

# Raw Passive Acoustic Data

## Data

Data consists of raw audio files that are either FLAC-compressed (.flac) WAV files or uncompressed AIF files. The command to uncompress the FLAC files back to WAV format is as follows:

```
flac -df --delete-input-file --preserve-modtime --keep-foreign-metadata PATH TO FILE
```

The FLAC command should be used with the `--keep-foreign-metadata` flag to preserve the WAV non-audio chunks in FLAC metadata.

## Bucket Structure

The name of this Google Cloud Storage bucket is *noaa-passive-bioacoustic*. The data is organized by project, and depending on the project, is further organized by deployment, science center, cruise name, site ID, and/or timeline. The files are organized under audio, metadata, docs, or ancillary depending on the file type.

### Path Structures

NRS Project

- noaa-passive-bioacoustic/project/site ID/deployment timeline/

SANCT SOUND Project

- noaa-passive-bioacoustic/project/site/deployment/

ADEON Project

- noaa-passive-bioacoustic/project/deployment/cruise name/

AFSC Projects

- noaa-passive-bioacoustic/science center/project/site/deployment/

NEFSC Projects

- noaa-passive-bioacoustic/science center/project/deployment/

PIFSC Projects

- noaa-passive-bioacoustic/science center/deployment/site/

## Downloading Data

Data can be downloaded from the bucket using the command line. First, install [gsutil](#). Then run the following command to download individual files or entire deployments from the terminal:

```
gsutil -m cp -r gs://BUCKET PATH rsync -r SAVE TO LOCATION
```

Examples:

All deployments from a project:

```
gsutil -m cp -r gs://noaa-passive-bioacoustic/nefsc rsync -r local/Desktop/
```

Specific deployment:

```
gsutil -m cp -r gs://noaa-passive-bioacoustic/nefsc/sbnms/200806_02 rsync -r local/Desktop/
```

Specific file:

```
gsutil cp gs://noaa-passive-bioacoustic/nefsc/sbnms/200806_02/audio NOPP3_24JUN-25AUG2008_CH7_20080624_170000.flac local/D
```

## Citations

The citation for the entire passive acoustic data archive is as follows:

NOAA National Centers for Environmental Information. 2017. *Passive Acoustic Data Collection*. NOAA National Centers for Environmental Information. <https://doi.org/10.25921/PF0H-SQ72>. access date

Project level citations can be found in the readme files located within each project of the bucket.

## Additional Resources

- [Map of archived data](#)
- [Information on the archive](#)
- Contact [pad.info@noaa.gov](mailto:pad.info@noaa.gov) with any questions.