**Lecture D: Debugging using gdbsource**

In general when a run-time error occurs when running TMB from Rstudio, Rstudio crashes and gives “the bomb”. In principle gdbsource can be used to step through a TMB program but that does not seem to work in Windows. The following system was developed by John Wallace (NWFSC)

**Installing the files and libraries (see READMELectD1.txt)**

The main steps are:

* Get into PowerShell
* Install Ubuntu
* Install gdb and various other libraries’
* Install R

**Debugging (see READMSELectD2.txt):**

Enter Ubuntu (I use the windows emulator) and move the c:/mnt/c/tmb\_debug folder.

*Check for updates***:**

options(width = 140) # Default command line width in Linux-alikes is too short - adjust 140 to fit your current window size

install.packages(c('sys', 'askpass', 'jsonlite', 'mime', 'openssl', 'R6', 'curl', 'httr', 'remotes', 'TMB'))

in Ubuntu move to the folder with your files

*Check all working with TMB*:

library(TMB)

runExample('simple')

opt

*Remove all files and compile a bad version of simple:*

# Just in ccase

if(file.exists('simpleError.o')) file.remove(c('simpleError.o')); if(file.exists('simpleError.so')) file.remove(c('simpleError.so'))

# Compile

compile('simpleError.cpp', "-O0 -g")

# now find there is an error

source('simpleError.R')

*Try again but using gdbsource to find the bug:*

Reenter R

library(TMB)

gdbsource('simpleError.R')