, from 1973-1988, collecting recordings of whistlers to uncover the properties of the plasmasphere and plasmopause, which he is credited with discovering through earlier ground-based whistler recordings [3]. That Antarctic legacy continued as Stanford University collected decades of VLF measurements at South Pole and Palmer Station, all with Don's intense involvement. Later, Don was an active supporter of an effort to distribute VLF receivers [4] around the world as part of a UN and NASA sponsored program called International Heliophysical Year [5], in which a large amount of largely narrowband VLF data was collected from many sites. All of these datasets have been or are in the process of being uploaded to WALDO, amounting to many 100s of TB and growing, with free and public access at <http://waldo.world>.

In addition to presenting WALDO and detailing the available data, we will present some initial large-scale automated analysis of Siple Station data (inspired by [6]), and plasmasphere-amplified signals from a VLF transmitter in Russia detected at the magnetic conjugate point. In both instances it is possible to extract the magnetospherically propagated and amplified VLF signal and characterize the growth rate and sometimes the triggering of free-running emissions. We will invite colleagues to join us contributing VLF datasets and detail how this can be done. Don Carpenter, who valued his large network of partnerships and collaborators above all, would most certainly cheer on such an effort.

## References

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