

# Metview's user interface

**Desktop** is the user interface of Metview, written entirely in Qt.



## Requirements

The minimum recommended Metview version to run Desktop is **4.4.7**.



## Start up

At ECMWF the command to use is as follows:

```
metview
```

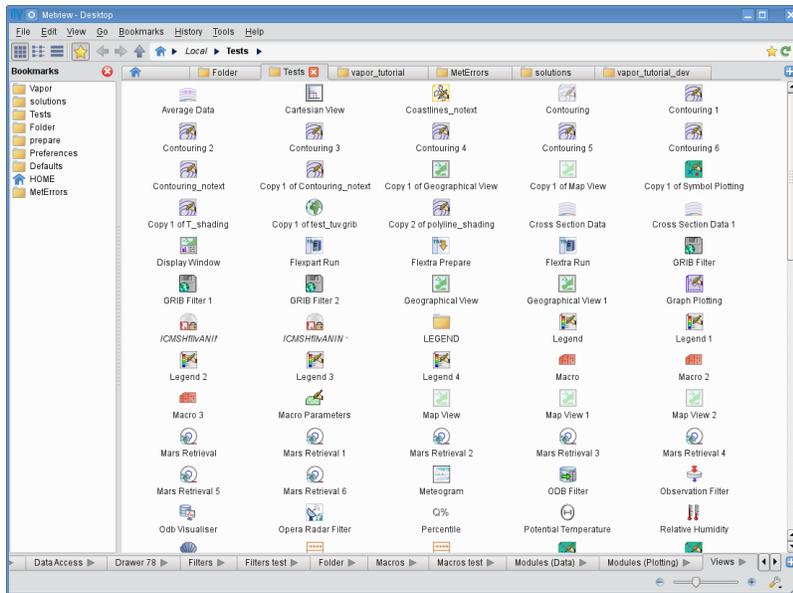
Users outside ECMWF need to use their local metview command.

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## The Desktop window

### Overview

A Desktop window is divided into six parts.



- **menu bar**: contains menus and actions
- **toolbar**: contains a set of buttons/widgets to customise the folder views and navigate through the folders
- **folder view**: contents of the currently selected folder (or folders in different **tabs**).
- **sidebar**: contains the **bookmarks** panel
- **icon drawers**: **drawers** are a set of globally accessible folder tabs. They appear at the bottom of each Desktop window.
- **status bar**: displays **information about the icons** and provides buttons for changing the icon size

### Hide drawers and status bar

Both the icon drawers and the status bar can be hidden/shown via the **View** menu. This might be a useful option on small screens to gain more space for the folder views.

## The Metview filesystem

Each Metview session defines a **home folder** (by default it is `~/metview`). This folder is set as both the **home** and **root** folder for Desktop! This has two implications. First, the home folder icon



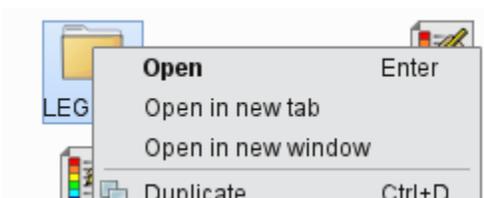
in Desktop always refers to the Metview home folder (and not the UNIX home folder)! Second, we cannot directly access files outside this file system from within Desktop (but we can use **symbolic links** for these files/folders).

## Working with folders

Folders are represented by this icon in the user interface:



To enter a folder double-click, hit enter or right-click **Open** on the icon. Folders can also be opened in a **new tab or window** by using the context menu of the *Folder* icon.

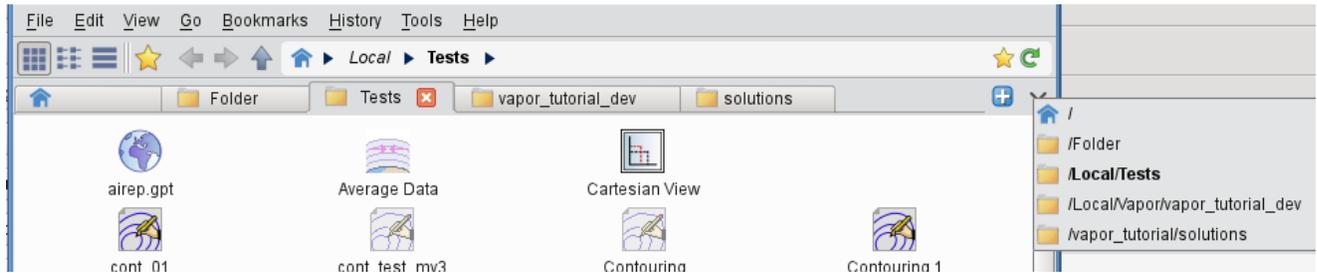


Folder tabs

The central part of Desktop can contain **multiple tabs**, each showing a different folder. **Folder navigation** works for each tab independently.



New tabs can be added by the blue button at the right edge of the tab bar or by using the **Ctrl+T** keyboard shortcut.



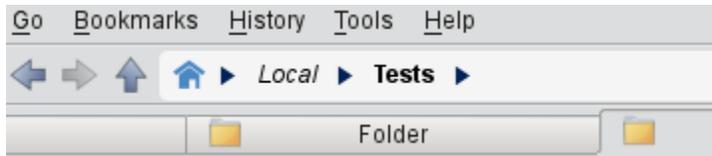
There is a drop-down menu available at the right edge of the tab bar showing the actual list of open tabs. This menu can significantly ease the tab navigation if there is a large number of tabs open in a given Desktop window.

**i** **Tabs are saved**

On exiting Metview the list of opened tabs are saved! Tabs can also be saved as [bookmarks](#).

## Folder navigation

Folder navigation is based on the **Back**, **Forward** and **Up** arrows and on the **breadcrumbs**, which are all located in the toolbar. The **breadcrumbs** consist of the Home icon and the folder hierarchy to the right of it, including the arrows in-between them.



Each visited folder is added to the folder history, which can be accessed via the **History** menu.

Both breadcrumbs and history items have a context menu, which allows opening the folders in a **new tab or window**.

## Folder view properties

### View modes

There are three folder view modes available:

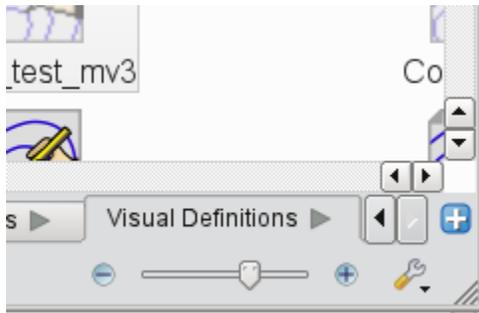
- **Classic icon view:** icons are freely movable and icon labels are rendered **below** the icon pixmaps
- **Simple icon view:** icons are freely movable and icon labels are rendered to the **right** of the icon pixmaps
- **Detailed view mode:** icons and their properties are displayed in a table format with sortable columns

The view modes can be set for each tab separately through the **View** menu or by using these toolbar icons:



### Changing icon sizes

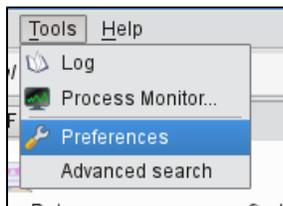
The status bar features an icon size slider to change the icon sizes in the current folder (sizes between 16 and 96 pixels are available).



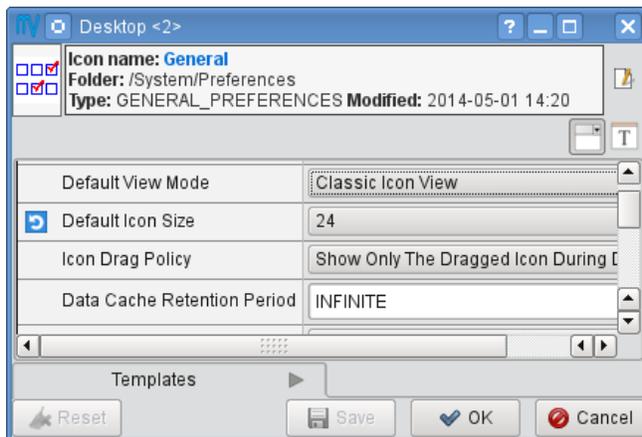
The icon size can also be changed from the **View** menu or from the [Desktop context menu](#).

#### Folder settings

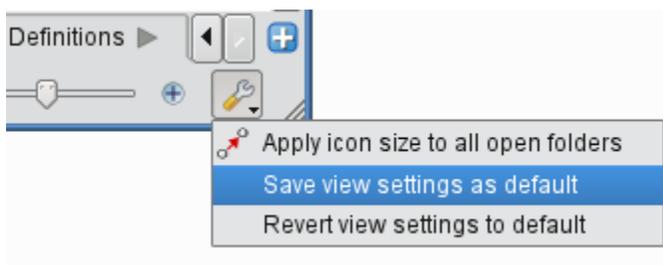
View mode and icon size are stored for each folder separately. When a folder is opened for the first time in Desktop these settings are read directly from existing MetviewUI settings. For newly created/opened folders the default view mode and icon size is used. The default settings can be overwritten via the **Tools Preferences** menu:



using the preferences editor:



Desktop offers a set of actions to customise the folder settings. These actions are available from the **Folder settings** tool button (with the "spanner" icon) at the right edge of the status bar (they can also be accessed in the **View** menu).



The tasks performed by these actions are as follows:

- **Apply icon size to all open folders:** a one-off action to set the icon size in all the open folders to that of the current folder
- **Save view settings as default:** saves the view mode and icon size of the current folder as the default
- **Revert view settings to default:** changes the view mode and icon size for the current folder back to the default settings

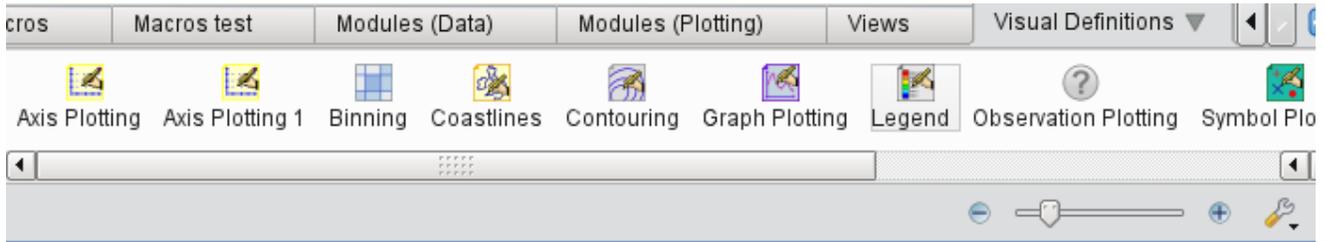
## Icon information

As the mouse hovers over an icon in the folder views certain icon information such as name, type, size and modification date are automatically displayed at left edge of the status bar:



## Icon drawers

**Icon drawers** are a set of tabs containing icon-strips appearing at the bottom of each Desktop window. Their contents are shared among the Desktop windows, so each window shows the same set of drawers.



Users are free to customise both the drawer tabs and the icons they store.

### ! Change of behaviour

Metview will not update the contents of the icon drawers automatically any more. These tabs belong to the users now, which means that users are responsible for organising them. Please note that this is a different behaviour to MetviewUI, which automatically updated the icon drawers with new system icons. System icons in Desktop are exclusively available in the [Create new icon](#) dialogue.

### Working with Drawers

Dragging an icon from the icon drawers to the Folder views creates a copy of that icon in the target folder. Similarly, dragging an icon from a Folder view to the Icon drawers adds a copy of this icon to the target drawer.

Users can add new drawers by using the blue **Add drawer** button at the right edge of the drawers tab. Other drawer related actions can be accessed via the context menu of the drawer tabs.

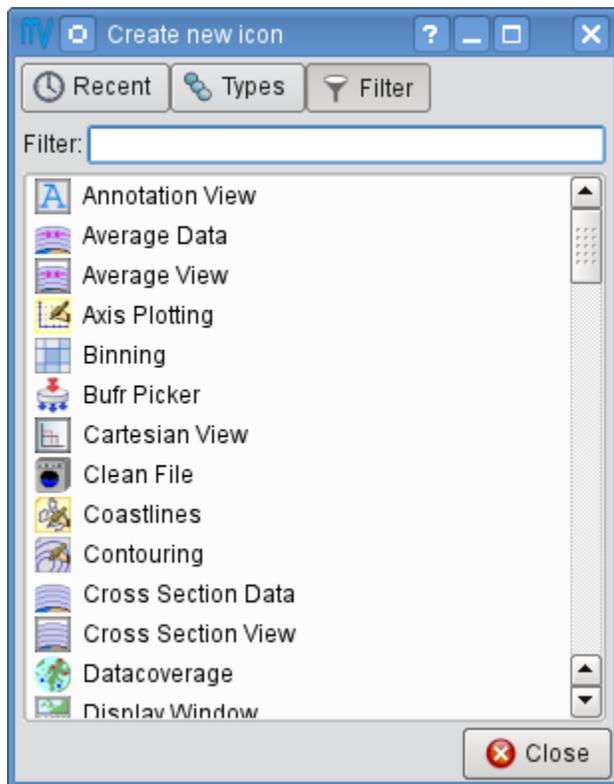
Please note that icon drawers can be hidden/shown via the **View** menu.

## Creating new icons

The Folder view context menu (right-click anywhere in the view when no icons are selected to see this menu) offer various ways to create new icons in Desktop:

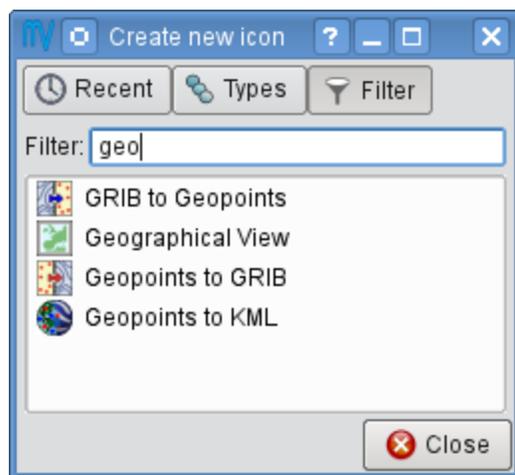


Users can directly create *Folder* and *Macro* icons from this context menu. For other icons the **Create new icon** dialogue should be started up from the context menu (or by using the **Ctrl+N** shortcut):



This dialogue features three options to list the available Metview icons:

- **Recent:** contains the list of recently created icons
- **Types:** icons are grouped into categories (e.g. *Views*)
- **Filter:** contains all the available icons with an optional filter working according to the combination of icon name, type and category. For example, typing the filter term "geo" results in the following list:



To create an icon from the dialogue just click on the selected icon or drag it into the Folder view to its desired location.

#### ! Drawers vs. Create new icon dialog

[Icon drawers](#) contain only user defined icons, so there can be several copies of the same type of icon with different contents. Also, [icon drawers](#) are never updated by Desktop, so they are not supposed to contain the complete set of Metview icons.

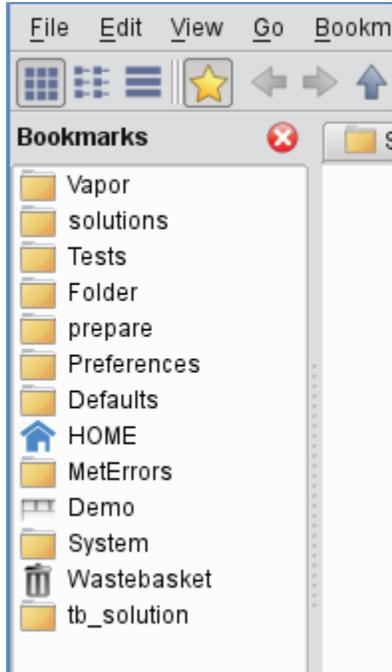
On the contrary, the **Create new icon** dialogue features the **complete list** of the Metview icons that users can create, and there is only one instance of an icon (the system version) available there.

## Creating symbolic links

Symbolic links to files and folders can be created from the Folder view context menu: **Create new... Link to File/Folder**. In this way, Metview can 'see' files which are outside its home folder.

## Bookmarks

Both folders and tab-sets can be bookmarked. Bookmarks can be accessed either via the **bookmarks menu** or the **bookmarks sidebar**.



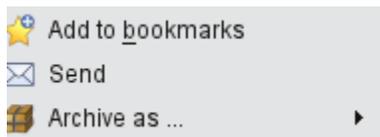
Users can open the the **bookmarks sidebar**

- with the **Bookmarks** button in the toolbar
- from the **View** menu
- by pressing **Ctrl+B**.

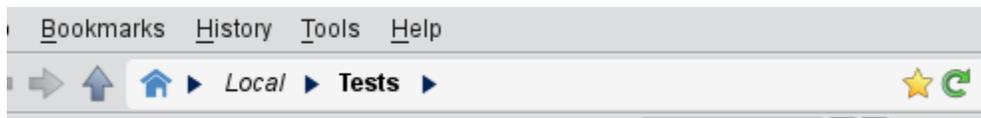
Bookmarking a folder

There are various ways to bookmark a folder. It can be done with:

- the **Bookmarks** menu
- the context menu of a **Folder icon**, **folder tab** or **breadcrumbs** item.



- the context menu of the **Bookmarks** sidebar
- the bookmarks icon at the right hand edge of the **breadcrumbs**.

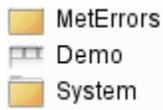


Bookmarking tabs

To bookmark a set of folder tabs use either:

- the **Bookmarks** menu or
- the context menu in the **Bookmarks** sidebar

Tab-sets are indicated with a distinct grey icon in the bookmarks list like this (in this case "Demo" is a tab-set bookmark):

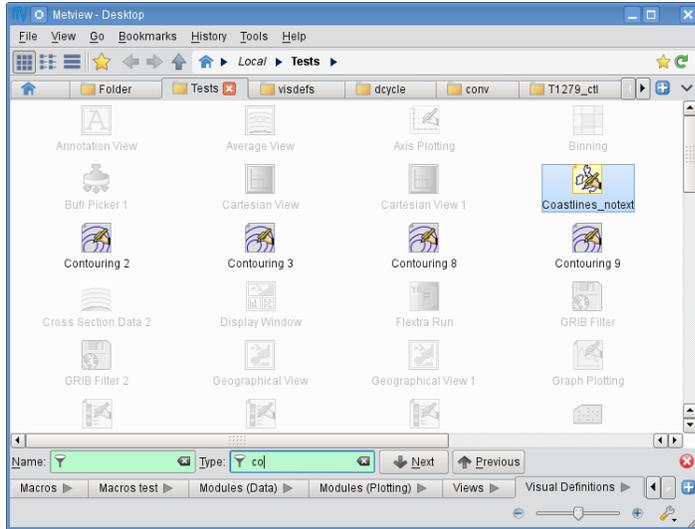


Using bookmarks

Bookmark items can be opened in various ways (e.g. in a new tab or in a new window) via their context menu. Opening a tab-set will replace the current tabs in the window.

## Icon filtering

Desktop features a filtering facility for finding icons in cluttered desktops. Just press **Ctrl+F** in any of the folder views to bring up the icon filter bar at the bottom of the folder view. By typing in a filter term for **name** or/and **type** the icons not matching the filter are greyed out in the **Folder view**.



## Drag and drop

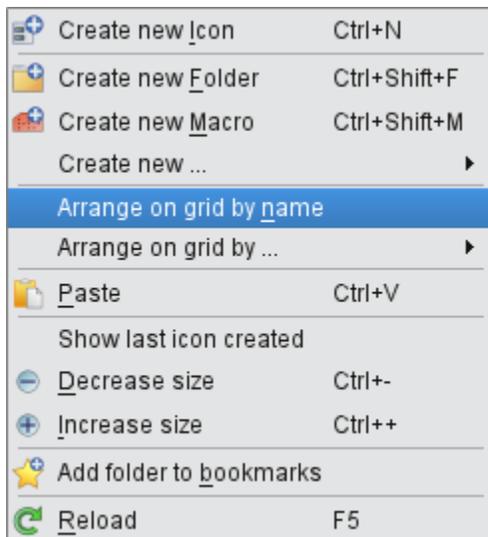
Users can **copy** icons between Folder views by dragging them with the middle mouse button.

Dragging an icon with the left mouse button means **move**.

The drop target can also be a **Folder icon**, a **folder tab**, a **breadcrumbs** item, a **bookmarks** item or an **icon drawer**. The rules are the same **except for icon drawers** where both the left and middle mouse button drag actions mean **copy**!

## Desktop actions

The desktop context menu provides a specific set of actions available for the given Folder view.

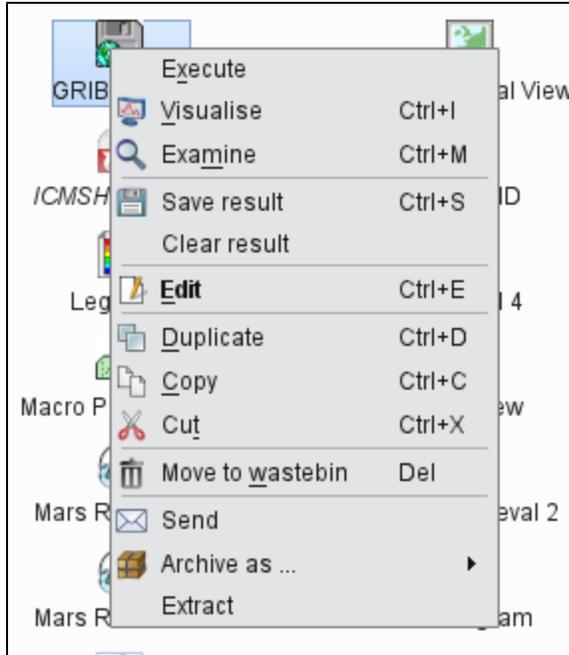


## Arranging icons on a grid

For the Classic and Simple view modes the icons can be arranged on a grid sorted by the icon name, type or file size, respectively. This is a one-off action laying out the icons just once, then the icons can be freely moved again.

## Icon actions

The icon context menu is icon specific and only shows the actions available for the given icon. The snapshot below shows the context menu for a *Grib Filter* icon:



## The default action

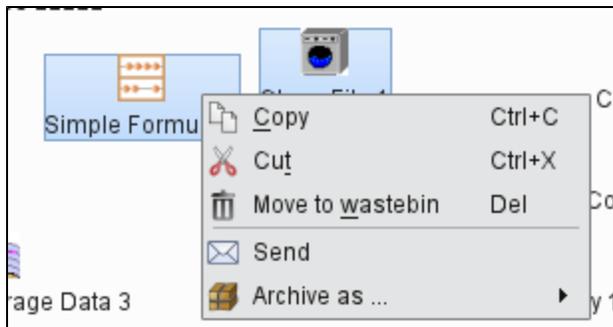
The **Edit** action in this example is highlighted in bold because it is the **default action** for this icon. The default action is triggered by double-click or hitting **E** on the icon. The default action is specific for an icon type (for certain icons it is not defined at all).

## Multiple selection

Desktop provide multiple icon selection by using:

- rubberband selection with the mouse
- **Ctrl** selection

For multiple selection the icon context menu shows a specific set of actions only:



## Clipboard usage

Desktop uses the system clipboard to implement the **Copy**, **Cut** and **Paste** actions on the current icon selection.

## Deleting icons

Unwanted icons can be moved to the wastebin by using the **Move to wastebin** action (**Del** shortcut). The wastebin can be emptied in order to permanently delete the icon(s).

## Icon output

When there exist output messages for a given icon, it will have a **Log** action in its context menu, bringing up the log window for that icon. For combined icon output, see [Tools](#).

## Archiving/extracting icons

### Archiving icons

Icons can be archived into a tar, tar.gz and tar.bz2 format by using the **Archive as** action in the [icon context menu](#). Archiving is always based on the current selection. The resulting archive file is placed in the current folder and its name is generated from the first icon in the selection.



#### Icon dependencies

It is important to understand that Metview icons can contain other icons, which can also contain other icons, and so on. When icons are archived these dependencies are resolved and all referred icons are saved into the archive preserving their relative positions in the filesystem. Thus, even by simply archiving one icon we can trigger the archiving of several files.

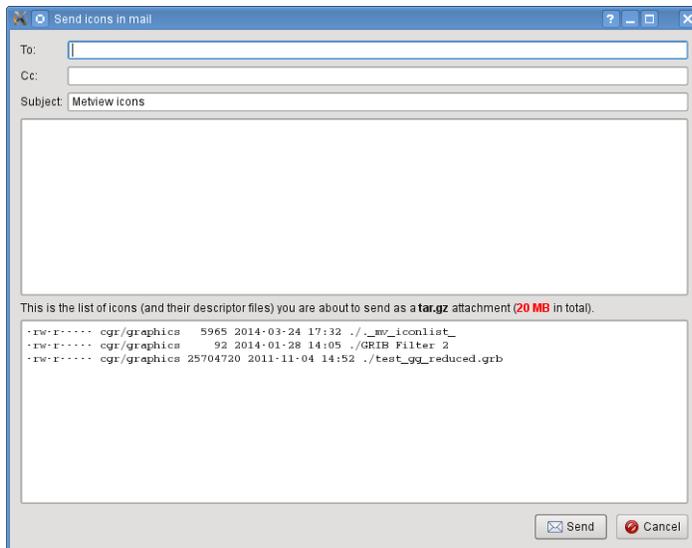
Please bear in mind that [symbolic links](#) are also resolved by default when an archive is created!

### Extracting icons

For archived formats (e.g. tar.gz) Desktop offers the **Extract** action in the [icon context menu](#).

## Sending icons in email

It is possible to send icons in email from Metview by using the **Send** action from the [icon context menu](#). When this action is triggered a **tar.gz** file is generated behind the scenes by resolving all the necessary dependencies (see [Archiving icons](#)) and all the needed icon descriptor files are also added to the resulting archive file. Having generated the tar.gz file this dialogue pops up:



Then users can specify the address, write a custom message and overview the contents of the [tar.gz attachment](#) to be sent.

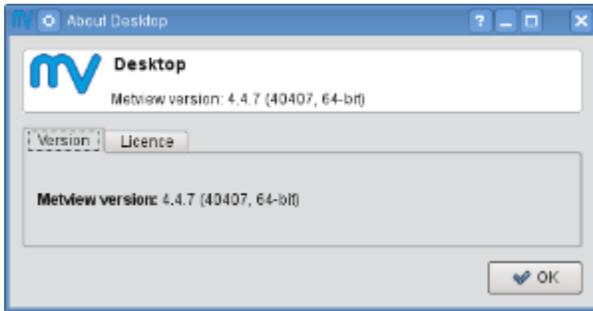
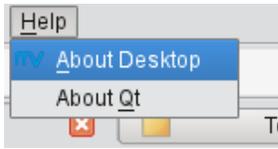
When such email is received it appears something like this in an email client:



The automatically generated part of the message contains clear instructions on how to import the icons in the tar.gz attachment into the local Metview environment.

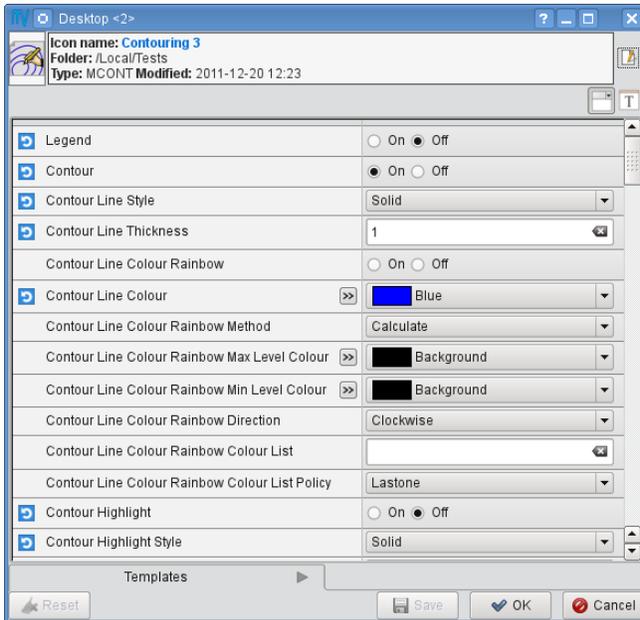
## Finding out the Metview version

Desktop displays some information about the Metview version being used in the **Help About Desktop** menu:



## Icon editors

Many of the icon types in Metview are editable. To edit an icon double-click or hit **Enter** on the icon, or right-click and select **Edit** from the context menu. This will bring up the icon editor assigned to the given icon type. The basic editor, which is used for the most of the Metview icons, looks like this in Desktop:



This editor is divided into five main parts:

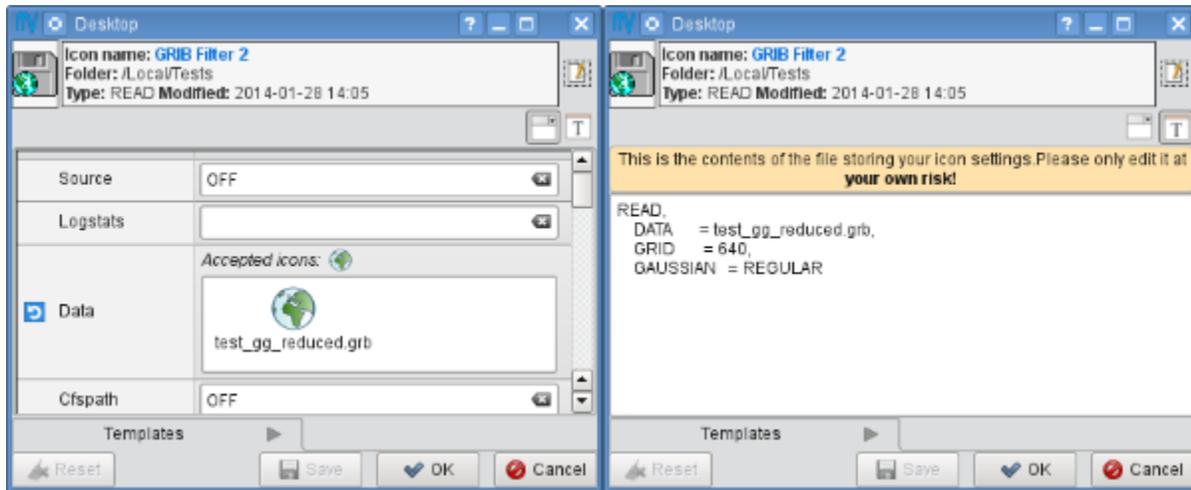
- **header**: contains information about the icon being edited
- **toolbar**: contains a set of buttons to customise the editor
- **parameters**: each icon parameter can be individually edited here
- **editor drawers**: offers various drawers storing custom icons
- **button box**: contains the buttons to e.g. save, reset the editor.

### Toolbar actions

The toolbar features two buttons to switch between GUI and text-based editor modes (the latter is indicated by the 'T' icon):



Editors are always opened up in a GUI-based editor mode and to switch into the text-based mode the contents of the editor first have to be saved.



The text-base mode reveals the 'contents' of the icon in text format. Here only the parameters which have been changed from their default settings can be seen. This is a quick way to see which parameters have been set in the icon.

 Please try to avoid editing the icon in the text-based editor mode. It is there for development purposes and expert users only.

#### Icon parameters

Each icon parameter has a default value. When a parameter is set to a non-default value a **blue 'revert' button** appears in front of it to indicate that it has been altered from the default. This button reverts the parameter to its default when clicked.

<input type="checkbox"/> Map Boundaries	<input type="radio"/> On <input checked="" type="radio"/> Off
 Map Cities	<input checked="" type="radio"/> On <input type="radio"/> Off
 Map Rivers	<input checked="" type="radio"/> On <input type="radio"/> Off

Some icon parameters have a **helper editor** offering advanced editing options. If available it is indicated by a 'double arrow' helper icon next to the parameter name like this:

 Contour Line Colour	  Blue
Contour Line Colour Rainbow Method	Calculate
Contour Line Colour Rainbow Max Level Colour	  Background

By clicking on the helper icon the editor gets expanded and the helper editor becomes available for the given parameter. At the moment these kind of helper editors are available in Metview:

- list
- colour
- colour list
- station

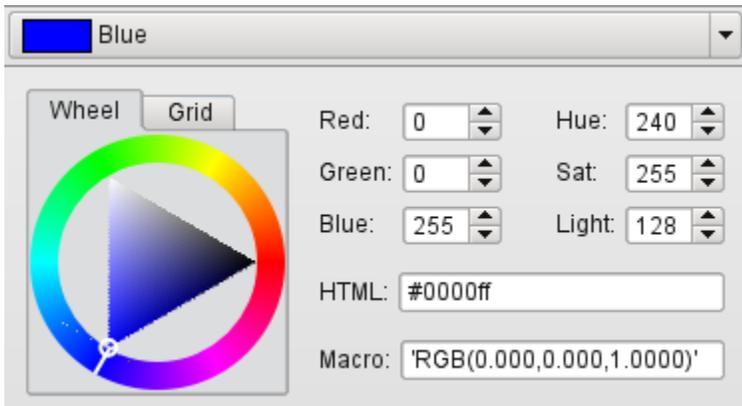
#### Button box

The button box, which is located at the bottom of the editor, offers the following actions:

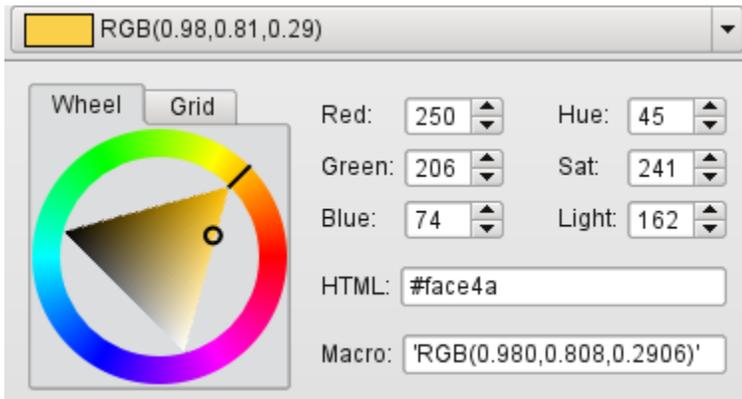
- **Ok**: save changes and close
- **Save**: save changes and stay open (it is also triggered by hitting **Enter** anywhere in the editor)
- **Cancel**: close and do not save changes
- **Reset**: reset editor to the last saved state

### Colour helper editor

The colour helper editor offers a colour wheel and a colour grid (displaying all the predefined/named colours in Metview) for colour selection. The RGB and HSL values, the HTML representation and the Metview macro format of the selected colour are also presented in an editable format.

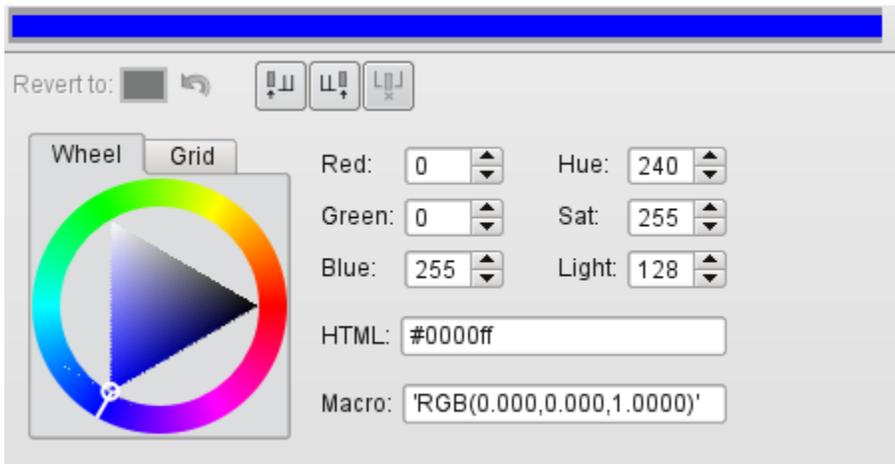


When a new colour is selected in the helper the edited parameter is immediately updated showing the new selection like this:

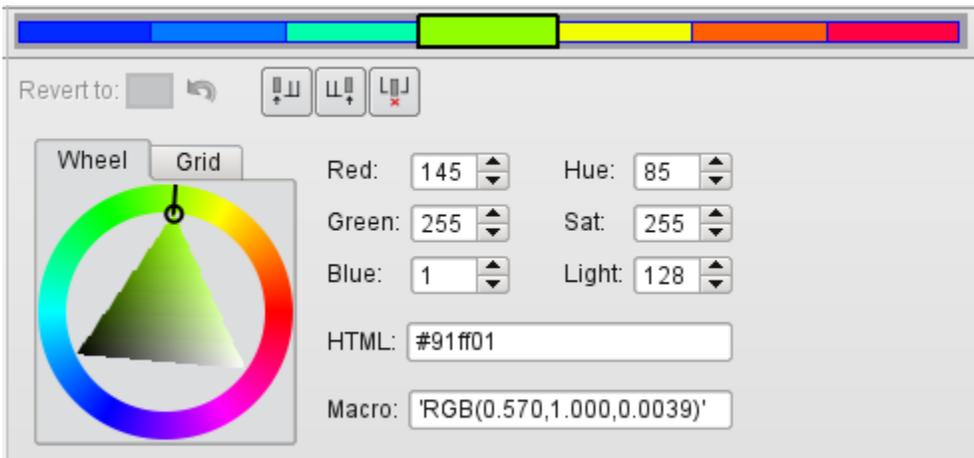


### Colour list helper editor

The colour list helper is very similar to the colour helper but allows defining and editing a list of colours instead of having a single colour cell only. By default, the colour list is empty and the editor only displays a single blue cell.



When there are multiple cells in the list the selected cell is indicated by a different frame and cell size.



Cell selection works by simply clicking on a cell. All the actions the colour list editor offers work on the selected cell including:

- insert a cell before the selected cell
- insert a cell after the selected cell
- delete the selected cell

These actions can be triggered either from the buttons

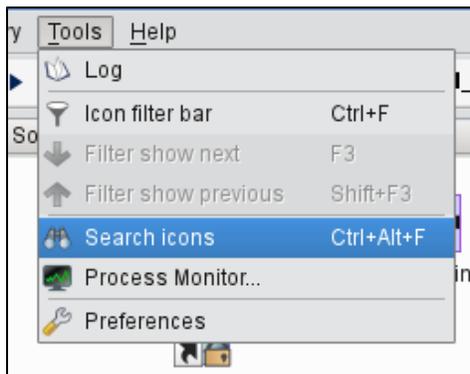


at the top of the helper editor or from the context menus of the cells (right-click on a cell to get the context menu).

## Tools

### Icon search

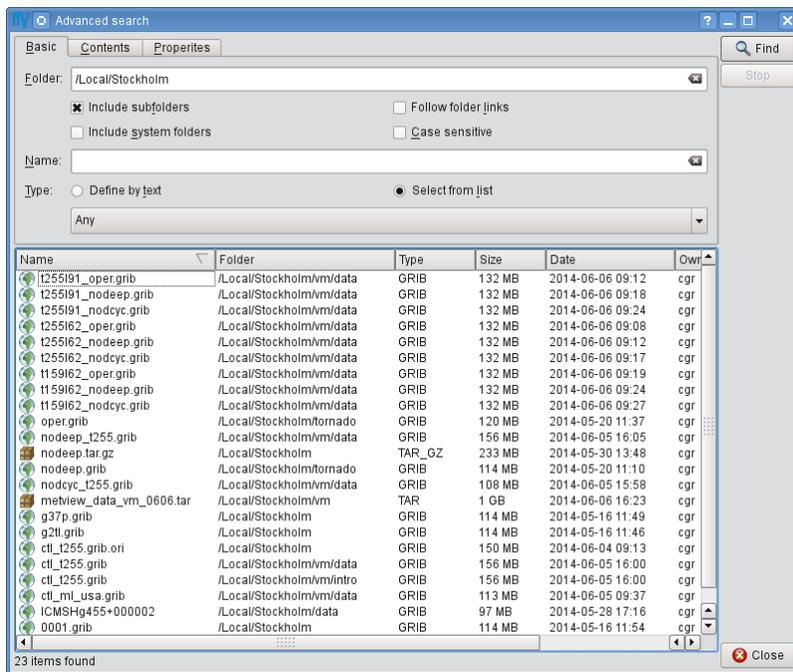
The **Search icon** dialogue can be started up from the **Tools** menu on the menu bar.



This dialogue provides an advanced interface to search for icons in the entire Metview folder hierarchy according to name, type, contents and other search criteria. The search options are grouped into these three tabs:

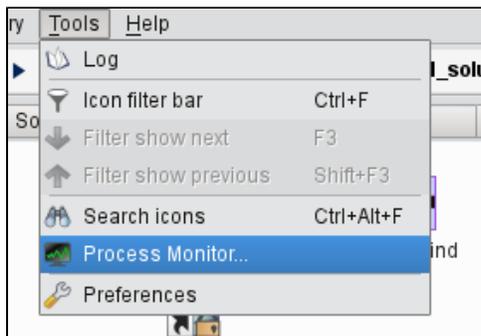
- **Basic:** specifies the folder and the name and type of the icons to be searched for
- **Contents:** specifies the containing string to be searched for in ASCII icons
- **Properties:** specifies the date, time, size, owner and group of the icons to be found

Once the search criteria are set click on the **Find** button to start searching. While search is in progress the results are automatically listed and each icon found can be looked up in its own folder view using the **Locate in folder view** action from the context menu.

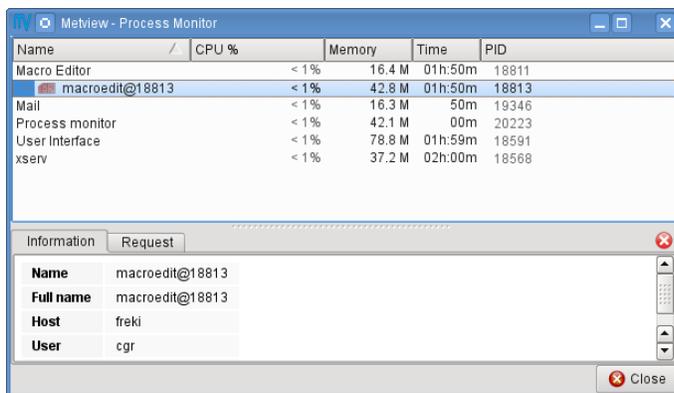


## Process monitor

Metview has a built-in task monitor, available from the **Tools** menu on the menu bar.



This tool allows users to see which processes Metview is currently running. It also allows some control, such as the ability to abort processes (right-click menu on each process's entry).



## Log

Selecting the **Log** option from the **Tools** menu brings up the Log window, showing the combined output from all icons in a single place.

# Notes for MetviewUI users

## Importing folder list

On first start-up Desktop imports the MetviewUI folder list and opens all these folders up in the same window as a set of [tabs](#).

## Dot files

MetviewUI stores icon positions and types in hidden files (dot files). There is one such file for each icon. In Desktop this information is still stored but there is only **one dot file per folder**.

## Icon positions

Desktop only reads existing MetviewUI icon positions when it opens a folder for the first time. Then icon positions diverge in the two systems (due to the different way of storing icon information).

## Drawers

Metview will not update the contents of the [icon drawers](#) automatically any more. These tabs belong to the users now, which means that users are responsible for organising them. Please note that this is a different behaviour to MetviewUI, which automatically updates the [icon drawers](#) with new system icons. System icons in Desktop are exclusively available in the [Create new icon](#) dialogue.