

GeoSAMS GUI

0.1

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Chapter 1

GeoSAMS GUI

This is the main program for the GeoSAMS GUI

The GUI has 7 tabs

1. **Main:** Data concerning simulation duration, configuration files in use, and recruitment period
2. **Growth:** Define parameters to compute fishing mortality
3. **Special Access:** Files used to define special areas for fishing management
4. **Fishing Mort in Special Access:** This frame in conjunction with the Special Access Frame is used to define fishing mortalities within a defined area for a specified year. If a location falls within the defined area given by the area definitions in Special Access Frame and assigned the area number.
5. **Sort By Area:** Parameters that are used to sort output data and associate with areas of interest
6. **UKInterpolation:** Parameters that are used to interpolate results from survey grid to regional grid
7. **Math Setup:** This frame allows the user to modify the Matlab/Octave startup files.

The program is started by entering the following command in the root directory of the workspace `$ python .\Python\Scripts\GUI\GeoSAM\GeoSams.py [10 8]`

Where the last three number are optional and used to set limits on:

- The maximum number of areas of interest that can be defined.
- The maximum number of nodes used to specify each area of interest.
- The maximum number of years that the simulation can cover, i.e. $\text{Stop Year} - \text{Start Year} + 1$

When commanded without these values the GUI defaults to 10, 8, and 5. These values can be viewed by clicking the **SHOW Args** Button

1.1 SHOW Args

As already mention this button is used to show the setup parameters that the GUI is using for maximum number of areas, nodes, and years

1.2 START Sim

This button will start both the GeoSAMS sim and if successful continue with the UK interpolation. It does so by first saving the data contained in the other tabs of the GUI to configuraton files specified on this page. It will overwrite the files named if they already exist.

NOTE: The file names listed are part of the package installed when downloaded from GitHub. The user may change these names to preserve the original files. Or reinstall from GitHub to restore the original data.

1.3 SAVE ALL Configs

This is the first step in **START Sim**. This button will save all of the configuration files using the names given.

Chapter 2

Math Setup Frame

Matlab should not need any modification as these are the installed directories.

The user should not need to run any Matlab scripts as these are called from the GUI.

Octave on the other hand does require some setup. The user will need to install the desired packages from <https://gnu-octave.github.io/packages/>

- io
- geometry
- mapping
- statistics

2.1 Radio Button

The user then needs to modify `.octaverc` to point to where these are installed. Click the Octave radio button and edit the text box to reflect your environment. Then click Write Startup File.

2.2 Write Startup File

When ready, click Write Startup File to save the content to the appropriate startup file

- startup.m
- `.octaverc`

Note 1: on a Unix/MacOS platform it is assumed that Matlab is not installed. The script `Unpack.sh` renames `startup.m` to `startup.xxx` so it is not taken for `.octaverc`

Note 2: If data initialization files have not yet been created, `Unpack.sh` is called to do so.

Chapter 3

Set Fishing Mortality in Special Access Areas

Assists the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

3.1 Number Defined

The number of defined areas as determined by the user. This is limited by Max Areas of Interest. See SHOW Args button for current values.

The Number Defined is limited by default to 25. See SHOW Args for current values. The user can modify this on the command line:

```
python .\PythonScripts\GUI\GeoSAM\GeoSams.py Areas Nodes
```

Default:

```
python .\PythonScripts\GUI\GeoSAM\GeoSams.py 25 8
```

3.2 Load and Save Fishing Mortality Files

The name of the file used to hold this information. The user can load the default file 'FishingMortality.csv' or save their own configuration.

If this feature is not desired then enter NONE in the window

Use Load Fishing Mort File to load a predefined set of data

Use Save Fishing Mort File to save the currently displayed setting

3.3 Area SubFrames

Comment: Optional. Enter a comment to describe the area being specified.

3.3.1 Year Definitions

The year for which Area N is valid

3.3.2 Corners, or Fields of Defined Mortalities by Area

3.3.2.1 Number of Corners

Corners: Specifically, the number of Fields for the year given. This is limited by Max Nodes in Area. See SHOW Args for current values. This can be changed on the command line. See above

3.3.2.2 Field Identifier by Special Area and Mortality

These are the area numbers as determined in Special Access Frame. Enter the area number and its Mortality.

Chapter 4

Growth Frame

Allows the user to modify parameters that are used to define mortality computations.

4.1 Mortality

4.1.1 Fishing Mortality

This is the default fishing mortality in lieu of any other definition

4.1.2 Alpha Mortality

So for open areas, an overall fishing mortality F_{avg} would be specified and then F at each location would be computed so that:

1. The weighted average (by exploitable numbers), F , over all locations is equal to F_{avg} and
2. F at each location is proportional to $LPU E^{\alpha_{mort}}$.

This would also apply to special access areas, but each one would have their own specified F , and the average would only be for those points within that access area.

$$f_{avg} = \frac{\vec{scallops}_{num} \cdot \vec{F_{mort_{avg}}}}{\text{sum}(\vec{scallops}_{num})}$$

4.1.3 Adult Mortality

Table 4.1 Mortality

	Adult	Length ₀
MA	0.25	65.0
GB	0.2	70.0

4.1.4 Computing Alpha

Alpha is based on the lengths of the shell normalized by length₀

$$\vec{\alpha} = 1 - \frac{1}{1 + \exp\left(-(\vec{l}_{shell} - length_0)/10\right)}$$

4.1.5 Computing Natural Mortality

Then natural mortality is computed from juvenile natural mortality and adult natural mortality as

$$m_{nat} = \vec{\alpha} * m_{nat_{juv}} + (1 - \vec{\alpha}) * m_{nat_{adult}}$$

4.2 Selectivity

These parameters are used to compute the scallop selectivity as a function of its length. MA and GB have respective values for each term. GB will also distinguish between open and closed areas. $selectivity = 1/(1 + \exp(select_a - select_b * (l_{shell} + 2.5)))$

Table 4.2 Selectivity

	MA	GB Open	GB Closed
FSelect A	20.5079	17.72	21.7345
FSelect B	0.19845	0.15795	0.2193

4.3 Incidental

Table 4.3 Incidental

MA	0.05
GB	0.1

4.4 Discard

Discard determines how many scallops are thrown out of a catch. It is determined by scallop length and if the area is closed.

```
if ((length > cull_size) OR is_closed) then
  SetDiscard = 0.0
else
  SetDiscard = discard * selectivity
```

Table 4.4 Discard

	Cull Size	Discard
MA	90.0	0.2
GB	100.0	0.2

4.5 Overall Mortality, M

$$M = natural_{mortality} + Fishing_{effort} * (selectivity + incidental + discard))$$

4.6 Computing Landings Per Unit Effort, LPUE

The simulation uses the following parameters to compute LPUE

Table 4.5 LPUE

	Default
LPUE Slope	0.6556
LPUE Slope2	2.3
LPUE Intercept	1094.0
Max # of Scallops Shucked Per Day	56000.↔ 0
Max # of Hours Dredging Per Day	19.0
Dredge Width in meters	9.144
Towing Speed in knots	4.8

$$W_{expl} = \frac{EBMS}{N_{scallops}}, \text{ weight in grams}$$

$$EBMS_{tow} = EBMS * Tow_{sqm}, \text{ biomass in grams}$$

$$slope_1 = lpue_{slope} * EBMS_{tow} + lpue_{intercept}$$

$$slope_2 = LPUE_{slope_2} * EBMS_{tow}$$

$$LPU E_{limit} = max_{per_{day}} * W_{expl} / 453.592$$

$$LPU E = min(slope_1, slope_2, LPU E_{limit})$$

Chapter 5

UKInterpolation Frame

This frame assists the user in defining spatial functions used to perform Universal Kriging, UK interpolation.

5.1 Parameters

These are parameters that define limits and type of interpolation. For more details on Universal Kriging refer to Noel A. C. Cressie, "Statistics for Spatial Data", published by John Wiley & Sons, Inc., 1973 pages 151 to 154

5.1.1 Variogram Form

This defines the shape of the variogram models. The kriging references identify a typical variogram shape. It is a positive sloped function with a y intercept defined as nugget. The asymptote is defined as the sill. The inflection point where the function reaches the sill is defined as the ranges. Four shapes are implemented for UK interpolation

- spherical
- exponential
- gaussian
- matern

5.1.1.1 spherical

$$\gamma(h) = \begin{cases} \text{nugget} + \text{sill} * \frac{3h}{2*range} - \frac{1}{2}(\frac{h^3}{range^3}), & 0 < h \leq range \\ \text{nugget} + \text{sill}, & h > range \\ 0, & h = 0 \end{cases}$$

5.1.1.2 exponential

$$\gamma(h) = \begin{cases} nugget + sill * (1 - \exp(\frac{-h}{range})), & h > 0 \\ 0, & h = 0 \end{cases}$$

5.1.1.3 gaussian

$$\gamma(h) = \begin{cases} nugget + sill * (1 - \exp(\frac{-h^2}{range^2})), & h > 0 \\ 0, & h = 0 \end{cases}$$

5.1.1.4 matern

$$\gamma(h) = \begin{cases} nugget + sill * \left(1 - \frac{\sqrt{2}}{\Gamma(0.5)} * J_n(2, \frac{h}{range}) * \sqrt{\frac{h}{range}}\right), & h > 0 \\ 0, & h = 0 \end{cases}$$

where J_n is the Bessel function of the first kind

5.1.2 Spatial Fcn Configuration File

The name of the file to hold the formatting of the spacial functions read in by UK.exe during interpolation

5.2 Spatial Functions

Define non linear spatial functions(NLSF) and paramater search range.

- "Function 1, dim=z, shape=Logistic, precon=0 "
- "Function 2, dim=z, shape=Gaussian, precon=0 "
- "Function 3, dim=x, shape=Logistic, precon=1 "

These define spatial functions for setting the spatial trend in the universal kriging algorithm.

The precon=0 term means that the function is not multiplied by another function. For example,

"Function 3, dim=x, shape=Logistic, precon=1 "

indicates that the third function is multiplied by the first function.

This is true for fitting the nonlinear parameters of function 3 hence the parameters of function 1 must be fit before the parameters of function 3.

5.2.1 Number (#) of Functions

This value is hard limited to 20. It determines how many functions can be defined

5.2.2 Function Definitions

5.2.2.1 Dim

This specifies which axis for the computations

- x
- y
- z, or depth

5.2.2.2 Shape

Let $\vec{A} = \vec{dim} - f_0$

- Gaussian: $\exp(-(\vec{A}/\lambda)^2)$
- Logistic: $1/(1 + \exp(-\vec{A}/\lambda))$
- SinExp: $\sin(\vec{A}/\lambda) * \exp(-(\vec{A}/\lambda)^2)$
- CosExp: $\cos(\vec{A}/\lambda) * \exp(-(\vec{A}/(2\lambda))^2)$

f_0 is used for a linear interpolation and is approximately

$$\begin{aligned}
 \lambda_{max} &= \max(\vec{A}) - \min(\vec{A}), \\
 \lambda_{min} &= 5000, \text{ for x and y, 5 for z,} \\
 \lambda &= \lambda_{min} + (\lambda_{max} - \lambda_{min}) * \text{LinearFunction}, \\
 f_{0_{min}} &= \min(\vec{A}), \\
 f_{0_{max}} &= \max(\vec{A}), \\
 f_0 &= f_{0_{min}} + (f_{0_{max}} - f_{0_{min}}) * \text{LinearFunction}
 \end{aligned}$$

5.2.2.3 Precon

Precon value determines order of computation. See above.

Chapter 6

Main

6.1 Growth subframe that identifies

These are the parameters used to control how long the scallop growth is simulated as well as the granularity of the growth computations

- Start Year of the simulation
- Stop Year of the simulation
- Time Steps per year
- Domain Name or region of interest, Mid-Atlantic, MA, or Georges Bank, GB
- Sort By Statum: Used when processing Georges-Bank to break the region into quadrants due to its unique shape

6.2 Recruitment

Recruitment is only applied at a certain time of the year. These values determine this period. Combo boxes are used to format the formatting of the month and day.

- Start Day, calendar day of the year when recruitment influence begins.
- Stop Day, calendar day of the year when recruitment influence ends

6.3 Configuration Files

Files used by the sim to set up parameters. The GUI can use the default values or change the names before starting the sim. The initial names are the default names of the files when first downloaded from GitHub. The names can be changed and the GUI sets up the simulation to use the new names.

6.4 Output Selection

Checkboxes to allow the user to select the desired parameters of interest. This is used to save processing time rather than processing everything. Especially true during interpolation as it would take over an hour to do the interpolation. For example for MA with 11631 grid locations.

- Approx 2 minutes per interpolation
- Given 3 years worth of data, plus initial conditions
- 9 listed outputs

Thus $9 \times 4 \times 2$ or 72 minutes. GB is proportionately shorter with only 6802 grid locations.

Chapter 7

Sort By Area Frame

Assists the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

7.1 Number of Areas

The number of defined areas. This is limited by Max Areas of Interest. See SHOW Args button The # of Areas is limited by default to 25. See SHOW Args for current values. The user can modify this on the command line:

```
python .\PythonScripts\GUI\GeoSAM\GeoSams.py Areas Nodes
```

Default (same as started with no arguments):

```
python .\PythonScripts\GUI\GeoSAM\GeoSams.py 25 8
```

7.2 Output Parameters

This is a dropbox of the selected output parameters on the main tab. After a simulation and interpolation have been run, the user would select one of these output, click Run Sort, and the amount of that output in each of the defined areas is accumulated by year to the left of each area.

7.3 Load and Save Data Sort Files

These buttons allow the user to load a predefined set of areas or to save the current set to the named file.

7.4 Run Sort

This will start the program to check if a region grid value for a given year is within one of the specified area and if so accumulate the year sum with that value.

7.5 Area SubFrames

7.5.1 YYYY

For each year, from Start Year to Stop Year as given in the Main tab an entry box is provided to store the accumulated parameter for that year. These are not populated until after the Run Sort button has been clicked.

7.5.2 Comment

Optional. Enter a comment to describe the area being specified.

7.5.3 # Corners

Also called nodes or sides. This is limited by Max Nodes in Area. See SHOW Args for current values. This can be changed on the command line. See above

7.5.4 Corner N

These are the coordinates of the area vertices. Enter the Longitude and Latitude of the vertices for the area. It is up to the user to ensure that a closed shape is defined.

Chapter 8

Special Access Area

This frame in conjunction with the FishingMort in Special Access frame is used to define fishing mortalities within a defined area for a specified year.

If a sim data point falls within a defined area given in this frame by the assigned area number. Then if the current year is the same as the year given in the FishingMort in Special Access frame and the area number is listed then the fishing mortality is specified by the Mortality value. Otherwise it is the default value which is defined in the Growth Frame as Fishing mortality #

8.1 Number of Areas

The number of areas the user wishes to define. This is limited by Max Areas of Interest. See SHOW Args button

The # of Areas is limited by default to 25. See SHOW Args. The user can modify this on the command line:

```
python .\PythonScripts\GUI\GeoSAM\GeoSams.py #Areas #Nodes Default: python .\PythonScripts\GUI\GeoSAM\GeoSams.py 25 8
```

8.2 Special Access File

The name of the file used to hold this information. The user can load the default file 'SpecialAreas.csv' or define and save their own configuration.

If this feature is not desired then enter NONE in the window

Use Load Special Area File to load a predefined set of data

Use Save Special Area File to save the currently displayed setting

8.3 Area Definitions

8.3.1 Area N

- Comment: Optional. Enter a comment to describe the area being specified.

8.3.2 Corners:

Also called nodes or sides. This is limited by Max Nodes in Area. See SHOW Args for current values. This can be changed on the command line. See above

8.3.3 Corner N

These are the coordinates of the area vertices. Enter the Longitude and Latitude of the vertices for the area. It is up to the user to ensure that a closed shape is defined.

Chapter 9

Namespace Index

9.1 Package List

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Hierarchical Index

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Class Index

11.1 Class List

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Defines floating point data for corner defintions	44
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FishMortBySpecAcc.FishMortBySpecAcc	
This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest	49
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This class is the parent class for the GUI	65
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File Index

12.1 File List

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Chapter 13

Namespace Documentation

13.1 AreaManager Namespace Reference

Classes

- class [AreaManager](#)
This class is used to paint area grouped by.
- class [AreaMgrSubFrame](#)
- class [Corner](#)
Defines floating point data for corner definitions.

13.2 EditMathSetupFrame Namespace Reference

Classes

- class [EditMathSetup](#)
This class allows the user to edit the Matlab/Octave setup files to fit their environment.

13.3 FishMortBySpecAcc Namespace Reference

Classes

- class [FishMortBySpecAcc](#)
This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

13.4 GeoSams Namespace Reference

Classes

- class [MainApplication](#)

This class is the parent class for the GUI.

Functions

- [main](#) ()

13.4.1 Function Documentation

13.4.1.1 main()

```
GeoSams.main ( )
```

13.5 Globals Namespace Reference

Variables

- str [configDir](#) = 'Configuration'
- str [interCfgDir](#) = 'Interpolation'
- str [simCfgDir](#) = 'Simulation'
- str [specAccCfgDir](#) = 'SpecialAccess'
- list [comboTFStr](#) = ['T', 'F']
- list [cornerLabelArr](#) = ['Corner', 'Long', 'Lat ', '0.0', '0.0']
- int [frameWidth](#) = 400
- int [frameHeight](#) = 200
- int [scrollFrameHeight](#) = 600
- int [helpXoffset](#) = 700
- int [helpYoffset](#) = 50
- int [scrollFrameWidth](#) = 900
- str [geometryStr](#) = '920x725+10+10'

13.5.1 Variable Documentation

13.5.1.1 comboTFStr

```
list Globals.comboTFStr = ['T', 'F']
```


13.5.1.2 configDir

```
str Globals.configDir = 'Configuration'
```

13.5.1.3 cornerLabelArr

```
list Globals.cornerLabelArr = ['Corner', 'Long', 'Lat ', '0.0', '0.0']
```

13.5.1.4 frameHeight

```
int Globals.frameHeight = 200
```

13.5.1.5 frameWidth

```
int Globals.frameWidth = 400
```

13.5.1.6 geometryStr

```
str Globals.geometryStr = '920x725+10+10'
```

13.5.1.7 helpXoffset

```
int Globals.helpXoffset = 700
```

13.5.1.8 helpYoffset

```
int Globals.helpYoffset = 50
```

13.5.1.9 interCfgDir

```
str Globals.interCfgDir = 'Interpolation'
```

13.5.1.10 scrollFrameHeight

```
int Globals.scrollFrameHeight = 600
```

13.5.1.11 scrollFrameWidth

```
int Globals.scrollFrameWidth = 900
```

13.5.1.12 `simCfgDir`

```
str Globals.simCfgDir = 'Simulation'
```

13.5.1.13 `specAccCfgDir`

```
str Globals.specAccCfgDir = 'SpecialAccess'
```

13.6 GrowthFrame Namespace Reference

Classes

- class [Growth](#)

This class allows the user to adjust parameters used in computing scallop growth.

13.7 InterpolationFrame Namespace Reference

Classes

- class [UKInterpolation](#)

This class is used to present the parameters to the user to customize how the interpolation is performed.

13.8 MainInputFrame Namespace Reference

Classes

- class [MainInput](#)

This class displays information about GeoSAMS simulation.

13.9 PointInPolygon Namespace Reference

Functions

- [PointInPolygon](#) (polyX, polyY, x, y, nodes)

13.9.1 Function Documentation

13.9.1.1 PointInPolygon()

```

PointInPolygon.PointInPolygon (
    polyX,
    polyY,
    x,
    y,
    nodes )

@param float polyX Array of horizontal, coordinates of corners
@param float polyY Array of vertical    coordinates of corners
@param float x horizontal coordinate of point we wish to determine if inside polygram
@param float y vertical    coordinate of point we wish to determine if inside polygram
@param int    nodes the number of corners, edges, that define the polygon
@returns true if point is inside polygram or if on vert or horiz edge,
        false if outside
        if point is on rise of falling edge then it may return true or false

```

13.10 SortByAreaFrame Namespace Reference

Classes

- class [SortByArea](#)

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

13.11 SpecialAreaFrame Namespace Reference

Classes

- class [SpecialArea](#)

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

13.12 Widgets Namespace Reference

Classes

- class [ScrollFrame](#)

Scrollable Frame Class from <https://gist.github.com/mp035/9f2027c3ef9172264532fcd6262f3b01>.

- class [SubFrameElement](#)

Generic Element.

- class [SubFrameInterpFunction](#)

- class [SubFrameXY](#)

Widget for XY label and entry.

Functions

- [numbersCallback](#) (input)
Allows only correctly formed positive integers, ignores non-numeric characters.
- [floatCallback](#) (input)
Allows only correctly formed floats, ignores non-numeric characters.

13.12.1 Function Documentation

13.12.1.1 floatCallback()

```
Widgets.floatCallback (  
    input )
```

Allows only correctly formed floats, ignores non-numeric characters.

13.12.1.2 numbersCallback()

```
Widgets.numbersCallback (  
    input )
```

Allows only correctly formed positive integers, ignores non-numeric characters.

Only allows numeric for input

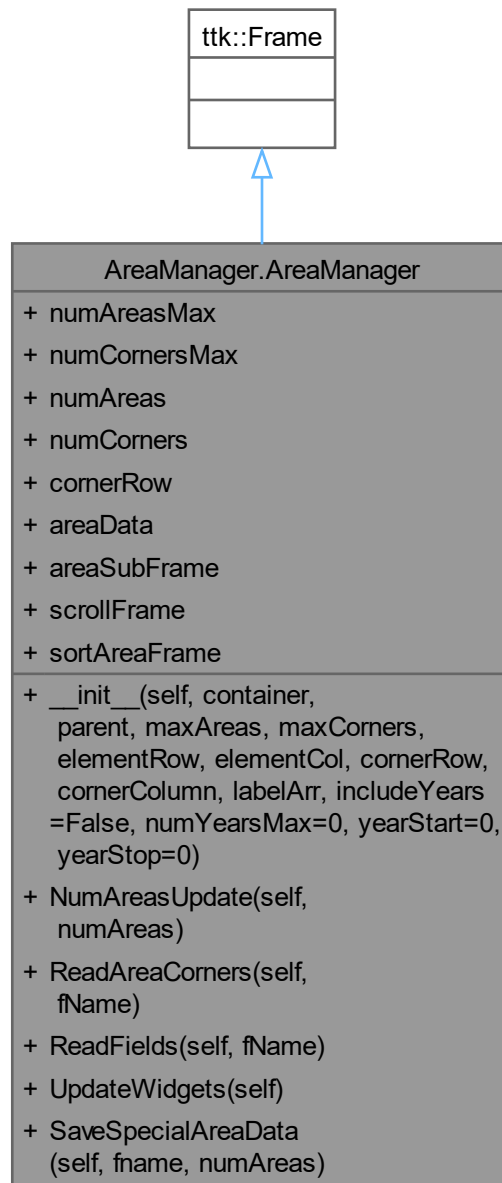
Chapter 14

Class Documentation

14.1 `AreaManager.AreaManager` Class Reference

This class is used to paint area grouped by.

Inheritance diagram for AreaManager.AreaManager:



Public Member Functions

- `__init__` (self, container, parent, maxAreas, maxCorners, elementRow, elementCol, [cornerRow](#), cornerColumn, labelArr, includeYears=False, numYearsMax=0, yearStart=0, yearStop=0)
- [NumAreasUpdate](#) (self, [numAreas](#))

- [ReadAreaCorners](#) (self, fName)
- [ReadFields](#) (self, fName)
- [UpdateWidgets](#) (self)
- [SaveSpecialAreaData](#) (self, fName, numAreas)

Public Attributes

- [numAreasMax](#)
- [numCornersMax](#)
- [numAreas](#)
- [numCorners](#)
- [cornerRow](#)
- [areaData](#)
- [areaSubFrame](#)
- [scrollFrame](#)
- [sortAreaFrame](#)

14.1.1 Detailed Description

This class is used to paint area grouped by.

Area N Comment Number of Nodes Update Nodes Node 1 Node N X data X data Y data Y data

14.1.2 Constructor & Destructor Documentation

14.1.2.1 `__init__()`

```
AreaManager.AreaManager.__init__ (
    self,
    container,
    parent,
    maxAreas,
    maxCorners,
    elementRow,
    elementCol,
    cornerRow,
    cornerColumn,
    labelArr,
    includeYears = False,
    numYearsMax = 0,
    yearStart = 0,
    yearStop = 0 )
```

14.1.3 Member Function Documentation

14.1.3.1 NumAreasUpdate()

```
AreaManager.AreaManager.NumAreasUpdate (
    self,
    numAreas )
```

Updates the number of areas functions.

14.1.3.2 ReadAreaCorners()

```
AreaManager.AreaManager.ReadAreaCorners (
    self,
    fName )
```

Reads an Area file and returns the number of nodes defined

14.1.3.3 ReadFields()

```
AreaManager.AreaManager.ReadFields (
    self,
    fName )
```

Reads an Area file and returns the number of fields.

Fields have a Special Area number for the x value with a Mortality setting for the y value.

14.1.3.4 SaveSpecialAreaData()

```
AreaManager.AreaManager.SaveSpecialAreaData (
    self,
    fname,
    numAreas )
```

14.1.3.5 UpdateWidgets()

```
AreaManager.AreaManager.UpdateWidgets (
    self )
```


14.1.4 Member Data Documentation

14.1.4.1 areaData

`AreaManager.AreaManager.areaData`

14.1.4.2 areaSubFrame

`AreaManager.AreaManager.areaSubFrame`

14.1.4.3 cornerRow

`AreaManager.AreaManager.cornerRow`

14.1.4.4 numAreas

`AreaManager.AreaManager.numAreas`

14.1.4.5 numAreasMax

`AreaManager.AreaManager.numAreasMax`

14.1.4.6 numCorners

`AreaManager.AreaManager.numCorners`

14.1.4.7 numCornersMax

`AreaManager.AreaManager.numCornersMax`

14.1.4.8 scrollFrame

`AreaManager.AreaManager.scrollFrame`

14.1.4.9 sortAreaFrame

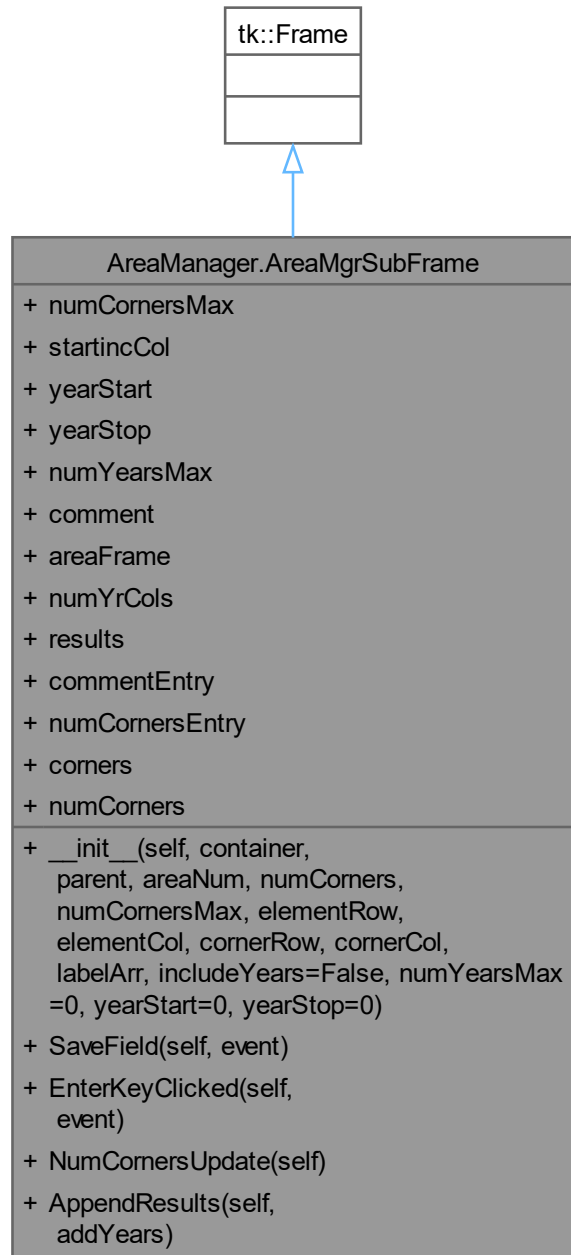
`AreaManager.AreaManager.sortAreaFrame`

The documentation for this class was generated from the following file:

- [AreaManager.py](#)

14.2 AreaManager.AreaMgrSubFrame Class Reference

Inheritance diagram for AreaManager.AreaMgrSubFrame:



Public Member Functions

- `__init__` (self, container, parent, areaNum, [numCorners](#), [numCornersMax](#), elementRow, elementCol, cornerRow, cornerCol, labelArr, includeYears=False, [numYearsMax](#)=0, [yearStart](#)=0, [yearStop](#)=0)
- [SaveField](#) (self, event)
- [EnterKeyClicked](#) (self, event)
- [NumCornersUpdate](#) (self)
- [AppendResults](#) (self, addYears)

This method is used to add results when the original maximum number of years is exceeded.

Public Attributes

- [numCornersMax](#)
- [startincCol](#)
- [yearStart](#)
- [yearStop](#)
- [numYearsMax](#)
- [comment](#)
- [areaFrame](#)
- [numYrCols](#)
- [results](#)
- [commentEntry](#)
- [numCornersEntry](#)
- [corners](#)
- [numCorners](#)

14.2.1 Constructor & Destructor Documentation

14.2.1.1 `__init__()`

```
AreaManager.AreaMgrSubFrame.__init__ (
    self,
    container,
    parent,
    areaNum,
    numCorners,
    numCornersMax,
    elementRow,
    elementCol,
    cornerRow,
    cornerCol,
    labelArr,
    includeYears = False,
    numYearsMax = 0,
    yearStart = 0,
    yearStop = 0 )
```

14.2.2 Member Function Documentation

14.2.2.1 AppendResults()

```
AreaManager.AreaMgrSubFrame.AppendResults (
    self,
    addYears )
```

This method is used to add results when the original maximum number of years is exceeded.

14.2.2.2 EnterKeyClicked()

```
AreaManager.AreaMgrSubFrame.EnterKeyClicked (
    self,
    event )
```

14.2.2.3 NumCornersUpdate()

```
AreaManager.AreaMgrSubFrame.NumCornersUpdate (
    self )
```

14.2.2.4 SaveField()

```
AreaManager.AreaMgrSubFrame.SaveField (
    self,
    event )
```

14.2.3 Member Data Documentation

14.2.3.1 areaFrame

```
AreaManager.AreaMgrSubFrame.areaFrame
```

14.2.3.2 comment

```
AreaManager.AreaMgrSubFrame.comment
```

14.2.3.3 commentEntry

```
AreaManager.AreaMgrSubFrame.commentEntry
```

14.2.3.4 corners

`AreaManager.AreaMgrSubFrame.corners`

14.2.3.5 numCorners

`AreaManager.AreaMgrSubFrame.numCorners`

14.2.3.6 numCornersEntry

`AreaManager.AreaMgrSubFrame.numCornersEntry`

14.2.3.7 numCornersMax

`AreaManager.AreaMgrSubFrame.numCornersMax`

14.2.3.8 numYearsMax

`AreaManager.AreaMgrSubFrame.numYearsMax`

14.2.3.9 numYrCols

`AreaManager.AreaMgrSubFrame.numYrCols`

14.2.3.10 results

`AreaManager.AreaMgrSubFrame.results`

14.2.3.11 startincCol

`AreaManager.AreaMgrSubFrame.startincCol`

14.2.3.12 yearStart

`AreaManager.AreaMgrSubFrame.yearStart`

14.2.3.13 yearStop

`AreaManager.AreaMgrSubFrame.yearStop`

The documentation for this class was generated from the following file:

- [AreaManager.py](#)

14.3 AreaManager.Corner Class Reference

Defines floating point data for corner defintions.

Public Member Functions

- [__init__](#) (self, maxCorners)

Public Attributes

- [long](#)
- [lat](#)
- [numCorners](#)

14.3.1 Detailed Description

Defines floating point data for corner defintions.

long, lat have become interchangeable with x, y

14.3.2 Constructor & Destructor Documentation

14.3.2.1 __init__()

```
AreaManager.Corner.__init__ (
    self,
    maxCorners )
```

14.3.3 Member Data Documentation

14.3.3.1 lat

`AreaManager.Corner.lat`

14.3.3.2 long

`AreaManager.Corner.long`

14.3.3.3 numCorners

`AreaManager.Corner.numCorners`

The documentation for this class was generated from the following file:

- [AreaManager.py](#)

14.4 EditMathSetupFrame.EditMathSetup Class Reference

This class allows the user to edit the Matlab/Octave setup files to fit their environment.

Inheritance diagram for EditMathSetupFrame.EditMathSetup:



Public Member Functions

- `__init__` (self, container)
Constructor for Growth Class.
- `on_visibility` (self, event)
Opens either startup.m or .octaverc depending if user selected Matlab or Octave resp.
- `LoadStartupFile` (self)
- `ReadFile` (self, showMsg)
- `WriteStartupFile` (self)
- `pop_up` (self)

Public Attributes

- [matlabFName](#)
- [octaveFName](#)
- [editMathFrame](#)
- [editText](#)
- [editTextButton](#)
- [isMatlab](#)
- [usingMatlab](#)
- [useMatlabRB](#)
- [useOctaveRB](#)
- [on_visibility](#)

14.4.1 Detailed Description

This class allows the user to edit the Matlab/Octave setup files to fit their environment.

14.4.2 Constructor & Destructor Documentation

14.4.2.1 `__init__()`

```
EditMathSetupFrame.EditMathSetup.__init__ (
    self,
    container )
```

Constructor for Growth Class.

14.4.3 Member Function Documentation

14.4.3.1 `LoadStartupFile()`

```
EditMathSetupFrame.EditMathSetup.LoadStartupFile (
    self )
```

14.4.3.2 `on_visibility()`

```
EditMathSetupFrame.EditMathSetup.on_visibility (
    self,
    event )
```

Opens either startup.m or .octaverc depending if user selected Matlab or Octave resp.

14.4.3.3 pop_up()

```
EditMathSetupFrame.EditMathSetup.pop_up (
    self )
```

14.4.3.4 ReadFile()

```
EditMathSetupFrame.EditMathSetup.ReadFile (
    self,
    showMsg )
```

14.4.3.5 WriteStartupFile()

```
EditMathSetupFrame.EditMathSetup.WriteStartupFile (
    self )
```

14.4.4 Member Data Documentation

14.4.4.1 editMathFrame

```
EditMathSetupFrame.EditMathSetup.editMathFrame
```

14.4.4.2 editText

```
EditMathSetupFrame.EditMathSetup.editText
```

14.4.4.3 editTextButton

```
EditMathSetupFrame.EditMathSetup.editTextButton
```

14.4.4.4 isMatlab

```
EditMathSetupFrame.EditMathSetup.isMatlab
```

14.4.4.5 matlabFName

```
EditMathSetupFrame.EditMathSetup.matlabFName
```

14.4.4.6 octaveFName

`EditMathSetupFrame.EditMathSetup.octaveFName`

14.4.4.7 on_visibility

`EditMathSetupFrame.EditMathSetup.on_visibility`

14.4.4.8 useMatlabRB

`EditMathSetupFrame.EditMathSetup.useMatlabRB`

14.4.4.9 useOctaveRB

`EditMathSetupFrame.EditMathSetup.useOctaveRB`

14.4.4.10 usingMatlab

`EditMathSetupFrame.EditMathSetup.usingMatlab`

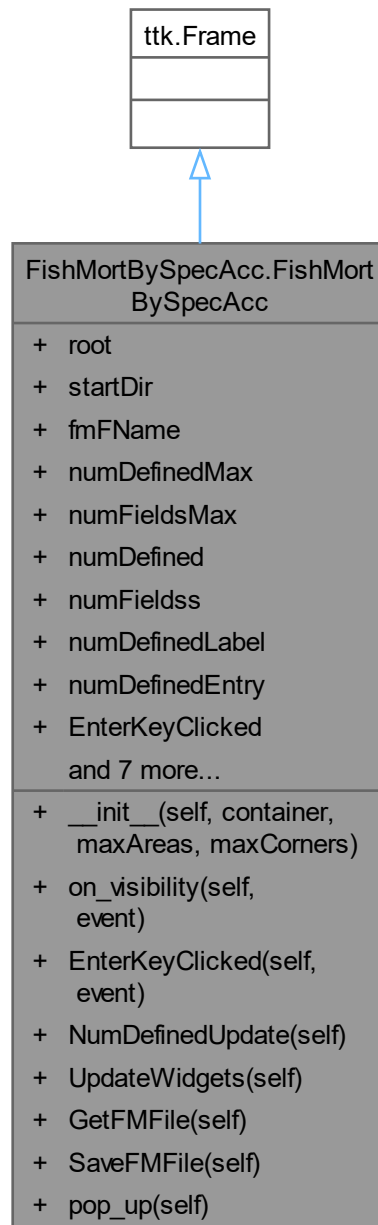
The documentation for this class was generated from the following file:

- [EditMathSetupFrame.py](#)

14.5 FishMortBySpecAcc.FishMortBySpecAcc Class Reference

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Inheritance diagram for FishMortBySpecAcc.FishMortBySpecAcc:



Public Member Functions

- `__init__` (self, container, maxAreas, maxCorners)
- `on_visibility` (self, event)

- [EnterKeyClicked](#) (self, event)
- [NumDefinedUpdate](#) (self)
- [UpdateWidgets](#) (self)
- [GetFMFile](#) (self)
- [SaveFMFile](#) (self)
- [pop_up](#) (self)

Help Window for Fishing Mortatlity in Special Access Area.

Public Attributes

- [root](#)
- [startDir](#)
- [fmFName](#)
- [numDefinedMax](#)
- [numFieldsMax](#)
- [numDefined](#)
- [numFieldss](#)
- [numDefinedLabel](#)
- [numDefinedEntry](#)
- [EnterKeyClicked](#)
- [fishMortFile](#)
- [fishMortFileLabel](#)
- [openFMFileButton](#)
- [saveFMFileButton](#)
- [yearEntry](#)
- [areaMgr](#)
- [on_visibility](#)

14.5.1 Detailed Description

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

14.5.2 Constructor & Destructor Documentation

14.5.2.1 `__init__()`

```
FishMortBySpecAcc.FishMortBySpecAcc.__init__ (
    self,
    container,
    maxAreas,
    maxCorners )
```

14.5.3 Member Function Documentation

14.5.3.1 EnterKeyClicked()

```
FishMortBySpecAcc.FishMortBySpecAcc.EnterKeyClicked (
    self,
    event )
```

14.5.3.2 GetFMFile()

```
FishMortBySpecAcc.FishMortBySpecAcc.GetFMFile (
    self )
```

14.5.3.3 NumDefinedUpdate()

```
FishMortBySpecAcc.FishMortBySpecAcc.NumDefinedUpdate (
    self )
```

14.5.3.4 on_visibility()

```
FishMortBySpecAcc.FishMortBySpecAcc.on_visibility (
    self,
    event )
```

14.5.3.5 pop_up()

```
FishMortBySpecAcc.FishMortBySpecAcc.pop_up (
    self )
```

Help Window for Fishing Mortatlity in Special Access Area.

14.5.3.6 SaveFMFile()

```
FishMortBySpecAcc.FishMortBySpecAcc.SaveFMFile (
    self )
```

14.5.3.7 UpdateWidgets()

```
FishMortBySpecAcc.FishMortBySpecAcc.UpdateWidgets (
    self )
```

14.5.4 Member Data Documentation

14.5.4.1 areaMgr

`FishMortBySpecAcc.FishMortBySpecAcc.areaMgr`

14.5.4.2 EnterKeyClicked

`FishMortBySpecAcc.FishMortBySpecAcc.EnterKeyClicked`

14.5.4.3 fishMortFile

`FishMortBySpecAcc.FishMortBySpecAcc.fishMortFile`

14.5.4.4 fishMortFileLabel

`FishMortBySpecAcc.FishMortBySpecAcc.fishMortFileLabel`

14.5.4.5 fmFName

`FishMortBySpecAcc.FishMortBySpecAcc.fmFName`

14.5.4.6 numDefined

`FishMortBySpecAcc.FishMortBySpecAcc.numDefined`

14.5.4.7 numDefinedEntry

`FishMortBySpecAcc.FishMortBySpecAcc.numDefinedEntry`

14.5.4.8 numDefinedLabel

`FishMortBySpecAcc.FishMortBySpecAcc.numDefinedLabel`

14.5.4.9 numDefinedMax

`FishMortBySpecAcc.FishMortBySpecAcc.numDefinedMax`

14.5.4.10 numFieldsMax

`FishMortBySpecAcc.FishMortBySpecAcc.numFieldsMax`

14.5.4.11 numFieldss

`FishMortBySpecAcc.FishMortBySpecAcc.numFieldss`

14.5.4.12 on_visibility

`FishMortBySpecAcc.FishMortBySpecAcc.on_visibility`

14.5.4.13 openFMFileButton

`FishMortBySpecAcc.FishMortBySpecAcc.openFMFileButton`

14.5.4.14 root

`FishMortBySpecAcc.FishMortBySpecAcc.root`

14.5.4.15 saveFMFileButton

`FishMortBySpecAcc.FishMortBySpecAcc.saveFMFileButton`

14.5.4.16 startDir

`FishMortBySpecAcc.FishMortBySpecAcc.startDir`

14.5.4.17 yearEntry

`FishMortBySpecAcc.FishMortBySpecAcc.yearEntry`

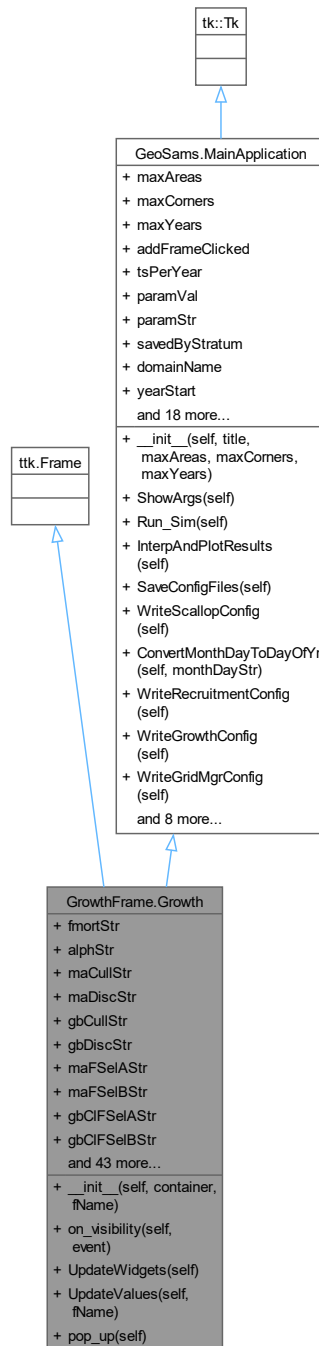
The documentation for this class was generated from the following file:

- [FishMortBySpecAcc.py](#)

14.6 GrowthFrame.Growth Class Reference

This class allows the user to adjust parameters used in computing scallop growth.

Inheritance diagram for GrowthFrame.Growth:



Public Member Functions

- [__init__](#) (self, container, fName)
Constructor for Growth Class.
- [on_visibility](#) (self, event)
- [UpdateWidgets](#) (self)
- [UpdateValues](#) (self, fName)
Method to read Mortality Configuration file and set values accordingly.
- [pop_up](#) (self)

Public Member Functions inherited from [GeoSams.MainApplication](#)

- [ShowArgs](#) (self)
Display setup limits here MessageBox blocks entry widgets if attempted to open before the main window completes.
- [Run_Sim](#) (self)
*Starts the GeoSAMS simulation **ScallopPopDensity**.*
- [InterpAndPlotResults](#) (self)
Interpolates the survey data onto the regional grids and saves results to CSV files.
- [SaveConfigFiles](#) (self)
Save all of the defined configuration files.
- [WriteScallopConfig](#) (self)
Saves simulation configuration file.
- [ConvertMonthDayToDayOfYr](#) (self, monthDayStr)
This method is used to converty the recruitment start and stop dates from a string month numerical day into days in a year.
- [WriteRecruitmentConfig](#) (self)
Saves recruitment parameters to a configuration file.
- [WriteGrowthConfig](#) (self)
Saves mortality parameters to a configuration file.
- [WriteGridMgrConfig](#) (self)
Saves grid manager parameters to a configuration file.
- [WriteUKConfig](#) (self)
Saves Universal Kriging parameters to a configuration file.
- [CloseUKConfig](#) (self, cfgFile, combo, useSaturate, threshold, fName)
- [WriteSpatialFnCsConfig](#) (self, cfgFile, functions, numFnCsEntry)
Saves spatial function parameters to a configuration file.
- [ReadConfigFile](#) (self, fName)
Reads a typical configuration file to recover the tags and values.
- [ReadSimConfigFile](#) (self)
Read in the (tag, value) parameters from the simulation configuration file.
- [ReadUKConfigFile](#) (self)
Read in the (tag, value) parameters from the UK configuration file.
- [ReadGridMgrConfigFile](#) (self)
Read in the (tag, value) parameters from the grid manager configuration file.

Public Attributes

- [fmortStr](#)
- [alphStr](#)
- [maCullStr](#)
- [maDiscStr](#)
- [gbCullStr](#)
- [gbDiscStr](#)
- [maFSelAStr](#)
- [maFSelBStr](#)
- [gbCIFSelAStr](#)
- [gbCIFSelBStr](#)
- [gbOpFSelAStr](#)
- [gbOpFSelBStr](#)
- [maAdultMortStr](#)
- [gbAdultMortStr](#)
- [maIncidStr](#)
- [gbIncidStr](#)
- [maLen0Str](#)
- [gbLen0Str](#)
- [fmorFileStr](#)
- [lpueSIstr](#)
- [lpueSI2Str](#)
- [lpueIntcStr](#)
- [maxPerDayStr](#)
- [maxTimeStr](#)
- [dredgeWdStr](#)
- [towSpdStr](#)
- [cfgFname](#)
- [fishMort](#)
- [alphaMort](#)
- [maAdultMort](#)
- [gbAdultMort](#)
- [maLength0](#)
- [gbLength0](#)
- [maFSelectA](#)
- [maFSelectB](#)
- [gbClosedFSelectA](#)
- [gbClosedFSelectB](#)
- [gbOpenFSelectA](#)
- [gbOpenFSelectB](#)
- [lpueSlope](#)
- [lpueSlope2](#)
- [lpueIntcept](#)
- [maxPerDay](#)
- [maxTime](#)
- [dredgeWth](#)
- [towSpeed](#)
- [maIncident](#)
- [gbIncident](#)
- [maCullSize](#)
- [maDiscard](#)
- [gbCullSize](#)
- [gbDiscard](#)
- [on_visibility](#)

Public Attributes inherited from [GeoSams.MainApplication](#)

- [maxAreas](#)
- [maxCorners](#)
- [maxYears](#)
- [addFrameClicked](#)
- [tsPerYear](#)
- [paramVal](#)
- [paramStr](#)
- [savedByStratum](#)
- [domainName](#)
- [yearStart](#)
- [yearStop](#)
- [simConfigFile](#)
- [ukCfgFile](#)
- [style](#)
- [root](#)
- [notebook](#)
- [frame1](#)
- [mortConfigFile](#)
- [recrConfigFile](#)
- [gmConfigFile](#)
- [ukConfigFile](#)
- [frame3](#)
- [frame4](#)
- [frame5](#)
- [frame6](#)
- [frame7](#)
- [frame2](#)
- [specAccFileStr](#)

14.6.1 Detailed Description

This class allows the user to adjust parameters used in computing scallop growth.

14.6.2 Constructor & Destructor Documentation

14.6.2.1 `__init__()`

```
GrowthFrame.Growth.__init__ (
    self,
    container,
    fName )
```

Constructor for Growth Class.

Reimplemented from [GeoSams.MainApplication](#).

14.6.3 Member Function Documentation

14.6.3.1 on_visibility()

```
GrowthFrame.Growth.on_visibility (
    self,
    event )
```

14.6.3.2 pop_up()

```
GrowthFrame.Growth.pop_up (
    self )
```

Reimplemented from [GeoSams.MainApplication](#).

14.6.3.3 UpdateValues()

```
GrowthFrame.Growth.UpdateValues (
    self,
    fName )
```

Method to read Mortality Configuration file and set values accordingly.

14.6.3.4 UpdateWidgets()

```
GrowthFrame.Growth.UpdateWidgets (
    self )
```

14.6.4 Member Data Documentation

14.6.4.1 alphaMort

```
GrowthFrame.Growth.alphaMort
```

14.6.4.2 alphStr

```
GrowthFrame.Growth.alphStr
```

14.6.4.3 cfgFname

```
GrowthFrame.Growth.cfgFname
```

14.6.4.4 dredgeWdStr

GrowthFrame.Growth.dredgeWdStr

14.6.4.5 dredgeWth

GrowthFrame.Growth.dredgeWth

14.6.4.6 fishMort

GrowthFrame.Growth.fishMort

14.6.4.7 fmorFileStr

GrowthFrame.Growth.fmorFileStr

14.6.4.8 fmortStr

GrowthFrame.Growth.fmortStr

14.6.4.9 gbAdultMort

GrowthFrame.Growth.gbAdultMort

14.6.4.10 gbAdultMortStr

GrowthFrame.Growth.gbAdultMortStr

14.6.4.11 gbClFSelAStr

GrowthFrame.Growth.gbClFSelAStr

14.6.4.12 gbClFSelBStr

GrowthFrame.Growth.gbClFSelBStr

14.6.4.13 gbClosedFSelectA

GrowthFrame.Growth.gbClosedFSelectA

14.6.4.14 gbClosedFSelectB

GrowthFrame.Growth.gbClosedFSelectB

14.6.4.15 gbCullSize

GrowthFrame.Growth.gbCullSize

14.6.4.16 gbCullStr

GrowthFrame.Growth.gbCullStr

14.6.4.17 gbDiscard

GrowthFrame.Growth.gbDiscard

14.6.4.18 gbDiscStr

GrowthFrame.Growth.gbDiscStr

14.6.4.19 gbIncident

GrowthFrame.Growth.gbIncident

14.6.4.20 gbIncidStr

GrowthFrame.Growth.gbIncidStr

14.6.4.21 gbLen0Str

GrowthFrame.Growth.gbLen0Str

14.6.4.22 gbLength0

GrowthFrame.Growth.gbLength0

14.6.4.23 gbOpenFSelectA

GrowthFrame.Growth.gbOpenFSelectA

14.6.4.24 gbOpenFSelectB

GrowthFrame.Growth.gbOpenFSelectB

14.6.4.25 gbOpFSelAStr

GrowthFrame.Growth.gbOpFSelAStr

14.6.4.26 gbOpFSelBStr

GrowthFrame.Growth.gbOpFSelBStr

14.6.4.27 lpueIntcept

GrowthFrame.Growth.lpueIntcept

14.6.4.28 lpueIntcStr

GrowthFrame.Growth.lpueIntcStr

14.6.4.29 lpueSl2Str

GrowthFrame.Growth.lpueSl2Str

14.6.4.30 lpueSlope

GrowthFrame.Growth.lpueSlope

14.6.4.31 lpueSlope2

GrowthFrame.Growth.lpueSlope2

14.6.4.32 lpueSlStr

GrowthFrame.Growth.lpueSlStr

14.6.4.33 maAdultMort

GrowthFrame.Growth.maAdultMort

14.6.4.34 maAdultMortStr

GrowthFrame.Growth.maAdultMortStr

14.6.4.35 maCullSize

GrowthFrame.Growth.maCullSize

14.6.4.36 maCullStr

GrowthFrame.Growth.maCullStr

14.6.4.37 maDiscard

GrowthFrame.Growth.maDiscard

14.6.4.38 maDiscStr

GrowthFrame.Growth.maDiscStr

14.6.4.39 maFSelAStr

GrowthFrame.Growth.maFSelAStr

14.6.4.40 maFSelBStr

GrowthFrame.Growth.maFSelBStr

14.6.4.41 maFSelectA

GrowthFrame.Growth.maFSelectA

14.6.4.42 maFSelectB

GrowthFrame.Growth.maFSelectB

14.6.4.43 maIncident

GrowthFrame.Growth.maIncident

14.6.4.44 maIncidStr

GrowthFrame.Growth.maIncidStr

14.6.4.45 maLen0Str

GrowthFrame.Growth.maLen0Str

14.6.4.46 maLength0

GrowthFrame.Growth.maLength0

14.6.4.47 maxPerDay

GrowthFrame.Growth.maxPerDay

14.6.4.48 maxPerDayStr

GrowthFrame.Growth.maxPerDayStr

14.6.4.49 maxTime

GrowthFrame.Growth.maxTime

14.6.4.50 maxTimeStr

GrowthFrame.Growth.maxTimeStr

14.6.4.51 on_visibility

GrowthFrame.Growth.on_visibility

14.6.4.52 towSpdStr

GrowthFrame.Growth.towSpdStr

14.6.4.53 towSpeed

`GrowthFrame.Growth.towSpeed`

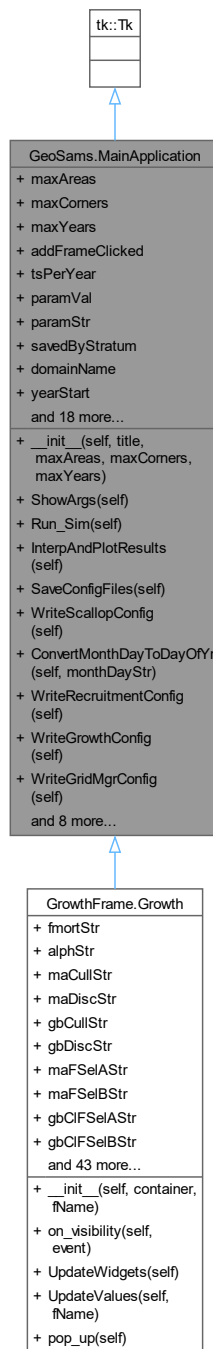
The documentation for this class was generated from the following file:

- [GrowthFrame.py](#)

14.7 GeoSams.MainApplication Class Reference

This class is the parent class for the GUI.

Inheritance diagram for GeoSams.MainApplication:



Public Member Functions

- `__init__` (self, title, [maxAreas](#), [maxCorners](#), [maxYears](#))

- [ShowArgs](#) (self)
Display setup limits here MessageBox blocks entry widgets if attempted to open before the main window completes.
- [Run_Sim](#) (self)
*Starts the GeoSAMS simulation **ScallopPopDensity**.*
- [InterpAndPlotResults](#) (self)
Interpolates the survey data onto the regional grids and saves results to CSV files.
- [SaveConfigFiles](#) (self)
Save all of the defined configuration files.
- [WriteScallopConfig](#) (self)
Saves simulation configuration file.
- [ConvertMonthDayToDayOfYr](#) (self, monthDayStr)
This method is used to convert the recruitment start and stop dates from a string month numerical day into days in a year.
- [WriteRecruitmentConfig](#) (self)
Saves recruitment parameters to a configuration file.
- [WriteGrowthConfig](#) (self)
Saves mortality parameters to a configuration file.
- [WriteGridMgrConfig](#) (self)
Saves grid manager parameters to a configuration file.
- [WriteUKConfig](#) (self)
Saves Universal Kriging parameters to a configuration file.
- [CloseUKConfig](#) (self, cfgFile, combo, useSaturate, threshold, fName)
- [WriteSpatialFnCsConfig](#) (self, cfgFile, functions, numFnCsEntry)
Saves spatial function parameters to a configuration file.
- [ReadConfigFile](#) (self, fName)
Reads a typical configuration file to recover the tags and values.
- [ReadSimConfigFile](#) (self)
Read in the (tag, value) parameters from the simulation configuration file.
- [ReadUKConfigFile](#) (self)
Read in the (tag, value) parameters from the UK configuration file.
- [ReadGridMgrConfigFile](#) (self)
Read in the (tag, value) parameters from the grid manager configuration file.
- [pop_up](#) (self)

Public Attributes

- [maxAreas](#)
- [maxCorners](#)
- [maxYears](#)
- [addFrameClicked](#)
- [tsPerYear](#)
- [paramVal](#)
- [paramStr](#)
- [savedByStratum](#)
- [domainName](#)
- [yearStart](#)
- [yearStop](#)
- [simConfigFile](#)

- [ukCfgFile](#)
- [style](#)
- [root](#)
- [notebook](#)
- [frame1](#)
- [mortConfigFile](#)
- [recrConfigFile](#)
- [gmConfigFile](#)
- [ukConfigFile](#)
- [frame3](#)
- [frame4](#)
- [frame5](#)
- [frame6](#)
- [frame7](#)
- [frame2](#)
- [specAccFileStr](#)

14.7.1 Detailed Description

This class is the parent class for the GUI.

14.7.2 Constructor & Destructor Documentation

14.7.2.1 `__init__()`

```
GeoSams.MainApplication.__init__ (
    self,
    title,
    maxAreas,
    maxCorners,
    maxYears )
```

Reimplemented in [GrowthFrame.Growth](#).

14.7.3 Member Function Documentation

14.7.3.1 `CloseUKConfig()`

```
GeoSams.MainApplication.CloseUKConfig (
    self,
    cfgFile,
    combo,
    useSaturate,
    threshold,
    fName )
```

14.7.3.2 ConvertMonthDayToDayOfYr()

```
GeoSams.MainApplication.ConvertMonthDayToDayOfYr (
    self,
    monthDayStr )
```

This method is used to convert the recruitment start and stop dates from a string month numerical day into days in a year.

Changed entry to combo box to guarantee format

Parameters

<i>monthDayStr</i>	string that holds month and day as either alpha format. That is 'JAN 01', or '01/01'
--------------------	--

14.7.3.3 InterpAndPlotResults()

```
GeoSams.MainApplication.InterpAndPlotResults (
    self )
```

Interpolates the survey data onto the regional grids and saves results to CSV files.

Concatenates CSV files into a single file. Then uses this file to plot the results

Uses the following member variables self.domainName self.yearStart self.yearStop self.simConfigFile (in call to ReadSimConfigFile) self.ukCfgFile self.savedByStratum self.paramStr

prefix for the concatenated files, Output file name is in the form: Lat_Lon_Grid_ABUN_AL_2015_2017 Matlab/Octave will also place the it results in a similar file name Lat_Lon_Grid_RECR_AL_2017_100_MA_North ^ Output parameter ^ Domain name ^ Year, yearStart to yearStop, e.g. 2014 initial data, 1 less than yearStart 2015 growth in yearStart ... 2017 growth in yearStop ^ Multiplier to normalize data ^ rgn ^ MA is divided into North and South to better display the data

14.7.3.4 pop_up()

```
GeoSams.MainApplication.pop_up (
    self )
```

Reimplemented in [GrowthFrame.Growth](#).

14.7.3.5 ReadConfigFile()

```
GeoSams.MainApplication.ReadConfigFile (
    self,
    fName )
```

Reads a typical configuration file to recover the tags and values.

The parameters in these files all have the following format:

- # indicates that the line is a comment. Otherwise
- 'tag' = 'value'

Parameters

<i>fName</i>	The name of the file to read.
--------------	-------------------------------

Returns

An array of tuples showing (tag, value) found in the file

14.7.3.6 ReadGridMgrConfigFile()

```
GeoSams.MainApplication.ReadGridMgrConfigFile (
    self )
```

Read in the (tag, value) parameters from the grid manager configuration file.

14.7.3.7 ReadSimConfigFile()

```
GeoSams.MainApplication.ReadSimConfigFile (
    self )
```

Read in the (tag, value) parameters from the simulation configuration file.

14.7.3.8 ReadUKConfigFile()

```
GeoSams.MainApplication.ReadUKConfigFile (
    self )
```

Read in the (tag, value) parameters from the UK configuration file.

14.7.3.9 Run_Sim()

```
GeoSams.MainApplication.Run_Sim (
    self )
```

Starts the GeoSAMS simulation **ScallopPopDensity**.

If it runs successfully then UK interpolation is started

14.7.3.10 SaveConfigFiles()

```
GeoSams.MainApplication.SaveConfigFiles (
    self )
```

Save all of the defined configuration files.

14.7.3.11 ShowArgs()

```
GeoSams.MainApplication.ShowArgs (
    self )
```

Display setup limits here MessageBox blocks entry widgets if attempted to open before the main window completes.

14.7.3.12 WriteGridMgrConfig()

```
GeoSams.MainApplication.WriteGridMgrConfig (
    self )
```

Saves grid manager parameters to a configuration file.

14.7.3.13 WriteGrowthConfig()

```
GeoSams.MainApplication.WriteGrowthConfig (
    self )
```

Saves mortality parameters to a configuration file.

14.7.3.14 WriteRecruitmentConfig()

```
GeoSams.MainApplication.WriteRecruitmentConfig (
    self )
```

Saves recruitment parameters to a configuration file.

14.7.3.15 WriteScallopConfig()

```
GeoSams.MainApplication.WriteScallopConfig (
    self )
```

Saves simulation configuration file.

It does so by writeing the parameters for the to the name file as well as keeping helpful comments.

14.7.3.16 WriteSpatialFncsConfig()

```
GeoSams.MainApplication.WriteSpatialFncsConfig (
    self,
    cfgFile,
    functions,
    numFncsEntry )
```

Saves spatial function parameters to a configuration file.

14.7.3.17 WriteUKConfig()

```
GeoSams.MainApplication.WriteUKConfig (
    self )
```

Saves Universal Kriging parameters to a configuration file.

14.7.4 Member Data Documentation

14.7.4.1 addFrameClicked

```
GeoSams.MainApplication.addFrameClicked
```

14.7.4.2 domainName

```
GeoSams.MainApplication.domainName
```

14.7.4.3 frame1

```
GeoSams.MainApplication.frame1
```

14.7.4.4 frame2

```
GeoSams.MainApplication.frame2
```

14.7.4.5 frame3

```
GeoSams.MainApplication.frame3
```

14.7.4.6 frame4

```
GeoSams.MainApplication.frame4
```

14.7.4.7 frame5

```
GeoSams.MainApplication.frame5
```

14.7.4.8 frame6

```
GeoSams.MainApplication.frame6
```

14.7.4.9 frame7

`GeoSams.MainApplication.frame7`

14.7.4.10 gmConfigFile

`GeoSams.MainApplication.gmConfigFile`

14.7.4.11 maxAreas

`GeoSams.MainApplication.maxAreas`

14.7.4.12 maxCorners

`GeoSams.MainApplication.maxCorners`

14.7.4.13 maxYears

`GeoSams.MainApplication.maxYears`

14.7.4.14 mortConfigFile

`GeoSams.MainApplication.mortConfigFile`

14.7.4.15 notebook

`GeoSams.MainApplication.notebook`

14.7.4.16 paramStr

`GeoSams.MainApplication.paramStr`

14.7.4.17 paramVal

`GeoSams.MainApplication.paramVal`

14.7.4.18 recrConfigFile

`GeoSams.MainApplication.recrConfigFile`

14.7.4.19 root

`GeoSams.MainApplication.root`

14.7.4.20 savedByStratum

`GeoSams.MainApplication.savedByStratum`

14.7.4.21 simConfigFile

`GeoSams.MainApplication.simConfigFile`

14.7.4.22 specAccFileStr

`GeoSams.MainApplication.specAccFileStr`

14.7.4.23 style

`GeoSams.MainApplication.style`

14.7.4.24 tsPerYear

`GeoSams.MainApplication.tsPerYear`

14.7.4.25 ukCfgFile

`GeoSams.MainApplication.ukCfgFile`

14.7.4.26 ukConfigFile

`GeoSams.MainApplication.ukConfigFile`

14.7.4.27 yearStart

`GeoSams.MainApplication.yearStart`

14.7.4.28 yearStop

`GeoSams.MainApplication.yearStop`

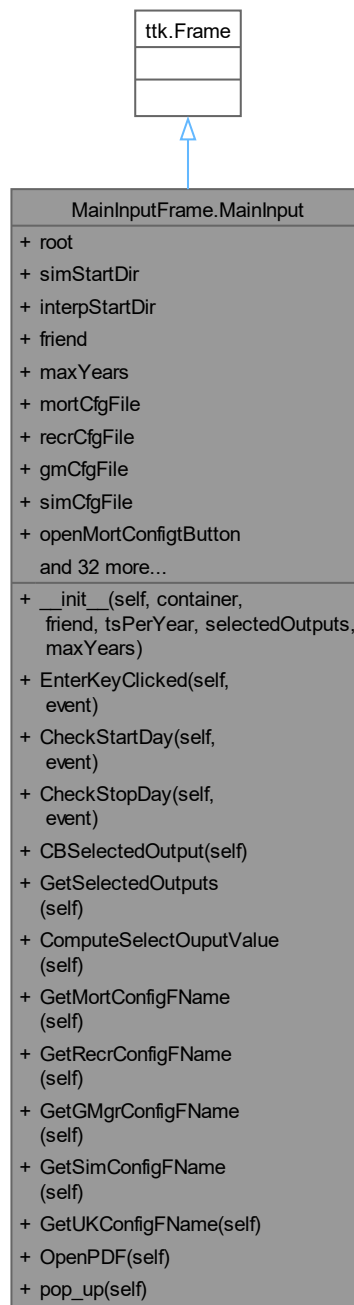
The documentation for this class was generated from the following file:

- [GeoSams.py](#)

14.8 MainInputFrame.MainInput Class Reference

This class displays information about GeoSAMS simulation.

Inheritance diagram for MainInputFrame.MainInput:



Public Member Functions

- `__init__` (self, container, [friend](#), [tsPerYear](#), selectedOutputs, [maxYears](#))

- [EnterKeyClicked](#) (self, event)
This method is called on both Enter Key clicked and goes out of focus.
- [CheckStartDay](#) (self, event)
Checks start day to validate date is appropriate for month.
- [CheckStopDay](#) (self, event)
Checks stop day to validate date is appropriate for month.
- [CBSelectedOutput](#) (self)
Determines the value for which outputs are selected as they are checked.
- [GetSelectedOutputs](#) (self)
Updates the final value from which outputs are selected.
- [ComputeSelectOuputValue](#) (self)
Bit shifts (multiplies) checkbuttons and computes bit position value.
- [GetMortConfigFName](#) (self)
Calls the filedialog method asksaveasfilename to name a file to be used for the Mortality Configuration file.
- [GetRecrConfigFName](#) (self)
Calls the filedialog method asksaveasfilename to name a file to be used for the Recruitment Configuration file.
- [GetGMgrConfigFName](#) (self)
Calls the filedialog method asksaveasfilename to name a file to be used for the Grid Manager Configuration file.
- [GetSimConfigFName](#) (self)
Calls the filedialog method asksaveasfilename to name a file to be used for the Simulation Configuration file.
- [GetUKConfigFName](#) (self)
Calls the filedialog method asksaveasfilename to name a file to be used for the Universal Kriging Configuration file.
- [OpenPDF](#) (self)
- [pop_up](#) (self)

Public Attributes

- [root](#)
- [simStartDir](#)
- [interpStartDir](#)
- [friend](#)
- [maxYears](#)
- [mortCfgFile](#)
- [recrCfgFile](#)
- [gmCfgFile](#)
- [simCfgFile](#)
- [openMortConfigtButton](#)
- [openRecrConfigtButton](#)
- [openGmgrConfigtButton](#)
- [openSimConfigtButton](#)
- [ukCfgFile](#)
- [openUKConfigButton](#)
- [openPDFButton](#)
- [monthsArr](#)
- [startDayLabel](#)
- [startDayComboMonth](#)
- [CheckStartDay](#)
- [startDayComboDay](#)

- [stopDayLabel](#)
- [stopDayComboMonth](#)
- [CheckStopDay](#)
- [stopDayComboDay](#)
- [startYr](#)
- [stopYr](#)
- [tsPerYear](#)
- [domainNameLabel](#)
- [domainNameCombo](#)
- [useStratumLabel](#)
- [useStratumCombo](#)
- [lpueVar](#)
- [ebmsVar](#)
- [bmsVar](#)
- [abunVar](#)
- [IndwVar](#)
- [landVar](#)
- [feffVar](#)
- [fmortVar](#)
- [recrVar](#)
- [desiredOutput](#)

14.8.1 Detailed Description

This class displays information about GeoSAMS simulation.

This same information is used on the command line when starting SRC\ScallopPopDensity

14.8.2 Constructor & Destructor Documentation

14.8.2.1 `__init__()`

```
MainInputFrame.MainInput.__init__ (
    self,
    container,
    friend,
    tsPerYear,
    selectedOutputs,
    maxYears )
```

14.8.3 Member Function Documentation

14.8.3.1 `CBSelectedOutput()`

```
MainInputFrame.MainInput.CBSelectedOutput (
    self )
```

Determines the value for which outputs are selected as they are checked.

14.8.3.2 CheckStartDay()

```
MainInputFrame.MainInput.CheckStartDay (
    self,
    event )
```

Checks start day to validate date is appropriate for month.

Does not consider if leap year

14.8.3.3 CheckStopDay()

```
MainInputFrame.MainInput.CheckStopDay (
    self,
    event )
```

Checks stop day to validate date is appropriate for month.

Does not consider if leap year

14.8.3.4 ComputeSelectOuputValue()

```
MainInputFrame.MainInput.ComputeSelectOuputValue (
    self )
```

Bit shifts (multiplies) checkbuttons and computes bit position value.

14.8.3.5 EnterKeyClicked()

```
MainInputFrame.MainInput.EnterKeyClicked (
    self,
    event )
```

This method is called on both Enter Key clicked and goes out of focus.

14.8.3.6 GetGMgrConfigFName()

```
MainInputFrame.MainInput.GetGMgrConfigFName (
    self )
```

Calls the filedialog method asksaveasfilename to name a file to be used for the Grid Manager Configuration file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.8.3.7 GetMortConfigFName()

```
MainInputFrame.MainInput.GetMortConfigFName (
    self )
```

Calls the filedialog method `asksaveasfilename` to name a file to be used for the Mortality Configuration file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.8.3.8 GetRecrConfigFName()

```
MainInputFrame.MainInput.GetRecrConfigFName (
    self )
```

Calls the filedialog method `asksaveasfilename` to name a file to be used for the Recruitment Configuration file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.8.3.9 GetSelectedOutputs()

```
MainInputFrame.MainInput.GetSelectedOutputs (
    self )
```

Updates the final value from which outputs are selected.

14.8.3.10 GetSimConfigFName()

```
MainInputFrame.MainInput.GetSimConfigFName (
    self )
```

Calls the filedialog method `asksaveasfilename` to name a file to be used for the Simulation Configuration file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.8.3.11 GetUKConfigFName()

```
MainInputFrame.MainInput.GetUKConfigFName (
    self )
```

Calls the filedialog method `asksaveasfilename` to name a file to be used for the Universal Kriging Configuration file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.8.3.12 OpenPDF()

```
MainInputFrame.MainInput.OpenPDF (
    self )
```

14.8.3.13 pop_up()

```
MainInputFrame.MainInput.pop_up (
    self )
```

14.8.4 Member Data Documentation

14.8.4.1 abunVar

```
MainInputFrame.MainInput.abunVar
```

14.8.4.2 bmsVar

```
MainInputFrame.MainInput.bmsVar
```

14.8.4.3 CheckStartDay

```
MainInputFrame.MainInput.CheckStartDay
```

14.8.4.4 CheckStopDay

```
MainInputFrame.MainInput.CheckStopDay
```

14.8.4.5 desiredOutput

```
MainInputFrame.MainInput.desiredOutput
```

14.8.4.6 domainNameCombo

```
MainInputFrame.MainInput.domainNameCombo
```

14.8.4.7 domainNameLabel

```
MainInputFrame.MainInput.domainNameLabel
```

14.8.4.8 ebmsVar

`MainInputFrame.MainInput.ebmsVar`

14.8.4.9 feffVar

`MainInputFrame.MainInput.feffVar`

14.8.4.10 fmortVar

`MainInputFrame.MainInput.fmortVar`

14.8.4.11 friend

`MainInputFrame.MainInput.friend`

14.8.4.12 gmCfgFile

`MainInputFrame.MainInput.gmCfgFile`

14.8.4.13 interpStartDir

`MainInputFrame.MainInput.interpStartDir`

14.8.4.14 landVar

`MainInputFrame.MainInput.landVar`

14.8.4.15 lndwVar

`MainInputFrame.MainInput.lndwVar`

14.8.4.16 lpueVar

`MainInputFrame.MainInput.lpueVar`

14.8.4.17 maxYears

`MainInputFrame.MainInput.maxYears`

14.8.4.18 monthsArr

MainInputFrame.MainInput.monthsArr

14.8.4.19 mortCfgFile

MainInputFrame.MainInput.mortCfgFile

14.8.4.20 openGmgrConfigtButton

MainInputFrame.MainInput.openGmgrConfigtButton

14.8.4.21 openMortConfigtButton

MainInputFrame.MainInput.openMortConfigtButton

14.8.4.22 openPDFButton

MainInputFrame.MainInput.openPDFButton

14.8.4.23 openRecrConfigtButton

MainInputFrame.MainInput.openRecrConfigtButton

14.8.4.24 openSimConfigtButton

MainInputFrame.MainInput.openSimConfigtButton

14.8.4.25 openUKConfigButton

MainInputFrame.MainInput.openUKConfigButton

14.8.4.26 recrCfgFile

MainInputFrame.MainInput.recrcfgFile

14.8.4.27 recrVar

MainInputFrame.MainInput.recrVar

14.8.4.28 root

`MainInputFrame.MainInput.root`

14.8.4.29 simCfgFile

`MainInputFrame.MainInput.simCfgFile`

14.8.4.30 simStartDir

`MainInputFrame.MainInput.simStartDir`

14.8.4.31 startDayComboDay

`MainInputFrame.MainInput.startDayComboDay`

14.8.4.32 startDayComboMonth

`MainInputFrame.MainInput.startDayComboMonth`

14.8.4.33 startDayLabel

`MainInputFrame.MainInput.startDayLabel`

14.8.4.34 startYr

`MainInputFrame.MainInput.startYr`

14.8.4.35 stopDayComboDay

`MainInputFrame.MainInput.stopDayComboDay`

14.8.4.36 stopDayComboMonth

`MainInputFrame.MainInput.stopDayComboMonth`

14.8.4.37 stopDayLabel

`MainInputFrame.MainInput.stopDayLabel`

14.8.4.38 stopYr

```
MainInputFrame.MainInput.stopYr
```

14.8.4.39 tsPerYear

```
MainInputFrame.MainInput.tsPerYear
```

14.8.4.40 ukCfgFile

```
MainInputFrame.MainInput.ukCfgFile
```

14.8.4.41 useStratumCombo

```
MainInputFrame.MainInput.useStratumCombo
```

14.8.4.42 useStratumLabel

```
MainInputFrame.MainInput.useStratumLabel
```

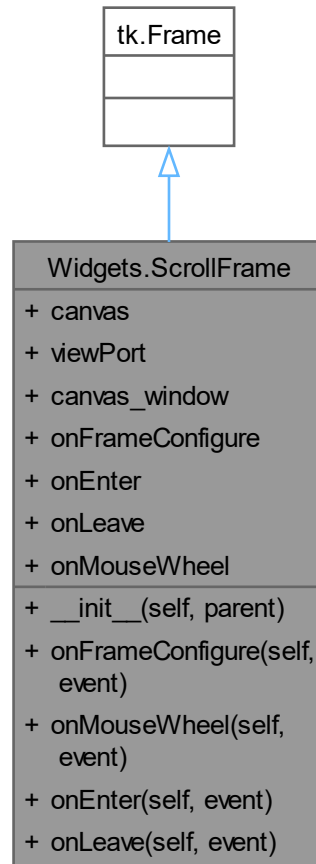
The documentation for this class was generated from the following file:

- [MainInputFrame.py](#)

14.9 Widgets.ScrollFrame Class Reference

Scrollable Frame Class from <https://gist.github.com/mp035/9f2027c3ef9172264532fcd6262f3b01>.

Inheritance diagram for Widgets.ScrollFrame:



Public Member Functions

- `__init__` (self, parent)
- `onFrameConfigure` (self, event)
whenever the size of the frame changes, alter the scroll region respectively.
- `onMouseWheel` (self, event)
cross platform scroll wheel event
- `onEnter` (self, event)
bind wheel events when the cursor enters the control
- `onLeave` (self, event)
unbind wheel events when the cursor leaves the control

Public Attributes

- [canvas](#)
- [viewPort](#)
- [canvas_window](#)
- [onFrameConfigure](#)
- [onEnter](#)
- [onLeave](#)
- [onMouseWheel](#)

14.9.1 Detailed Description

Scrollable Frame Class from <https://gist.github.com/mp035/9f2027c3ef9172264532fcd6262f3b01>.

14.9.2 Constructor & Destructor Documentation

14.9.2.1 `__init__()`

```
Widgets.ScrollFrame.__init__ (
    self,
    parent )
```

14.9.3 Member Function Documentation

14.9.3.1 `onEnter()`

```
Widgets.ScrollFrame.onEnter (
    self,
    event )
```

bind wheel events when the cursor enters the control

14.9.3.2 `onFrameConfigure()`

```
Widgets.ScrollFrame.onFrameConfigure (
    self,
    event )
```

whenever the size of the frame changes, alter the scroll region respectively.

Reset the scroll region to encompass the inner frame

14.9.3.3 onLeave()

```
Widgets.ScrollFrame.onLeave (
    self,
    event )
```

unbind wheel events when the cursor leaves the control

14.9.3.4 onMouseWheel()

```
Widgets.ScrollFrame.onMouseWheel (
    self,
    event )
```

cross platform scroll wheel event

14.9.4 Member Data Documentation

14.9.4.1 canvas

```
Widgets.ScrollFrame.canvas
```

14.9.4.2 canvas_window

```
Widgets.ScrollFrame.canvas_window
```

14.9.4.3 onEnter

```
Widgets.ScrollFrame.onEnter
```

14.9.4.4 onFrameConfigure

```
Widgets.ScrollFrame.onFrameConfigure
```

14.9.4.5 onLeave

```
Widgets.ScrollFrame.onLeave
```

14.9.4.6 onMouseWheel

```
Widgets.ScrollFrame.onMouseWheel
```

14.9.4.7 viewPort

`Widgets.ScrollFrame.viewPort`

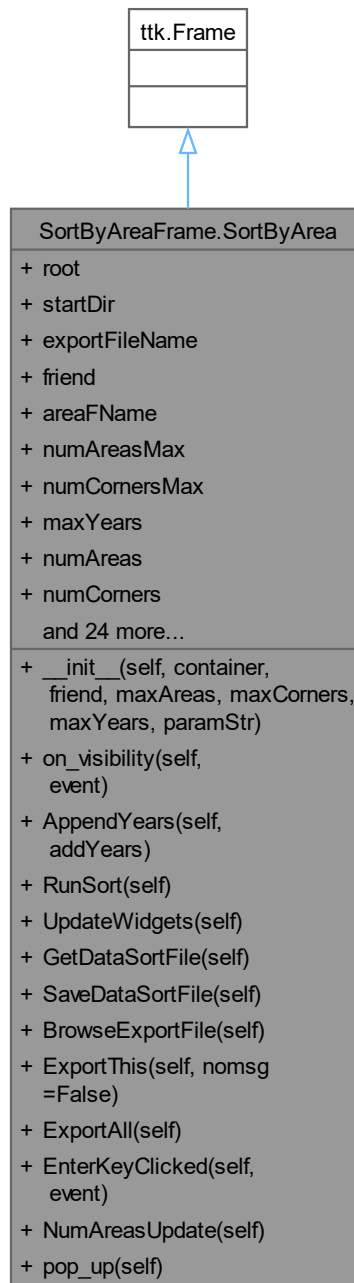
The documentation for this class was generated from the following file:

- [Widgets.py](#)

14.10 SortByAreaFrame.SortByArea Class Reference

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Inheritance diagram for SortByAreaFrame.SortByArea:



Public Member Functions

- `__init__` (self, container, [friend](#), maxAreas, maxCorners, [maxYears](#), [paramStr](#))

- [on_visibility](#) (self, event)
- [AppendYears](#) (self, addYears)
- [RunSort](#) (self)
- [UpdateWidgets](#) (self)
- [GetDataSortFile](#) (self)
- [SaveDataSortFile](#) (self)
- [BrowseExportFile](#) (self)
- [ExportThis](#) (self, nomsg=False)
This method exports the current page of data, just a single output parameter.
- [ExportAll](#) (self)
Export all select parameters.
- [EnterKeyClicked](#) (self, event)
- [NumAreasUpdate](#) (self)
- [pop_up](#) (self)
Help Window for Sort By Area.

Public Attributes

- [root](#)
- [startDir](#)
- [exportFileName](#)
- [friend](#)
- [areaFName](#)
- [numAreasMax](#)
- [numCornersMax](#)
- [maxYears](#)
- [numAreas](#)
of.close()
- [numCorners](#)
- [paramStr](#)
- [yearStart](#)
- [yearStop](#)
- [numYears](#)
of.close()
- [areaData](#)
- [scrollFrame](#)
- [numAreasLabel](#)
- [numAreasEntry](#)
- [EnterKeyClicked](#)
- [outputParmLabel](#)
- [comboParameter](#)
- [dataSortFileLabel](#)
- [dataSortFileEntry](#)
- [openDataSortButton](#)
- [saveDataSortButton](#)
- [runSortButton](#)
- [exportThisSortButton](#)
- [exportAllSortButton](#)
- [exportFileLabel](#)

- [exportFileEntry](#)
- [browseExportButton](#)
- [areas](#)
- [on_visibility](#)
- [domainName](#)

14.10.1 Detailed Description

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Parameters

<i>friend</i>	is used to access Start and Stop year from the Main Frame
<i>maxAreas</i>	defined at start up for the maximum allowed areas
<i>maxCorners</i>	defined at start up for the maximum allowed corners or nodes
<i>maxYears</i>	defined at start up for the maximum allowed year range
<i>paramStr</i>	defined at start up for the desired outputs

14.10.2 Constructor & Destructor Documentation

14.10.2.1 `__init__()`

```
SortByAreaFrame.SortByArea.__init__ (
    self,
    container,
    friend,
    maxAreas,
    maxCorners,
    maxYears,
    paramStr )
```

14.10.3 Member Function Documentation

14.10.3.1 `AppendYears()`

```
SortByAreaFrame.SortByArea.AppendYears (
    self,
    addYears )
```

14.10.3.2 `BrowseExportFile()`

```
SortByAreaFrame.SortByArea.BrowseExportFile (
    self )
```

14.10.3.3 EnterKeyClicked()

```
SortByAreaFrame.SortByArea.EnterKeyClicked (
    self,
    event )
```

14.10.3.4 ExportAll()

```
SortByAreaFrame.SortByArea.ExportAll (
    self )
```

Export all select parameters.

For each parameter

- Verify data file exists, Lat_Lon_Grid_ + ABUN_ + AL + _ 2015_2017

14.10.3.5 ExportThis()

```
SortByAreaFrame.SortByArea.ExportThis (
    self,
    nomsg = False )
```

This method exports the current page of data, just a single output parameter.

First row : AREA YEAR PARAMETER 1 StartYear

1 ... 1 StopYear N StartYear

N ... N StopYear

14.10.3.6 GetDataSortFile()

```
SortByAreaFrame.SortByArea.GetDataSortFile (
    self )
```

14.10.3.7 NumAreasUpdate()

```
SortByAreaFrame.SortByArea.NumAreasUpdate (
    self )
```

Updates the number of areas functions.

14.10.3.8 on_visibility()

```
SortByAreaFrame.SortByArea.on_visibility (
    self,
    event )
```

14.10.3.9 pop_up()

```
SortByAreaFrame.SortByArea.pop_up (
    self )
```

Help Window for Sort By Area.

14.10.3.10 RunSort()

```
SortByAreaFrame.SortByArea.RunSort (
    self )
```

14.10.3.11 SaveDataSortFile()

```
SortByAreaFrame.SortByArea.SaveDataSortFile (
    self )
```

14.10.3.12 UpdateWidgets()

```
SortByAreaFrame.SortByArea.UpdateWidgets (
    self )
```

14.10.4 Member Data Documentation

14.10.4.1 areaData

```
SortByAreaFrame.SortByArea.areaData
```

14.10.4.2 areaFName

```
SortByAreaFrame.SortByArea.areaFName
```

14.10.4.3 areas

```
SortByAreaFrame.SortByArea.areas
```


14.10.4.4 browseExportButton

SortByAreaFrame.SortByArea.browseExportButton

14.10.4.5 comboParameter

SortByAreaFrame.SortByArea.comboParameter

14.10.4.6 dataSortFileEntry

SortByAreaFrame.SortByArea.dataSortFileEntry

14.10.4.7 dataSortFileLabel

SortByAreaFrame.SortByArea.dataSortFileLabel

14.10.4.8 domainName

SortByAreaFrame.SortByArea.domainName

14.10.4.9 EnterKeyClicked

SortByAreaFrame.SortByArea.EnterKeyClicked

14.10.4.10 exportAllSortButton

SortByAreaFrame.SortByArea.exportAllSortButton

14.10.4.11 exportFileEntry

SortByAreaFrame.SortByArea.exportFileEntry

14.10.4.12 exportFileLabel

SortByAreaFrame.SortByArea.exportFileLabel

14.10.4.13 exportFileName

SortByAreaFrame.SortByArea.exportFileName

14.10.4.14 exportThisSortButton

`SortByAreaFrame.SortByArea.exportThisSortButton`

14.10.4.15 friend

`SortByAreaFrame.SortByArea.friend`

14.10.4.16 maxYears

`SortByAreaFrame.SortByArea.maxYears`

14.10.4.17 numAreas

`SortByAreaFrame.SortByArea.numAreas`

`of.close()`

14.10.4.18 numAreasEntry

`SortByAreaFrame.SortByArea.numAreasEntry`

14.10.4.19 numAreasLabel

`SortByAreaFrame.SortByArea.numAreasLabel`

14.10.4.20 numAreasMax

`SortByAreaFrame.SortByArea.numAreasMax`

14.10.4.21 numCorners

`SortByAreaFrame.SortByArea.numCorners`

14.10.4.22 numCornersMax

`SortByAreaFrame.SortByArea.numCornersMax`

14.10.4.23 numYears

SortByAreaFrame.SortByArea.numYears

of.close()

14.10.4.24 on_visibility

SortByAreaFrame.SortByArea.on_visibility

14.10.4.25 openDataSortButton

SortByAreaFrame.SortByArea.openDataSortButton

14.10.4.26 outputParmLabel

SortByAreaFrame.SortByArea.outputParmLabel

14.10.4.27 paramStr

SortByAreaFrame.SortByArea.paramStr

14.10.4.28 root

SortByAreaFrame.SortByArea.root

14.10.4.29 runSortButton

SortByAreaFrame.SortByArea.runSortButton

14.10.4.30 saveDataSortButton

SortByAreaFrame.SortByArea.saveDataSortButton

14.10.4.31 scrollFrame

SortByAreaFrame.SortByArea.scrollFrame

14.10.4.32 startDir

```
SortByAreaFrame.SortByArea.startDir
```

14.10.4.33 yearStart

```
SortByAreaFrame.SortByArea.yearStart
```

14.10.4.34 yearStop

```
SortByAreaFrame.SortByArea.yearStop
```

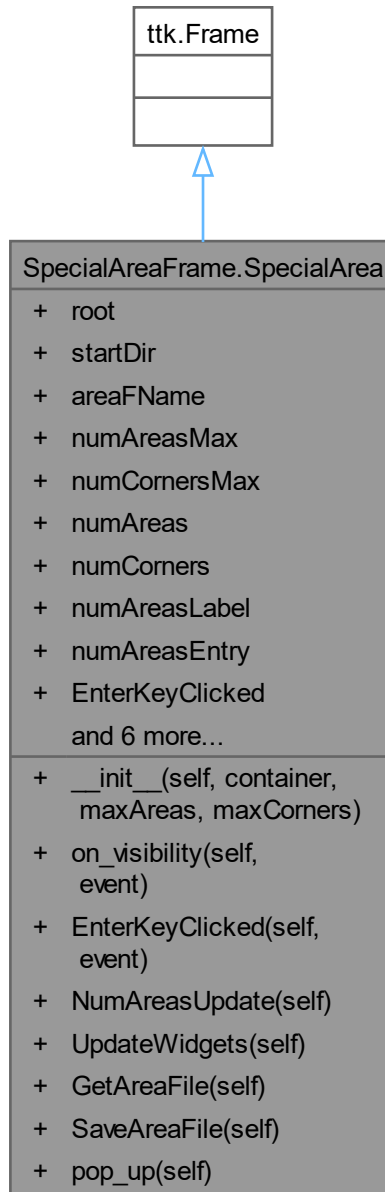
The documentation for this class was generated from the following file:

- [SortByAreaFrame.py](#)

14.11 SpecialAreaFrame.SpecialArea Class Reference

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Inheritance diagram for SpecialAreaFrame.SpecialArea:



Public Member Functions

- [__init__](#) (self, container, maxAreas, maxCorners)
- [on_visibility](#) (self, event)
- [EnterKeyClicked](#) (self, event)

- [NumAreasUpdate](#) (self)
- [UpdateWidgets](#) (self)
- [GetAreaFile](#) (self)
- [SaveAreaFile](#) (self)
- [pop_up](#) (self)

Help Window for Special Access Area.

Public Attributes

- [root](#)
- [startDir](#)
- [areaFName](#)
- [numAreasMax](#)
- [numCornersMax](#)
- [numAreas](#)
- [numCorners](#)
- [numAreasLabel](#)
- [numAreasEntry](#)
- [EnterKeyClicked](#)
- [specAccFile](#)
- [specAccFileLabel](#)
- [openAreaFileButton](#)
- [saveAreaFileButton](#)
- [areaMgr](#)
- [on_visibility](#)

14.11.1 Detailed Description

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

14.11.2 Constructor & Destructor Documentation

14.11.2.1 `__init__()`

```
SpecialAreaFrame.SpecialArea.__init__ (
    self,
    container,
    maxAreas,
    maxCorners )
```

14.11.3 Member Function Documentation

14.11.3.1 `EnterKeyClicked()`

```
SpecialAreaFrame.SpecialArea.EnterKeyClicked (
    self,
    event )
```

14.11.3.2 GetAreaFile()

```
SpecialAreaFrame.SpecialArea.GetAreaFile (
    self )
```

14.11.3.3 NumAreasUpdate()

```
SpecialAreaFrame.SpecialArea.NumAreasUpdate (
    self )
```

14.11.3.4 on_visibility()

```
SpecialAreaFrame.SpecialArea.on_visibility (
    self,
    event )
```

14.11.3.5 pop_up()

```
SpecialAreaFrame.SpecialArea.pop_up (
    self )
```

Help Window for Special Access Area.

14.11.3.6 SaveAreaFile()

```
SpecialAreaFrame.SpecialArea.SaveAreaFile (
    self )
```

14.11.3.7 UpdateWidgets()

```
SpecialAreaFrame.SpecialArea.UpdateWidgets (
    self )
```

14.11.4 Member Data Documentation

14.11.4.1 areaFName

```
SpecialAreaFrame.SpecialArea.areaFName
```

14.11.4.2 areaMgr

```
SpecialAreaFrame.SpecialArea.areaMgr
```

14.11.4.3 EnterKeyClicked

`SpecialAreaFrame.SpecialArea.EnterKeyClicked`

14.11.4.4 numAreas

`SpecialAreaFrame.SpecialArea.numAreas`

14.11.4.5 numAreasEntry

`SpecialAreaFrame.SpecialArea.numAreasEntry`

14.11.4.6 numAreasLabel

`SpecialAreaFrame.SpecialArea.numAreasLabel`

14.11.4.7 numAreasMax

`SpecialAreaFrame.SpecialArea.numAreasMax`

14.11.4.8 numCorners

`SpecialAreaFrame.SpecialArea.numCorners`

14.11.4.9 numCornersMax

`SpecialAreaFrame.SpecialArea.numCornersMax`

14.11.4.10 on_visibility

`SpecialAreaFrame.SpecialArea.on_visibility`

14.11.4.11 openAreaFileButton

`SpecialAreaFrame.SpecialArea.openAreaFileButton`

14.11.4.12 root

`SpecialAreaFrame.SpecialArea.root`

14.11.4.13 saveAreaFileButton

`SpecialAreaFrame.SpecialArea.saveAreaFileButton`

14.11.4.14 specAccFile

`SpecialAreaFrame.SpecialArea.specAccFile`

14.11.4.15 specAccFileLabel

`SpecialAreaFrame.SpecialArea.specAccFileLabel`

14.11.4.16 startDir

`SpecialAreaFrame.SpecialArea.startDir`

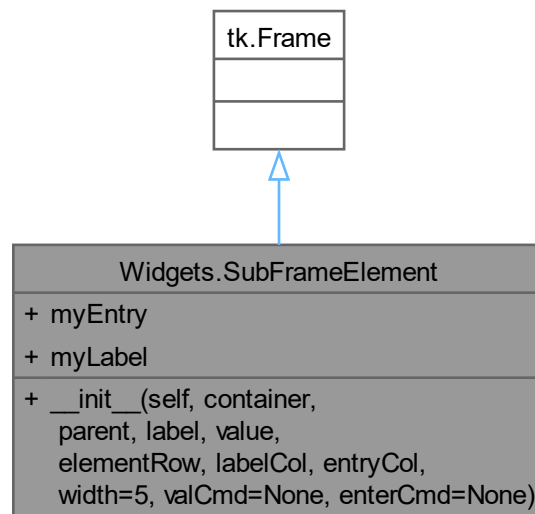
The documentation for this class was generated from the following file:

- [SpecialAreaFrame.py](#)

14.12 Widgets.SubFrameElement Class Reference

Generic Element.

Inheritance diagram for Widgets.SubFrameElement:



Public Member Functions

- `__init__` (self, container, parent, label, value, elementRow, labelCol, entryCol, width=5, valCmd=None, enterCmd=None)

Public Attributes

- `myEntry`
- `myLabel`

14.12.1 Detailed Description

Generic Element.

Provides a label and an entry field. Optionally allows programmer to specify a method to validate entry and another method to respond to Enter Key.

14.12.2 Constructor & Destructor Documentation

14.12.2.1 `__init__()`

```
Widgets.SubFrameElement.__init__ (
    self,
    container,
    parent,
    label,
    value,
    elementRow,
    labelCol,
    entryCol,
    width = 5,
    valCmd = None,
    enterCmd = None )
```

14.12.3 Member Data Documentation

14.12.3.1 `myEntry`

```
Widgets.SubFrameElement.myEntry
```

14.12.3.2 `myLabel`

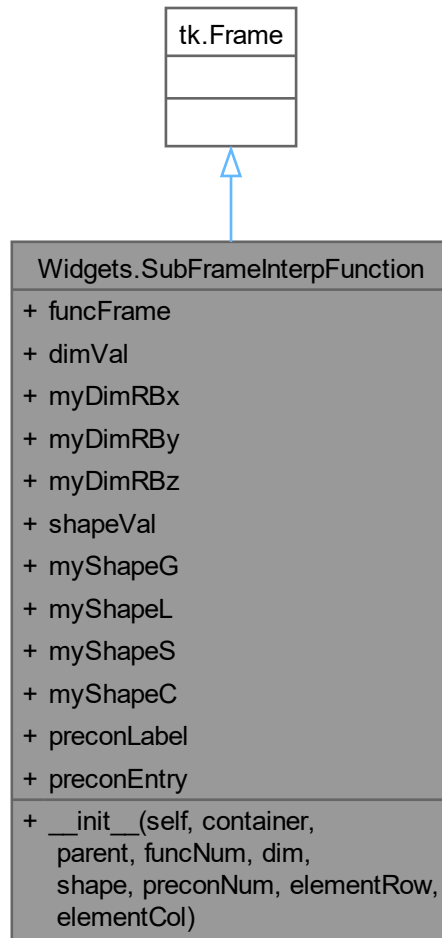
```
Widgets.SubFrameElement.myLabel
```

The documentation for this class was generated from the following file:

- [Widgets.py](#)

14.13 Widgets.SubFrameInterpFunction Class Reference

Inheritance diagram for Widgets.SubFrameInterpFunction:



Public Member Functions

- `__init__` (self, container, parent, funcNum, dim, shape, preconNum, elementRow, elementCol)

Public Attributes

- `funcFrame`
- `dimVal`
- `myDimRBx`

- [myDimRBy](#)
- [myDimRBz](#)
- [shapeVal](#)
- [myShapeG](#)
- [myShapeL](#)
- [myShapeS](#)
- [myShapeC](#)
- [preconLabel](#)
- [preconEntry](#)

14.13.1 Constructor & Destructor Documentation

14.13.1.1 `__init__()`

```
Widgets.SubFrameInterpFunction.__init__ (
    self,
    container,
    parent,
    funcNum,
    dim,
    shape,
    preconNum,
    elementRow,
    elementCol )
```

14.13.2 Member Data Documentation

14.13.2.1 `dimVal`

```
Widgets.SubFrameInterpFunction.dimVal
```

14.13.2.2 `funcFrame`

```
Widgets.SubFrameInterpFunction.funcFrame
```

14.13.2.3 `myDimRBx`

```
Widgets.SubFrameInterpFunction.myDimRBx
```

14.13.2.4 `myDimRBy`

```
Widgets.SubFrameInterpFunction.myDimRBy
```

14.13.2.5 myDimRBz

`Widgets.SubFrameInterpFunction.myDimRBz`

14.13.2.6 myShapeC

`Widgets.SubFrameInterpFunction.myShapeC`

14.13.2.7 myShapeG

`Widgets.SubFrameInterpFunction.myShapeG`

14.13.2.8 myShapeL

`Widgets.SubFrameInterpFunction.myShapeL`

14.13.2.9 myShapeS

`Widgets.SubFrameInterpFunction.myShapeS`

14.13.2.10 preconEntry

`Widgets.SubFrameInterpFunction.preconEntry`

14.13.2.11 preconLabel

`Widgets.SubFrameInterpFunction.preconLabel`

14.13.2.12 shapeVal

`Widgets.SubFrameInterpFunction.shapeVal`

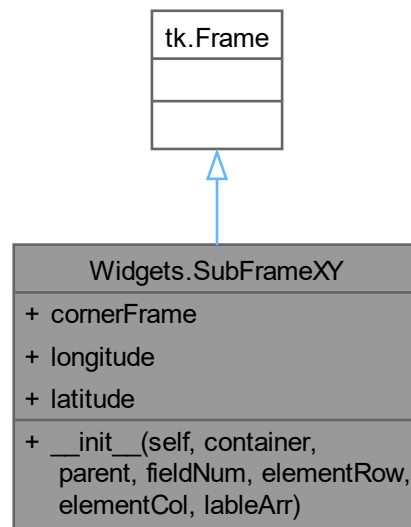
The documentation for this class was generated from the following file:

- [Widgets.py](#)

14.14 Widgets.SubFrameXY Class Reference

Widget for XY label and entry.

Inheritance diagram for Widgets.SubFrameXY:



Public Member Functions

- [__init__](#) (self, container, parent, fieldNum, elementRow, elementCol, lableArr)

Public Attributes

- [cornerFrame](#)
- [longitude](#)
- [latitude](#)

14.14.1 Detailed Description

Widget for XY label and entry.

Longitude, Latitude have become interchangeable with X, Y

14.14.2 Constructor & Destructor Documentation

14.14.2.1 `__init__()`

```
Widgets.SubFrameXY.__init__ (
    self,
    container,
    parent,
    fieldNum,
    elementRow,
    elementCol,
    lableArr )
```

14.14.3 Member Data Documentation

14.14.3.1 `cornerFrame`

```
Widgets.SubFrameXY.cornerFrame
```

14.14.3.2 `latitude`

```
Widgets.SubFrameXY.latitude
```

14.14.3.3 `longitude`

```
Widgets.SubFrameXY.longitude
```

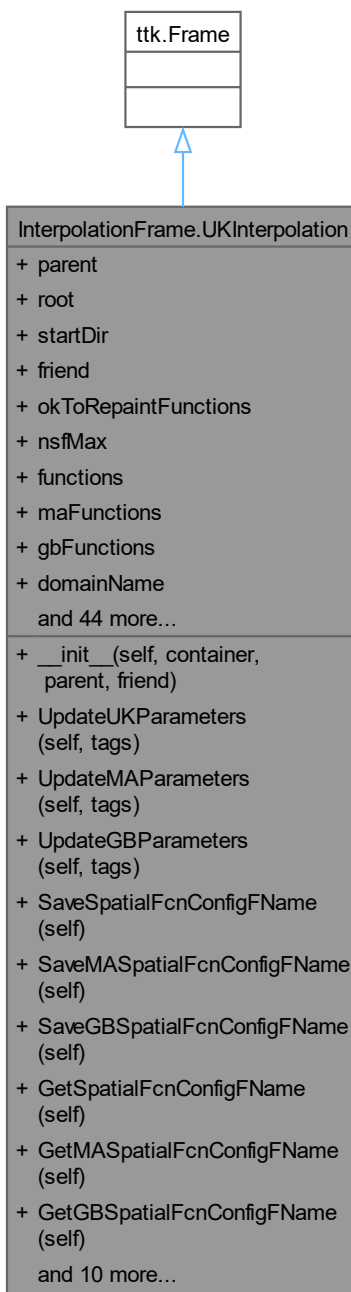
The documentation for this class was generated from the following file:

- [Widgets.py](#)

14.15 InterpolationFrame.UKInterpolation Class Reference

This class is used to present the parameters to the user to customize how the interpolation is performed.

Inheritance diagram for InterpolationFrame.UKInterpolation:



Public Member Functions

- `__init__` (self, container, [parent](#), [friend](#))

- [UpdateUKParameters](#) (self, tags)
- [UpdateMAParameters](#) (self, tags)
- [UpdateGBParameters](#) (self, tags)
- [SaveSpatialFcnConfigFName](#) (self)

Calls the filedialog method asksaveasfilename to name a file to be used for the Spatial Function Cfg File file.
- [SaveMASpatialFcnConfigFName](#) (self)
- [SaveGBSpatialFcnConfigFName](#) (self)
- [GetSpatialFcnConfigFName](#) (self)

Calls the filedialog method askopenfilename to name a file to be used for the Spatial Function Cfg File file.
- [GetMASpatialFcnConfigFName](#) (self)
- [GetGBSpatialFcnConfigFName](#) (self)
- [ReadSpactialFunctionFile](#) (self, fName, [functions](#), [numFncsEntry](#))

Read in the Spactial Function File.
- [on_visibility](#) (self, event)

This method is used to update widgets each time the user switches to this tab.
- [EnterKeyClicked](#) (self, event)
- [MAEnterKeyClicked](#) (self, event)
- [GBEnterKeyClicked](#) (self, event)
- [NumFuncsUpdate](#) (self)

This method updates the number of spatial functions.
- [MANumFuncsUpdate](#) (self)
- [GBNumFuncsUpdate](#) (self)
- [UpdateFunctions](#) (self, [functions](#), [numFncsEntry](#))
- [pop_up](#) (self)

Help Window for Sort By Area.

Public Attributes

- [parent](#)
- [root](#)
- [startDir](#)
- [friend](#)
- [okToRepaintFunctions](#)
- [nsfMax](#)
- [functions](#)
- [maFunctions](#)
- [gbFunctions](#)
- [domainName](#)
- [nsf](#)
- [maNsf](#)
- [gbNsf](#)
- [funcFrame](#)
- [numFncsLabel](#)
- [numFncsEntry](#)
- [EnterKeyClicked](#)
- [maFuncFrame](#)
- [maNumFncsLabel](#)
- [maNumFncsEntry](#)
- [MAEnterKeyClicked](#)

- [gbFuncFrame](#)
- [gbNumFncsLabel](#)
- [gbNumFncsEntry](#)
- [GBEnterKeyClicked](#)
- [paramFrame](#)
- [formComboList](#)
- [formLabel](#)
- [formCombo](#)
- [useSaturateLabel](#)
- [useSaturateCombo](#)
- [saturateThresh](#)
- [spatCfgFile](#)
- [openSpatFncConfigButton](#)
- [saveSpatFncConfigButton](#)
- [paramMAFrame](#)
- [formMALabel](#)
- [formMACombo](#)
- [useMASaturateLabel](#)
- [useMASaturateCombo](#)
- [saturateMATHresh](#)
- [spatMACfgFile](#)
- [openMASpatFncConfigButton](#)
- [saveMASpatFncConfigButton](#)
- [paramGBFrame](#)
- [formGBLabel](#)
- [formGBCombo](#)
- [useGBSaturateLabel](#)
- [useGBSaturateCombo](#)
- [saturateGBThresh](#)
- [spatGBCfgFile](#)
- [openGBSpatFncConfigButton](#)
- [saveGBSpatFncConfigButton](#)
- [on_visibility](#)

14.15.1 Detailed Description

This class is used to present the parameters to the user to customize how the interpolation is performed.

Testing has shown that

- MA works best with 9 spatial functions
- GB works best with 5 spatial functions

14.15.2 Constructor & Destructor Documentation

14.15.2.1 __init__()

```
InterpolationFrame.UKInterpolation.__init__ (
    self,
    container,
    parent,
    friend )
```

14.15.3 Member Function Documentation

14.15.3.1 EnterKeyClicked()

```
InterpolationFrame.UKInterpolation.EnterKeyClicked (
    self,
    event )
```

14.15.3.2 GBEnterKeyClicked()

```
InterpolationFrame.UKInterpolation.GBEnterKeyClicked (
    self,
    event )
```

14.15.3.3 GBNumFuncsUpdate()

```
InterpolationFrame.UKInterpolation.GBNumFuncsUpdate (
    self )
```

14.15.3.4 GetGBSpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.GetGBSpatialFcnConfigFName (
    self )
```

14.15.3.5 GetMASpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.GetMASpatialFcnConfigFName (
    self )
```

14.15.3.6 GetSpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.GetSpatialFcnConfigFName (
    self )
```

Calls the filedialog method askopenfilename to name a file to be used for the Spatial Function Cfg File file.
It then writes out the defined parameters to this file using the 'tag = value' format.

14.15.3.7 MAEnterKeyClicked()

```
InterpolationFrame.UKInterpolation.MAEnterKeyClicked (
    self,
    event )
```

14.15.3.8 MANumFuncsUpdate()

```
InterpolationFrame.UKInterpolation.MANumFuncsUpdate (
    self )
```

14.15.3.9 NumFuncsUpdate()

```
InterpolationFrame.UKInterpolation.NumFuncsUpdate (
    self )
```

This method updates the number of spatial functions.
Overrides default value for MA and GB

14.15.3.10 on_visibility()

```
InterpolationFrame.UKInterpolation.on_visibility (
    self,
    event )
```

This method is used to update widgets each time the user switches to this tab.

14.15.3.11 pop_up()

```
InterpolationFrame.UKInterpolation.pop_up (
    self )
```

Help Window for Sort By Area.

14.15.3.12 ReadSpactialFunctionFile()

```
InterpolationFrame.UKInterpolation.ReadSpactialFunctionFile (
    self,
    fName,
    functions,
    numFuncsEntry )
```

Read in the Spactial Function File.

Parameters

<i>fName</i>	Name of the file to read, assumes it is valid. It then writes parameters to the widgets.
--------------	--

14.15.3.13 SaveGBSpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.SaveGBSpatialFcnConfigFName (
    self )
```

14.15.3.14 SaveMASpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.SaveMASpatialFcnConfigFName (
    self )
```

14.15.3.15 SaveSpatialFcnConfigFName()

```
InterpolationFrame.UKInterpolation.SaveSpatialFcnConfigFName (
    self )
```

Calls the filedialog method asksaveasfilename to name a file to be used for the Spatial Function Cfg File file.

It then writes out the defined parameters to this file using the 'tag = value' format.

14.15.3.16 UpdateFunctions()

```
InterpolationFrame.UKInterpolation.UpdateFunctions (
    self,
    functions,
    numFncsEntry )
```

14.15.3.17 UpdateGBParameters()

```
InterpolationFrame.UKInterpolation.UpdateGBParameters (
    self,
    tags )
```

14.15.3.18 UpdateMAParameters()

```
InterpolationFrame.UKInterpolation.UpdateMAParameters (
    self,
    tags )
```

14.15.3.19 UpdateUKParameters()

```
InterpolationFrame.UKInterpolation.UpdateUKParameters (
    self,
    tags )
```

14.15.4 Member Data Documentation

14.15.4.1 domainName

```
InterpolationFrame.UKInterpolation.domainName
```

14.15.4.2 EnterKeyClicked

```
InterpolationFrame.UKInterpolation.EnterKeyClicked
```

14.15.4.3 formCombo

```
InterpolationFrame.UKInterpolation.formCombo
```

14.15.4.4 formComboList

```
InterpolationFrame.UKInterpolation.formComboList
```

14.15.4.5 formGBCombo

```
InterpolationFrame.UKInterpolation.formGBCombo
```

14.15.4.6 formGBLabel

```
InterpolationFrame.UKInterpolation.formGBLabel
```

14.15.4.7 formLabel

```
InterpolationFrame.UKInterpolation.formLabel
```

14.15.4.8 formMACombo

```
InterpolationFrame.UKInterpolation.formMACombo
```

14.15.4.9 formMALabel

InterpolationFrame.UKInterpolation.formMALabel

14.15.4.10 friend

InterpolationFrame.UKInterpolation.friend

14.15.4.11 funcFrame

InterpolationFrame.UKInterpolation.funcFrame

14.15.4.12 functions

InterpolationFrame.UKInterpolation.functions

14.15.4.13 GBEnterKeyClicked

InterpolationFrame.UKInterpolation.GBEnterKeyClicked

14.15.4.14 gbFuncFrame

InterpolationFrame.UKInterpolation.gbFuncFrame

14.15.4.15 gbFunctions

InterpolationFrame.UKInterpolation.gbFunctions

14.15.4.16 gbNsf

InterpolationFrame.UKInterpolation.gbNsf

14.15.4.17 gbNumFnCsEntry

InterpolationFrame.UKInterpolation.gbNumFnCsEntry

14.15.4.18 gbNumFnCsLabel

InterpolationFrame.UKInterpolation.gbNumFnCsLabel

14.15.4.19 MAEnterKeyClicked

`InterpolationFrame.UKInterpolation.MAEnterKeyClicked`

14.15.4.20 maFuncFrame

`InterpolationFrame.UKInterpolation.maFuncFrame`

14.15.4.21 maFunctions

`InterpolationFrame.UKInterpolation.maFunctions`

14.15.4.22 maNsf

`InterpolationFrame.UKInterpolation.maNsf`

14.15.4.23 maNumFncsEntry

`InterpolationFrame.UKInterpolation.maNumFncsEntry`

14.15.4.24 maNumFncsLabel

`InterpolationFrame.UKInterpolation.maNumFncsLabel`

14.15.4.25 nsf

`InterpolationFrame.UKInterpolation.nsf`

14.15.4.26 nsfMax

`InterpolationFrame.UKInterpolation.nsfMax`

14.15.4.27 numFncsEntry

`InterpolationFrame.UKInterpolation.numFncsEntry`

14.15.4.28 numFncsLabel

`InterpolationFrame.UKInterpolation.numFncsLabel`

14.15.4.29 okToRepaintFunctions

InterpolationFrame.UKInterpolation.okToRepaintFunctions

14.15.4.30 on_visibility

InterpolationFrame.UKInterpolation.on_visibility

14.15.4.31 openGBSpatFncConfigButton

InterpolationFrame.UKInterpolation.openGBSpatFncConfigButton

14.15.4.32 openMASpatFncConfigButton

InterpolationFrame.UKInterpolation.openMASpatFncConfigButton

14.15.4.33 openSpatFncConfigButton

InterpolationFrame.UKInterpolation.openSpatFncConfigButton

14.15.4.34 paramFrame

InterpolationFrame.UKInterpolation.paramFrame

14.15.4.35 paramGBFrame

InterpolationFrame.UKInterpolation.paramGBFrame

14.15.4.36 paramMAFrame

InterpolationFrame.UKInterpolation.paramMAFrame

14.15.4.37 parent

InterpolationFrame.UKInterpolation.parent

14.15.4.38 root

InterpolationFrame.UKInterpolation.root

14.15.4.39 saturateGBThresh

`InterpolationFrame.UKInterpolation.saturateGBThresh`

14.15.4.40 saturateMATHresh

`InterpolationFrame.UKInterpolation.saturateMATHresh`

14.15.4.41 saturateThresh

`InterpolationFrame.UKInterpolation.saturateThresh`

14.15.4.42 saveGBSpatFncConfigButton

`InterpolationFrame.UKInterpolation.saveGBSpatFncConfigButton`

14.15.4.43 saveMASpatFncConfigButton

`InterpolationFrame.UKInterpolation.saveMASpatFncConfigButton`

14.15.4.44 saveSpatFncConfigButton

`InterpolationFrame.UKInterpolation.saveSpatFncConfigButton`

14.15.4.45 spatCfgFile

`InterpolationFrame.UKInterpolation.spatCfgFile`

14.15.4.46 spatGBCfgFile

`InterpolationFrame.UKInterpolation.spatGBCfgFile`

14.15.4.47 spatMACfgFile

`InterpolationFrame.UKInterpolation.spatMACfgFile`

14.15.4.48 startDir

`InterpolationFrame.UKInterpolation.startDir`

14.15.4.49 useGBSaturateCombo

`InterpolationFrame.UKInterpolation.useGBSaturateCombo`

14.15.4.50 useGBSaturateLabel

`InterpolationFrame.UKInterpolation.useGBSaturateLabel`

14.15.4.51 useMASaturateCombo

`InterpolationFrame.UKInterpolation.useMASaturateCombo`

14.15.4.52 useMASaturateLabel

`InterpolationFrame.UKInterpolation.useMASaturateLabel`

14.15.4.53 useSaturateCombo

`InterpolationFrame.UKInterpolation.useSaturateCombo`

14.15.4.54 useSaturateLabel

`InterpolationFrame.UKInterpolation.useSaturateLabel`

The documentation for this class was generated from the following file:

- [InterpolationFrame.py](#)

Chapter 15

File Documentation

15.1 AreaManager.py File Reference

Classes

- class [AreaManager.AreaManager](#)
This class is used to paint area grouped by.
- class [AreaManager.Corner](#)
Defines floating point data for corner defintions.
- class [AreaManager.AreaMgrSubFrame](#)

Namespaces

- namespace [AreaManager](#)

15.2 EditMathSetupFrame.py File Reference

Classes

- class [EditMathSetupFrame.EditMathSetup](#)
This class allows the user to edit the Matlab/Octave setup files to fit their environment.

Namespaces

- namespace [EditMathSetupFrame](#)

15.3 FishMortBySpecAcc.py File Reference

Classes

- class [FishMortBySpecAcc.FishMortBySpecAcc](#)

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Namespaces

- namespace [FishMortBySpecAcc](#)

15.4 GeoSams.py File Reference

Classes

- class [GeoSams.MainApplication](#)

This class is the parent class for the GUI.

Namespaces

- namespace [GeoSams](#)

Functions

- [GeoSams.main](#) ()

15.5 Globals.py File Reference

Namespaces

- namespace [Globals](#)

Variables

- str [Globals.configDir](#) = 'Configuration'
- str [Globals.interCfgDir](#) = 'Interpolation'
- str [Globals.simCfgDir](#) = 'Simulation'
- str [Globals.specAccCfgDir](#) = 'SpecialAccess'
- list [Globals.comboTFStr](#) = ['T', 'F']
- list [Globals.cornerLabelArr](#) = ['Corner', 'Long', 'Lat ', '0.0', '0.0']
- int [Globals.frameWidth](#) = 400
- int [Globals.frameHeight](#) = 200
- int [Globals.scrollFrameHeight](#) = 600
- int [Globals.helpXoffset](#) = 700
- int [Globals.helpYoffset](#) = 50
- int [Globals.scrollFrameWidth](#) = 900
- str [Globals.geometryStr](#) = '920x725+10+10'

15.6 GrowthFrame.py File Reference

Classes

- class [GrowthFrame.Growth](#)

This class allows the user to adjust parameters used in computing scallop growth.

Namespaces

- namespace [GrowthFrame](#)

15.7 InterpolationFrame.py File Reference

Classes

- class [InterpolationFrame.UKInterpolation](#)

This class is used to present the parameters to the user to customize how the interpolation is performed.

Namespaces

- namespace [InterpolationFrame](#)

15.8 MainInputFrame.py File Reference

Classes

- class [MainInputFrame.MainInput](#)

This class displays information about GeoSAMS simulation.

Namespaces

- namespace [MainInputFrame](#)

15.9 PointInPolygon.py File Reference

Namespaces

- namespace [PointInPolygon](#)

Functions

- [PointInPolygon.PointInPolygon](#) (polyX, polyY, x, y, nodes)

15.10 SortByAreaFrame.py File Reference

Classes

- class [SortByAreaFrame.SortByArea](#)

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Namespaces

- namespace [SortByAreaFrame](#)

15.11 SpecialAreaFrame.py File Reference

Classes

- class [SpecialAreaFrame.SpecialArea](#)

This class is used to assist the user in defining areas of interest to assess accumulated parameters located in these areas of interest.

Namespaces

- namespace [SpecialAreaFrame](#)

15.12 Widgets.py File Reference

Classes

- class [Widgets.SubFrameElement](#)

Generic Element.

- class [Widgets.SubFrameInterpFunction](#)

- class [Widgets.SubFrameXY](#)

Widget for XY label and entry.

- class [Widgets.ScrollFrame](#)

Scrollable Frame Class from <https://gist.github.com/mp035/9f2027c3ef9172264532fcd6262f3b01>.

Namespaces

- namespace [Widgets](#)

Functions

- [Widgets.numbersCallback](#) (input)

Allows only correctly formed positive integers, ignores non-numeric characters.

- [Widgets.floatCallback](#) (input)

Allows only correctly formed floats, ignores non-numeric characters.

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