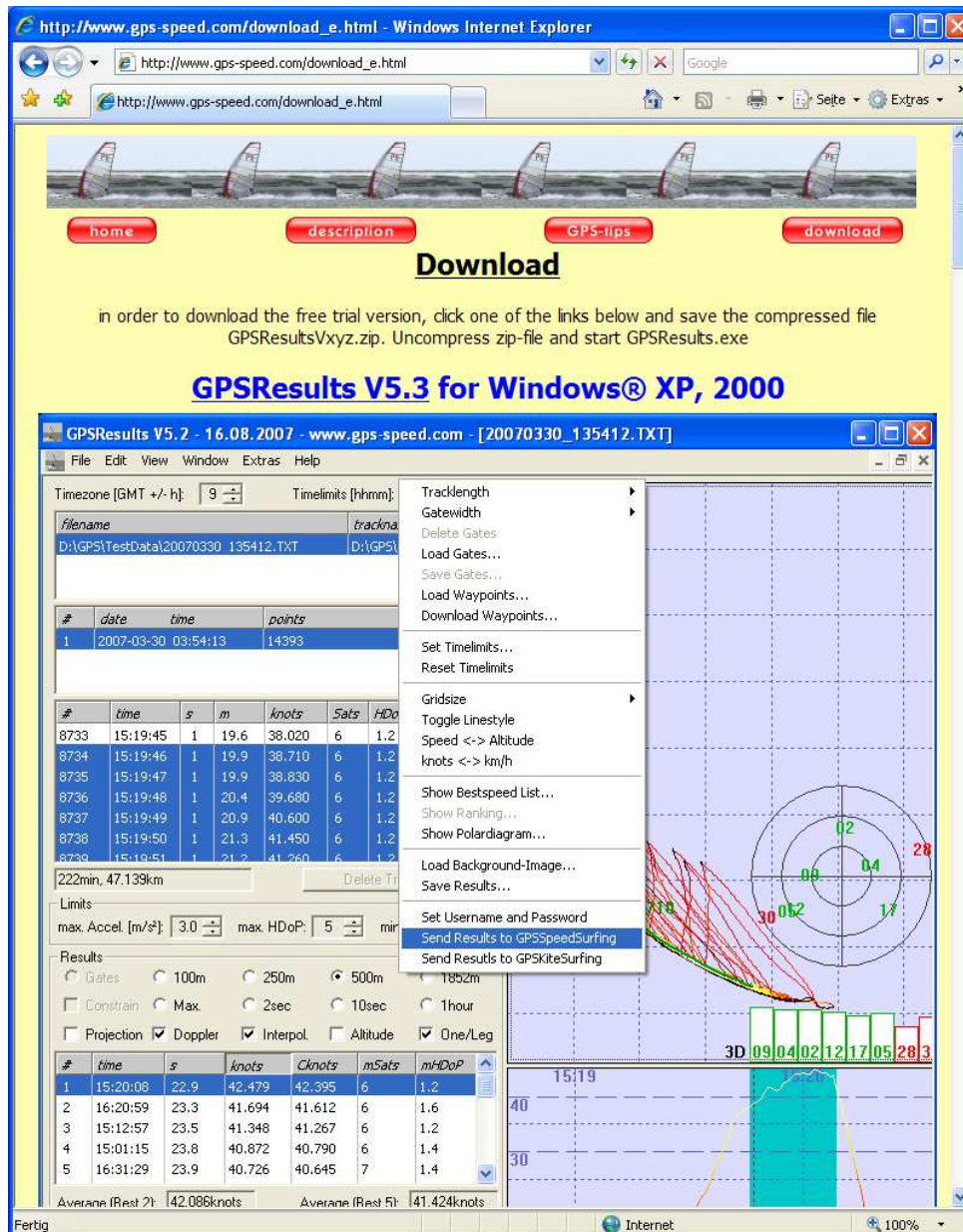


The easy way to GPSSpeedSurfing

Step1 - Download GPSResults:

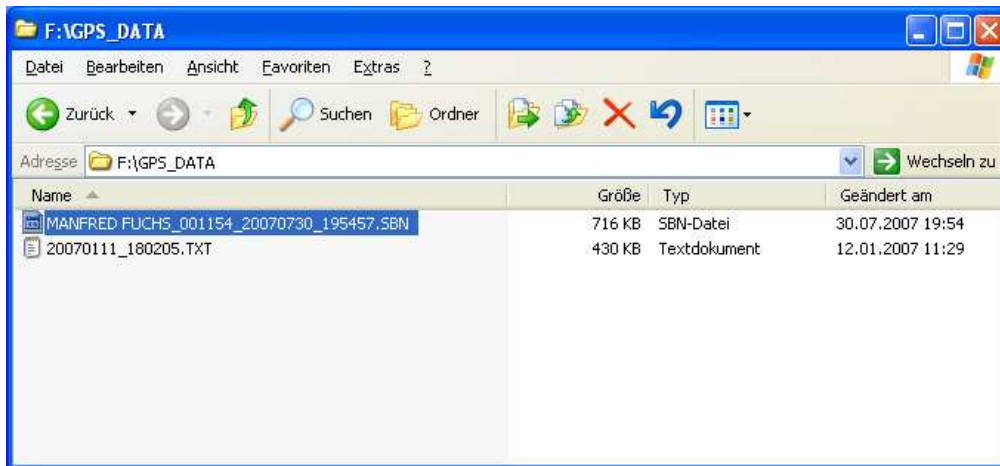
Download the latest version of **GPSResults** from www.gps-speed.com/download_e.html by left mouse-click onto the blue **GPSResult V5.3**-link on the web-page and extract the zipped file **GPSResults.exe** to a directory or to the desktop of your computer (on Win2k the free **gdipplus.dll** may be needed in the same directory to run **GPSResults** – search the web for it):



Step 2 depends on what GPS-device you use, the easiest way is to insert a SD-card from a Navi / Amaryllo GT-11 GPS containing saved NMEA txt-files or binary sbn, sbp, or bin-files or evaluate already saved gpx-files from Garmin-units. If you use a Garmin GPS with serial-(Geko, Foretrex) or USB-port (Edge) and want to download the data from the device or want to download the DataLogger data from the GT-11 see below.

Step 2 - Open GPS-Datafile (NMEA txt-files, binary sbn-, sbp-, or bin-files from Navi / Amaryllo GT-11 SD-cards or saved gpx-files from Garmin-units):

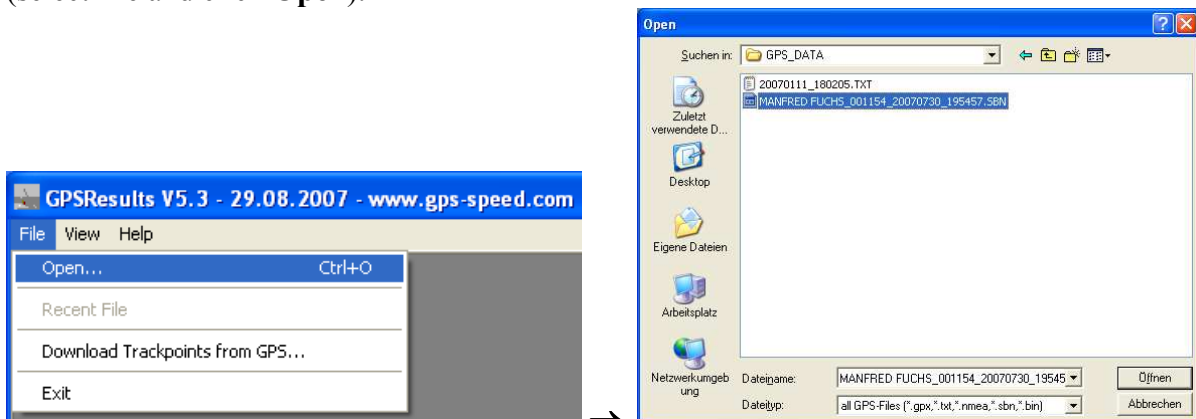
Take the SD-card from the GT-11 containing NMEA txt-files or binary sbn-/sbp-/bin-files, insert it into your SD-card reader and drag and drop the file to be evaluated onto the **GPSResults**-icon on your desktop (of course you also copy the files first to your GPS-directory on your harddisk and load them from there. My SD-card shows up as drive **F:** - the GT-11-files are under **F:\GPS_DATA**, thus double-click **GPS_DATA** to see the files):



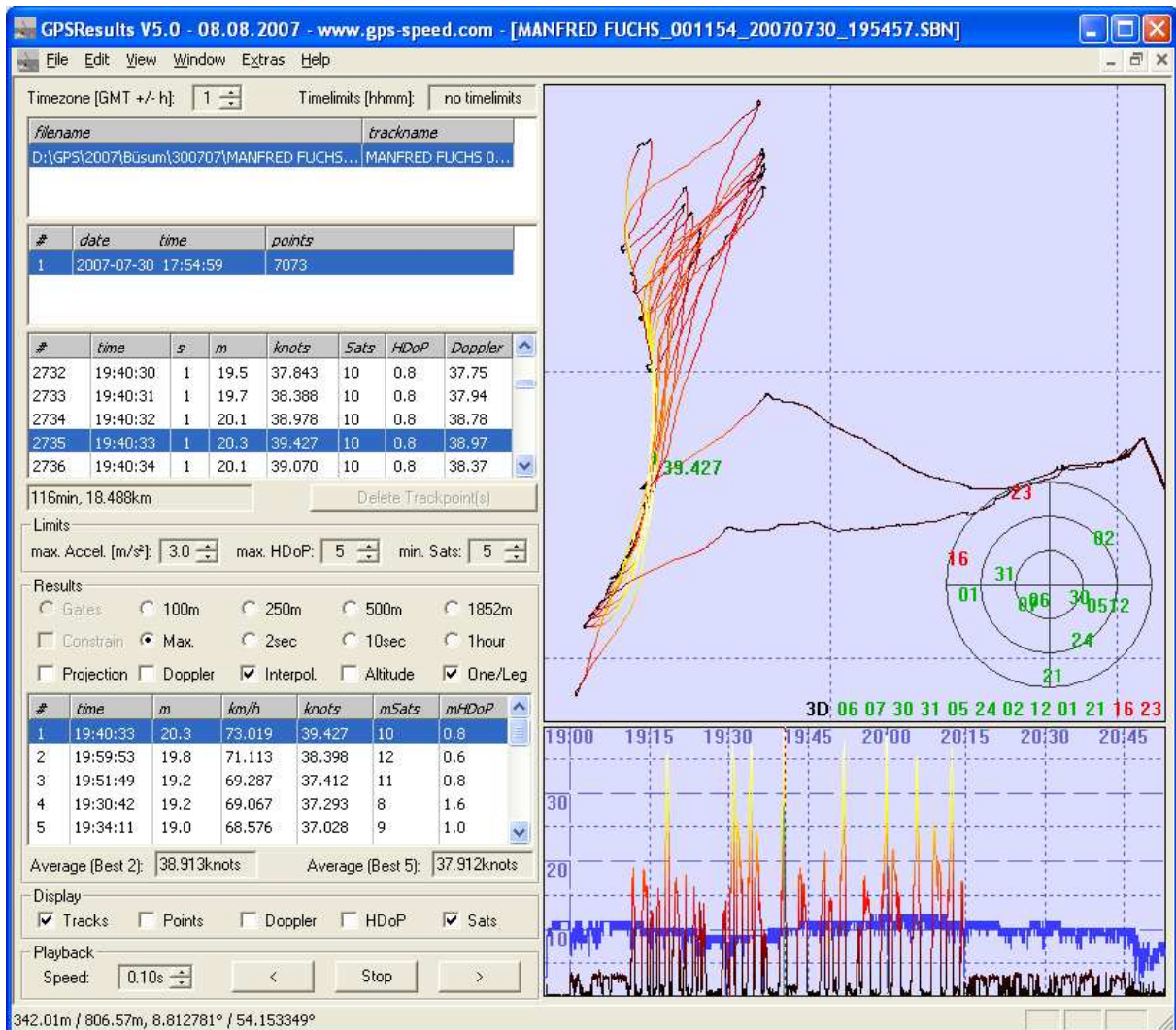
Select (left-click) and drag and drop the file you want to analyse over the **GPSResults**-icon on your desktop:



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**):



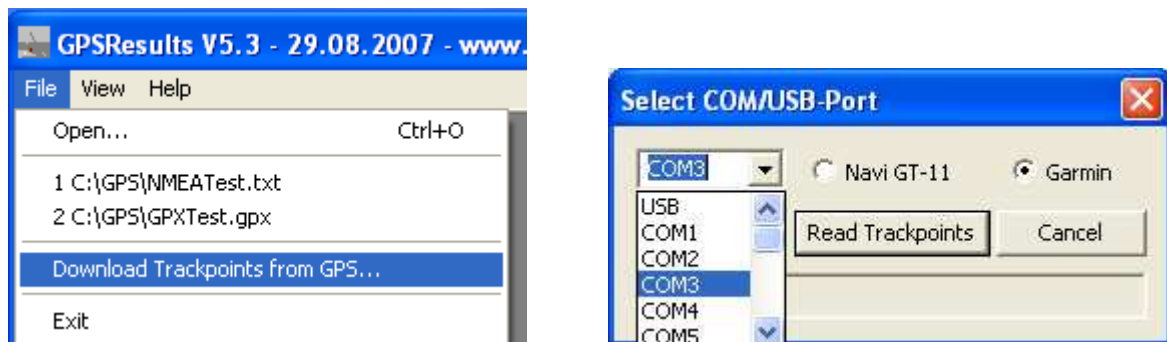
The program will open and read the file and come up with the **Max.** speed **Results** selected, so spikes can easily be identified and deleted in the trackpoints-list (third list on the left, if necessary see below **FAQ – Delete Spikes**, usually with GT-11- or Garmin Edge-data there are no spikes):



You may check your results in lower list on the left by selecting different categories (e.g. **250m, 500m, 10sec - 5x10sec** in the **Average (Best 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 (second list from the top). Select Doppler-speed evaluations if needed and continue with **Step 3 - Send Results to GP3S**.

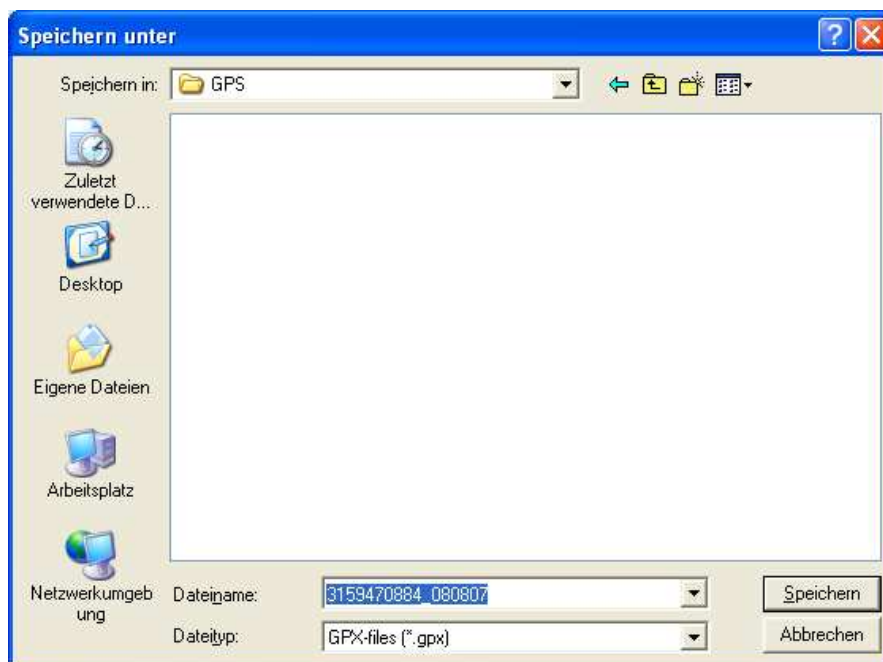
Step2 – Download GPS-data from Garmin units (Geko, Foretrex, or Edge):

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 500 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):



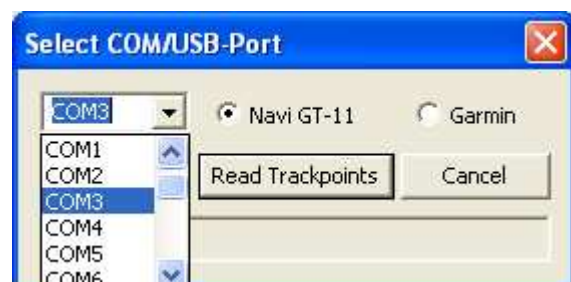
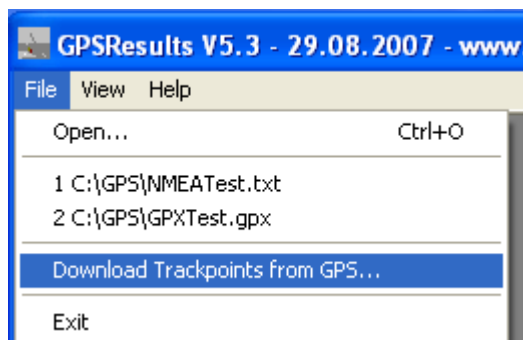
Step2 – Download GPS-data Navi GT-11 units (binary Data Logger format):

The GT-11 (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

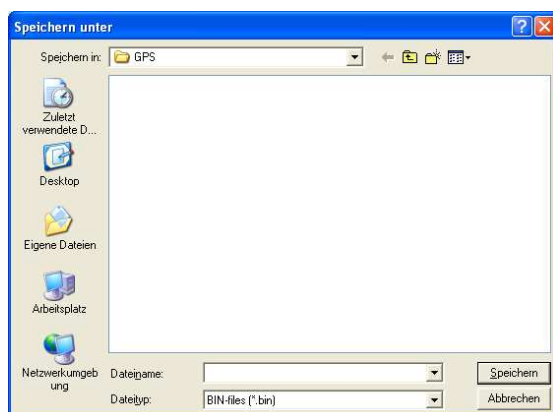
If you used TRK for the DATA ITEM no usable data (for our purposes) will be saved. You should **CLEAR** the DATA LOGGER memory before a session because otherwise old stuff from older firmware versions may still be in memory or several session may be mixed up and this makes it difficult to do a meaningful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

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 GT-11 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 has to be downloaded from www.locosystech.com/download/handheld/NAVILINK_CMD_v153.rar and put into the same directory where **GPSResults** is.

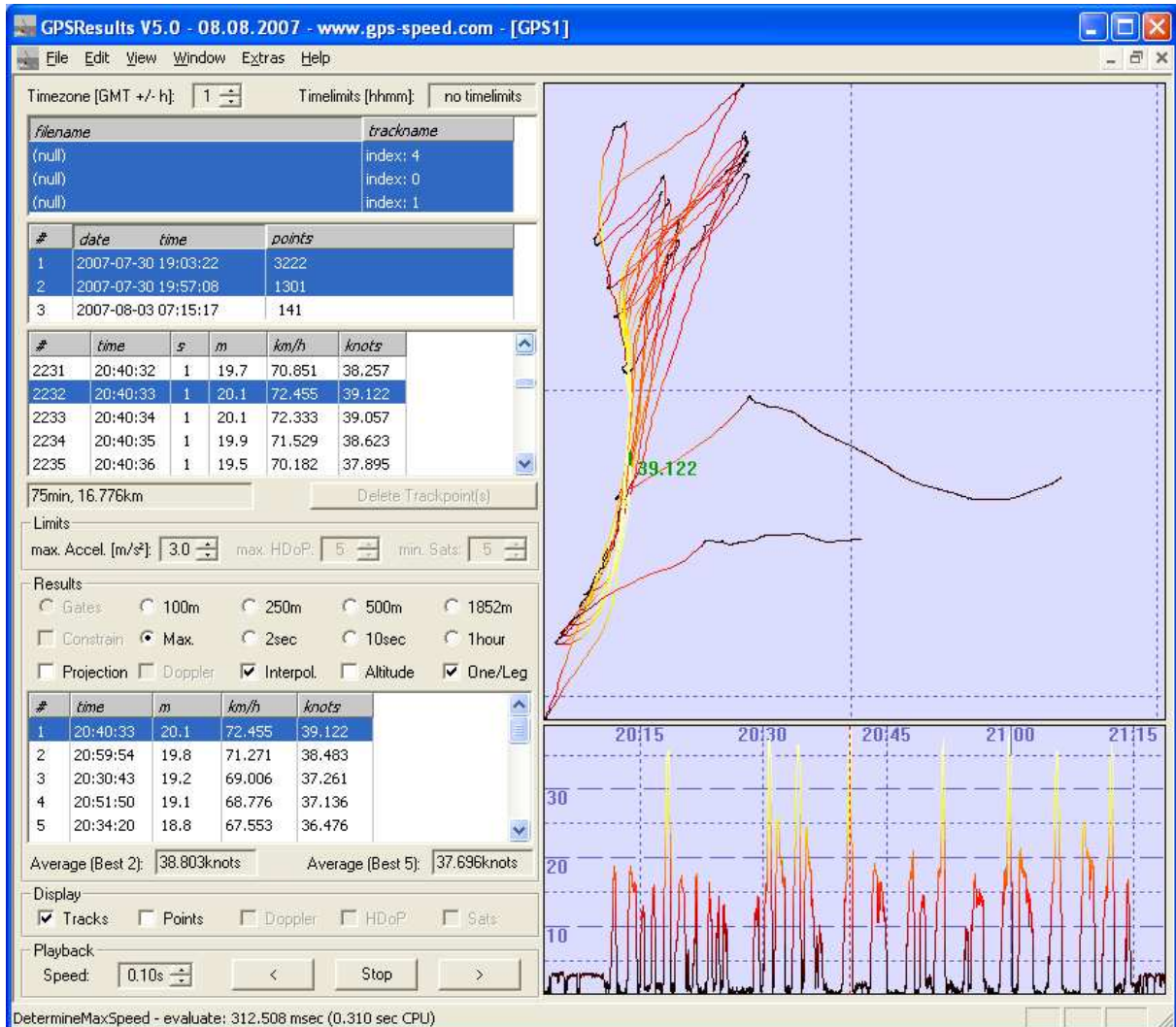


Finally set the GT-11 to the **NAVILINK**-mode, select the **Navi GT-11** button, and click **Read Trackpoints** and the download will start. If you get error messages see **FAQ - Download Problems** below.

After the download has finished, 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.):



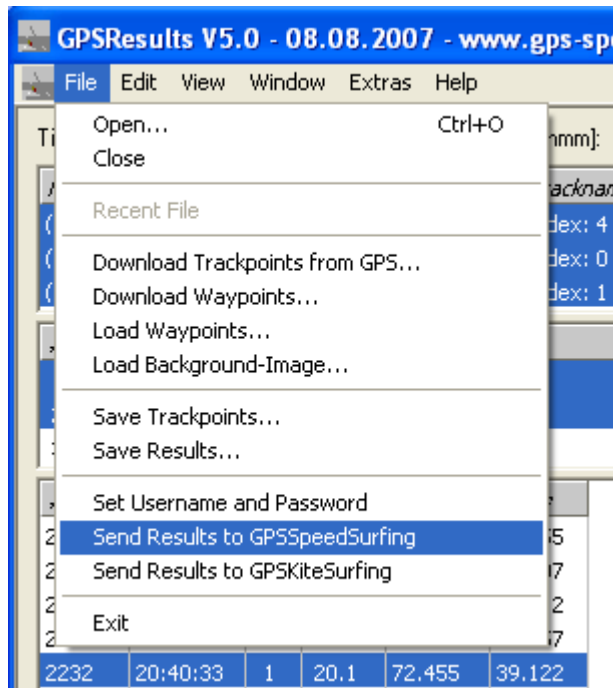
The data will then be analysed and displayed as in the 'Load from File'-case (in this example I had to deselect (Ctrl & left-click) the third tracksegment since it was from a different day). **GPSResults** comes up with the **Max.** speed **Results** selected, so spikes can easily be identified and deleted in the trackpoints-list (third list on the left, if necessary see below **FAQ – Delete Spikes**, none in this example, data from an Edge):



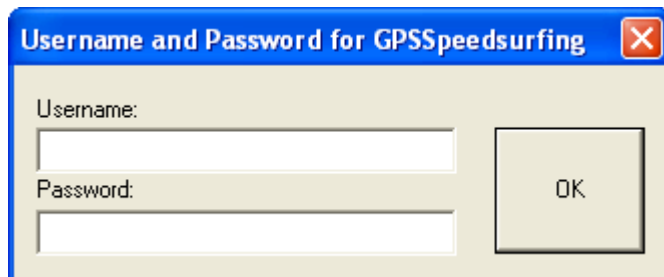
You may check your results in lower list on the left by selecting different categories (e.g. **250m, 500m, 10sec - 5x10sec** in the **Average (Best 5)**-field) or in the zoomed speed over time display in the lower right corner (use mouse-wheel or +/- keys to zoom, drag to shift time-range, left-click 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

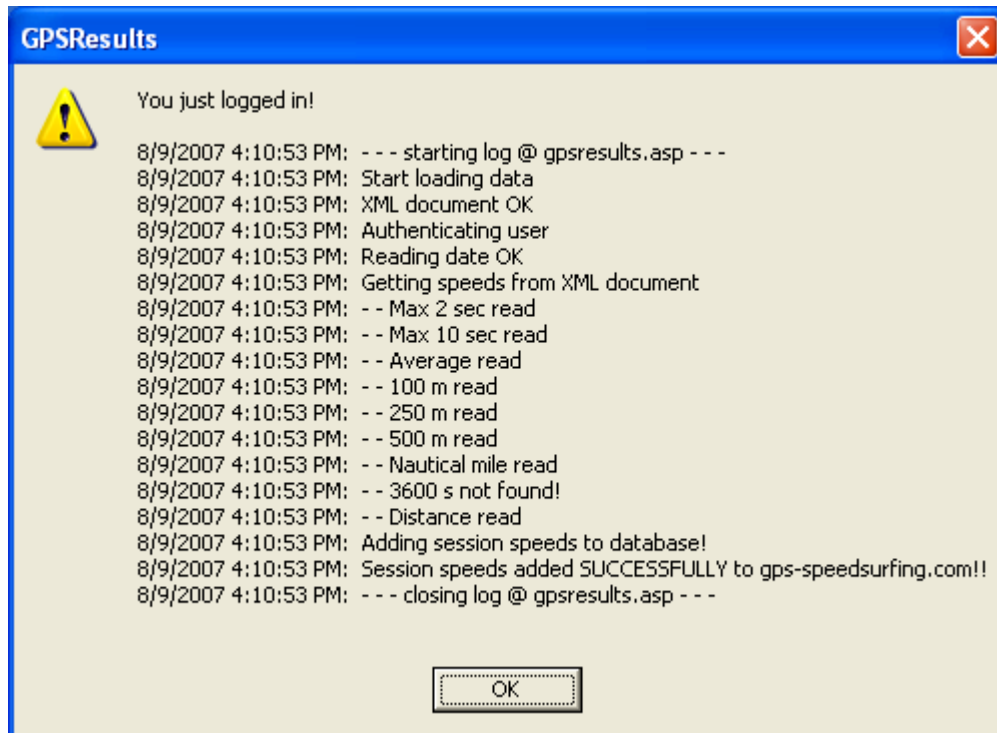
Select **File – Send Results to GPSSpeedSurfing** to upload your session results to GP3S. Of course you have to be connected to the internet in order to do that.



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.

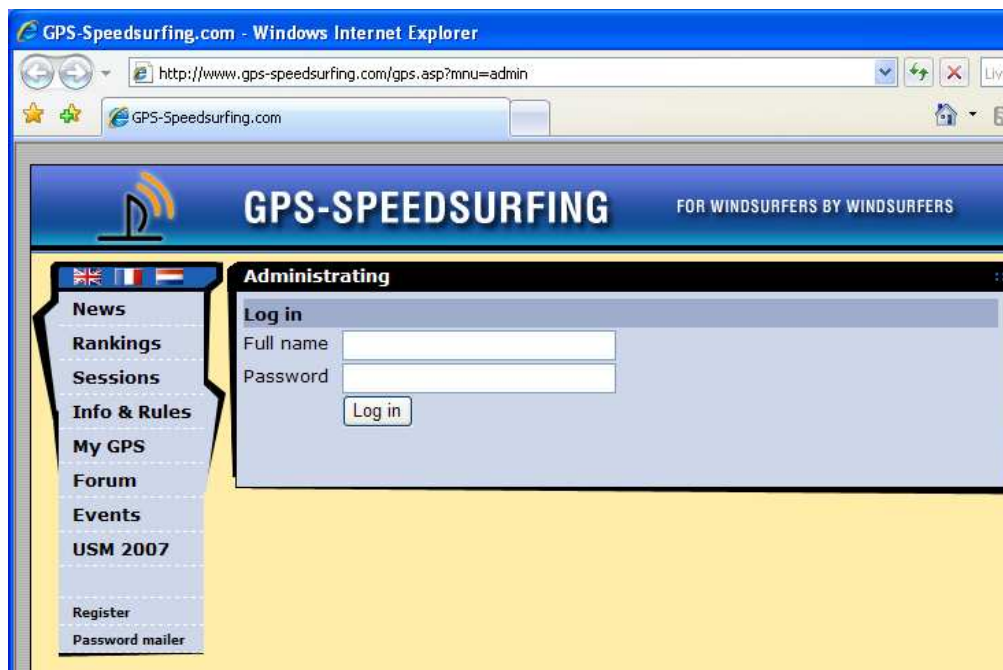


After clicking **OK**, the session results will be transferred to the GP3S-server and the following window will appear:



After acknowledging this message, your internet browser will be started automatically, you have to log in again and add further information.

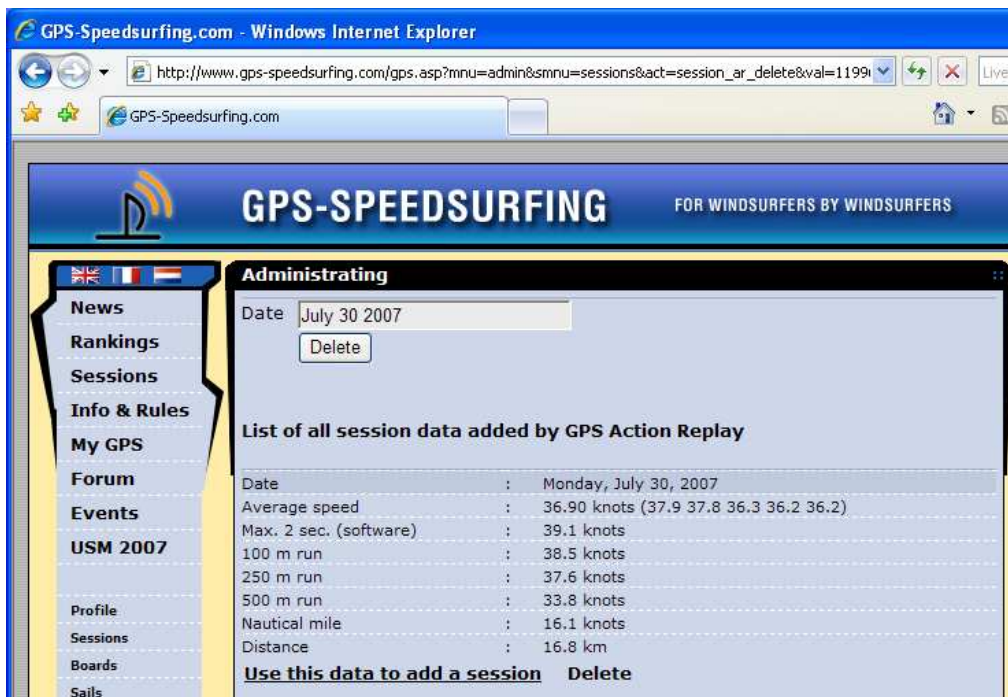
Enter **Full name** and **Password**, click **Log in**:



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



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



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:

The screenshot shows the 'Add session' form on the GPS-Speedsurfing.com website. The form includes the following fields:

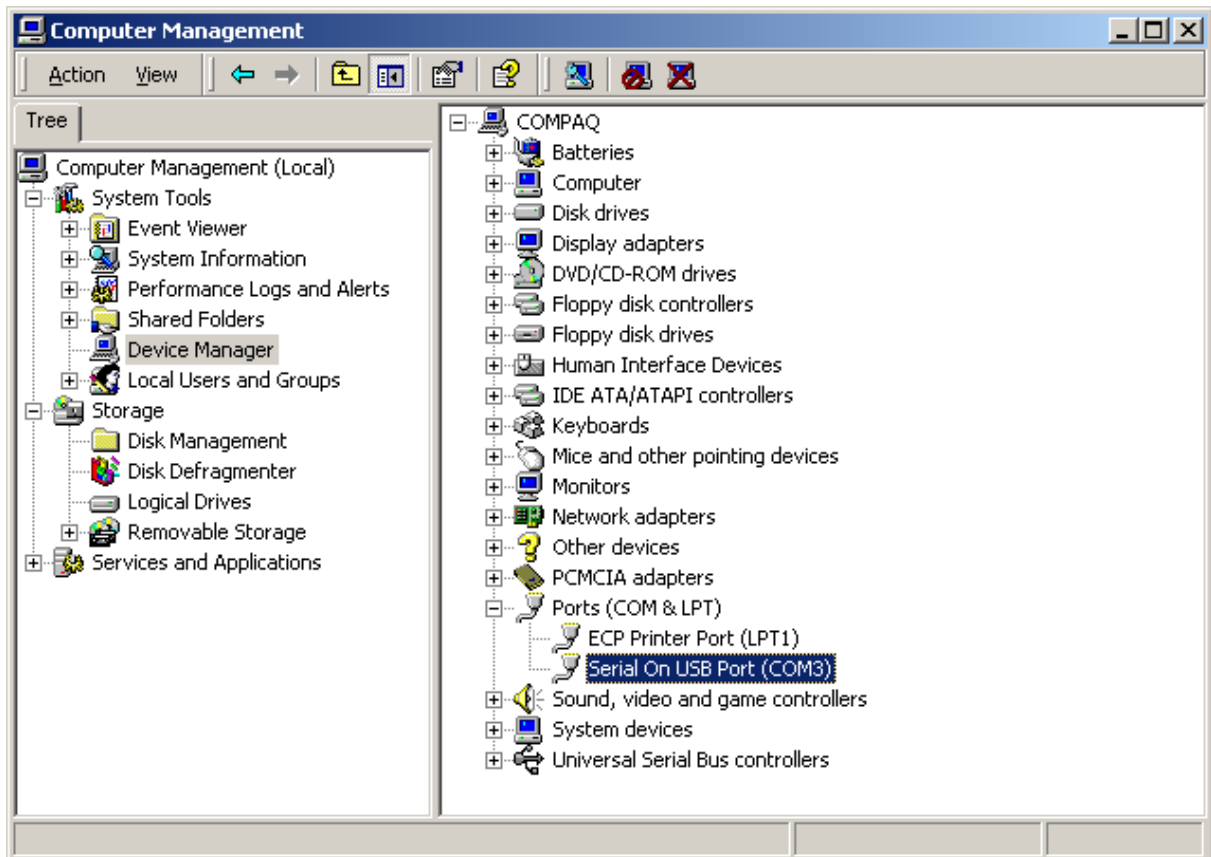
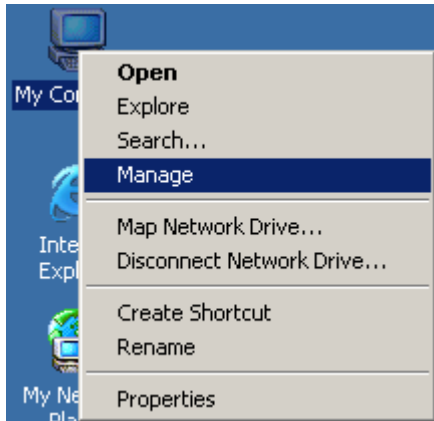
- Event: -
- Date: 30 / 7 / 2007
- Spot: Germany, Buesum / Westerkoog
- Board: F2 Missile
- Sail: Gun Sails Mega XS 5.1
- Fin: Time Machine TM45v7 Carbon 22
- Max. GPS (display): 39.0 knots
- Max. 2 sec. (software): 39.1 knots
- 10 sec speed run 1: 37.9 knots
- 10 sec speed run 2: 37.8 knots
- 10 sec speed run 3: 36.3 knots
- 10 sec speed run 4: 36.2 knots
- 10 sec speed run 5: 36.2 knots
- 100 m run: 38.5 knots
- 250 m run: 37.6 knots
- 500 m run: 33.8 knots
- Nautical mile: 16.1 knots
- 1 hour: 0 knots
- Distance: 16.8 km
- Windspeed: knots
- Windgusts: knots
- Remarks: (empty text area)

At the bottom of the form is an **Add** button. The website also features a left sidebar with navigation links (News, Rankings, Sessions, Info & Rules, My GPS, Forum, Events, USM 2007, Profile, Sessions, Boards, Sails, Fins, Spots, Events, Add session, Log out) and a right sidebar with 'GPS TOP 10 2007' and 'LATEST SESSIONS' lists. A PayPal DONATE button is visible at the bottom right.

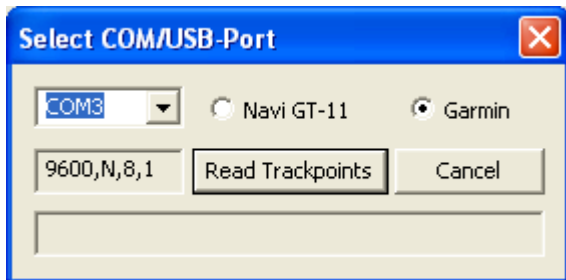
FAQ – COM-Port

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):

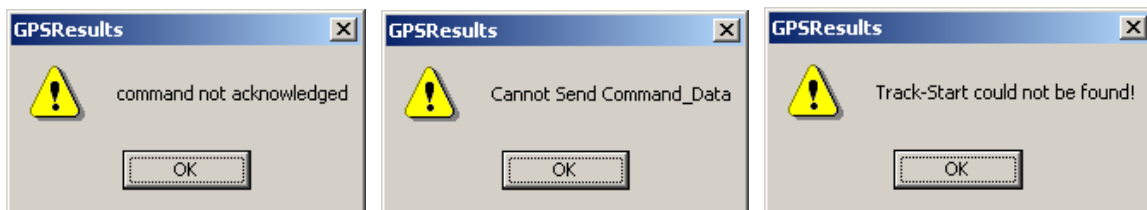


Select this COM-Port in the **Download Trackpoints from GPS**-window before pressing **Read Trackpoints** (GPSResults will save the setting, so next time it will come up with COM3 already selected. Use the same USB-port for your USB-serial adapter next time, otherwise the COM-port address may change):



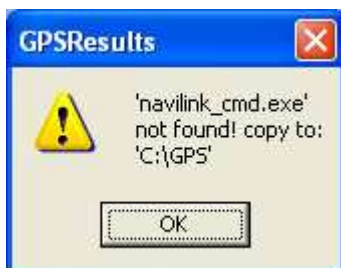
FAQ – Download Problems

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.

With the **Navi GT-11** problems may occur if **navilink_cmd.exe** is not the same directory as GPSResults (an Alertbox will appear and ask you to copy it there, can be downloaded from www.locosystech.com/download/handheld/NAVILINK_CMD_v153.rar



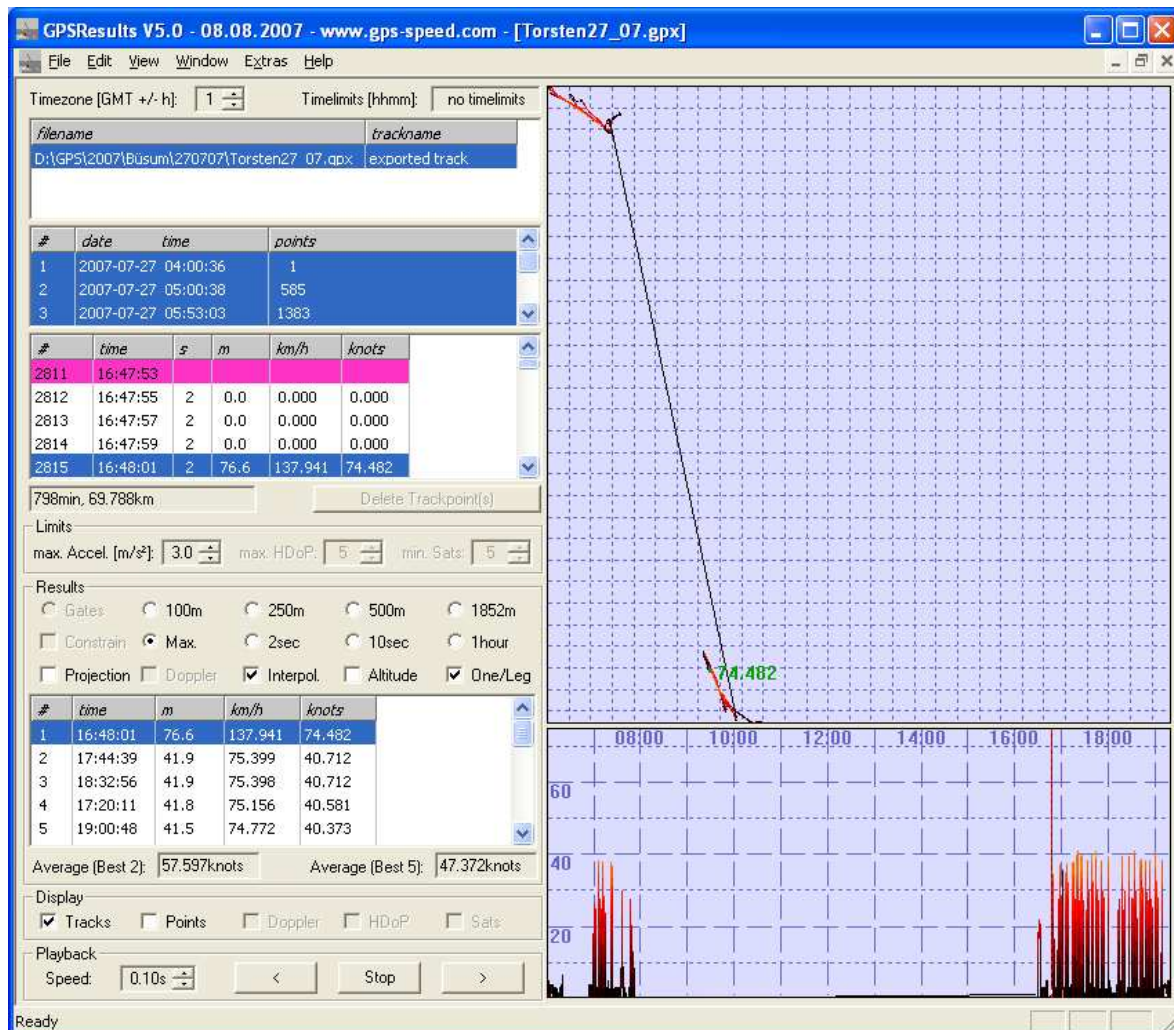
The GT-11 (firmware version **v1.61-0815** or later) has to be switched **ON** and set to the **NAVILINK**-mode before the download can start. The settings for the **DATALOGGER** should be:

INTERVAL 1SEC, MIN SPEED OFF, DATA ITEM SBP

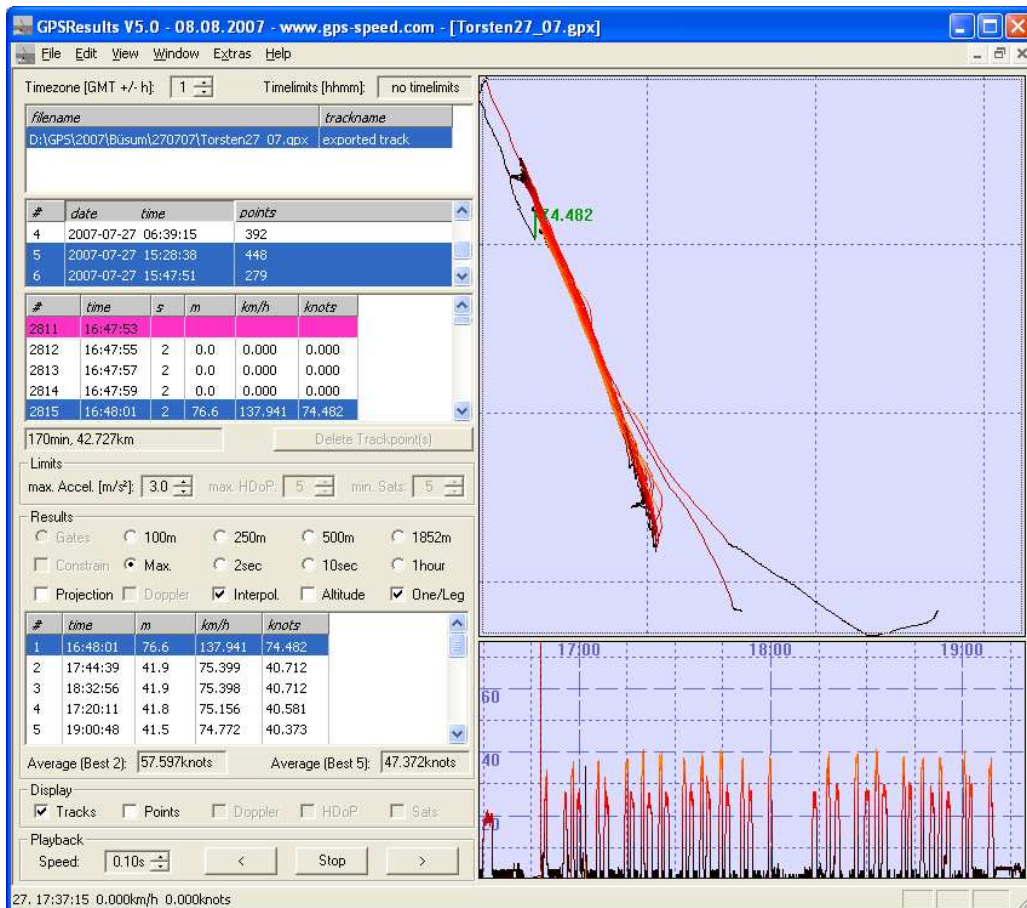
If you used TRK for the DATA ITEM no usable data (for our purposes) will be saved. You should **CLEAR** the DATA LOGGER memory before a session because otherwise old stuff from older firmware versions may still be in memory or several session may be mixed up and this makes it difficult to do a meaningful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

FAQ – Delete Spikes

The older Garmin 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:

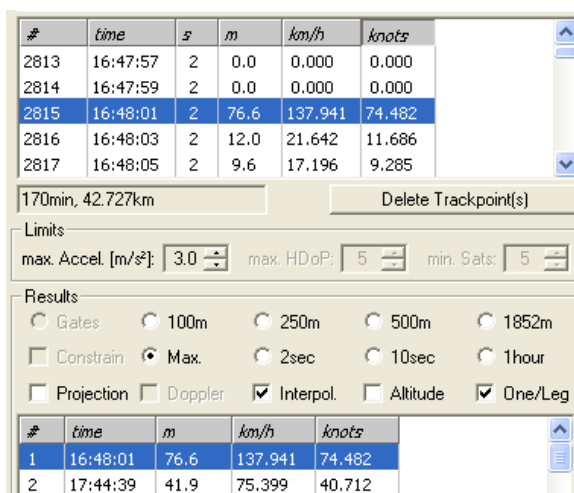


In this example two sessions with 7 tracksegments are contained (a very early morning session before 8am and an afternoon session after 4pm, see speed over time window in the lower right). Let's concentrate on the afternoon session (which contains a spike) by deselecting (Ctrl & left-click) the first three tracksegments in the tracksegment list (second list on the left side):

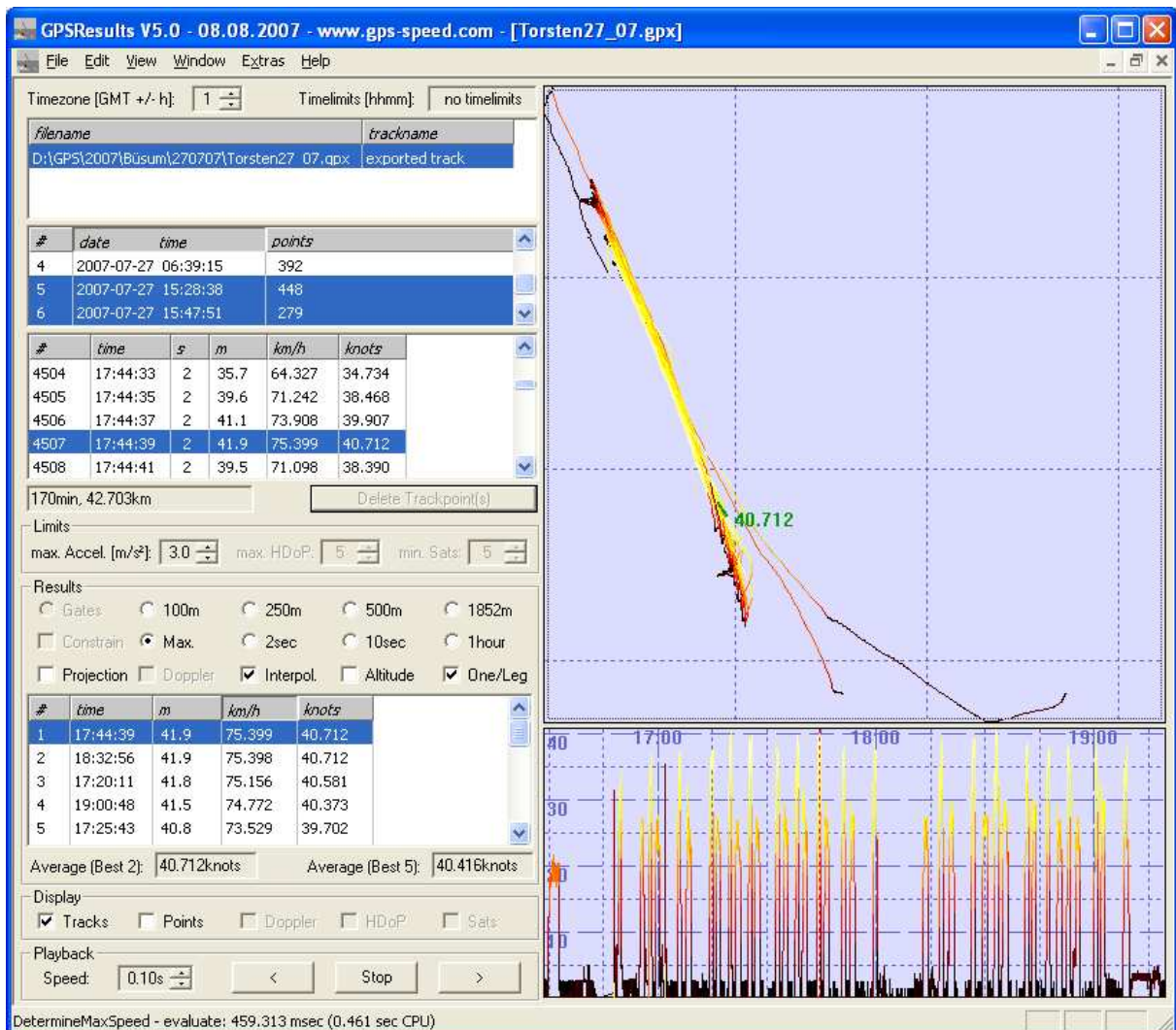


The display in the upper right is automatically zoomed to the remaining tracksegments (can be further zoomed by pressing + or - or using the mouse-wheel with the mouse over the window, background images can also be overlaid).

There is a spike in the trackpoint-list (highlighted in blue and in the **Max.** speed **Results**-list. In order to remove it click on the corresponding trackpoint (2815), **Delete Trackpoint(s)** will become active and can be pressed to delete the trackpoint (one can also select the point before the outlier and then the point after the outlier (see below) to delete also the neighbours of the outlier):



After clicking the data automatically re-evaluated without the deleted trackpoint :



This example data set contained only one bad trackpoint, as can be seen by clicking the first entry in the **Results** list (Results set to **Max.** speed) and looking in the neighbourhood of this fastest point in the trackpoint-list (no big speed jumps are visible). 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, 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).