

# 1 Data structures

The following is a list of the input data structures used in data file for Gmacs.

Table 1: Input data structures

Variable	Symbol	Type	Description
styr	$t$	int	Start year
endyr	$t$	int	End year
tstep	NA	double	time step
ndata		int	number of data groups
nsex	$s$	int	number of sexes
nshell	$v$	int	number of shell conditions
nmature	$m$	int	number of maturity states
nclass	$l$	int	number of size classes in the model
ndclass	$l$	int	number of size classes in the data
ncol		int	number of columns in N-matrix ( $nsex*nshell*nmature*nclass$ )
psex		ivector	starting col pos for sex-specific N
pshell		ivector	starting col pos for shell-specific N
pmature		ivector	starting col pos for mature-specific N