

# A Massive Public Repository of Global ELF/VLF Radio Data

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You found WALDO!



We are proud today to announce WALDO: the Worldwide Archive of Low-frequency Radio Data. WALDO is the largest repository of publicly available ELF/VLF radio data. It includes decades of historical data captured around the world by VLF research groups.



<http://waldo.world>

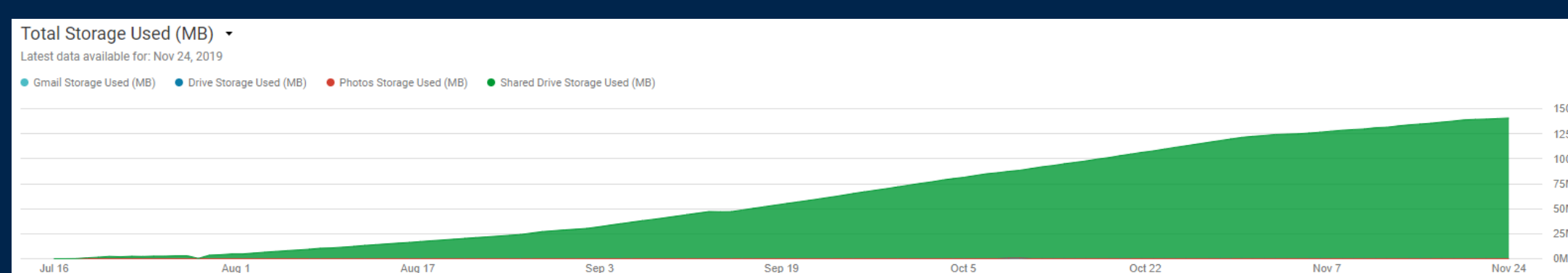
## What Data is on WALDO?

For decades, the Stanford VLF group collected data for all kinds of geophysical experiments. Much of it piled up in DVDs, or even analog tapes, as the group wound down. Now, they are all being placed in the cloud. With big data and machine learning spreading, we hope to catalyze new discoveries.

Data that are or will be on WALDO include

- Antarctic recordings at Palmer Station, South Pole
- Siple Station Antarctica recordings from 1974-1986
- Alaska recordings during HAARP experiments
- Data from the 2017 Great American Solar Eclipse
- Data from global IHY/ISWI/AWESOME receivers
- Recordings preceding the 2011 Tohoku earthquake

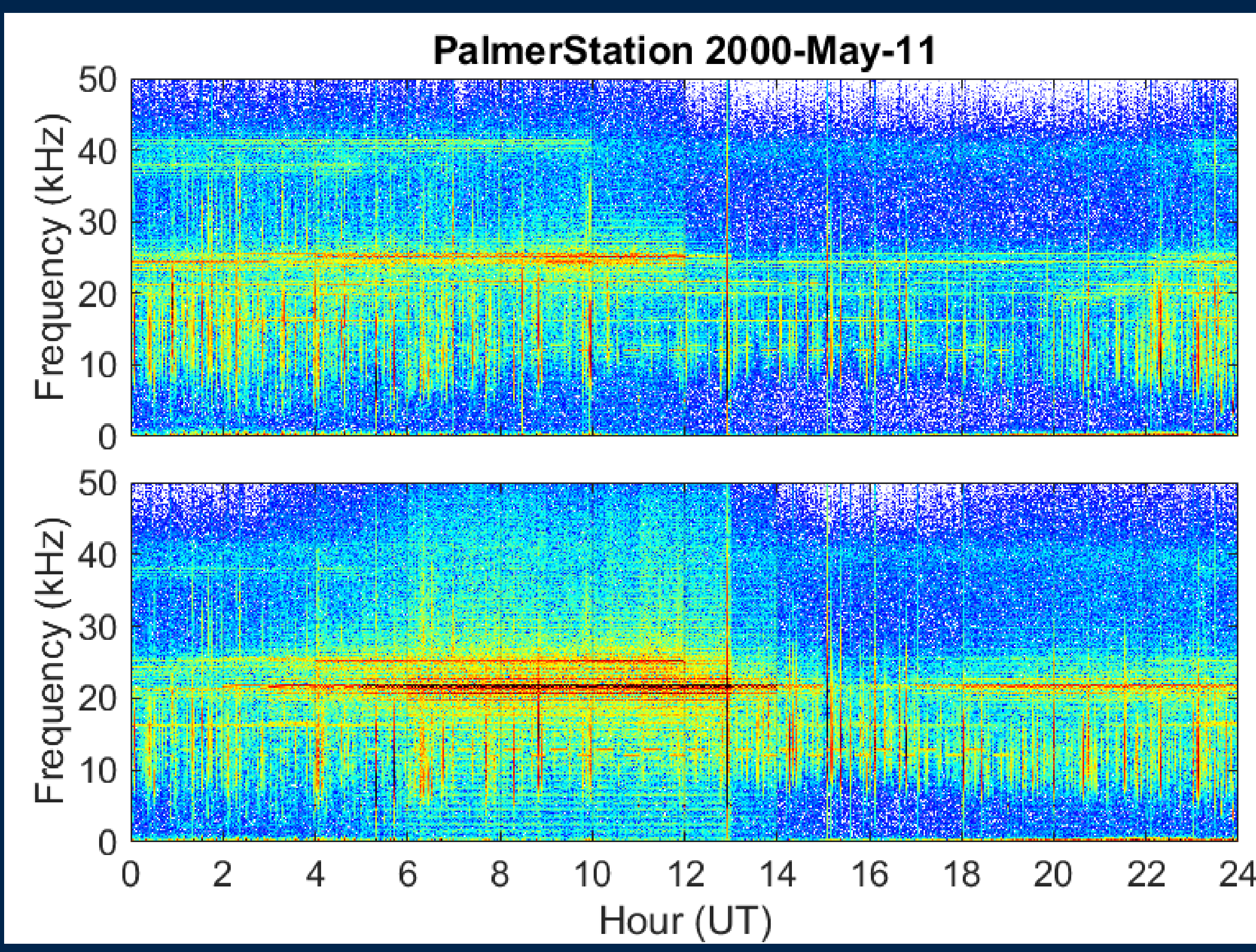
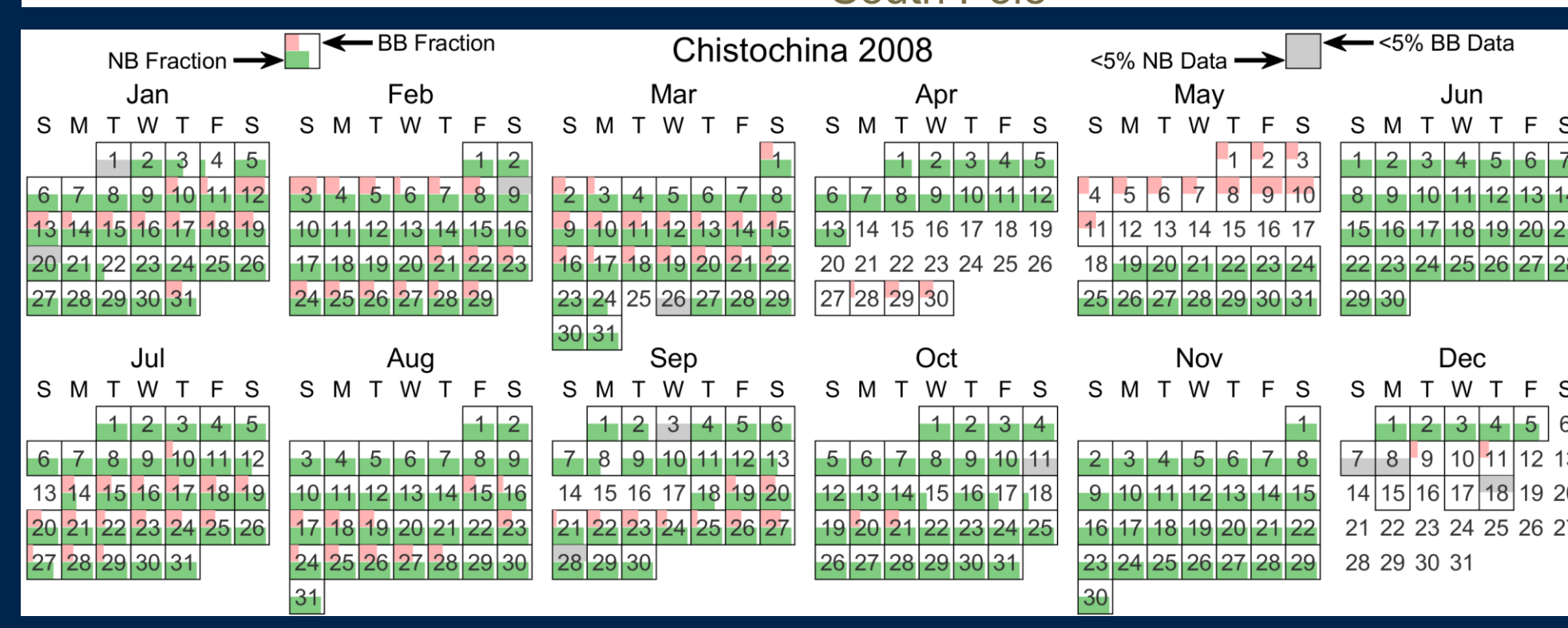
In addition to ~80,000 DVDs and ~250 TB of old Stanford VLF group recording, we are also using it to deposit more recent recordings (2015 and later) from Georgia Tech and the University of Colorado Denver. So WALDO will also be a living data repository.



## How Do I Navigate WALDO?

WALDO is populated with several automatically-generated maps, calendars, quick-look plots, to help you identify what is already on the server. See examples below. There is also a detailed description of the format and sample MATLAB scripts to enable anyone to read the data with ease. You can then navigate directly to whatever site and date you want, and download entire files or folders.

Remember, we are anticipating ~1000 TB of data eventually, and so far have only transferred ~150 TB, so there's a lot more on the way in the coming months. Check with us if you want to know what we've got coming.



## Are There Any Strings Attached?

No. These data were collected under various US government grants (NSF, ONR, DARPA, AFRL) over many years, and belong now to the entire scientific enterprise. Anyone can download the data, no permission, no cost, no account. We request only an acknowledgement in any future publication that uses data from WALDO.

If extensive amounts of WALDO data are used, the curators request, but do not require, to be contacted to discuss the possibility of joint authorship, with the WALDO curators providing help analyzing and interpreting the large dataset.

If more direct and extensive access is needed for large-scale studies, please contact the curators, we may be able to provide a direct Google Drive account.

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## But Where's WALDO?

Haha! In the top right corner. But can you find *Odaw*?