PAMGuideR wrapper for ICES HDF5
IC WS NOISE DATA

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**TAL
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PAMGuideR?

The implementation of the PAMGuide acoustic analysis software in R language

`https://sourceforge.net/projects/pamguide/`

Drawbacks of PAMGuideR

- R not meant for data processing but **statistical analysis**
- Slower calculating ddec SPLs than MATLAB version
- Objects in R must be stored in physical memory – large objects can crash your computer

R was not built for doing this sort of thing

Benefits of PAMGuideR

- SPL calculation for free – **no MATLAB licence required**
- Well written and documented
- R has lot of additional free packages available

With some tweaks R still manages to perform reasonably well

Changes in PAMGuideR for efficiancy

- Garbage collection – large variables removed from memory when they are no longer used.
- For speed reading .wav files done with `load.wave` from `audio` library.

My wrapper additions for creating ICES HDF5

Function to:

- read the YAML metadata – `meta_data.R`
- create list of sound files – `create_file_list.R`
- extract time from file name – `extr_time_frm_fname.R`
- set input pars for the PAMGuide – `create_pam_input.R`
- run PAMGuide on listed files – `calc_tol_spl.R`
- create the HDF5 file – `write_hdf_file.R`

YAML metadata

A single metadata file placed in sound files folder

- Easily readable and editable with notepad
- Most metadata for the HDF5 files
- SensitivityE2E for PAMGuideR
- Additional useful metadata

File structure

Sound files $\rightarrow$ placed to folder named

- from before and during deployment $\rightarrow$ Deployment
- after and during recovery $\rightarrow$ Recovery
- with calibration signals $\rightarrow$ Calibration
- erraneous of junk $\rightarrow$ Error, Trash

How to use the wrapper

1. Create and place files in Deployment, Recovery... folders
2. Create the YAML metadata file
3. Change the inp_fold and out_fold variables in run_ pam_write_hdf.R
4. Run run_pam_write_hdf.R

20 sec ddec SPLs will be calculated