Formato Archivo Data.ss

March, 15, 2023

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

```
names(inputs$dat)
##  [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

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

```
inputs$dat$Nfleets
## [1] 3
```

1. Sobre los datos de captura

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

```
inputs$dat$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
# fleetinfo desglosado
inputs$dat$fleetnames
## [1] "FISHERY" "SURVEY1" "SURVEY2"
inputs$dat$surveytiming
## [1] -1  1  1
inputs$dat$units_of_catch
## [1] 1 2 2
inputs$dat$areas
## [1] 1 1 1
```

Luego ingresamos los datos de captura de la flota

```
inputs$dat$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
```

2. Sobre los Datos de índices de abundancia

Primero ingresamos las especificaciones de los datos de los índices de abundancia

```
inputs$dat$CPUEinfo
##         Fleet Units Errtype SD_Report
## FISHERY     1     1       0         0
## SURVEY1     2     1       0         1
## SURVEY2     3     0       0         0
```

Luego ingresamos los datos de los índices de abundancia

```
inputs$dat$CPUE
##    year seas index         obs se_log
## 1  1977    7     2 3.39689e+05    0.3
## 2  1980    7     2 1.93353e+05    0.3
## 3  1983    7     2 1.51984e+05    0.3
## 4  1986    7     2 5.52218e+04    0.3
## 5  1989    7     2 5.92323e+04    0.3
## 6  1992    7     2 3.11375e+04    0.3
## 7  1995    7     2 3.58454e+04    0.3
## 8  1998    7     2 2.74926e+04    0.3
## 9  2001    7     2 3.73383e+04    0.3
## 10 1990    7     3 5.19333e+00    0.7
## 11 1991    7     3 1.17840e+00    0.7
## 12 1992    7     3 5.94383e+00    0.7
## 13 1993    7     3 7.70106e-01    0.7
## 14 1994    7     3 1.63180e+01    0.7
## 15 1995    7     3 1.36339e+00    0.7
## 16 1996    7     3 4.76482e+00    0.7
## 17 1997    7     3 5.10707e+01    0.7
## 18 1998    7     3 1.36095e+00    0.7
## 19 1999    7     3 8.62531e-01    0.7
## 20 2000    7     3 5.97125e+00    0.7
## 21 2001    7     3 1.69379e+00    0.7
```

Datos de descarte y tallas medias

```
inputs$dat$N_discard_fleets
## [1] 0
inputs$dat$use_meanbodywt
## [1] 0
```

Especificación de los Datos composición de tallas

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

Datos de composición de tallas

```
inputs$dat$len_info
##         mintailcomp addtocomp combine_M_F CompressBins CompError ParmSelect
## FISHERY           0     1e-07           0            0         0          0
## SURVEY1           0     1e-07           0            0         0          0
## SURVEY2           0     1e-07           0            0         0          0
##         minsamplesize
## FISHERY             1
## SURVEY1             1
## SURVEY2             1
```

Especificación del vector de tallas

```
inputs$dat$N_lbins
## [1] 25
inputs$dat$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
```

Datos de composición de tallas

```
inputs$dat$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
##     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
##     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
##     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
```

Luego ingresamos los datos de edad

```
inputs$dat$N_agebins
## [1] 17
inputs$dat$agebin_vector
##  [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 20 25
inputs$dat$N_ageerror_definitions
## [1] 2
inputs$dat$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
inputs$dat$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
inputs$dat$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
```

```
##     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
##     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
```

Otros datos

```
inputs$dat$use_MeanSize_at_Age_obs
## [1] 1
inputs$dat$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
```

```
inputs$dat$N_environ_variables
## [1] 0
inputs$dat$N_sizefreq_methods
## [1] 0
inputs$dat$do_tags
## [1] 0
inputs$dat$morphcomp_data
## [1] 0
inputs$dat$use_selectivity_priors
## [1] 0
inputs$dat$eof
## [1] TRUE
```