Visualizing Vocalization with R

2016-10-23 BY GENE

One day I decided that I wanted to have the ability to see a frequency x time "amplitude density" plot of sound – specifically dolphin and bird voices.

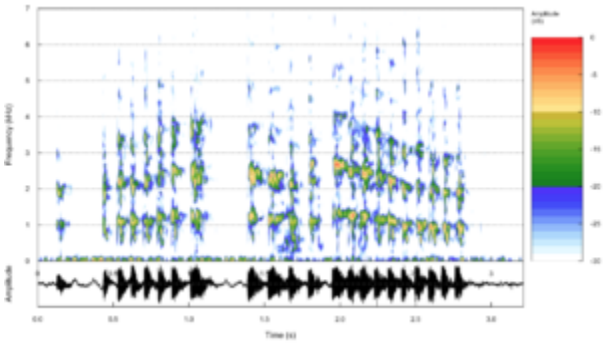
So the first task was to locate some sounds! Preferably these should be free from all other sounds, including those from the ambient environment – splashing, microphone bumping, wind blowing, etc. For this, I scoured youtube (not for long though) until I found acceptable clips. Next I copied/pasted the video URL into a "YouTube to MP3" converter site and downloaded the generated MP3.

Because I wanted to visualize a few seconds at a time, this audio was all way too long. Also they include both "clean" and noisy sections. Also I need to have them in WAV format! So to handle this I move onto the second task: clipping and exporting with Audacity.

That is, open the MP3 file in Audacity and locate a short, clean section. Remove the beginning and ending, leaving only the short, clean clip. Export this as a WAV.

Next is to visualize this with R.

```
library(tuneR)
library(seewave)
setWavPlayer('mplayer') # Set the command-line WAV player
w <- readWave('~/Music/Dolphin-Vocalization.wav')
spectro( w, flim = c(0,7), osc=T, listen=T )
```



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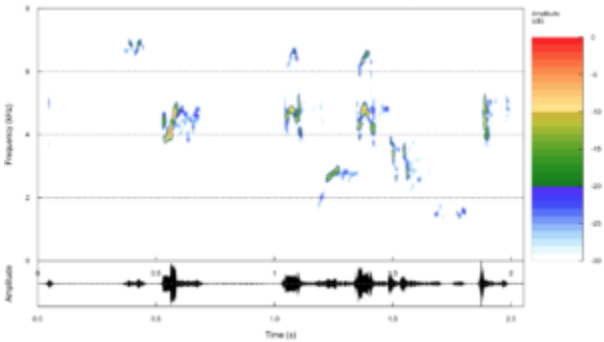
How about a birdsong?

```
w <- readWave('~/Music/birdsong-short.wav')
spectro( w, flim = c(0,8), osc=T, listen=T )
```



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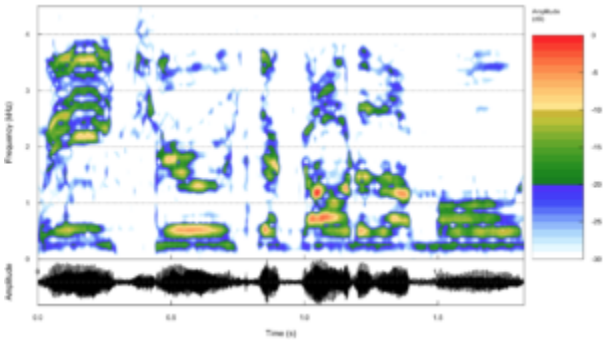
Ok. What about a few seconds of JFK?

```
w <- readWave('~/Music/JFK-Moon.wav')
spectro( w, flim = c(0,4.5), osc=T, listen=T )
```



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FILED UNDER: DATA, SOFTWARE
TAGGED WITH: AUDACITY, AUDIO, BIRD, DOLPHIN, JFK, R

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