

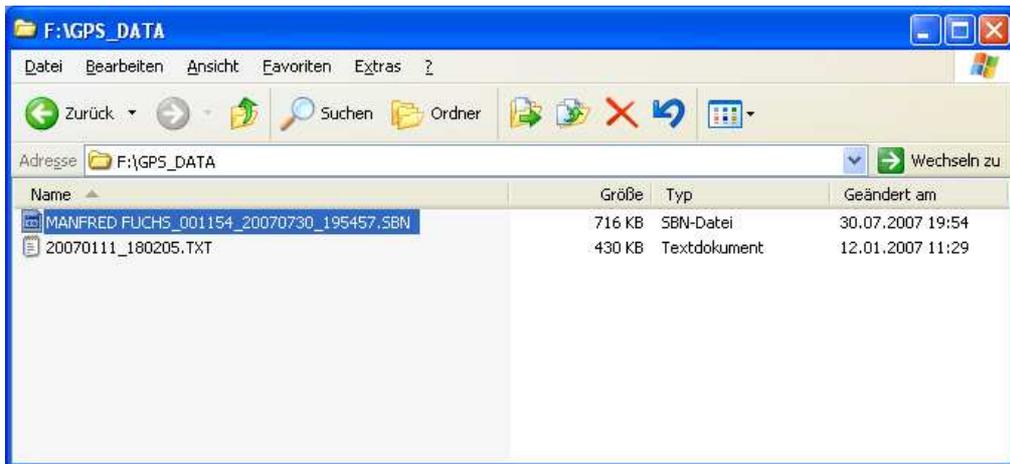
The easy way to GPSSpeedSurfing

Step1 - Download GPSResults:

Download the latest version of **GPSResults** from www.gps-speed.com/download_e.html by left mouse-click onto the blue **GPSResult V5.37**-link on the web-page and install the program (on Windows2000® the free gdiplus.dll may be needed in the same directory to run GPSResults – search the web for it):

Step 2 - Open GPS-Datafile (NMEA txt-files, binary sbn-, sbp-, or bin-files from Navi / Amaryllo GT11/GT31® SD-cards or saved gpx-files from Garmin®-units):

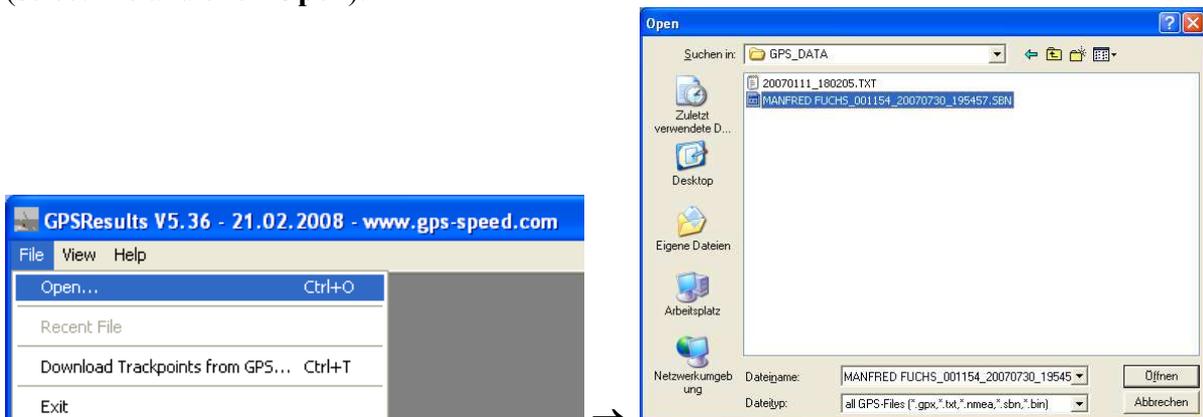
Take the SD-card from the GT11/GT31 containing NMEA txt-files or binary SBN-/SBP-/BIN-files, insert it into your SD-card reader and drag and drop the file to be evaluated onto the **GPSResults**-icon on your desktop (of course you also copy the files first to your GPS-directory on your harddisk and load them from there. My SD-card shows up as drive **F:** - the GT11/GT31-files are under **F:\GPS_DATA**, thus double-click **GPS_DATA** to see the files):



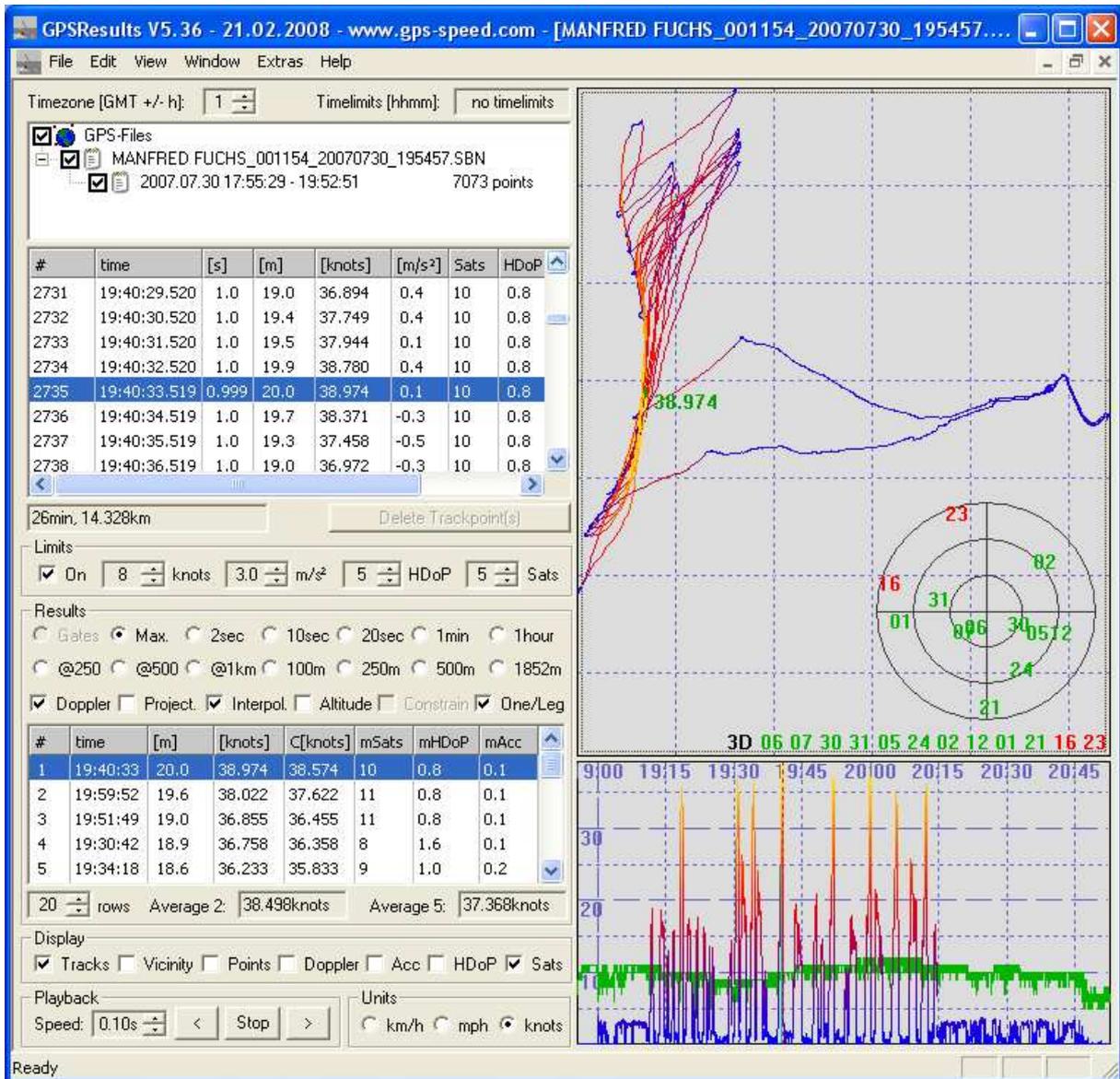
Select (left-click) and drag and drop the file you want to analyse over the **GPSResults**-icon on your desktop:



Alternatively you can start **GPSResults** (double-click the icon) and open the GPS-file to be analysed from the **File - Open...** menu (or **Ctrl & O**) and the following file selector box (select file and click **Open**):



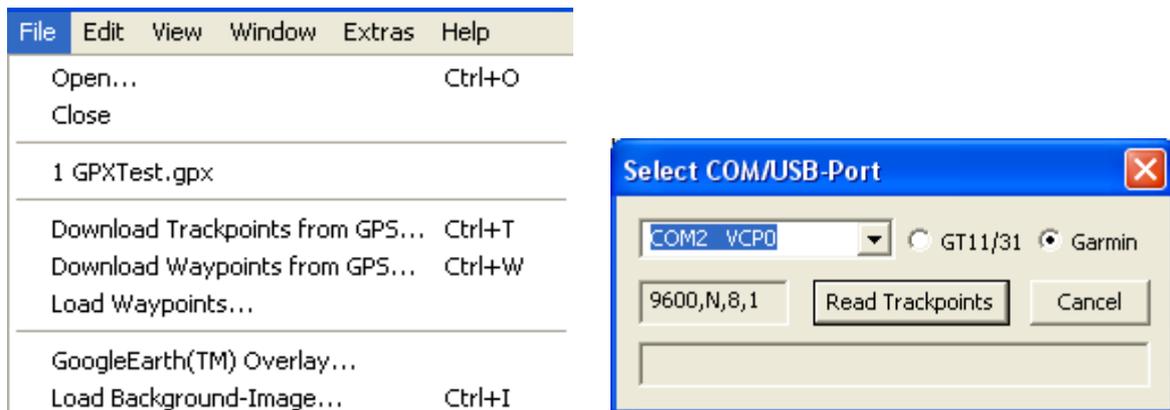
The program will open and read the file and come up with the **Max. speed Results** selected, so spikes can easily be identified and deleted in the trackpoints-list (third list on the left, if necessary see below **FAQ – Delete Spikes**, usually with GT11/GT31®- or Garmin® Edge-data there are no spikes):



You may check your results in lower list on the left by selecting different categories (e.g. **250m, 500m, 10sec - 5x10sec** in the **Average 5**-field) or in the zoomed speed over time display in the lower right corner (use mouse-wheel or +/- keys to zoom, drag to shift time-range, left-click the result you are interested in in the Results-list) before sending them to GPSSpeedSurfing (GP3S). Make also sure that from GPX-files only data from one day are selected (left-click or Ctrl & left-click) in the track-segments list (first list from the top). Select Doppler-speed evaluations if needed and continue with **Step 3 - Send Results to GP3S**.

Step2 – Download GPS-data from Garmin® units (Geko®, Foretrex®, Edge®):

Start **GPSResults** by double-clicking the program-icon on the desktop, from the **File** – menu select **Download Trackpoints from GPS...**, then select the **COM-port** where you connected your Gamin® GPS (Geko® or ForeTrex®) (if you don't know the COM-port number see **FAQ - COM-Port** below) or **USB** for the Garmin® Edge (in this case Garmin Training Center® and the USB drivers have to be installed and the data have to be downloaded already once with the Training Center, otherwise the last track-segment may be missing):



Finally select **Garmin** and click **Read Trackpoints** and the download will start. With the slow serial port of the older Garmin® units the download of 10.000 trackpoints will take 500 sec since the serial port speed is limited to about 20 trackpoints/sec, the faster USB-port of the Edge allows a speed of 600 trackpoints/sec. If you get error messages see **FAQ - Download Problems** below.

After the download has finished, you will see a file-selector box asking for a filename, so the downloaded data can be saved as a e.g. GPX-file (give the file a speaking name containing the date, for the Edge the serial-number of the unit is the default filename):



Step2 – Download GPS-data from Navi® GT11/GT31 units (binary format):

The GT11/GT31 (firmware version **v1.61-0815** or later) has to be switched on and set to the **NAVILINK**-mode before the download can start. The settings for the **DATALOGGER** should be:

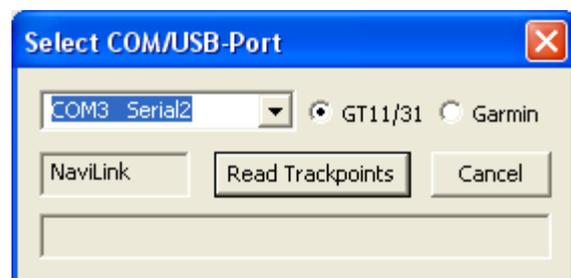
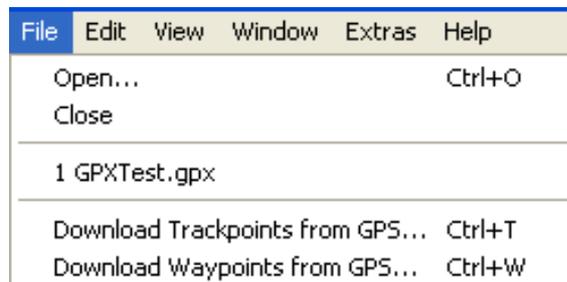
INTERVAL 1SEC

MIN SPEED OFF (important for Alpha-categories if your speed drops too low)

DATA ITEM SBP

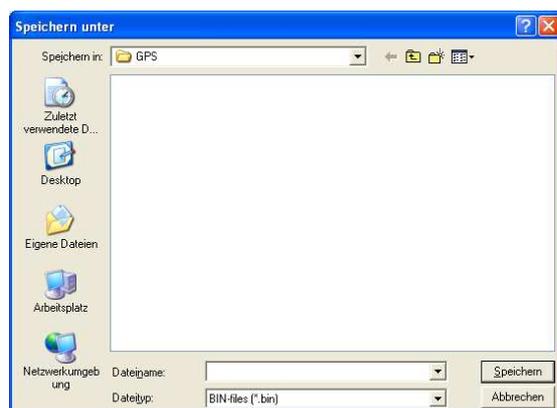
If you used TRK for the DATA ITEM no usable data (for our purposes) will be saved. You should **CLEAR** the DATA LOGGER memory before a session because otherwise old stuff from older firmware versions may still be in memory or several sessions may be mixed up and this makes it more difficult to do a meaningful evaluation later on.

Start **GPSResults** by double-clicking the program-icon on the desktop, from the **File** – menu select **Download Trackpoints from GPS...**, then select the **COM-port** where your Navi GT11/GT31 appears (if you don't know the COM-port number see **FAQ - COM-Port** below). The Navi has an integrated USB-serial adaptor, the USB drivers have to be installed and the **navilink_cmd.exe**-program (or the successor **nvk.exe**) has to be downloaded from www.locosystech.com/download/handheld/NAVILINK_CMD_v153.rar and put into the same directory where **GPSResults** is (in the latest version **nvk.exe** is already put there during installation of **GPSResults**, so the additional download is not necessary).

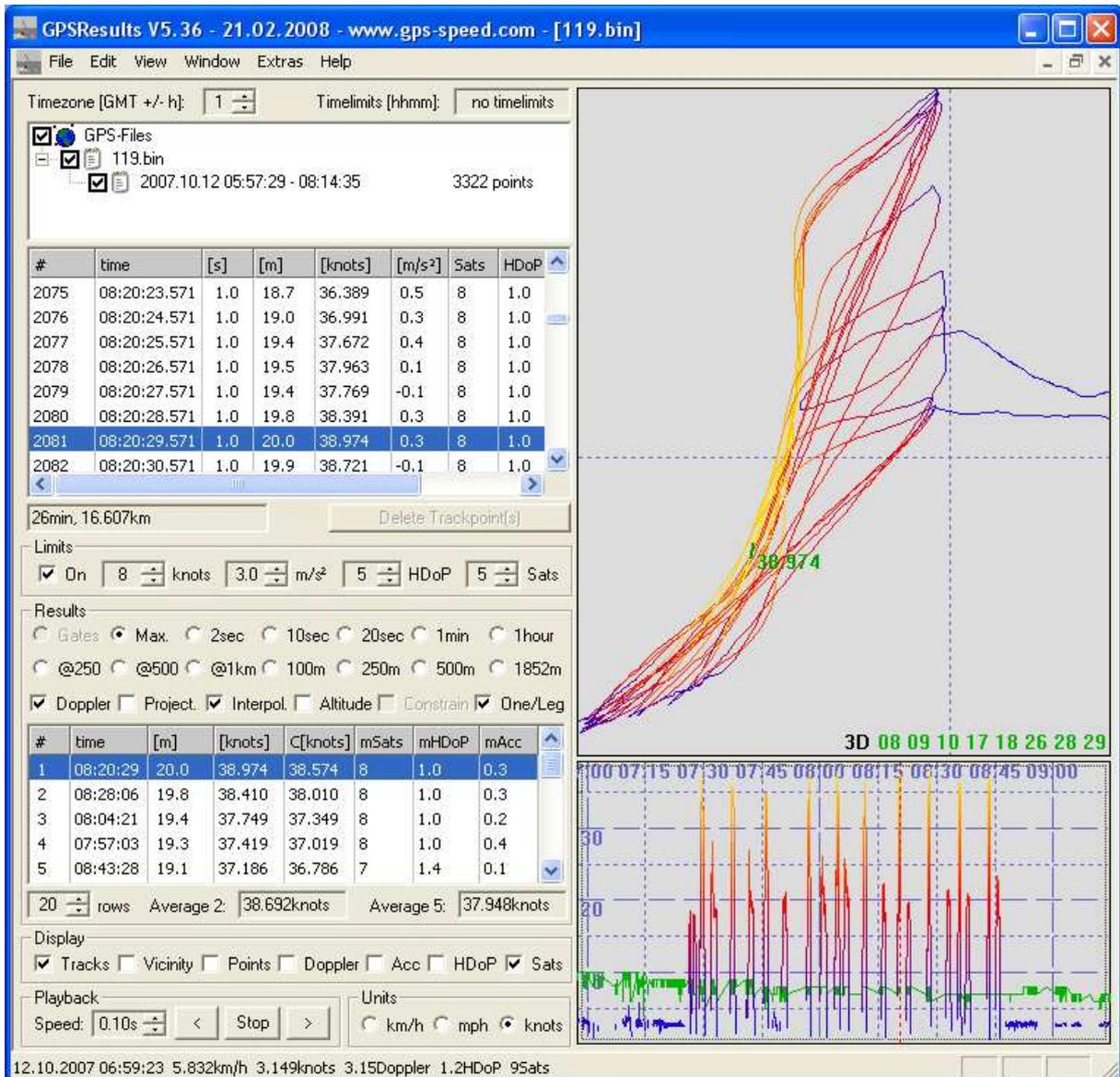


Finally set the GT11/GT31 to the **NAVILINK**-mode, select the **Navi**-button, and click **Read Trackpoints** and the download will start. If you get error messages see **FAQ - Download Problems** below.

A file-selector box appears asking for a filename, so the data can be saved as **BIN**-file (give the file a speaking name containing the date etc.):



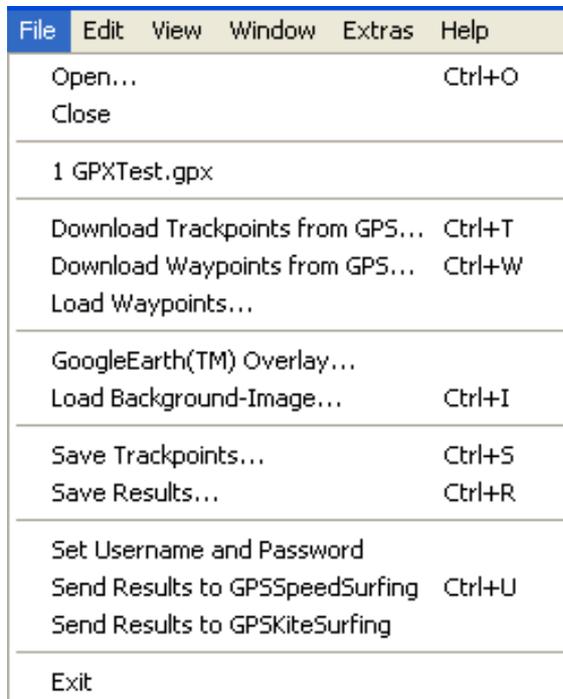
The data will then be analysed and displayed as in the 'Load from File'-case. **GPSResults** comes up with the **Max.** speed **Results** selected, so spikes can easily be identified and deleted in the trackpoints-list (third list on the left, if necessary see below **FAQ – Delete Spikes**, none in this example):



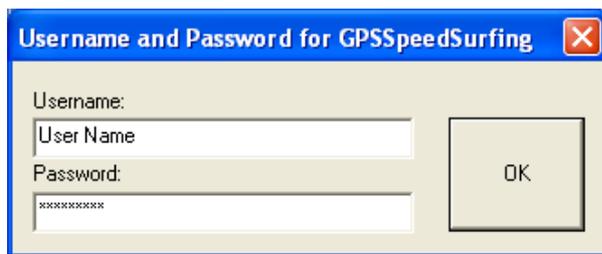
You may check your results in lower list on the left by selecting different categories (e.g. **250m, 500m, 10sec - 5x10sec** in the **Average 5**-field) or in the zoomed speed over time display in the lower right corner (use mouse-wheel or +/- keys to zoom, drag to shift time-range, left-click the result you are interested in in the Results-list) before sending them to GPSSpeedSurfing. Make also sure that from GPX-files only data from one day are selected (left-click or Ctrl & left-click) in the track-segments list (second list from the top). Select Doppler-speed evaluations if needed and continue with **Step 3 - Send Results to GP3S**.

Step 3 – Send Results to GPSSpeedSurfing

Select **File – Send Results to GPSSpeedSurfing** to upload your session results to GP3S. Of course you have to be connected to the internet in order to do that.

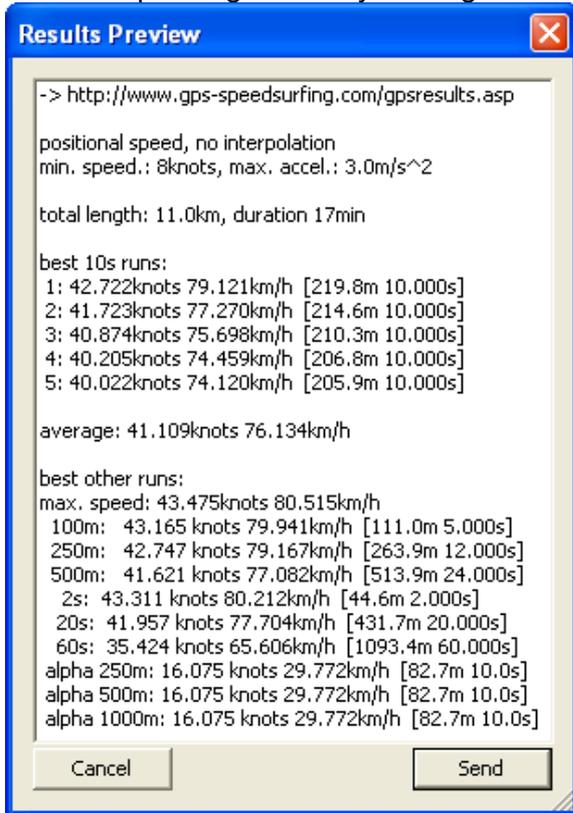


If you upload the first time you will be asked for your GP3S **Username** and **Password** (you can also enter or re-enter it at any time by clicking **File – Set Username and Password**). Your username and password will be saved, so next time you don't have to specify it again.

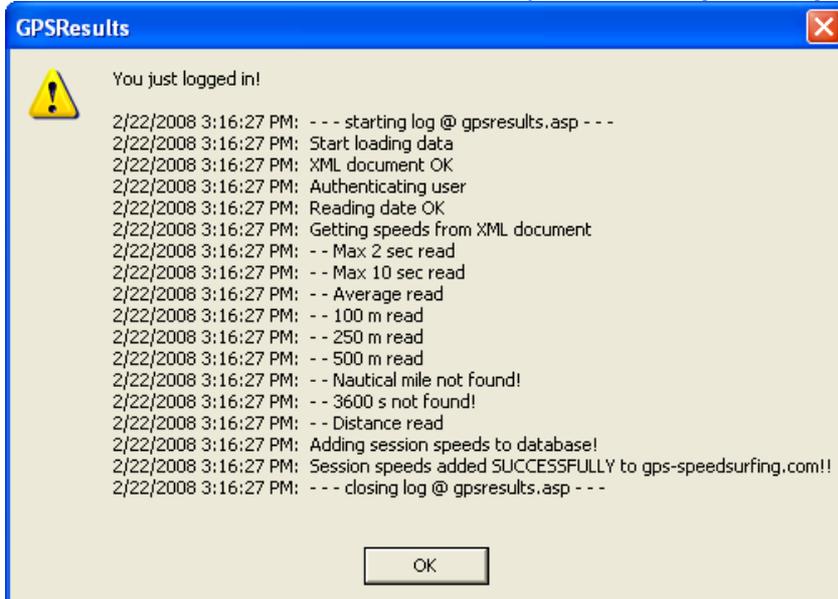


If you send results from GPS-data containing Doppler-speeds these more accurate speeds will be transmitted automatically - independent of the setting of 'Doppler'-mode selection!

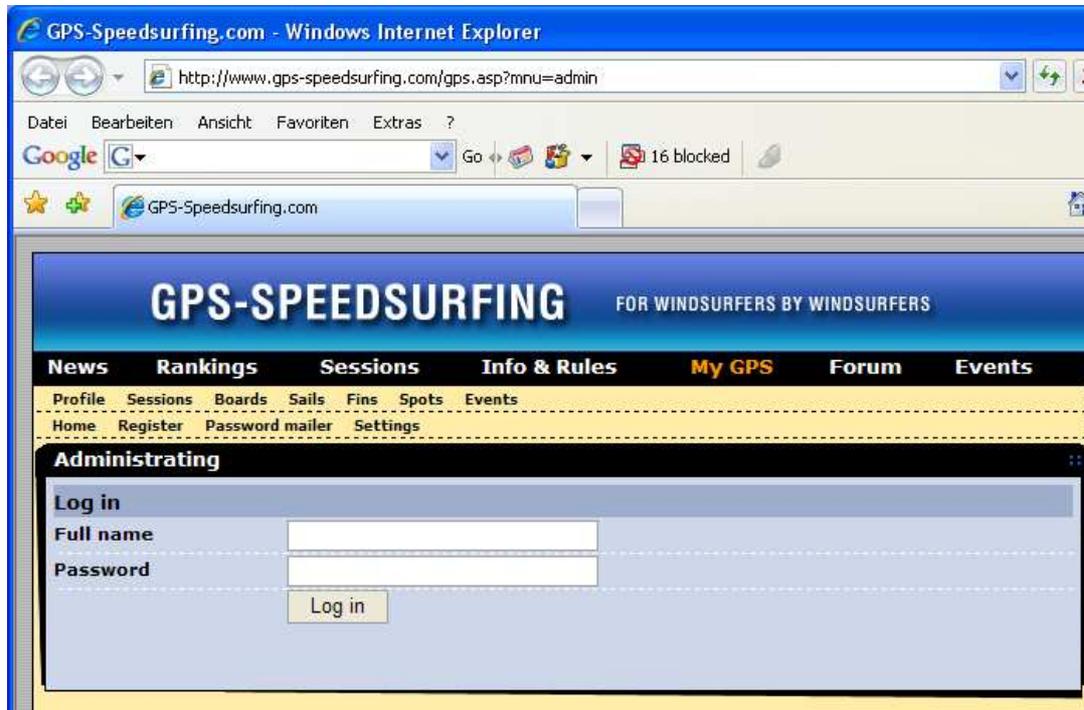
The results to be sent are listed in a resizable dialog window for review and can be sent to the corresponding server by clicking the 'Send'-button (internet connection required!).



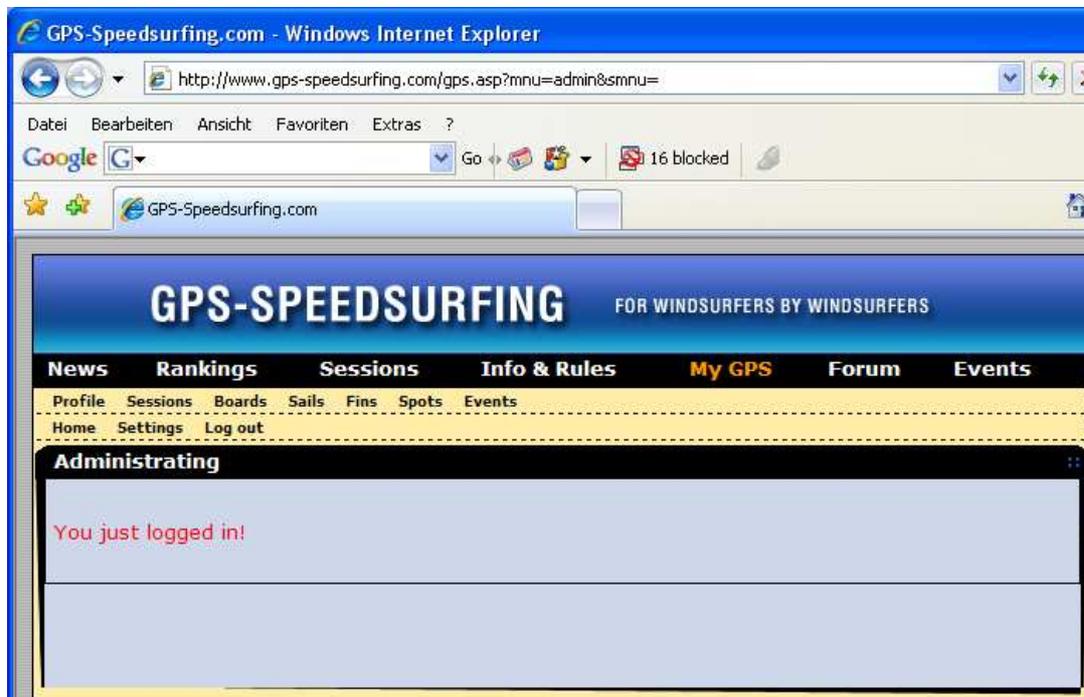
A successful transmission is indicated by the following messages:



After upload of the results the log-in page of the corresponding server is invoked, log-in and add the missing fields and comments before posting the results.
Enter **Full name** and **Password**, click **Log in**:



Select **Sessions** below **Profile**:



Now click **Use this data to add a session** (or **Delete**, if you want to delete it):

GPS-SPEEDSURFING FOR WINDSURFERS BY WINDSURFERS

News Rankings Sessions Info & Rules **My GPS** Forum Events

Profile Sessions Boards Sails Fins Spots Events

Home Add session Settings Log out

Administrating

List of all session data added by GPS Action Replay

Date : Friday, October 12, 2007

Average speed : 37.10 knots (38.1 37.3 37.2 36.8 36.1)

Max. 2 sec. (software) : 38.8 knots

100 m run : 38.5 knots

250 m run : 37.5 knots

500 m run : 34.5 knots

1 hour : 9.5 knots

Distance : 16.6 km

[Use this data to add a session](#) [Delete](#)

Add the required additional information (**Max. GPS (display)**, **Windspeed**, **Windgusts**, and **Remarks**) before you click **Add** below the Remarks-field. After clicking **Add** your session will appear in the posted sessions list:

GPS-SPEEDSURFING FOR WINDSURFERS BY WINDSURFERS

News Rankings Sessions Info & Rules **My GPS** Forum Events

Profile Sessions Boards Sails Fins Spots Events

Home Add session Settings Log out

Administrating

Add session

Event -

Date 12 10 2007

Spot Germany, Buesum / Westerkoog

Board F2 Missile

Sail Gun Sails Mega XS 5.7

Fin Time Machine TM45v7 Carbon 22

GPS type Amaryllo Trip Tracker

Max. GPS (display) knots

Max. 2 sec. (software) 38.8 knots

10 sec speed run 1 38.1 knots

10 sec speed run 2 37.3 knots

10 sec speed run 3 37.2 knots

10 sec speed run 4 36.8 knots

10 sec speed run 5 36.1 knots

100 m run 38.5 knots

250 m run 37.5 knots

500 m run 34.5 knots

Nautical mile 0 knots

1 hour 9.5 knots

Distance 16.6 km

Windspeed knots

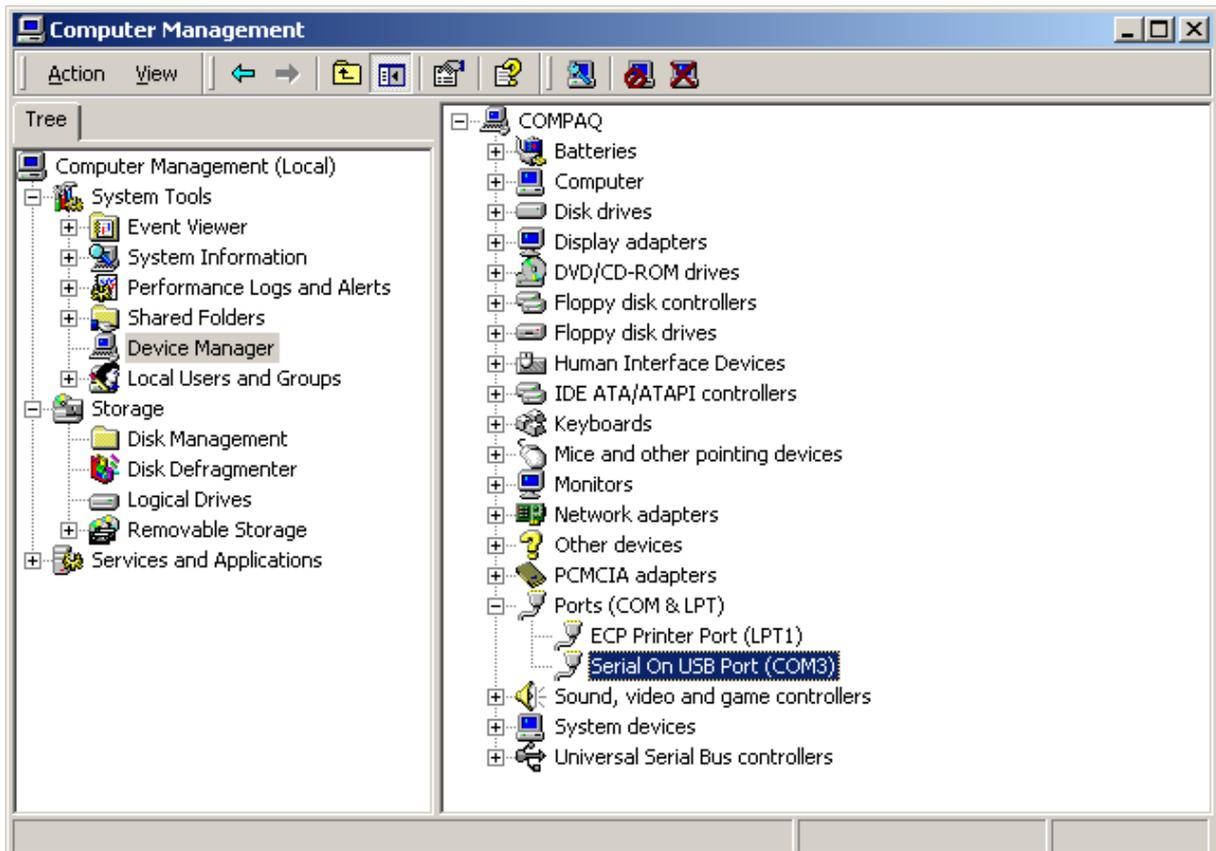
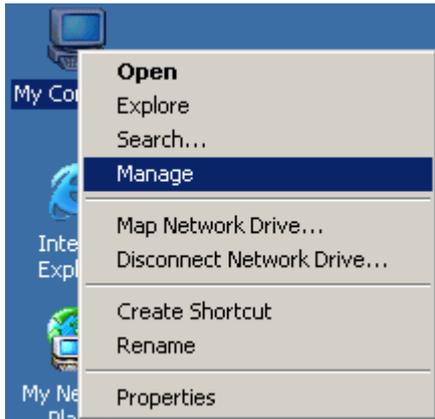
Windgusts knots

Remarks

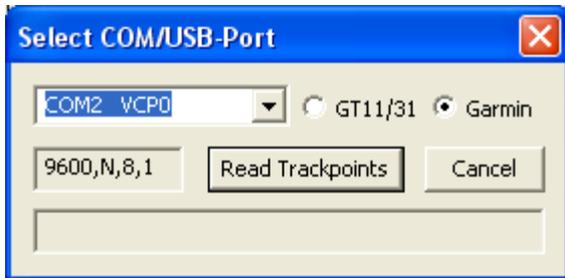
FAQ – COM-Port

With the serial port Garmin® GPS units the **COM-Port** (serial port of your computer, or the address of the **USB-serial port adapter** in case your computer does not have a serial port anymore, in this case install the USB-serial adapter software driver before you do the following steps) has to be set before downloading the data from the unit (Step 2):

Right-click the **My Computer** icon on your desktop or in the **Start**-window and select (left-click) **Manage, Device Manager**, click the plus-sign to see the **Ports (COM & LPT)** settings (my USB-serial adapter appears under COM3 in this example):



Select this COM-Port in the **Download Trackpoints from GPS**-window before pressing **Read Trackpoints** (GPSResults will save the setting, so next time it will come up with COM3 already selected. Use the same USB-port for your USB-serial adapter next time, otherwise the COM-port address may change):



FAQ – Download Problems

If the download does not start and you see one or all of the following message boxes, your GPS was not switch on or (most commonly) the little connector was not pushed hard enough into the hole of the Garmin Foretrex 201 clip or 101 unit or the contacts on your Geko are already too much corroded):



Try to improve the connection and then repeat download.

The Navi has an integrated USB-serial adaptor, the USB drivers have to be installed and the **navilink_cmd.exe**-program (or it's successor **nvk.exe**) has to be downloaded from www.locosystech.com/download/handheld/NAVILINK_CMD_v153.rar and put into the same directory where **GPSResults** is (in the latest version **nvk.exe** is already put there during installation of **GPSResults**, so the additional download is not necessary).

If **navilink_cmd.exe** is not the same directory as **GPSResults** (an Alertbox will appear and ask you to copy it there).



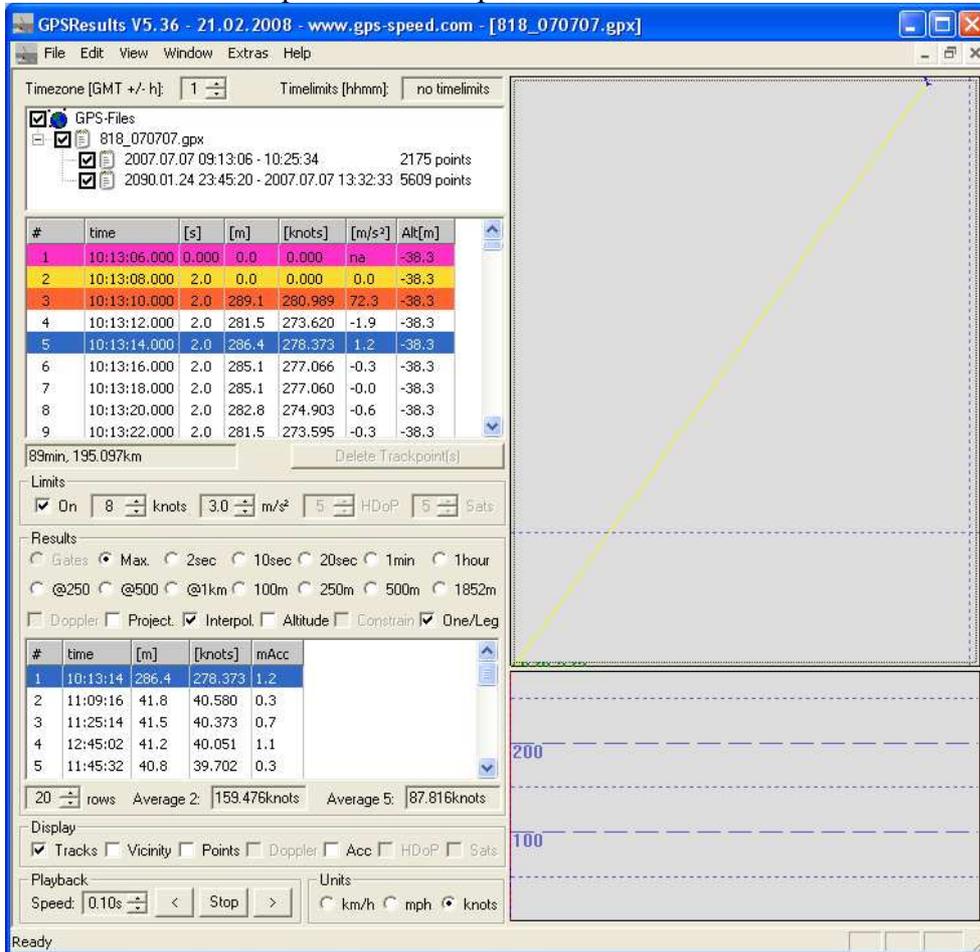
The GT11/GT31 (firmware version **v1.61-0815** or later) has to be switched **ON** and set to the **NAVILINK**-mode before the download can start. The settings for the **DATALOGGER** should be:

INTERVAL 1SEC, MIN SPEED OFF, DATA ITEM SBP

If you used **TRK** for the **DATA ITEM** no usable data (for our purposes) will be saved. You should **CLEAR** the **DATA LOGGER** memory before a session because otherwise old stuff from older firmware versions may still be in memory or several session may be mixed up and this makes it difficult to do a meaningful evaluation later on.

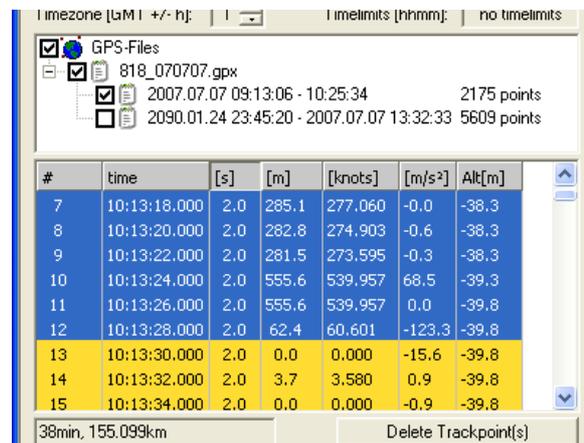
FAQ – Delete Spikes

GPS units may produce so-called **spikes** when they loose satellite signals or when they are carried below the wetsuit (weakens the satellite signals). These spikes have to be deleted before the session results can be sent to GP3S since they give misleading wrong **Max.** speed values etc. When you download the data from your GPS or after reading the data from a file **GPSResults** comes up in the **Max.** speed selected in the **Results**-section:

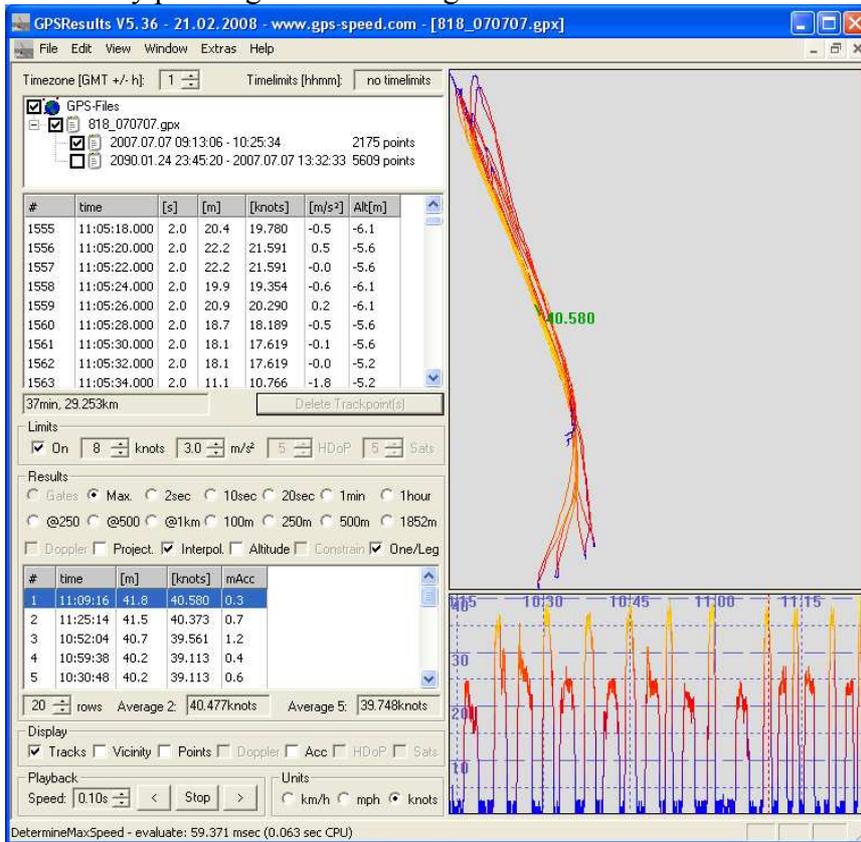


In this example the GPS-file contains two sessions with spikes and a strange date for the start of the second tracksegment (2090.01.24). First one can deselect the second session by clicking the corresponding checkbox and get rid of the spikes at the begin of this session (high speeds > 200knots in the first trackpoints).

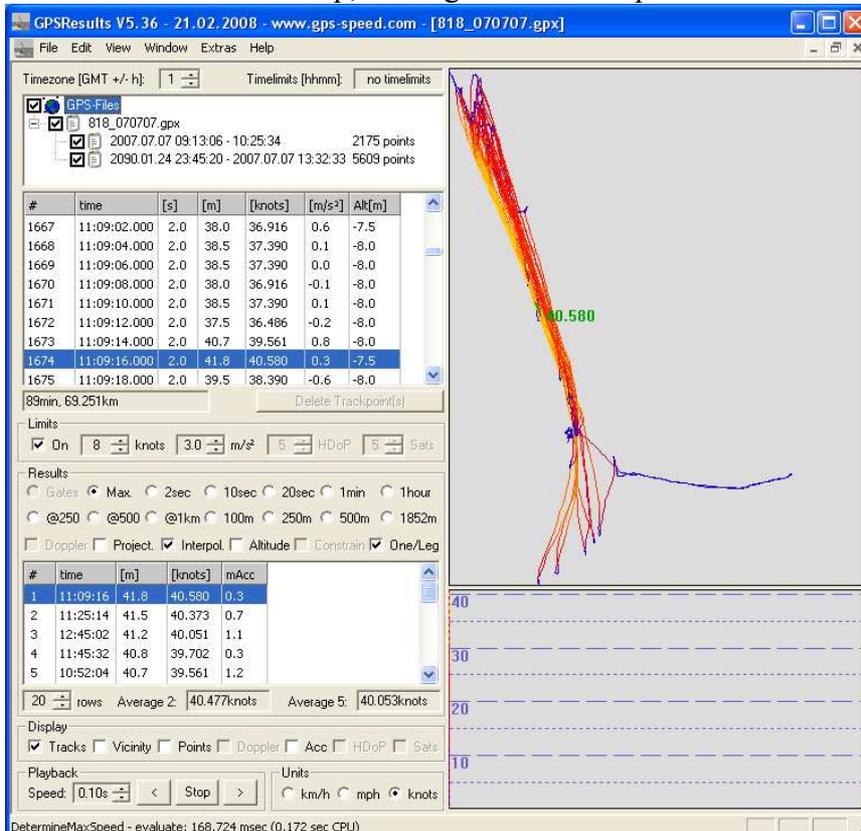
Select the first trackpoint in the trackpoint-list, then use the scrollbar and scroll down until you see meaningful values, then **Shift & Left Click** the last invalid point (# 12 in this case) to select the whole range of invalid points, the background color will get blue indicating the selected trackpoint range, then press the **Delete Trackpoints(s)**-button:



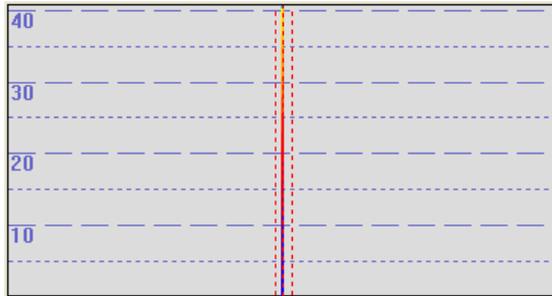
The display in the upper right is automatically zoomed to the remaining trackpoints (can be zoomed by pressing + or - or using the mouse-wheel with the mouse over the window):



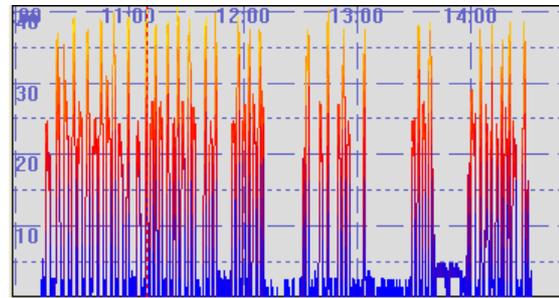
Selecting the second tracksegment repeats the evaluation with all trackpoints including those with the invalid timestamp, leading to a useless speed-over-time-window x-scale:



One can drag the speed-over-time display to the right to better see the valid points, then **Shift & Click** left and right of the colored 'burst' to constrain the time range (dotted lines appear where you clicked):



Then press + or use the **mouse wheel** to zoom in:



This example data set contained only a few bad trackpoints at the begin. In cases with more spikes the steps have to be repeated until all bad trackpoints are deleted: click first entry in the **Max. speed results-list**, select outlier in the trackpoint-list, click **Delete Trackpoint(s)**.

One can also select a whole range of bad trackpoints in the trackpoint-list by clicking **Ctrl & left mouse** repeatedly or selecting the first point, scrolling through the list and **Shift & left-click** the last trackpoint (as done above), followed by **Delete Trackpoint(s)**.

The cleaned data can be saved (in different formats) under **File – Save Trackpoints...**, so the cleaning has to be done only once (but it is not a good idea to overwrite the original data, instead give the cleaned data e.g. a 'C' before the extension: e.g. MySession_080807.gpx -> MySession_080807C.gpx).