Chopping off the Zero Tails that Break Some Blipmovies

16 May 2013

Some blipmovies, possibly those whose recording was terminated by a power failure or computer crash, cannot be opened. We have recently diagnosed one cause of this: *Zero Tails*; i.e. the last portion of the blipmovie ".bm" file is all zeroes, rather than containing actual data. This appears to be caused by Windows or the disk drive delaying writes to the file, while allocating space for it on the disk. For large blipmovies (~45 GB), the Zero Tail can be 1GB or larger. A similar problem has been seen with radar data files created by Russell Technologies' WinHorizon software, so the problem is not unique to radR.

Because the blipmovie index file (.bm.i) indicates the Zero Tail data are actually present, the blipmovie plugin's automatic repair code fails to work, and the blipmovie cannot be opened in radR. (Normally, the blipmovie table of contents is written at the end of a blipmovie file.)

Attached to this page are two files which allow you to repair these blipmovies. You can save these files in the appropriate location of a recent radR installation to avoid having to download and install the latest version of radR:

- **`fix_big_bad_blipmovie.R`**: save in `radR/scripts` folder
- **`blipmovie.plugin.R`**: save in `radR/plugins/blipmovie` folder

Truncating a Zero Tail

- backup any blipmovies you intend to fix (backup both the .bm and .bm.i files)
- start radR
- right click in the plot window to get the radR menu
- choose "Source an R script..." and browse to radR/scripts/ fix_big_bad_blipmovie.R
- select the blipmovie you wish to repair
- the script will examine the blipmovie to see whether it suffers from a zero tail

- if a zero tail was found, then after some time, a window will pop up giving
  the size of the tail and asking you whether to fix the file.
- choose "Yes" to truncate the zero tail. This won't actually reduce the file size, unfortunately.
  NOTE: this step modifies your files. **Make a backup first!**
- you will be prompted for other blipmovies to fix. Hitting "Cancel" terminates the loop

Any blipmovies from which you truncated zero tails should now open in radR. The blipmovie plugin will automatically rebuild the table of contents the first time you open these files.