# Java TopTask

## Version 2.60

February 2016

## Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Web Start and Configuration</td>
</tr>
<tr>
<td></td>
<td>2.1 Java Web Start</td>
</tr>
<tr>
<td></td>
<td>2.2 Maiden launch</td>
</tr>
<tr>
<td></td>
<td>2.3 Standard configuration</td>
</tr>
<tr>
<td></td>
<td>2.4 Opening a forecast</td>
</tr>
<tr>
<td></td>
<td>2.5 Saving the configuration</td>
</tr>
<tr>
<td></td>
<td>2.6 Launching with configuration</td>
</tr>
<tr>
<td>3</td>
<td>Using Java TopTask</td>
</tr>
<tr>
<td></td>
<td>3.1 TOPTHERM</td>
</tr>
<tr>
<td></td>
<td>3.2 Alignments and propagation of gravity waves</td>
</tr>
<tr>
<td></td>
<td>3.3 Interactive animation</td>
</tr>
<tr>
<td></td>
<td>3.4 Weather chart</td>
</tr>
<tr>
<td></td>
<td>3.5 Barogram</td>
</tr>
<tr>
<td></td>
<td>3.6 Flight polar, pilot skill, and alignments</td>
</tr>
<tr>
<td></td>
<td>3.7 Homebase</td>
</tr>
<tr>
<td></td>
<td>3.8 Airspace</td>
</tr>
<tr>
<td></td>
<td>3.9 Planning a flight</td>
</tr>
<tr>
<td></td>
<td>3.10 Managing and changing tasks</td>
</tr>
<tr>
<td></td>
<td>3.11 Recorded flights</td>
</tr>
<tr>
<td></td>
<td>3.12 Flight simulation</td>
</tr>
<tr>
<td>4</td>
<td>Menu</td>
</tr>
<tr>
<td></td>
<td>4.1 Menu TOPTHERM</td>
</tr>
<tr>
<td></td>
<td>4.2 Menu Task</td>
</tr>
<tr>
<td></td>
<td>4.3 Menu Flight</td>
</tr>
<tr>
<td></td>
<td>4.4 Menu Map</td>
</tr>
<tr>
<td></td>
<td>4.5 Menu Barogram</td>
</tr>
<tr>
<td></td>
<td>4.6 Menu Settings</td>
</tr>
<tr>
<td></td>
<td>4.7 Menu Information</td>
</tr>
<tr>
<td>5</td>
<td>Licences</td>
</tr>
<tr>
<td></td>
<td>5.1 Java TopTask</td>
</tr>
<tr>
<td></td>
<td>5.2 TOPTHERM regions</td>
</tr>
</tbody>
</table>
1 Introduction

The web application Java TopTask (https://www.flugwetter.de)

- visualizes TOPTHERM weather forecasts interactively on a map and a barogram
- schedules soaring flights in thermal and aligned lift
- simulates recorded soaring flights with TOPTHERM weather forecasts

Planned task

Flights are planned on the weather chart. Java TopTask calculates TOPTHERM-based flight plans and displays the expected progression (ascending red curve) along the task. The potential flight distance along the task legs depends on the start time and appears as a falling green curve. The start times that allow for the task to be completed are indicated by the blue curve for the average task speed.

Options for flight planning: turnpoint editing (insert, delete, and move), reversed order of turnpoints, preset start time, aligned lift, flight level in aligned lift (wave or ridge/thermal), flight polar, pilot skill and airspace.

Java TopTask simulates IGC-recorded soaring flights with TOPTHERM weather forecasts. Recorded flight levels, climb rates, and ground speeds are compared with their predictions.
2 Web Start and Configuration

2.1 Java Web Start

Java TopTask is available from

https://www.flugwetter.de/getjnlpfile.php?src=jtt.jnlp

or the web site of the German Weather Service (DWD)

https://www.flugwetter.de/chartsga/segelflug/jtt.htm

This downloads the application from the web server https://www.flugwetter.de of the German National Weather Service (DWD) and launches it (Windows, MacOS, Linux, ...). The system settings must allow for the use of Java and Java web start. A message is displayed while launching.

![Java TopTask is launching.](image)

2.2 Maiden launch

Language options are presented during the maiden launch of Java TopTask.

![Language options in Java TopTask](image)

Then your personal access code to https://www.flugwetter.de may be entered.
Authentication occurs later when a TOPTHERM forecast is downloaded. Java TopTask creates the directory `jtt` in the `user.home` directory. In this directory four additional directories `weather`, `airspace`, `flight`, `task` are created. In the directory `weather` a directory `tmt` is created. Java TopTask files data into these directories.

2.3 Standard configuration

Java TopTask launches in a standard configuration showing a map and a barogram with no TOPTHERM forecast yet displayed. Region names appear at the bottom of the map and a climb rate legend to the right of the barogram as the mouse pointer is moved across the map.

2.4 Opening a forecast

The menu TOPTHERM / Date downloads the forecast for the selected date from https://www.flugwetter.de.
2.5 Saving the configuration

Upon quitting Java TopTask the current settings for

- language
- TOPHERM forecast date
- map: zoom, weather elements
- barogram: ceiling, time zone
- flight polar, pilot skill, alignments
- task list
- archives (weather, airspace, tasks, and flights)
- access code

are saved to the files

- jTT.properties
- jTT.bcf (encrypted)

in the initially created directory user.home/jtt.

2.6 Launching with configuration

When Java TopTask is launched the configuration files jTT.properties and jTT.bcf are read from the directory user.home/jtt and the application is configured accordingly.

If the file user.home/jtt/jTT.properties is non-readable, Java TopTask will launch in standard configuration (see 2.3).

If the file user.home/jtt/jTT.bcf is non-readable, the user will be asked to enter the personal access code to https://www.flugwetter.de (see 2.2).
3 Using Java TopTask

3.1 TOPTHERM

The map (left panel) shows the potential flight distance (PFD) of the day in km and the wind field.

The barogram (right panel) shows the diurnal cycle of convection and clouds for a region. The colored columns represent climb rate profiles of thermalling gliders. Updrafts may form cumulus clouds. Cloud cover is indicated at their top and at the bottom of the barogram as a weather symbol.

The thin green line is a typical cruising level of a glider in thermals. The ascending green line in the background is the accumulated PFD for the selected flight polar (see 3.6) and indicates the predicted duration of minimum flight conditions in convection. Strong thermals increase the slope of the PFD curve.

The three horizontal lines in the background show landing, median, and minimum elevations, respectively.

At the top of the barogram cloud cover is shown for three layers (H: high, M: intermediate, L: low).

At the bottom of the barogram weather symbols (see 4.7) are shown together with the diurnal cycle of temperature (T) and dewpoint (Td) at the minimum elevation.

Inversions (pink), cloudy layers (gray scale), vertical propagation of gravity waves (pale orange), their wavelength, the freezing level (red-blue), and a variable isotherm (pale blue) appear in the barogram, if upper level fields have been loaded (see 4.6).

Diagrams are adjusted by dragging the grey slide bars or by adjusting the size of the Java TopTask frame. Minimum sizes are respected.
3.2 Alignments and propagation of gravity waves

Lift aligned by wind (ridge, wave, convective rolls) is included in the PFD-accumulation by selecting the option **Alignments** (see 3.6). In the **barogram** (right panel) slope winds and the PFD-curve in aligned lift are shown in orange, and so is the flight level. On the **map** (left panel) the PFD-legend is shown in an orange frame. Where aligned lift dominates the PFD, region borders are displayed in orange.

With upper level fields loaded (see 4.6), favourable conditions for the vertical propagation of gravity waves induced by terrain following surface winds (slope winds) are shown as columns in pale orange. The criteria for vertically propagating gravity waves are

- wind speed of at least 15 KT and increasing with altitude
- wavelength increasing with altitude.

Wavelength is indicated in km and depends on wind speed and stability. It decreases with a more stable lapse rate (e.g. inversion) and increases in less stable conditions. A maximum wavelength of 65 km is shown in neutral or unstable conditions.

White columns indicate, that the vertical propagation of gravity waves is disturbed.

3.3 Interactive animation

*Moving the mouse pointer horizontally* across the barogram (right panel) selects the valid time and animates the wind field on the map (left panel) producing weather movies in forward or reversed motion. *Moving the mouse pointer* across the map (left panel) selects the valid region and animates the barogram (right panel).

The map displays weather elements with a temporal resolution of one hour. With cloud cover being animated, the layer shown is determined by the altitude of the mouse pointer in the barogram and is displayed at the bottom of the barogram. For other animated fields the altitude is determined by the vertical position of the mouse pointer in the barogram.

The interactive animation of the barogram may be inhibited by **right-clicking (control-click)** any region on the map.
3.4 Weather chart

The map displays three weather elements per region:

- a background color
- a figure or symbol in the foreground
- the wind in between

The menu Map (see 4.4) configures the weather chart as an upper level or surface chart. Numerous combinations of weather elements for the background color and the foreground figure/symbol are possible. Winds are shown as feathers.

The display of geographical elements is configured in the menu Map (see 4.4).

As an option symbol size may be set to XL.

Preset maps (Europe, Scandinavia, Eastern Europe, Germany, France, Alps, Spain/Portugal) are selected from the drop-down list in the upper right corner. The vertical pair of arrows affects the scale (zoom) of the map. Symbol size is adjusted to the current scale.

Maps may be dragged by keeping the mouse button pressed.

Clicking into a region centers the map to this region.

A right-click or shift-click on a region marks its border and inhibits the interactive animation of the barogram which remains frozen to the marked region. The name of the marked region appears in red at the bottom. Another right-click or shift-click on the marked region restores the interactive animation (see 3.3). A right-click or shift-click on an unmarked region transfers an existing mark.

With tasks or recorded flights being displayed the map and its behaviour are described in sections 3.9 and 3.11.
3.5 Barogram

The menu Barogram (see 4.5) configures the barogram (weather elements, ceiling, and zone time).

The ceiling of the barogram may be adjusted in the range from 2'000 to 10'000 m by dragging the barogram vertically with the mouse button pressed.

The current position of the mouse pointer is highlighted on both the time and the altitude axes.

Weather symbols, temperature, and dewpoint may be displayed at the foot of the barogram. Symbol size is adjusted to the width of the barogram.

As a further option symbol size may be set to XL.

With tasks or recorded flights being shown the map and its behaviour are described in sections 3.9 and 3.11.
3.6 Flight polar, pilot skill, and alignments

The parameters that affect flight planning are set by the controls in the grey panel.

<table>
<thead>
<tr>
<th>Glider</th>
<th>Index</th>
<th>Load</th>
<th>Flight polar</th>
</tr>
</thead>
<tbody>
<tr>
<td>18m</td>
<td>1.20</td>
<td>41</td>
<td>51@100</td>
</tr>
<tr>
<td>Alignments</td>
<td>90</td>
<td></td>
<td>Pilot skill</td>
</tr>
</tbody>
</table>

*Flight polar, pilot skill, and alignments*

The drop-down list Glider contains glider classes and sets the flight polar. Its parameters are adjusted by the Index and the wing Load [kg/m²]. PFD-maps and flight plans (see 3.9) depend on the Flight polar.

The best L/D ratio and the corresponding speed are shown for the flight polar. For Standard class gliders the background color of the best L/D ratio is white and colored otherwise.

Clicking the indicated best L/D ratio sets the Standard class flight polar 44@92 (best L/D ratio@speed in km/h).

Pilot skill can be selected from 50 to 120% to match experience and current training. Pilot skills other than 100% are shown with a colored background.

Clicking the label Pilot skill resets it to 100%.

Predicted climb rates are converted to cross-country speeds using speed-to-fly theory for the selected flight polar. The cross-country speeds are multiplied by the pilot skill and combined with the predicted winds to obtain ground speeds along task legs.

The PFD increases in Alignments (lift aligned by the wind: ridge, wave, or convective rolls). The cross-country speed is calculated by applying speed-to-fly theory for cruising through rising air. The updraft of the rising air is predicted independently from the climb rate of gliders in thermals.

The label Alignments is colored when selected.

In the barogram slope updrafts and the PFD-curve in aligned lift are shown in orange, and so is the flight level on the ridges. On the map the PFD-legend is shown in an orange frame. Where aligned lift dominates, region borders are displayed in orange (see 3.2).
3.7 Homebase

The menu

selects the homebase from a searchable drop-down list.

![Select homebase](image)

*Setting the homebase using the search field*

Entries into the second line are applied to restrict the drop-down list in the first line, when the **Search** button is pressed.

Entries into the second line without any matches in the drop-down list are removed and the full drop-down list is restored.

The map is centered on the selected homebase shown by the symbol 🌐.
3.8 Airspace

The menu Task / Airspace Open... opens a file dialog for files *.txt with airspace data in the „OpenAir“ format.

It is recommended to keep airspace data files in the directory user.home/jtt/airspace.

National sources for airspace data in the format „OpenAir“:
- Germany: www.daec.de/fachbereiche/luftraum-flugbetrieb/luftraumdaten/
- Switzerland: http://segelflug.ch/category/safety/luftraum/?lang=de
- Austria: www.aeroclub.at/?download.php/sek=luftraum
- France: www.ffvvespaceaerien.org/?page_id=412

Airspaces are only displayed, if users accept the full responsability for their use.
3.9 Planning a flight

The menu Task / New starts the creation of a flight task on the weather chart.

Creating a task

First, the hombase may be set (see 3.7).

The starting- and the turnpoints are selected by clicking on the map.

The current task length is displayed at the bottom of the map.

Airfields or turnpoints are selected as waypoints, when their names appear at the bottom of the map (criteria: mouse pointer is close).

The final point is entered by double clicking. This concludes task creation.

Tasks are listed at the top of the map, a single task is marked and displayed.

The turnpoints appear in a table at the top of the barogram including the flight plan (waypoint, time, track, distance, speed).

The scale of the map changes when the flexible line from the last waypoint touches the border of the map.

The map may be dragged by keeping the mouse button pressed.

The pair of vertical arrows adjusts the scale of the map and centers the map on the task.
The TOPTHERM-based flight plan for the task appears as a table and is displayed on the map and the barogram. Glides and the final glide are shown in black, climbs and soaring sections in red.

The rising red line in the barogram shows the flight distance when progressing along the task. Its average slope is the expected task speed.

The falling green line in the barogram shows the predicted flight distance along the task as a function of the departure time. The blue curve in the barogram represents the task speed for the departure times, that allow the task to be completed.

Departure altitude is fixed to a height of 1000 m above a landing elevation preset for each region. Flight plans account for 18% deviations needed to find lift.

A click in the barogram adjusts the departure time of the flight plan displayed.

**Optimum**  
Option: shows the departure for minimum task time (best task speed).

**Inverted**  
Option: reverse the sequence of the waypoints.

*Hint* The marked flight in the list (above the weather chart) may be unmarked by Ctrl-click. This removes the table with the turnpoints and the flight task from the weather chart. The weather map may be dragged and a new region marked. A click on the task list marks a task. This brings back the table with the turnpoints and the task to the weather chart.
3.10 Managing and changing tasks
Lists of flight tasks may be saved to files and opened from files (see 4.2).
Flight tasks declared in IGC-recorded flights (see 3.11) are listed.

The selected task is duplicated by the menu Task / Duplicate (see 4.2).
Alternatives: Click (mark) a task in the list and use the combined keys
- Shift-Backspace
- Shift-Delete
- Shift-Click

Hint If the table with the turnpoints has the focus (the marked turnpoint is framed), these combined keys insert a turnpoint into the task (see 3.10.2).

The selected task is removed from the list by the menu Task / Delete (see 4.2).
Alternatives: Click (mark) a task in the list and use the keys
- Backspace
- Delete

Removing a task by key must be confirmed.

Hint If the table with the turnpoints has the focus (the marked turnpoint is framed), these keys delete the turnpoint from the task (see 3.10.1).

The menu Task / Delete all removes all tasks from the list (see 4.2).

3.10.1 Deleting a waypoint
Click on a waypoint in the table and the keys
- Backspace
- Delete

will delete the marked waypoint from the task when pressed. Deletion of a waypoint is to be confirmed.

Alternative Moving the mouse pointer across the map marks the nearest waypoint in the table and the table receives the focus. The marked waypoint is deleted by the aforementioned keys.

<table>
<thead>
<tr>
<th>Leg</th>
<th>[km/h]</th>
<th>[%]</th>
<th>[km (%)]</th>
<th>[km/hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buno Bonnevaux</td>
<td>19:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Le Blanc</td>
<td>14:29</td>
<td>288</td>
<td>217 (32%)</td>
<td>55</td>
</tr>
<tr>
<td>Felaise</td>
<td>341</td>
<td>490 (71%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buno Bonnevaux</td>
<td>109</td>
<td>689 (100%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Marked waypoints are deleted by the Backspace or the Delete key.

Hint If the task list has the focus (the selected task is framed), the Backspace and the Delete keys delete the selected task from the list (see 3.10).
3.10.2 Inserting a turnpoint

Click on a waypoint in the table. A turnpoint is inserted prior to the marked turnpoint by the

- combined keys \textit{Shift-Delete}
- combined keys \textit{Shift-Backspace}
- key \textit{Insert}

<table>
<thead>
<tr>
<th>Legs</th>
<th>[hh:mm]</th>
<th>[']</th>
<th>[km (\textdegree)]</th>
<th>[km/h]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buno Bonnevaux</td>
<td>10:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Le Blanc</td>
<td>14:29</td>
<td>208</td>
<td>217 (31\textdegree)</td>
<td>55</td>
</tr>
<tr>
<td>#2</td>
<td>331</td>
<td></td>
<td>348 (50\textdegree)</td>
<td></td>
</tr>
<tr>
<td>Falaise</td>
<td>349</td>
<td></td>
<td>453 (71\textdegree)</td>
<td></td>
</tr>
<tr>
<td>Buno Bonnevaux</td>
<td>109</td>
<td></td>
<td>693 (100\textdegree)</td>
<td></td>
</tr>
</tbody>
</table>

\begin{center}
\textbf{Inserting a turnpoint}
\end{center}

\begin{center}
\textbf{A turnpoint inserted on the second leg (northbound)}
\end{center}

Alternative: a \textit{Shift-click} on the table or map inserts a turnpoint prior to the selected one.
3.10.3 Shifting turnpoints

A double-click on the map unlocks the nearest turnpoint and two flexible lines appear between the mouse pointer and the two adjacent waypoints. A click temporarily shifts the turnpoint and updates the flight plan. A double-click locks the shifted turnpoint.

Hint Unlocked waypoints are deleted when shifted to an adjacent waypoint.

3.10.4 Adding a leg

A double-click near the start or the final point adds a leg to the task (see 3.9).
3.11 Recorded flights

In the menu **Flights / IGC...**, recorded flights (igc-files) matching the prediction date may be selected and imported into Java TopTask. Date matching is automatic, if the filename of the igc-file follows the igc-convention (first character: last digit of the year (0 ... 9), second character: month (1 ..9, a, b, c), third character: day of the month (1, ..., 9, a(10), b(11), ...)). An igc file named „56h*.igc“ corresponds to a flight made on June 17, 2015.

In the barogram the recorded flight altitude can be compared to the predicted convection and cloud base. The predicted climb rates are displayed as the background color of the flight trace. The length of the flight trace is shown as a rising diagonal line. Its average slope represents the ground speed along the flight trace.

Moving the mouse pointer horizontally across the barogram animates circles (○) along the flight trace. Clicking in either the barogram or the map splits the trace at a reference point. The second part of the trace is shown in color, whereas the first section is shown in grey (e.g. tow, pre-start phase in a competition).

The zoom factor is selected using the two vertical arrows and they center the map onto the second section. Splitting the trace where the final glide starts leads to high zoom factors through the vertical arrows. In order to view the entire flight in color and high resolution, the reference point must be set back to the beginning of the flight trace, e.g. in the barogram.

The flight trace may be dragged by keeping the mouse button pressed.
3.12 Flight simulation

Checking TopTask displays the simulation of the flight with the TOPTHERM forecast.

The simulation starts at the selected reference point (see 3.11). In the simulation the recorded flight trace is treated as a task.

Moving the mouse pointer across the barogram animates the recorded (●) and the simulated (●) position of the glider in both the map and the barogram.

The simulation compares the recorded to the predicted ground speed. The flight polar and the pilot skill may be adjusted (see 3.6).

Simulations of the recorded flight trace are calculated for different departure times. The blue curve shows the effect of different departure times on the simulated task speed.

The option Alignments increases the cross-country speed (in convective rolls, ridge lift or waves the flight is in rising air). For flights in purely dynamic updrafts the flight level can be selected to either ridge or wave. In the ridge option the flight level is the topographic layer which produces the highest updrafts. In the wave option the previously defined level is increased by 2'500 m. If thermal lift dominates, the flight level is in the convective boundary layer.
Menu

4.1 Menu TOPTHERM

Opening a forecast closes all recorded flights, whereas tasks remain.

The download starts with the surface chart. A green progress bar appears at the bottom of the barogram.

Subsequently, upper level data are downloaded. An orange progress bar appears at the bottom of the barogram.

Retrospective / Date downloads the TOPTHERM forecasts for the selected date from the web server https://www.flugwetter.de. Retrospective forecasts remain available for four weeks, upper level fields for two days.

Date downloads the TOPTHERM forecasts for the selected date from the web server https://www.flugwetter.de.

TOPTHERM forecasts cover five days and are updated every 12 h. The forecast date appears in absolute format (Saturday, February 13, 2016) in the title. The model and its run are indicated in the title (COSMO-EU 12.02.2016 from 12 UTC). Finally, the source of the forecast appears (web server or archive).

The TOPTHERM forecast for the current day is updated hourly with surface observations. The final assimilation time (03, 04, 05, or 06 h UTC) appears in the title.

Outdated forecast

A gray application icon and a colored Date item point out an outdated forecast which can be updated.

For outdated forecasts to be reported on time, the system time of the computer must be synchronized with an internet time server (recommended system setting).
Forecasts become outdated at the following times (UTC)

- 03:33 h, 05:33 h and 06:33 h for today
- 03:30 h and 15:30 h for tomorrow
- 03:30 h and 15:45 h for after tomorrow and the following days

Outdated forecasts are reported within one minute after becoming invalid. If a forecast is still reported as outdated after having been updated via the menu, then the forecast is not (yet) available from the web server.

Reports of outdated forecasts may be inhibited in the menu Settings / Monitor TOPTHERM (see 4.6).

When the system time of the computer changes date in local time, the TOPTHERM submenus and the window title are updated.

**Open ...** loads TOPTHERM forecasts from an archive.

The date of the forecast is the file name: 16020406.bz2 denotes the TOPTHERM forecast for February 04, 2016.

Files with the extensions *.bz2, *.gra.bz2, *.gra, and *.tt2 are opened.

Archived TOPTHERM forecasts

Forecasts which are not found in the archive are requested from the web server https://www.flugwetter.de. Particular dates entered into the file dialog in the format YYMMDDHH will download the corresponding TOPTHERM forecast from the web server.
In case a requested forecast is not available on the web server a message appears.

Saving forecasts
Forecasts are filed to an archive when downloaded from the web server, if the menu Settings / File TOPTHERM is checked (see 4.6). Filed forecasts are then loaded from the archive. Loaded forecasts may not be archived.

Close forecast
Closes the displayed TOPTHERM forecast. The map shows only regions and geographical items. Closing a forecast closes all recorded flights, whereas tasks remain.

Print ...
Shows dialogs for page setup and printer selection. The application window is printed without menus.

Quit
Closes Java TopTask and saves the configuration.
Listed tasks and flights are not saved to the configuration and will not be loaded in the next run. They can be found easily through the saved paths.
### 4.2 Menu Task

**New ...**  
Creates a task (see 3.8) on the PFD map.

**Open ...**  
Loads tasks and turnpoints from archived *.cup (SeeYou) and *.stt (StrePla) files.

**Save ...**  
Saves all tasks and turnpoints to *.cup (SeeYou) and *.stt (StrePla) files.

**Duplicate ...**  
Duplicates the selected task.

**Delete**  
Removes the selected task.

**Delete all**  
Removes all tasks.

**Turnpoints**  
Option: show turnpoints (three initial letters).

**Open ...**  
Loads turnpoints from archived *.cup (SeeYou) and *.stt (StrePla) files.

**Delete**  
Removes all turnpoints.

- **Airfields**  
Option: show airfield symbols (◇) when checked.

- **Homebase**  
Selects the homebase (◇) and centers the map.

**Airspace**  
Shows airspace (see 3.8) when checked.

**Open ...**  
Opens airspace data from files *.txt with in „OpenAir“ format.

**Options ...**  
Selects airspace classes to be shown (see 3.8).

**Delete**  
Removes all airspace.

### 4.3 Menu Flight

**IGC ...**  
Loads IGC-files (see section 3.11).

Multiple IGC-files may be selected and loaded as a batch. Only IGC-files matching the TOPTHERM forecast date will be suggested for loading (see 3.11).

If no TOPTHERM forecast is displayed, all IGC-files will be suggested for loading. Loaded flights are simulated in still air.

When loading recorded flights, only the transition points between climbs and glides are retained as waypoints. With flights loaded, the map will always show background colors for the PFD.

**Close**  
Removes the marked flight from the list.

**Close all**  
Removes all listed flights.
4.4 Menu Map

Upon right-click or shift-click on the barogram this menu appears as a context-menu.

**Upper level chart**
Wind, temperature, or dewpoint. This menu is available, if upper levels have been loaded (see 4.6).

**Surface chart**
Cloud cover in different layers. Wind and climb rates in the boundary layer, temperature and dewpoint at the lowest elevation.

The displayed time depends on the horizontal position of the mouse pointer in the barogram and is indicated at the bottom of the barogram and on both axes. The displayed level depends on the vertical position of the mouse pointer in the barogram and is indicated at the bottom of the barogram.

**Background**

**Cloud cover [0..8]**
Background: cloud cover as color, foreground: weather symbol (see 4.7).

Clouds (,application, application, application, application, application, total) are displayed for the time and altitude of the pointer in the barogram, which are indicated at the bottom of the barogram.

**PFD**
Background: PFD as color, foreground: PFD in km.

**Climb rate**
Background: climb rate as color, foreground: climb rate in m/s.

**Temperature**
Background: temperature as color, foreground: temperature in °C.

**Dewpoint**
Background: dewpoint as color, foreground: dewpoint in °C.

**Foreground**

**Weather [symbol]**
Weather symbol (see 4.7)

**Cloud cover [0..8]**
Cloud cover

**PFD [km]**
Potential flight distance in km

**Climb rate [m/s]**
Climb rate in m/s

**Temperature [C]**
Temperature in °C

**Dewpoint [C]**
Dewpoint in °C

**Wind**
Option: show wind symbol (feather)

**Geography**

**National borders**
Option: show in the foreground

**Rivers/Lakes**
Option: show in the foreground

**Region number**
Option: show, if scale permits and if neither TOPTHERM nor a flight/task is displayed. Red numbers indicate regions with temporary TOPTHERM licences (see 5.2). The expiration date appears next to the mouse pointer when over such regions.

**XL Symbols**
Option: displays extra large symbols
4.5 Menu Barogram

Upon shift-click or control-click on the map this menu appears as a context-menu.

- **Wind**
  Option: wind as symbol.

- **Cloudy layers**
  Option: as shades of gray.

- **Inversions**
  Option: in salmon-pink.

- **Gravity wave**
  Option: show levels allowing for the vertical propagation of gravity waves (favourable: pale-orange, disturbed: white).

- **Wavelength**
  Option: in km

- **Freezing level**
  Option: in red and blue.

- **Isotherm**
  Option: in variable color. The temperature is selected by the arrows in the lower-right corner of the barogram. Hint: indicates advection of cold or warm air above the convective boundary layer.

- **9’000m / ... / 3’000m**
  Ceiling of the barogram. Distance and speed scales (to the right) are adjusted.

- **h + 1 / h - 1**
  Shifts the zone time displayed (UTC, CET, CEST,...) by one hour.

- **Weather [Symbol]**
  Option: shows symbols at the bottom of the barogram.

- **Temperature and dewpoint**
  Option: shows values at the bottom of the barogram.

- **XL Symbols**
  Option: displays extra large symbols.

4.6 Menu Settings

- **Load upper level fields**
  Option: loads vertical profiles of temperature, moisture, and wind.

The source is the same as for TOPTHERM forecasts (DWD web server or archive).

- **File TOPTHERM**
  Option: file the forecast to archive on download and load from archive, once the download is completed. Upper level fields are also filed and loaded, if the option **Load upper level fields** is selected.

- **Monitor TOPTHERM**
  Option: report outdated forecasts.

Upper level fields are also filed and loaded, if the option **Load upper level fields** is selected. The archive for TOPTHERM (see **Archives / TOPTHERM ...**) must have a subdirectory named `/tmt` for upper level data to be filed.

- **Archives / TOPTHERM ...**
  Selects the archive for TOPTHERM forecasts and creates a subdirectory `/tmt` for the upper level fields.

- **Archives / Airspace ...**
  Selects the archive for airspace data files.

- **Archives / Tasks ...**
  Selects the archive for task files.

- **Archives / Flights ...**
  Selects the archive for recorded flights.

- **Access code ...**
  Prompts for entering the access code to [https://www.flugwetter.de](https://www.flugwetter.de).

- **Language ...**
  Selects the language (German, French, or English).

- **Climbs in color**
  Option: shows the climb rate in color.

- **Cloud cover [0..8]**
4.7 Menu Information

Weather symbols displays

Documentation
Opens the documentation jTT_E.pdf in the browser. jTT_E.pdf is web-published by DWD.

TopTask 2.60 displays
5 Licences

5.1 Java TopTask

Java TopTask is licensed to the German Weather Service (DWD) for web-based meteorological planning of soaring flights at https://www.flugwetter.de. Java TopTask is based on TOPTHERM forecasts, which are licensed to DWD by regions.

5.2 TOPTHERM regions

Individual TOPTHERM regions are licensed to DWD permanently or temporarily.

Java TopTask uses TOPTHERM forecasts of temporarily licensed regions only up to an expiration date. In regions with an expired licence tasks and flights are simulated for still air.

Region numbers (red: temporary licence)

The expiration date of temporarily licensed TOPTHERM regions is checked, when a TOPTHERM forecast is loaded.

For regions with a temporary TOPTHERM licence the region number is printed (see section 4.4) in red. Moving the mouse pointer over such regions displays the expiration date.