Formato Archivo Data.ss

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Contents

0.0.1 Identificar formato de entrada de datos SS3

1. Identificamos el directorio donde se encuentra el modelo base simple

```
dirname.base <- here("simple")
```

2. Creamos un nuevo directorio donde se encuentra el modelo base simple (para este ejercicio)

```
dirname.simple_base <- here("simple_base")
dir.create(path=dirname.simple_base, showWarnings = TRUE, recursive = TRUE)
```

3. Creamos un nuevo directorio para la nueva versión del modelo modificado

```
dirname.simple_mod <- here("simple_modificado")
dir.create(path=dirname.simple_mod, showWarnings = TRUE, recursive = TRUE)
```

4. Copiamos los archivos del modelo base

```
copy_SS_inputs(dir.old = dirname.base,
               dir.new = dirname.simple_base,
               copy_exe = TRUE,
               verbose = FALSE)
## [1] FALSE
```

5. Copiamos los archivos para el modelo que vamos a modificar

```
copy_SS_inputs(dir.old = dirname.base,
               dir.new = dirname.simple_mod,
               copy_exe = TRUE,
               verbose = FALSE)
## [1] FALSE
```

5. Leer los archivos de Stock Synthesis con la función `SS_read()`

```
inputs <- r4ss::SS_read(dir = dirname.simple_mod)
```

6. Investigar el modelo

Cada uno de los archivos de entrada se lee en R como una lista.

Use `names()` para ver todos los componentes de la lista

Revisamos los elementos de la lista

```
names(inputs)
## [1] "dir"     "path"    "dat"     "ctl"     "start"   "fore"    "wtatage"
```

Revisamos los nombres de los componentes de la lista del archivo .dat

```
dat <- r4ss::SS_readdat(here(dirname.simple_mod,"data.ss")) #base
## Char version is  3.30
## Numeric version is  3.3
dat1<-dat # para modificar
names(dat1)
##  [1] "sourcefile"              "type"
##  [3] "ReadVersion"             "Comments"
##  [5] "styr"                    "endyr"
##  [7] "nseas"                   "months_per_seas"
##  [9] "Nsubseasons"             "spawn_month"
## [11] "Ngenders"                "Nsexes"
## [13] "Nages"                   "N_areas"
## [15] "Nfleets"                 "fleetinfo"
## [17] "fleetnames"              "surveytiming"
## [19] "units_of_catch"          "areas"
## [21] "catch"                   "CPUEinfo"
## [23] "CPUE"                    "N_discard_fleets"
## [25] "use_meanbodywt"          "lbin_method"
## [27] "binwidth"                "minimum_size"
## [29] "maximum_size"            "use_lencomp"
## [31] "len_info"                "N_lbins"
## [33] "lbin_vector"             "lencomp"
## [35] "N_agebins"               "agebin_vector"
## [37] "N_ageerror_definitions"  "ageerror"
## [39] "age_info"                "Lbin_method"
## [41] "agecomp"                 "use_MeanSize_at_Age_obs"
## [43] "MeanSize_at_Age_obs"     "N_environ_variables"
## [45] "N_sizefreq_methods"      "do_tags"
## [47] "morphcomp_data"          "use_selectivity_priors"
## [49] "eof"                     "spawn_seas"
## [51] "Nfleet"                  "Nsurveys"
## [53] "fleetinfo1"              "fleetinfo2"
## [55] "N_meanbodywt"            "comp_tail_compression"
## [57] "add_to_comp"             "max_combined_lbin"
## [59] "N_lbinspop"              "lbin_vector_pop"
```

0. Especificaciones iniciales

```
dat$styr
## [1] 1971
dat$endyr
## [1] 2001
dat$nseas
## [1] 1
dat$months_per_seas
## [1] 12
dat$Nsubseasons
## [1] 2
dat$spawn_month
## [1] 1
dat$Ngenders
## [1] 2
dat$Nsexes
## [1] 2
dat$Nages
## [1] 40
dat$N_areas
## [1] 1
dat$Nfleets
## [1] 3

dat1$styr           <-1971  #numeric
dat1$endyr          <-2001  #numeric
dat1$nseas          <-1     #numeric
dat1$months_per_seas<-12    #numeric
dat1$Nsubseasons    <-2     #numeric
dat1$spawn_month    <-1     #numeric
dat1$Ngenders       <-2     #numeric
dat1$Nsexes         <-2     #numeric
dat1$Nages          <-40    #numeric
dat1$N_areas        <-1     #numeric
dat1$Nfleets        <-3     #numeric
```

1. Sobre los datos de captura

Primero ingresamos las especificaciones de los Datos de captura de la flota

```
# Datos de modelo simple
dat$fleetnames
## [1] "FISHERY" "SURVEY1" "SURVEY2"
dat$surveytiming
## [1] -1  1  1
dat$units_of_catch
## [1] 1 2 2
dat$areas
## [1] 1 1 1

dat$fleetinfo
##   type surveytiming area units need_catch_mult fleetname
## 1    1           -1    1     1               0   FISHERY
## 2    3            1    1     2               0   SURVEY1
## 3    3            1    1     2               0   SURVEY2
```

```
# Modificar con los datos propios
dat1$fleetnames    <-c("FISHERY", "SURVEY1", "SURVEY2")     #character vector
dat1$surveytiming  <-c(-1,1,1)#numeric vector
dat1$units_of_catch<-c(1,2,2) #numeric vector
dat1$areas         <-c(1,1,1) #numeric vector

# crear data.frame para fleetinfo
fleetinfo1<-data.frame(type = c(1,3,3),
                       surveytiming =c(-1,1,1),
                       area=c(1,1,1),
                       units=c(1,2,2),
                       need_catch_mult =c(0,0,0),
                       fleetname=c("FISHERY", "SURVEY1", "SURVEY2") )

dat1$fleetinfo     <- fleetinfo1      #data.frame
```

Luego ingresamos los datos de captura de la flota

```
# Datos de modelo simple
dat$catch
##    year seas fleet catch catch_se
## 1  -999    1     1     0     0.01
## 2  1971    1     1     0     0.01
## 3  1972    1     1   200     0.01
## 4  1973    1     1  1000     0.01
## 5  1974    1     1  1000     0.01
## 6  1975    1     1  2000     0.01
## 7  1976    1     1  3000     0.01
## 8  1977    1     1  4000     0.01
## 9  1978    1     1  5000     0.01
## 10 1979    1     1  6000     0.01
## 11 1980    1     1  8000     0.01
## 12 1981    1     1 10000     0.01
## 13 1982    1     1 10000     0.01
## 14 1983    1     1 10000     0.01
## 15 1984    1     1 10000     0.01
## 16 1985    1     1 10000     0.01
## 17 1986    1     1 10000     0.01
## 18 1987    1     1 10000     0.01
## 19 1988    1     1  9000     0.01
## 20 1989    1     1  8000     0.01
## 21 1990    1     1  7000     0.01
## 22 1991    1     1  6000     0.01
## 23 1992    1     1  4000     0.01
## 24 1993    1     1  4000     0.01
## 25 1994    1     1  4000     0.01
## 26 1995    1     1  4000     0.01
## 27 1996    1     1  4000     0.01
## 28 1997    1     1  3000     0.01
## 29 1998    1     1  3000     0.01
## 30 1999    1     1  3000     0.01
## 31 2000    1     1  3000     0.01
## 32 2001    1     1  3000     0.01
# Modificar con los datos propios
```

```r
catch1<-data.frame(year=dat$catch$year,
                   seas=dat$catch$seas,
                   fleet=dat$catch$fleet,
                   catch=dat$catch$catch,
                   catch_se=dat$catch$catch_se)
dat1$catch<-catch1 # data.frame
```

2. Índices de abundancia

Especificaciones de los índices de abundancia

```r
# Datos de modelo simple
dat$CPUEinfo
##         Fleet Units Errtype SD_Report
## FISHERY     1     1       0         0
## SURVEY1     2     1       0         1
## SURVEY2     3     0       0         0
# Modificar con los datos propios
CPUEinfo1<-data.frame(Fleet=dat$CPUEinfo$Fleet,
                      Units=dat$CPUEinfo$Units,
                      Errtype=dat$CPUEinfo$Errtype,
                      SD_Report=dat$CPUEinfo$SD_Report)
row.names(CPUEinfo1)<-c("FISHERY", "SURVEY1", "SURVEY2")

dat1$CPUEinfo<-dat$CPUEinfo # data.frame
```

Datos índices de abundancia

```r
# Datos de modelo simple
names(dat$CPUE)
## [1] "year"   "seas"   "index"  "obs"    "se_log"

# Modificar con los datos propios
CPUE1<-data.frame(year=dat$CPUE$year,
                  seas=dat$CPUE$seas,
                  index=dat$CPUE$index,
                  obs=dat$CPUE$obs,
                  se_log=dat$CPUE$se_log)

dat1$CPUE<-CPUE1 # data.frame
```

Datos de descarte y tallas medias

```r
# datos de modelo simple
dat$N_discard_fleets
## [1] 0
dat$use_meanbodywt
## [1] 0

# Modificar con los datos propios
dat1$N_discard_fleets <-0 #numeric
dat1$use_meanbodywt   <-0 #numeric
```

Especificación de los Datos composición de tallas

```r
# datos de modelo simple
dat$lbin_method
```

```
## [1] 2
dat$binwidth
## [1] 2
dat$minimum_size
## [1] 10
dat$maximum_size
## [1] 94
dat$use_lencomp
## [1] 1

# Modificar con los datos propios
dat1$lbin_method  <-2 #numeric
dat1$binwidth     <-2  #numeric
dat1$minimum_size <-10 #numeric
dat1$maximum_size <-94 #numeric
dat1$use_lencompz <-1   #numeric
```

Datos de composición de tallas

```
# datos de modelo simple
names(dat$len_info)
## [1] "mintailcomp"   "addtocomp"     "combine_M_F"   "CompressBins"
## [5] "CompError"     "ParmSelect"    "minsamplesize"

# Modificar con los datos propios
len_info1 <- data.frame(mintailcomp=dat$len_info$mintailcomp,
                        addtocomp=dat$len_info$addtocomp,
                        combine_M_F=dat$len_info$combine_M_F,
                        CompressBins=dat$len_info$CompressBins,
                        CompError=dat$len_info$CompError,
                        ParmSelect=dat$len_info$ParmSelect,
                        minsamplesize=dat$len_info$minsamplesize)

row.names(len_info1)<-c("FISHERY", "SURVEY1", "SURVEY2")

dat1$len_info   <- len_info1 #data.frame
```

Especificación del vector de tallas

```
# datos de modelo simple
dat$N_lbins
## [1] 25
dat$lbin_vector
##  [1] 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 68 72 76 80 90

# Modificar con los datos propios
dat1$N_lbins     <-25  #numeric
dat1$lbin_vector <-c(seq(26,64,2),seq(68,80,4),90) #numeric vector
```

Datos de composición de tallas

```
# datos de modelo simple
dat$lencomp
##      Yr Seas FltSvy Gender Part Nsamp f26 f28 f30 f32 f34 f36 f38 f40 f42 f44
## 1  1971    7      1      3    0   125   0   0   0   0   0   0   0   0   0   4
## 2  1972    7      1      3    0   125   0   0   0   0   0   0   0   0   0   3
```

```
## 3  1973    7      1      3    0   125    0    0    0    0    0    0    0    0    0    0
## 4  1974    7      1      3    0   125    0    0    0    0    0    0    0    0    0    2
## 5  1975    7      1      3    0   125    0    0    0    0    0    0    0    2    1    2
## 6  1976    7      1      3    0   125    0    0    0    0    0    0    0    2    1    0
## 7  1977    7      1      3    0   125    0    0    0    0    0    0    0    1    0    2
## 8  1978    7      1      3    0   125    0    0    0    0    0    0    5    1    1    1
## 9  1979    7      1      3    0   125    0    0    0    0    0    0    0    0    0    0
## 10 1980    7      1      3    0   125    0    0    0    0    0    0    0    4    0    0
## 11 1981    7      1      3    0   125    0    0    0    0    0    0    1    0    0    0
## 12 1982    7      1      3    0   125    0    0    0    0    0    0    0    0    5    2
## 13 1983    7      1      3    0   125    0    0    0    0    0    0    0    0    0    0
## 14 1984    7      1      3    0   125    0    0    0    0    0    0    1    0    0    4
## 15 1985    7      1      3    0   125    0    0    0    0    0    0    0    0    1    1
## 16 1986    7      1      3    0   125    0    0    0    3    1    0    1    2    0    4
## 17 1987    7      1      3    0   125    0    0    0    0    1    1    1    1    1    0
## 18 1988    7      1      3    0   125    0    0    0    0    0    2    0    1    4    2
## 19 1989    7      1      3    0   125    0    0    0    0    0    1    0    2    1    3
## 20 1990    7      1      3    0   125    0    0    0    0    0    0    0    2    2    2
## 21 1991    7      1      3    0   125    0    0    0    0    0    0    0    3    0    3
## 22 1992    7      1      3    0   125    0    0    0    0    2    2    0    1    1    1
## 23 1993    7      1      3    0   125    0    0    0    0    0    0    1    2    2    2
## 24 1994    7      1      3    0   125    0    0    0    0    0    0    0    0    0    4
## 25 1995    7      1      3    0   125    0    0    0    1    0    0    1    1    1    1
## 26 1996    7      1      3    0   125    0    0    0    1    0    2    1    0    2    4
## 27 1997    7      1      3    0   125    0    0    0    2    0    0    2    2    0    0
## 28 1998    7      1      3    0   125    0    0    0    0    3    1    2    2    2    2
## 29 1999    7      1      3    0   125    0    0    0    0    1    0    1    1    3    0
## 30 2000    7      1      3    0   125    0    0    0    0    0    1    0    0    1    2
## 31 2001    7      1      3    0   125    0    0    0    0    2    1    0    1    1    0
## 32 1977    7      2      3    0   125    0    0    0    0    3    0    0    2    2    3
## 33 1980    7      2      3    0   125    0    0    0    0    1    1    1    3    2    2
## 34 1983    7      2      3    0   125    0    0    0    0    2    3    3    5    2    4
## 35 1986    7      2      3    0   125    0    0    0    0    2    1    1    4    6    2
## 36 1989    7      2      3    0   125    0    0    0    0    0    5    8    3    3    5
## 37 1992    7      2      3    0   125    0    0    0    0    0    5    6    6    5    3
## 38 1995    7      2      3    0   125    0    0    0    0    2    0    0    4    7    5
## 39 1998    7      2      3    0   125    0    0    0    3    1    1    2    3    4    6
## 40 2001    7      2      3    0   125    0    0    0    0    0    2    3    5    7    5
## 41 2002    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 42 2003    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 43 2004    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 44 2005    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 45 2006    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 46 2007    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 47 2008    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 48 2009    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 49 2010    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 50 2011    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 51 2012    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 52 2013    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 53 2014    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 54 2015    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 55 2016    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
```

```
## 56 2017    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 57 2018    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 58 2019    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 59 2020    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 60 2021    7     -1      3    0   125    1    1    1    1    1    1    1    1    1    1
## 61 2002    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 62 2005    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 63 2008    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 64 2011    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 65 2014    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 66 2017    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
## 67 2020    7     -2      3    0   125    1    1    1    1    1    1    1    1    1    1
##     f46 f48 f50 f52 f54 f56 f58 f60 f62 f64 f68 f72 f76 f80 f90 m26 m28 m30 m32
## 1     1   1   2   4   1   5   6   2   3  11   8   4   5   0   0   0   0   0   0
## 2     0   1   2   1   1   6   2   7   4  10  10   4   5   3   0   0   0   0   0
## 3     0   0   7   3   4   5   6   3  10  12   6  10   9   0   0   0   0   0   0
## 4     2   0   1   1   1   4   5   3   8   8  10   4   7   0   0   0   0   0   0
## 5     1   1   3   0   2   5   6   2   3   5   9  10  10   0   0   0   0   0   0
## 6     2   2   0   3   2   3   3   3   7  18  14   4   2   2   0   0   0   0   0
## 7     0   2   2   4   0   2   6   7   5  11   7   8   5   4   0   0   0   0   0
## 8     0   1   3   1   8   4   4   6   5   9   8   3   6   5   0   0   0   0   0
## 9     3   5   2   1   5   0   5   5   2   7   4   7   5   5   0   0   0   0   0
## 10    1   0   2   4   3   2   3   2   3  16  11  12   4   2   0   0   0   0   0
## 11    3   1   2   2   4   5   2   7   3  13   9   8   4   0   0   0   0   0   0
## 12    1   3   2   3   8   2   5   4   4   6  10  11   0   0   0   0   0   0   0
## 13    7   1   1   5   4   2   2   6   2   8  13   8   6   0   0   0   0   0   0
## 14    3   0   3   1   2   5   2   4   7  11   9   6   8   0   0   0   0   0   0
## 15    2   2   5   0   3   3   5  11   4   8   9   3   2   4   0   0   0   0   0
## 16    2   0   0   4   2   8   3   5  11   5   6   6   1   0   0   0   0   0   0
## 17    2   1   6   4   2   7   6   3   5  11   9   5   4   0   0   0   0   0   0
## 18    1   1   2   2   1   7   4   5   6   9   9   2   1   0   0   0   0   0   0
## 19    3   2   1   4   4   3   4   2   3   9   5  11   2   0   0   0   0   0   0
## 20    2   2   2   2   9   4   4   6   6   8   4   4   1   0   0   0   0   0   0
## 21    3   5   5   4   3   3   0   1   6  10   4   4   0   0   0   0   0   0   0
## 22    3   3   2   7   6   4   4   2   5   6   3   6   0   0   0   0   0   0   0
## 23    2   2   4   5  10   5   7   3   2  12   7   6   0   0   0   0   0   0   0
## 24    1   4   3   4   4   9   4   6   7   8   5   3   2   0   0   0   0   0   0
## 25    2   2   5   8   4  11   5   5   4   8   7   0   0   0   0   0   0   0   0
## 26    3   3   2   3   6   6   3   3   4  11   6   6   0   0   0   0   0   0   0
## 27    3   1   6   4   6   2   9   4   5   9  12   0   0   0   0   0   0   0   0
## 28    3   1   3   6   2   0   7   4   5  12   3   1   2   0   0   0   0   0   0
## 29    1   2   2   8   3   4   7   3   5   6   5   7   0   0   0   0   0   0   0
## 30    4   3   1   6   4   4   3   3   4   5  11   0   0   0   0   0   0   0   0
## 31    2   7   6   9   4   2   5   6   4   7   6   4   0   0   0   0   0   0   0
## 32    1   2   5   0   5   6   5   3   3   8   4  10   0   0   0   0   0   0   0
## 33    1   3   6   1   2   5   1   3   3   8   3   3   4   1   0   0   0   0   0
## 34    5   2   3   2   5   5   6   5   3   3   1   8   0   0   0   0   0   0   0
## 35    3   1   1   1   5   5   5   3   3   7   7   3   2   0   0   0   0   0   1
## 36    1   2   4   1   2   2   4   3   2   3   3   2   0   0   0   0   0   0   2
## 37    2   5   6   6   5   5   1   3   1   3   4   0   0   0   0   0   0   0   0
## 38    5   5   6   2   5   6   5   6   0   3   4   1   0   0   0   0   0   0   0
## 39    4   6   5   3   1   2   1   1   1   5   2   2   0   0   0   0   0   0   0
## 40    9   2   9   5   4   4   1   1   2   2   8   0   0   0   0   0   0   0   0
```

```
## 41   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 42   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 43   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 44   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 45   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 46   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 47   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 48   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 49   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 50   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 51   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 52   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 53   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 54   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 55   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 56   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 57   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 58   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 59   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 60   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 61   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 62   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 63   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 64   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 65   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 66   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 67   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
##     m34 m36 m38 m40 m42 m44 m46 m48 m50 m52 m54 m56 m58 m60 m62 m64 m68 m72 m76
## 1    0   0   0   0   1   0   1   3   0   3   4   2   4   5   9  17   8   3   8
## 2    0   0   0   0   1   3   2   4   1   3   1   4   4   7   3   8  11   4  10
## 3    0   0   0   0   0   0   0   3   0   1   3   0   7   2   6   7   8   5   5
## 4    0   0   0   1   2   0   4   0   0   1   5   6   6   4   6  15  11   5   0
## 5    0   0   0   0   0   4   2   2   1   2   3   5   1   4   5  13  11   6   4
## 6    0   0   1   0   0   0   0   0   1   2   4   6   6   5   7  12   6   4   3
## 7    0   2   1   3   0   1   3   3   2   0   1   4   5   3   7   7   9   5   3
## 8    0   0   0   2   1   1   2   1   1   2   2   4   1   4   1  13   9   6   4
## 9    0   0   0   0   2   2   1   3   2   7   2   4   4   5   8  10   8   6   4
## 10   0   0   0   0   1   4   1   1   2   3   5   2   6   3   1  10  11   4   2
## 11   0   2   1   1   1   2   2   3   3   1   6   1   2   1   7   5  10   6   7
## 12   0   0   0   1   0   3   0   2   1   5   6   1   8   5   5  10   5   2   5
## 13   0   0   0   0   0   4   1   0   3   3   0   4   9   5   4   7   8   6   6
## 14   0   0   0   3   3   1   1   3   3   3   2   2   4   4   8  11   4   5   2
## 15   0   0   0   1   0   1   2   0   3   8   3   4   3   8   4  13   7   4   1
## 16   0   2   2   0   1   2   1   3   4   2   3   4   6   5   5   6   4   6   5
## 17   0   0   0   2   1   0   5   2   4   3   4   4   4   2   4   7   6   5   2
## 18   0   2   1   1   3   1   3   6   3   3   0   4   5   3   5   9   9   8   0
## 19   0   0   3   6   2   1   3   0   4   3   3   2   5   7   7   9   3   3   4
## 20   0   1   1   2   2   3   8   2   8   6   6   3   2   3   4   6   5   1   2
## 21   1   1   1   1   3   4   6   5   3   5   6   6   6   6   4   7   3   3   0
## 22   0   0   0   5   3   1   3   5   3   5   8   3   4   6   3  13   4   1   0
## 23   0   0   0   3   1   1   3   2   6   4   8   4   6   4   2   4   3   1   1
## 24   0   0   0   2   0   2   1   1   4   4  10   5   8   6   3   5   6   1   3
## 25   1   0   0   1   1   3   3   1   2   6   3   4   4   8   3  12   4   3   0
```

```
## 26   0   0   1   2   0   3   3   1   0   5   4   6   7   4   5  10   3   4   1
## 27   0   3   1   0   5   3   2   4   1   1   6   4   1   6   6   5   6   4   0
## 28   4   1   1   0   2   2   0   1   1   4   6   2   5   4   6  13   7   4   1
## 29   0   0   7   3   4   2   3   2   5   2  11   3   5   1   5   7   4   2   0
## 30   0   2   4   4   3   3   6   3   4   1   8   3   5   1   4  11   1   5   5
## 31   0   2   0   1   0   2   3   2   5   3   8   3   3   5   2  10   6   3   0
## 32   0   0   6   3   3   2   2   5   2   3   3   8   1   1   6   5   8   3   2
## 33   1   1   2   3   4   4   4   4   4   1   1   1   5   3   5  14   7   5   2
## 34   2   2   1   2   2   4   2   6   2   3   5   2   4   4   1   6  10   0   0
## 35   2   1   3   2   1   5   0   2   5   6   7   3   5   2   3   7   4   4   0
## 36   2   3   5   2   5   8   8   7   3   2   4   3   6   3   1   8   0   0   0
## 37   0   2   4   3   6   5   3   6   6   2   5   4   3   1   3   1   2   3   0
## 38   2   3   0   1   2   1   5   3   4   9   5   3   3   4   2   5   4   3   0
## 39  10   5   4   2   3   7   2   1   4   4   5   3   2   3   1   8   6   2   0
## 40   2   1   4   6   5   6   4   3   4   4   5   1   3   2   1   3   2   0   0
## 41   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 42   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 43   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 44   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 45   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 46   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 47   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 48   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 49   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 50   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 51   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 52   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 53   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 54   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 55   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 56   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 57   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 58   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 59   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 60   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 61   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 62   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 63   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 64   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 65   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 66   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
## 67   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1   1
##     m80 m90
## 1     0   0
## 2     0   0
## 3     3   0
## 4     3   0
## 5     0   0
## 6     0   0
## 7     0   0
## 8     0   0
## 9     1   0
## 10    0   0
```

```
## 11   0   0
## 12   0   0
## 13   0   0
## 14   0   0
## 15   0   0
## 16   0   0
## 17   0   0
## 18   0   0
## 19   0   0
## 20   0   0
## 21   0   0
## 22   0   0
## 23   0   0
## 24   0   0
## 25   0   0
## 26   0   0
## 27   0   0
## 28   0   0
## 29   0   0
## 30   0   0
## 31   0   0
## 32   0   0
## 33   0   0
## 34   0   0
## 35   0   0
## 36   0   0
## 37   0   0
## 38   0   0
## 39   0   0
## 40   0   0
## 41   1   1
## 42   1   1
## 43   1   1
## 44   1   1
## 45   1   1
## 46   1   1
## 47   1   1
## 48   1   1
## 49   1   1
## 50   1   1
## 51   1   1
## 52   1   1
## 53   1   1
## 54   1   1
## 55   1   1
## 56   1   1
## 57   1   1
## 58   1   1
## 59   1   1
## 60   1   1
## 61   1   1
## 62   1   1
## 63   1   1
```

```
## 64   1   1
## 65   1   1
## 66   1   1
## 67   1   1

# Modificar con los datos propios
new_lencomp_flt_1 <- data.frame(Yr = 2002:2021,
                                Seas = 7,
                                FltSvy = -1,
                                Gender = 3,
                                Part = 0,
                                Nsamp = 125)
new_lencomp_flt_2 <- data.frame(Yr = seq(2002, 2021, by = 3),
                                Seas = 7,
                                FltSvy = -2,
                                Gender = 3,
                                Part = 0,
                                Nsamp = 125)

dat_rows_names <- colnames(dat$lencomp)[-(1:6)]
dat_rows <- as.data.frame(matrix(data = 1, nrow = nrow(new_lencomp_flt_1)+nrow(new_lencomp_flt_2),
                  ncol = length(dat_rows_names)))
names(dat_rows) <- dat_rows_names


new_lencomp <- rbind(new_lencomp_flt_1, new_lencomp_flt_2)
new_lencomp <- cbind(new_lencomp, dat_rows)

dat1$lencomp <- rbind(dat$lencomp, new_lencomp) #data.frame
```

Datos de error edad

```
# datos de modelo simple
dat$ageerror
##    age0  age1  age2  age3  age4  age5  age6  age7  age8  age9  age10  age11
## 1 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500 8.500 9.500 10.500 11.500
## 2 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001  0.001  0.001
## 3 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500 8.500 9.500 10.500 11.500
## 4 0.500 0.650 0.670 0.700 0.730 0.760 0.800 0.840 0.880 0.920  0.970  1.030
##    age12  age13  age14  age15  age16  age17  age18  age19  age20  age21  age22
## 1 12.500 13.500 14.500 15.500 16.500 17.500 18.500 19.500 20.500 21.500 22.500
## 2  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001
## 3 12.500 13.500 14.500 15.500 16.500 17.500 18.500 19.500 20.500 21.500 22.500
## 4  1.090  1.160  1.230  1.320  1.410  1.510  1.620  1.750  1.890  2.050  2.230
##    age23  age24  age25  age26  age27  age28  age29  age30  age31  age32  age33
## 1 23.500 24.500 25.500 26.500 27.500 28.500 29.500 30.500 31.500 32.500 33.500
## 2  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001  0.001
## 3 23.500 24.500 25.500 26.500 27.500 28.500 29.500 30.500 31.500 32.500 33.500
## 4  2.450  2.710  3.000  3.000  3.000  3.000  3.000  3.000  3.000  3.000  3.000
##    age34  age35  age36  age37  age38  age39  age40
## 1 34.500 35.500 36.500 37.500 38.500 39.500 40.500
## 2  0.001  0.001  0.001  0.001  0.001  0.001  0.001
## 3 34.500 35.500 36.500 37.500 38.500 39.500 40.500
## 4  3.000  3.000  3.000  3.000  3.000  3.000  3.000
```

```
# Modificar con los datos propios
dat1$ageerror <- dat$ageerror #data.frame
```

Especificaciones de los datos de composicion de edad

```
# datos de modelo simple
dat$age_info
##         mintailcomp addtocomp combine_M_F CompressBins CompError ParmSelect
## FISHERY           0     1e-07           1            0         0          0
## SURVEY1           0     1e-07           1            0         0          0
## SURVEY2           0     1e-07           1            0         0          0
##         minsamplesize
## FISHERY             1
## SURVEY1             1
## SURVEY2             1

# Modificar con los datos propios
dat1$age_info <- dat$age_info #data.frame
```

Datos de composicion de edad

```
# datos de modelo simple
dat$agecomp
##      Yr Seas FltSvy Gender Part Ageerr Lbin_lo Lbin_hi Nsamp f1 f2 f3 f4 f5 f6
## 1  1971    7      1      3    0      2       1      -1    75  0  0  0  0  3  1
## 2  1972    7      1      3    0      2       1      -1    75  2  1  1  1  0  3
## 3  1973    7      1      3    0      2       1      -1    75  0  0  1  0  1  1
## 4  1974    7      1      3    0      2       1      -1    75  0  0  2  0  1  4
## 5  1975    7      1      3    0      2       1      -1    75  0  0  1  2  3  1
## 6  1976    7      1      3    0      2       1      -1    75  0  0  1  0  2  2
## 7  1977    7      1      3    0      2       1      -1    75  0  0  0  0  7  1
## 8  1978    7      1      3    0      2       1      -1    75  0  0  3  2  1  1
## 9  1979    7      1      3    0      2       1      -1    75  2  0  1  5  2  1
## 10 1980    7      1      3    0      2       1      -1    75  0  1  0  2  0  1
## 11 1981    7      1      3    0      2       1      -1    75  0  4  0  3  7  2
## 12 1982    7      1      3    0      2       1      -1    75  0  2  1  1  3  3
## 13 1983    7      1      3    0      2       1      -1    75  0  0  0  6  1  2
## 14 1984    7      1      3    0      2       1      -1    75  0  0  0  3  4  0
## 15 1985    7      1      3    0      2       1      -1    75  0  0  0  5  1  2
## 16 1986    7      1      3    0      2       1      -1    75  0  2  2  1  3  7
## 17 1987    7      1      3    0      2       1      -1    75  0  3  1  3  1  2
## 18 1988    7      1      3    0      2       1      -1    75  1  0  5  0  2  3
## 19 1989    7      1      3    0      2       1      -1    75  0  3  1  1  4  3
## 20 1990    7      1      3    0      2       1      -1    75  0  0  7  3  7  3
## 21 1991    7      1      3    0      2       1      -1    75  0  0  4  1  7  4
## 22 1992    7      1      3    0      2       1      -1    75  0  0  7  4  5 10
## 23 1993    7      1      3    0      2       1      -1    75  0  0  7  4  3  7
## 24 1994    7      1      3    0      2       1      -1    75  0  0  3  6  4  4
## 25 1995    7      1      3    0      2       1      -1    75  3  1  2  0  8  5
## 26 1996    7      1      3    0      2       1      -1    75  0  0  1  1  5  4
## 27 1997    7      1      3    0      2       1      -1    75  0  5  3  5  0  2
## 28 1998    7      1      3    0      2       1      -1    75  5  3  1  4  1  2
## 29 1999    7      1      3    0      2       1      -1    75  2  2  3  3  6  3
## 30 2000    7      1      3    0      2       1      -1    75  0  2  1  9  4  4
## 31 2001    7      1      3    0      2       1      -1    75  0  1  1  6  8  1
```

```
## 32 1977    7      2      3    0      2       1      -1    75  2  1  2  1  0  4
## 33 1980    7      2      3    0      2       1      -1    75  3  3  4  6  5  2
## 34 1983    7      2      3    0      2       1      -1    75  3  4  3  2  3  0
## 35 1986    7      2      3    0      2       1      -1    75  3  0  2  5  3  5
## 36 1989    7      2      3    0      2       1      -1    75  7  3  7  3  2  1
## 37 1992    7      2      3    0      2       1      -1    75  2  5  3  4  0  5
## 38 1995    7      2      3    0      2       1      -1    75  0  5  2  3  2  3
## 39 1998    7      2      3    0      2       1      -1    75  9  4  4  3  1  1
## 40 2001    7      2      3    0      2       1      -1    75  4  0  4 11  5  3
## 41 2002    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 42 2003    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 43 2004    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 44 2005    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 45 2006    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 46 2007    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 47 2008    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 48 2009    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 49 2010    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 50 2011    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 51 2012    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 52 2013    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 53 2014    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 54 2015    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 55 2016    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 56 2017    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 57 2018    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 58 2019    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 59 2020    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 60 2021    7     -1      3    0      2      -1      -1    75  1  1  1  1  1  1
## 61 2002    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 62 2005    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 63 2008    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 64 2011    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 65 2014    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 66 2017    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
## 67 2020    7     -2      3    0      2      -1      -1    75  1  1  1  1  1  1
##    f7 f8 f9 f10 f11 f12 f13 f14 f15 f20 f25 m1 m2 m3 m4 m5 m6 m7 m8 m9 m10 m11
## 1   1  4  2   1   0   1   2   2  13   2   3  0  0  4  2  1  1  2  1  2   2   1
## 2   1  2  2   5   3   1   2   2   9   8   3  0  0  1  2  3  1  3  0  5   1   3
## 3   2  3  3   1   1   5   2   2   7   4   3  0  0  0  4  1  3  5  1  2   3   1
## 4   2  2  2   4   1   1   1   2   6   6   6  0  0  4  1  2  2  1  2  0   0   1
## 5   1  1  2   1   2   2   2   3  10   3   4  0  0  0  0 10  1  2  3  2   1   0
## 6   2  1  3   1   2   3   1   1   7   1   3  0  0  0  0  7  4  3  2  1   2   4
## 7   0  0  2   4   2   2   3   1   7   2   3  0  0  2  1  4  2  3  3  4   2   2
## 8   0  2  0   2   4   3   1   0   9   4   6  0  0  2  2  5  1  0  2  3   2   4
## 9   2  3  3   3   2   2   1   0   3   7   0  0  0  2  0  1  0  2  3  2   5   1
## 10  1  2  2   3   2   1   1   0   7   8   0  0  0  0  3  2  1  1  1  2   2   4
## 11  2  2  2   1   1   2   2   1   4   4   6  0  0  3  2  2  1  1  3  2   2   0
## 12  2  1  1   2   2   1   0   2   6   3   9  0  0  0  0  3  5  0  1  4   1   1
## 13  2  2  1   1   4   5   0   0   6   2   7  0  0  3  1  3  5  1  0  1   1   3
## 14  3  6  3   1   4   0   2   0   7   2   3  0  0  3  1  5  4  2  3  5   1   2
## 15  4  5  0   2   4   3   2   3   3   4   5  0  0  0  1  2  3  2  4  2   0   2
## 16  4  3  2   2   2   2   2   0   4   2   2  0  0  0  0  4  4  4  1  2   3   4
```

```
## 17  3  4  2  3  3  2  2  1  3  2  0  0  0  7  1  5  1  4  2  4  3  2
## 18  3  3  4  3  3  1  0  3  3  5  0  0  1  3  3  2  2  1  4  3  2  1
## 19  7  1  5  1  1  4  1  0  1  7  0  0  0  5  3  4  1  1  5  3  1  5
## 20  0  1  3  0  1  1  1  1  3  4  0  0  1  0  8  4  3  3  2  4  5  1
## 21  2  3  2  1  0  1  1  3  3  3  0  0  3  4  2  5  4  4  1  3  3  0
## 22  4  3  0  3  1  0  2  0  2  1  1  0  0  5  1  3  8  3  3  1  2  0
## 23  5  7  2  1  0  1  0  4  0  0  0  0  0  3  3  4  3  7  0  0  4  2
## 24  4  9  4  5  1  0  0  0  0  0  3  0  0  0  9  0  7  2  2  3  4  0
## 25  2  6  2  5  0  2  1  4  0  0  0  0  0  0  2  5  3  2  3  5  6  1
## 26  3  7  2  3  2  3  3  1  5  1  0  0  2  5  0  5  4  1  2  3  4  2
## 27  4  3  4  5  1  1  3  2  2  0  0  0  0  0  3  1  6  5  5  2  3  4
## 28  3  4  3  2  0  2  0  1  5  0  0  0  0  4  6  4  2  7  2  1  1  6
## 29  3  3  8  3  3  3  0  1  1  0  0  0  1  3  3  3  5  4  0  4  2  4
## 30  2  2  4  3  1  0  1  0  5  0  0  0  0  8 11  3  1  2  2  1  1  2
## 31  1  0  5  2  2  2  0  3  4  0  0  0  0  5  3  4  6  3  3  1  4  3
## 32  3  3  2  1  1  0  1  1  4  7  0  0  2  2  7  1  0  1  0  1  2  4
## 33  0  2  3  0  3  2  2  2  2  1  4  0  2  3  5  3  1  2  1  1  2  1
## 34  0  7  0  0  3  1  1  0  5  6  0  0  2  2  4  1  2  3  4  3  2  0
## 35  5  3  1  3  2  1  1  1  3  0  2  0  0  2  3  6  6  1  3  3  1  1
## 36  0  3  2  1  2  1  1  5  0  0  0  0  4  8  6  1  2  3  5  1  1  2
## 37  0  5  2  0  0  0  1  0  3  0  0  0  4  5  5 10  8  6  2  1  2  0
## 38  5  4  2  1  1  2  0  0  3  0  0  0  2  3  5 11  2  6  5  1  2  1
## 39  1  1  3  3  1  2  1  7  0  0  0  0  6  5  3  5  1  3  3  2  3  2
## 40  4  2  2  0  0  0  0  0  2  0  0  0  2  4  7 11  5  2  0  2  2  2
## 41  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 42  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 43  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 44  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 45  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 46  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 47  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 48  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 49  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 50  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 51  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 52  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 53  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 54  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 55  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 56  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 57  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 58  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 59  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 60  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 61  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 62  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 63  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 64  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 65  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 66  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
## 67  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
##    m12 m13 m14 m15 m20 m25
## 1    2   1   2   6   5   8
```

```
## 2    0   2   1   2   3   2
## 3    3   2   0   5   3   6
## 4    2   1   1   6   5   7
## 5    0   0   0   9   3   6
## 6    4   0   0   8  10   0
## 7    2   0   1   8   3   4
## 8    2   0   4   4   3   3
## 9    3   1   2   6   9   1
## 10   2   2   2  11   3   8
## 11   1   2   2   5   3   3
## 12   1   2   1   8   9   0
## 13   0   3   3   5   3   4
## 14   1   2   0   1   2   5
## 15   3   1   1   7   2   2
## 16   0   0   1   5   7   0
## 17   3   1   0   2   1   4
## 18   2   4   0   5   3   0
## 19   2   1   0   2   2   0
## 20   5   1   0   1   2   0
## 21   4   2   0   4   1   0
## 22   1   3   0   1   1   0
## 23   1   1   1   5   0   0
## 24   3   2   0   0   0   0
## 25   0   1   1   3   1   1
## 26   3   0   1   2   0   0
## 27   1   2   3   0   0   0
## 28   3   0   0   2   1   0
## 29   0   1   0   1   0   0
## 30   1   0   2   3   0   0
## 31   1   1   2   3   0   0
## 32   1   2   2   7  10   0
## 33   1   1   0   3   1   4
## 34   1   1   2   7   1   2
## 35   1   1   2   2   3   0
## 36   0   4   0   0   0   0
## 37   0   1   0   1   0   0
## 38   2   0   0   2   0   0
## 39   0   1   0   0   0   0
## 40   0   0   0   1   0   0
## 41   1   1   1   1   1   1
## 42   1   1   1   1   1   1
## 43   1   1   1   1   1   1
## 44   1   1   1   1   1   1
## 45   1   1   1   1   1   1
## 46   1   1   1   1   1   1
## 47   1   1   1   1   1   1
## 48   1   1   1   1   1   1
## 49   1   1   1   1   1   1
## 50   1   1   1   1   1   1
## 51   1   1   1   1   1   1
## 52   1   1   1   1   1   1
## 53   1   1   1   1   1   1
## 54   1   1   1   1   1   1
```

```
## 55   1   1   1   1   1   1
## 56   1   1   1   1   1   1
## 57   1   1   1   1   1   1
## 58   1   1   1   1   1   1
## 59   1   1   1   1   1   1
## 60   1   1   1   1   1   1
## 61   1   1   1   1   1   1
## 62   1   1   1   1   1   1
## 63   1   1   1   1   1   1
## 64   1   1   1   1   1   1
## 65   1   1   1   1   1   1
## 66   1   1   1   1   1   1
## 67   1   1   1   1   1   1

# Modificar con los datos propios
new_agecomp_flt_1 <- data.frame(Yr = 2002:2021,
                                Seas = 7,
                                FltSvy = -1,
                                Gender = 3,
                                Part = 0,
                                Ageerr = 2,
                                Lbin_lo = -1,
                                Lbin_hi = -1,
                                Nsamp = 75)
new_agecomp_flt_2 <- data.frame(Yr = seq(2002, 2021, by = 3),
                                Seas = 7,
                                FltSvy = -2,
                                Gender = 3,
                                Part = 0,
                                Ageerr = 2,
                                Lbin_lo = -1,
                                Lbin_hi = -1,
                                Nsamp = 75)

dat_rows_names <- colnames(dat$agecomp)[-(1:9)]

dat_rows <- as.data.frame(matrix(data = 1, nrow = nrow(new_agecomp_flt_1)+nrow(new_agecomp_flt_2),
                                 ncol = length(dat_rows_names)))

names(dat_rows) <- dat_rows_names


new_agecomp  <- rbind(new_agecomp_flt_1, new_agecomp_flt_2)
new_agecomp  <- cbind(new_agecomp, dat_rows)
dat1$agecomp <- rbind(dat$agecomp, new_agecomp) #data.frame
```

Otros datos

```
# datos de modelo simple
dat$use_MeanSize_at_Age_obs
## [1] 1
dat$MeanSize_at_Age_obs
##     Yr Seas FltSvy Gender Part AgeErr Ignore      f1      f2      f3      f4
## 1 1971    7      1      3    0      1      2 29.8931 40.6872 44.7411  50.027
```

```
## 2 1995    7      1      3    0      1      2 32.8974 38.2709 43.8878 49.2745
## 3 1971    7      2      3    0      1      2 34.1574 38.8017  43.122 47.2042
## 4 1995    7      2      3    0      1      2 34.6022 38.3176 42.9052 48.2752
##        f5     f6     f7     f8     f9     f10     f11     f12     f13
## 1 52.5794 56.1489 57.1033 61.1728 61.7417  63.368 64.4088 65.6889  67.616
## 2 53.5343 55.1978 57.4389 62.0368 62.1445 62.9579 65.0857 65.6433  66.082
## 3 49.0502 51.6446 56.3201 56.3038 60.5509 60.2537 59.8042 62.9309  66.842
## 4 50.6189  53.476 56.7806 59.4127 60.5964 60.5537 65.3608 64.7263 67.4315
##       f14     f15     f20     f25      m1      m2      m3      m4      m5
## 1 68.5972 69.9177 71.0443 72.3609 32.8188 39.5964  43.988 50.1693 53.1729
## 2 65.6117 67.0784 69.3493 72.2966 32.6552 40.5546 44.6292 50.4063 52.0796
## 3 67.8089 71.1612 70.7693 74.5593 35.3811 40.7375 44.5192 47.6261 52.5298
## 4 67.1405 68.9908 71.9886 74.1594  35.169 40.2404 43.8878 47.3519 49.9906
##        m6      m7      m8      m9     m10     m11     m12     m13     m14
## 1 54.9822 55.3463 60.3509 60.7439 62.3432 64.3224 65.1032 64.1965 66.7452
## 2 56.1529 56.9004  60.218 61.5894 63.6613 64.0222 63.4926 65.8115 69.5357
## 3 53.5552 54.9851 58.9231 58.9932 61.8625 64.0366 62.7507 63.9754 64.5102
## 4 52.2207 54.9035 58.6058 60.0957 62.4046 62.2298 62.1437 66.2116 65.7657
##       m15     m20     m25 N_f1 N_f2 N_f3 N_f4 N_f5 N_f6 N_f7 N_f8 N_f9 N_f10
## 1 67.5154 70.8749 71.2768   20   20   20   20   20   20   20   20   20    20
## 2 68.2448  66.881 71.5122   20   20   20   20   20   20   20   20   20    20
## 3 66.9779 67.7361 69.1298   20   20   20   20   20   20   20   20   20    20
## 4 69.9544 70.6518 71.4371   20   20   20   20   20   20   20   20   20    20
##   N_f11 N_f12 N_f13 N_f14 N_f15 N_f20 N_f25 N_m1 N_m2 N_m3 N_m4 N_m5 N_m6 N_m7
## 1    20    20    20    20    20    20    20   20   20   20   20   20   20   20
## 2    20    20    20    20    20    20    20   20   20   20   20   20   20   20
## 3    20    20    20    20    20    20    20   20   20   20   20   20   20   20
## 4    20    20    20    20    20    20    20   20   20   20   20   20   20   20
##   N_m8 N_m9 N_m10 N_m11 N_m12 N_m13 N_m14 N_m15 N_m20 N_m25
## 1   20   20    20    20    20    20    20    20    20    20
## 2   20   20    20    20    20    20    20    20    20    20
## 3   20   20    20    20    20    20    20    20    20    20
## 4   20   20    20    20    20    20    20    20    20    20

# Modificar con los datos propios
dat1$use_MeanSize_at_Age_obs <- 1 #numeric
dat1$MeanSize_at_Age_obs     <- dat$MeanSize_at_Age_obs #data.frame
```

```
# datos de modelo simple
dat$N_environ_variables
## [1] 0
dat$N_sizefreq_methods
## [1] 0
dat$do_tags
## [1] 0
dat$morphcomp_data
## [1] 0
dat$use_selectivity_priors
## [1] 0
dat$eof
## [1] TRUE

# Modificar con los datos propios
dat1$N_environ_variables    <-0 #numeric
```

```
dat1$N_sizefreq_methods     <-0  #numeric
dat1$do_tags                <-0             #numeric
dat1$morphcomp_data         <-0      #numeric
dat1$use_selectivity_priors <-0 #numeric
dat1$eof                    <-TRUE #logical
```

1 Escribir archivo dat modificado con la función `SS_write`

```
r4ss::SS_writedat(dat1,outfile=here(dirname.simple_mod,"data.ss"),overwrite = TRUE)
```

2 comprobar si el modelo corre al modificar este archivo

```
exe_path <- here("Ejecutables_SS3","3.30.18_release")
ss_exe_mac <- paste(exe_path,"ss_osx",sep= "/")

r4ss::run_SS_models(dirvec = dirname.simple_mod,model=ss_exe_mac,
                    skipfinished=FALSE)
```