

This protocol outlines GPS Speed Surfing requirements for granting and publishing GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing Personal, National and World GPS Surfing and Sailing Records.



Introduction

GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com are leading GPS sports communities. At the introduction of the record rankings; September 1st 2009, over 3300 members from 47 countries were registered. Over 2000 members were posting GPS speeds on a regular base and 3000 boards, 4500 sails and 5100 fins were listed. The windsurfing site was founded in 2004. In that year 800 sessions were posted on GPS-speedsurfing.com. By 2008 the numbers had grown substantially and 12.941 sessions were being sent to the windsurfing site.

As of January 1st 2010 the standing fastest average speeds being set in compliance with the Record Rules will be ratified as GPS-speedsurfing.com or GPS-kitesurfing.com National and World GPS Records. From January 1st 2011 onwards GPS-icesailing.com National and World GPS Records will be ratified.

After January 1st 2011, 1 hour and 24 hour distance records will be ratified.

After January 1st 2012, National Waters records will be ratified.

More record rankings may be implemented in future. The aim of our Rider Records is to fully use the potential of our craft and maintain a high standard in support of claims.

1. Speed Record Definitions

1.1 Record speeds are granted on the basis of the average sailing speed measured using GPS technology, corrected for the measurement error to achieve a Claimed GPS Record Speed.

1.2 The final value of the Claimed Record GPS Speed is determined by deducting the appropriate correction factor for the approved GPS instruments published in **Appendix C** by the World GPS Surfing Record Committee.

1.3 GPS Speed Records are based on the average speed over the period of N-seconds, minutes or hours along the sailed path.

1.4 GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com will ratify male and female

Windsurfing, Kitesurfing and Icesailing World GPS Records, National GPS Records and Personal GPS Records in categories described in **Appendix B**.

2. GPS Equipment Requirement

2.1 GPS instruments approved by the World GPS Surfing Record Committee for measuring Record Speeds shall be listed in **Appendix A**.

2.2 Suitable GPS instruments will be approved when they have become available and have been evaluated by the GPS Technical Advisory Group for error not more than current approved instruments.

2.3 Sailors who plan to claim GPS Speed Records must use two approved GPS instruments with their antenna located as close to one another as possible orientated to provide best possible satellite reception and prevent relativistic movement during sailing. Close proximity of both instruments and their location on the sailor's body is important, because the World GPS Surfing Record Committee will compare their speed recordings.

3. Calculation of Claimed Speeds

3.1 The claimed GPS record speed will be calculated by deducting the calculated error for the approved GPS instrument from the GPS recorded speed. **(See Appendix C)**

3.2 The claimed GPS record speed will be the published GPS record speed.

3.3 When the two sets of data from the side by side GPS units are compared, data points that fall outside the error correction range will lead to a discard of the given run.

3.4 The World GPS Surfing Record Committee reserves the right to publish an update of the correction values or methods in **Appendix C** when new data or new evidence becomes available.

4. World GPS Surfing Record Committee

The World GPS Surfing Record Committee is nominated by GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com to perform GPS data verification and compute error-correction. The World GPS Surfing Record Committee is limited by speeds posted on GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com and has got no authority over any other type of ranking.

Duties of the Committee are:

4.1 Verification of integrity, completeness and quality of the GPS data submitted for each GPS Speed Record claim.

4.2 Confirming the Claimed Speed by adjusting for the published error for the approved GPS instrument on the basis of the GPS-Doppler data submitted by the Speed Record Candidate and witnesses.

4.3 Analysing and verifying witness reports and other associated information.

4.4 Recommendation of GPS Speed Records for publishing by GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com.

4.5 Publishing a GPS data extract and all related messages posted for each National and World GPS Speed Record to be downloadable on the GPS-speedsurfing.com, GPS-kitesurfing.com or GPS-icesailing.com website.

4.7 Maintaining an archive of all available data for each ratified GPS Speed Record, which will be available to any interested party.

4.8 Considering protests and complaints about awarded GPS Speed Records. Formal complaints and protests about any Speed Record should reach the World GPS Surfing Record Committee within 7 days of the publishing this GPS Speed Record by GPS-speedsurfing.com, GPS-kitesurfing.com or GPS-icesailing.com.

4.9 The World GPS Surfing Record Committee will consult the GPS Technical Advisory Group and/or independent Technical Experts when technical questions arise. The World GPS Surfing Record Committee will then inform the World GPS Surfing Record Committee chairman, Andrew Daff. If no consensus can be found on a technical decision related to a record, the chairman, after carefully weighing all the data and opinions available, will make the final decision.

4.10 The World GPS Surfing Record Committee can be reached for questions by sending an e-mail to the World GPS Surfing Record Committee chairman or the GPS Technical Advisory Group spokesman. Information can be found in **Appendix E**.

5. Record attempts announcements

5.1 The Speed Record Candidate must announce a National or World GPS Record Claim on the Record Forum of GPS-Speedsurfing.com and GPS-Kitesurfing.com and publish information on the record location and record date. The Speed Record Candidate may announce a Personal GPS Record claim on the Record Forum. Record claims can be made like this: PR/NR/WR attempt YYYY/MM/DD location (example: Personal Record 2009/10/25 Sandy Point). Every rider who wants to claim a National or World GPS Record must announce the claim in the Record Forum in an existing relevant thread/topic or in a new thread/topic

5.2 If the Speed Record Candidate aims to attempt a National or World GPS Record and expects no witnesses to be present, and/or it is the first time a record will be attempted at a given location the Candidate must seek approval from the World GPS Surfing Record Committee. This must be done at least two days prior to an attempt.

5.3 Planned GPS Record trips should be announced as soon as the trip dates are known and new potential record locations must be openly presented by publishing longitude and latitude coordinates on the Record Forum. If other riders want to be present and/or take part in the planned record attempt,

information must be made available if requested on the Record Forum.

5.4 If no approved witnesses are expected to be present a proposal for record ratification should be presented to the World GPS Surfing Record Committee. Possible solutions are video proof, live GPS data comparisons with allowed record device data etcetera. It is always the responsibility of the Speed Record Candidate to present proof to the World GPS Surfing Record Committee. When no official forum answer comes back and when in doubt, the World GPS Surfing Record Committee can be contacted in advance for advice on Record procedures.

5.5 If conditions aren't met but the Speed Record Candidate did send all needed information the World GPS Surfing Record Committee may issue a warning and accept the Record. If protests are filed and the protest shows the Speed Record Candidate purposely didn't send the needed data in advance, the World GPS Surfing Record Committee won't accept the Record claim.

6. GPS Data Security Procedure

6.1 The Speed Record Candidate must inform at least two sailing witnesses or an approved representative of the WGPSSRC committee (see appendix A) on site as soon as possible after setting a claimed Personal, National or World Record.

The Speed Record candidate can do so by showing the GPS display speeds to at least two witnesses or an approved representative of the WGPSSRC committee and inform them about the time the claimed record run has been set. If no witnesses are present or additional proof is needed (see section 8) the Speed Record candidate must ensure the proof is presented or captured in an approved way before starting the next run.

6.2 The Speed Record Candidate should not leave the venue until the witnesses present gather to download all GPS files onsite or at a suitable nearby location on a single laptop or computer or the files are given to an approved representative of the WGPSSRC committee.

If the Speed Record Candidate is forced to leave before the record session has ended, the Speed Record Candidate gives two (or more) approved instruments that logged and contain his/her GPS data to two witnesses (see Section 7) as soon as practicable and before leaving the venue.

Witnesses then download data of both their own session and the session of the Record Candidate who already left the record venue.

Each witness makes a copy of the Data content from each GPS instrument used by the Speed Record Candidate using the procedures detailed for that GPS unit in **Appendix A**.

6.3 Witnesses should be satisfied that the GPS instruments used by the Speed Record Candidate were not connected to any computer during the sailing session or during any break in sailing.

6.4 Within 12 hours after the attempt the Speed Record Candidate sends his/her GPS files, and if needed any supporting information (Section 8) and (if present during the attempt) the names of the witnesses to

the GPS Record ranking. In case the Speed Record Candidate can't make it within the requested time frame a witness may send the files to the appropriate website.

7. Witnesses

Admissible witnesses are active sailing members of GPSSS sailing community who are

7.1 Respected by their peers for their integrity and competence

7.2 Familiar with the approved devices and their operation

7.3 Familiar with the rules and procedures for record attempts

7.4 Witnesses should complete the appropriate online witness declaration (see Appendix D) on the GPS-speedsurfing.com, GPS-kitesurfing.com or GPS-icesailing.com website as soon as practical after a GPS record claim is made.

7.5 An approved representative of the WGPSSRC committee (see appendix A)

8. Supporting Information

The World GPS Surfing Record Committee will welcome and at any time may request information that provides additional evidence about the integrity of the Speed Record attempt, such as:

8.1 photographs

8.2 video recordings

8.3 additional witness reports

8.4 list of sailors sailing at the location at the time of the Speed Record attempt

8.5 GPS files of sailors sailing at the location at the time of the Speed Record attempt

8.6 recordings of live GPS broadcasts

9 Current

9.1 Current will be treated like backwind in athletics. It's nearly impossible to make an accurate calculation on the tidal influence over the whole course length. The International Time Keeper might contact National Time Keepers if it appears as if speeds achieved at a given location are extremely influenced by tides. In Speed Windsurfing and Speed Kite surfing, current usually influences the water conditions in a negative way, therefore current issues are mostly self limiting. At most open water speed

spots current does occur in the deeper channels close to the speed strip, but at the shallow section in which candidates set their runs current hardly ever exceeds 1 knot. If it does turn out that a certain location gives substantial tidal advantage, that location might be excluded from record attempts in the periods when tide is highly influencing the outcome of the speeds.

10 Protests

10.1 Protests can only be filed by GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com members and should be openly presented on the Record Forum within one week of a record claim.

11 Record Ratification

11.1 In the case of a dispute over any of these rules or the ratification of any GPS Speed Record, the decision of the World GPS Surfing Record Committee shall be final.

12 How to become a Speed Record Member

12.1 Speed Record Candidates are GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com members who aim to get a Personal, National or World GPS record accepted by GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com. The Speed Record Candidate must make sure he or she has followed the rules as explained in this record protocol. If rules are followed no membership fee needs to be paid until the first claim is effectuated and a Personal, National or World best GPS speed is set during a session.

12.2 In order to get a Personal, National or World GPS Record ratified by the GPS Speed Record Committee the Speed Record Candidate needs to become a Speed Record Member.

Go to: my GPS and login. Just underneath the main toolbar a box is shown. Go to: (optional) am I a Speed Record Member? Behind this line a red cross is shown. Click on the cross and follow procedures. After the payment is done and accepted the Speed Record Member can post the record session by going to my GPS and my Sessions. The drop down menu at the right side will show: add a record. Click on: add a record and follow procedures.

12.3 The payment of € 50,00 needs to be effectuated within 2 days after a Record Speed has been set. The payment includes a Gold membership (If the Candidate is already is a Gold member, the Gold membership fee may be deducted from the record ranking fee). The fee is valid for one year counting from the first record claim. There is no limitation on the amount of Record Claims in the given year. If the candidate wants to claim a new record set after this yearly period he or she needs to pay a new yearly fee.

13 Record ranking

13.1 A speed will only be shown in the Record Ranking when the speed has been verified and accepted by the World GPS Surfing Record Committee.

14 Record Certificate

14.1 A free Record Certificate will be handed out the first time a Speed Record Member sets a Personal GPS Record. In order to obtain a Record certificate an e-mail with full details has to be sent to Roger van Tongeren: roger@gps-speedsurfing.com Every following Personal Record Certificate can be obtained by transferring € 10,00. There is no obligation to order a certificate.

14.2 All National and World Record Certificates will be handed out at zero costs. In order to obtain a free National or World Record Certificate a Speed Record Member has to send an e-mail to Roger van Tongeren.

<p><u>Windsurfing</u> <u>certificate</u></p>	 <p>The form for a GPSWR certificate features an orange header with the text "GPSWR (GPS WINDSURFING RECORD)". Below the header, there are four input fields labeled "RECORD", "DATE", "RANKING TYPE", and "SPEED". A signature box contains the text "ROGER VAN TONGEREN (HEAD TIMEKEEPER)". The background includes a grid pattern, a large "GPS SPEEDSURFING" logo with the website "WWW.GPS-SPEEDSURFING.COM", and a circular "GPS" logo at the bottom.</p>
<p><u>Kitesurfing</u> <u>certificate</u></p>	 <p>The form for a GPSKR certificate features an orange header with the text "GPSKR (GPS KITESURFING RECORD)". Below the header, there are four input fields labeled "RECORD", "DATE", "RANKING TYPE", and "SPEED". A signature box contains the text "ROGER VAN TONGEREN (HEAD TIMEKEEPER)". The background includes a grid pattern, a large "GPS KITESURFING" logo with the website "WWW.GPS-KITESURFING.COM", and a circular "GPS" logo at the bottom.</p>

GPS Speed Surfing record attempts:

Appendix A

GPS Instruments approved for use in GPS-SS record attempts by the World GPS Surfing Record Committee:

1.1 Navi GT-31 with firmware versions V1.2 (B1405a or later), V1.3 (B1123T or later) or version 1.4 (B0315T or later)

1.2 Settings Navi GT-31:

MEMORY CARD

- LOG SWITCH - ON
- MIN SPEED - OFF
- NMEA ITEMS - SBN
- FILE SIZE - CARD SIZE
- LOGGING INTERVAL - 1 SEC

SETTINGS

- USERNAME - Full Name as much as possible
- SPEED AVG TIME - 10 seconds
- SERIAL NO. - CHECK IF A SERIAL NR IS SHOWN

DATA LOGGER

- INTERVAL - 1 SEC
- MIN SPEED - OFF

Note: Never clear your data-logger as this can be necessary for proof via the SBP file.

2.1 A device based on the Ublox u-blox 5 or 6 series chipset that is set up to produce and save the required UBX binary data including the UBX sentence UBX0112 at 10hz directly to a connected SD card, or by bluetooth to another storage device. Note that the record candidate must carry at least two approved Ublox 10hz GPS receivers.

GPS Data Retrieval Procedure (For record attempts using the GT-31):

Option 1:

3.1 Power Instrument down. This ensures that the SD card data files are properly closed and archived.

3.2 Remove Speed Record Candidate's SD card.

3.3 Insert witness' SD card to GT-31 instrument used by the Speed Record Candidate.

3.4 Power GPS up.

3.5 Save the Data Logger content to SD card by executing DATA LOGGER>SAVE TO CARD command and wait for the file transfer to complete.

3.6 PowerGT31 down and remove the witness' SD card

3.7 Repeat procedure 2.1-2.6 for each GT31 instrument used by the Speed Record Candidate

Option 2:

Alternatively, given the potentially physically unfriendly nature of the speed venue, the speed record candidate and witnesses may download data to a single computer under shelter at the venue or at a close-by location, like a house, immediately after the session as follows:

4.1 Sailors and witnesses must go straight to the download location without delay.

4.2 Remove the cards from the GPS and put the cards in the computer in front of witnesses immediately, allowing no cards to be removed from the GPS or put in any other computer before it is done in front the witnesses.

4.3 Copies of the .SBP files from both of the candidates GPS should be made on the cards of both the witnesses immediately after downloading.

4.4 Details of the download location, time and witnesses present should be forwarded with the record claim files to the WGPSSRC committee along with any other relevant supporting evidence in the form of photographs or videos.

Option 3:

5.1 If the record attempt is at a speed event or venue where an approved representative of the WGPSSRC is present, the candidate may submit his GPS device directly to the representative for downloading and saving of the data.

5.2 The candidate must make the names and contact information of any witnesses available to the representative and provide other details as requested for the purposes of validating the record.

5.3 The representative may act as a witness.

5.4 The representative will then forward the data, other validating information and witness details to the committee for consideration of the claim.

5.5 Approved representatives shall be:

(a) any committee member of the WGPSSRC, or

(b) the secretary of the WGPSSRC, or

(c) a national or regional timekeeper of GPS-SS, or

(d) any representative approved and named in writing by the WGPSSRC prior the the event.

GPS Data Retrieval Procedure (For record attempts using the Ublox, 10hz GPS)

Option 1:

The speed record candidate and witnesses may download data to a single computer under shelter at the venue or at a close-by location, like a house, immediately after the session as follows:

- 6.1 Sailors and witnesses must go straight to the download location without delay.
- 6.2 Remove the cards from the GPS and put the cards in the computer in front of witnesses immediately, allowing no cards to be removed from the GPS or put in any other computer before it is done in front the witnesses.
- 6.3 Copies of the .UBX files from both of the candidates GPS should be made on the cards of both the witnesses immediately after downloading.
- 6.4 Copies of the .SBP files from the candidates GT-31 GPS should be made on the cards of both the witnesses immediately after downloading.
- 6.5 Details of the download location, time and witnesses present should be forwarded with the record claim files to the WGPSSRC committee along with any other relevant supporting evidence in the form of photographs or videos.

Option 2:

- 7.1 If the record attempt is at a speed event or venue where an approved representative of the WGPSSRC is present, the candidate may submit his GPS devices directly to the representative for downloading and saving of the data.
- 7.2 The candidate must make the names and contact information of any witnesses available to the representative and provide other details as requested for the purposes of validating the record.
- 7.3 The WGPSSRC representative may act as a witness.
- 7.4 The WGPSSRC representative will then forward the data, other validating information and witness details to the committee for consideration of the claim.
- 7.5 Approved WGPSSRC representatives shall be:
 - (a) any committee member of the WGPSSRC, or
 - (b) the secretary of the WGPSSRC, or
 - (c) an official national or regional timekeeper of GPS-SS, or
 - (d) any representative approved and named in writing by the WGPSSRC prior the the event.

Appendix B

B.1 As of September 1st 2009, male and female windsurfing and kitesurfing GPS Record Rankings will be set-up in the category of average speed for 10 seconds and average speed for 1 hour.

B.2 From January 1st 2010, 1x10 second and 1 hour Personal, National and World GPS Records will be ratified by GPS-speedsurfing.com and GPS-kitesurfing.com. The standing leaders in the GPS Record Rankings will then be called National or World GPS Record holder. The World GPS Surfing Record Committee may decide to start ratifying other types of records at the start of a new year.

B.3 From January 1st 2011, 1x10 second and 1 hour Personal, National and World GPS Records will be ratified by GPS-icesailing.com.

B.4 From January 1st 2011, 24 hour Personal, National and World GPS Records will be ratified by GPS-speedsurfing.com, GPS-kitesurfing and GPS-icesailing.com.

B.5 From January 1st 2012, for Personal and National GPS Records it will be possible to have a National Record on National Waters. If a National Record on National Waters is faster than on another World location the National Waters Record will prevail.

B.6 National claims will be based on Nationality. A rider subscribing to a given country must choose one country and can only choose a country based on official documents/passport. When requested a copy must be sent to the World GPS Surfing Record Committee.

B.7 GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com will only grant Speed Records based on time. Future Slalom Records (Alpha Racing) could be based on distance.

B.8 Classes for GPS-icesailing.com will be: Icesleds and Iceboats

Appendix C

C.1 Correction for official records for claimants using the GT-31:

Claimants must use two GT31, both with approved firmware.

Approved firmware versions are V1.2 (B1405a or newer), V1.3 (B1123T or newer) or version 1.4 (B0315T or newer)

C.2 Calculation information for official 10 second records:

- The best 10 second run is computed by natural cubic spline over 11 points, no invalid points are allowed.
- Corrections shall be individually computed from SDOP values, valid only if the speed difference between the units (A-B) is smaller than the error (dA) of the more accurate unit (A, so that the result from the second unit (B) is included in the error bars (dA) of the first one). Average speed from both units $(A+B)/2$ corrected by the reduced deduction value $(\sqrt{dA*dA + dB*dB})/2$ is used for the ranking.

C.3 Correction for official records for claimants using the Ublox based 10HZ GPS device:

Claimants must use two approved Ublox 10hz GPS receivers. *Note: At least one GT-31 GPS must be used in conjunction with these devices to provide visual evidence of speeds for witnesses.*

C.4 C.2 Calculation information for official 10 second records:

- The best 10 second run is computed by natural cubic spline over 101 points, no invalid points are allowed.
- Corrections shall be individually computed from SDOP values, valid only if the speed difference between the units (A-B) is smaller than the error (dA) of the more accurate unit (A, so that the result from the second unit (B) is included in the error bars (dA) of the first one). Average speed from both units $(A+B)/2$ corrected by the reduced deduction value $(\sqrt{dA*dA + dB*dB})/2$ is used for the ranking.

C.5 Calculation information for official 1 hour records:

- Invalid points (<5 satellites, HDOP >5) and small numbers of consecutive invalid points will be deleted and spanned.
- All speeds and distances will be based on Doppler calculations.
- Both units have to be set to 0 minimum speed.

C.6 Calculation information for official 24 hour records:

- Invalid points (<5 satellites, HDOP >5) will be set to 0 (zero) small numbers of consecutive invalid points will be deleted and spanned.
- All speeds and distances will be based on Doppler calculations.
- Both units have to be set to 0 minimum speed.
- The best 24 hour section will be selected from the complete section.
- The best 24 hour section can be sailed over two consecutive days.
- All new 24 hour records will need to exceed the maximum calculated error margin of the previous record plus the previous record distance by at least 0.5%
- Incidental small total distances of walking and/or drifting will be accepted in the total distance at the record committees' discretion.

Appendix D

The following statement must be signed or electronically approved by a witness of a record claim if requested by the World GPS Surfing Record Committee:

1. I have read and fully understand the rules of a GPS record claim and the requirements of a witness as outlined in the GPS World Record Claim Regulations.
2. I was present at <LOCATION> on the <DATE AND TIME> and observed <THE RECORD CLAIMANT> performing at a level consistent with the claim of <PERFORMANCE>.
3. At that time I saw peak speeds displayed on at least one GPS device used by the record claimant consistent with the speeds achieved.
4. I have retrieved a copy of the data from each GPS device before there was an opportunity for the data to be modified and have provided it as further evidence to the claim.

SIGNED:

DATED:

Appendix E

Explanatory notes:

September 1st 2009:

Additional explanatory notes or changes in explanatory notes may be published over time. Record rules may change over time. The latest version will be available online and can be found on www.gps-speedsurfing.com, www.gps-kitesurfing.com or www.GPS-icesailing.com. In case of a dispute the latest version which was shown online at the moment a Personal, National or World GPS Record was claimed will be the version used.

In close cooperation with GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com tech advisory group members, the core GPS-Speedsurfing, GPS-Kitesurfing and GPS-Icesailing crew decided to set up our own records as we feel there is a need for high credibility, low threshold, and affordable records that can be sailed anytime and anywhere in the world. Modern day GPS devices give high credibility but even more important is the question if results are comparable and repeatable. As time moves on accuracy of GPS handheld devices will get even higher. Still our main aim is not to obtain the maximum possible accuracy level, but to keep a realistic view on the record hunt, making participation possible for all interested windsurfers and kite surfers.

GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com records are pure riders records set-up and governed by GPS-speedsurfing.com, GPS-kitesurfing.com and GPS-icesailing.com members. We have set up a World GPS Surfing Record Committee and a GPS Technical Advisory Committee.

World GPS Surfing Record Committee 2012:

Andrew Daff, Chairman

Craig Bergh

Rob Munro

Howard Rowson

GPS Technical Advisory Group:

Tom Chalko

Manfred Fuchs

Chris Lockwood

Yann Mathet

Mal Wright

Roger Van Tongren

World GPS Surfing Record Committee/GPS Technical Advisory Group secretary:

Martin van Meurs

Legal Counsel:

Bart Goemans (LLM)

The World GPS Surfing Record Committee and GPS Technical Advisory Group can be contacted by sending an e-mail to GPS Surfing Records secretary Martin van Meurs: martin@gps-speedsurfing.com