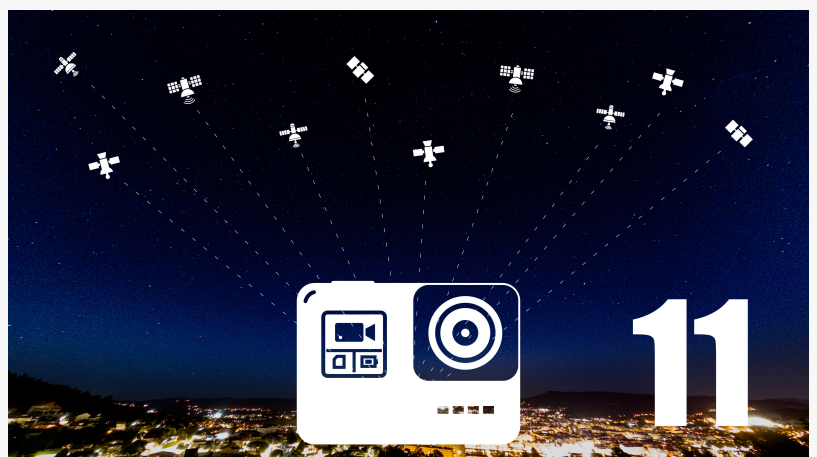


Improved GPS tracking with the GoPro HERO11

The new flagship action camera improves its geolocation capabilities

BARCELONA, SPAIN, September 30, 2022 /EINPresswire.com/ -- The recent GoPro HERO11 launch introduced action camera fans to a larger sensor and long exposure modes, but another significant upgrade went mostly unnoticed: The GPS module, which enables geolocating videos and displaying metrics like speed, altitude, and g-force, has been updated for the first time since 2016.



The GoPro HERO11 tracks multiple satellite constellations

The [Telemetry Overlay](#) team has analyzed the stability and accuracy of the GPS data recorded with the HERO11 and the results are promising: the camera tends to find a GPS lock faster, it can retain a valid location in more difficult situations and it seems to record a more accurate position than its predecessors. How did GoPro pull this off?

“

This upgrade expands the capabilities of the action camera in professional fields like engineering, fitness, and motorsports”

Juan Irache

One step back, two steps forward

The key change that made this improvement possible is not so much in the hardware but in the firmware. Previous models were able to record GPS data at an impressive 18

samples per second. While that put them ahead of many dedicated activity trackers, the GPS chip was only able to achieve that figure by locking to a single GNSS constellation, which compromised reliability. A constellation is a group of geolocation satellites, like the American GPS, the Russian GLONASS, the Chinese BeiDou, or the European Galileo. The more satellites a GPS antenna reads from, the more accurate the GPS coordinates tend to be. The new HERO11 uses a lower frequency for the GPS module: just 10Hz (10 samples every second). That allows the included [U-Blox MAX-M10S](#) module to read data from up to 3 constellations at the same time. For most users, time-to-lock and general accuracy were more common concerns than high-

frequency data, so the change should not have many detractors.

HERO10 users are not left out

While the change was introduced with the HERO11 launch, a firmware update also lowered the GPS frequency to 10Hz in HERO10 cameras. The benefit is less evident in that case, but still probable, as last year's model sports a different GPS module (UBX-M8030-CT) that can do two concurrent constellations at 10Hz. Interestingly, the supply chain restrictions seem to have forced GoPro to include the newer module from the HERO11 in some HERO10 units, so some users could see the full benefit when updating.

Do more with Telemetry data

This analysis was possible thanks to the Telemetry Overlay and [Telemetry Extractor](#) tools, which display and extract endless GPS and sensor metrics from videos and compatible activity trackers.

Juan Irache

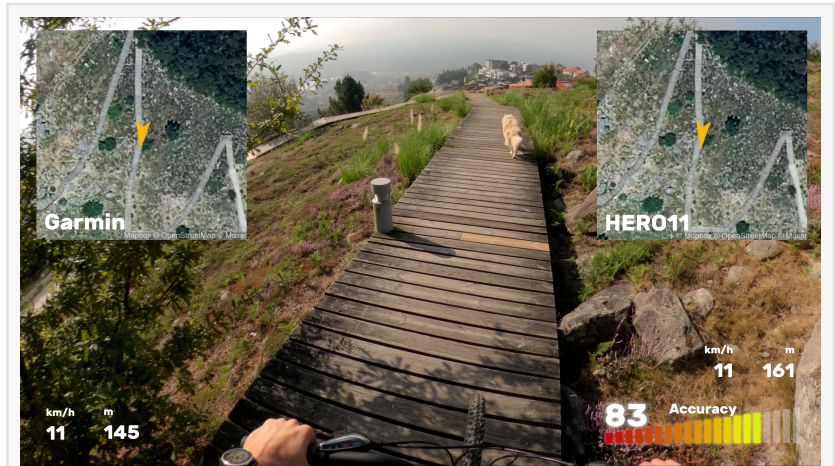
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The HERO11 compares well to standalone activity trackers, under optimal conditions



The new actioncam improves not the GPS accuracy of its predecessor

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