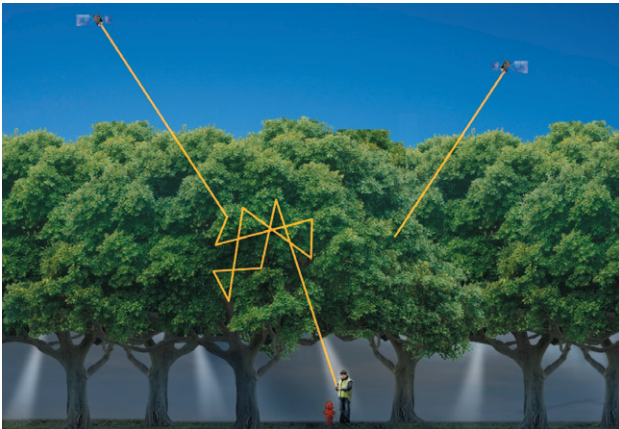


Trimble Floodlight Technology

Satellite shadow is the number one problem for data collection teams needing high accuracy in difficult GNSS conditions. Trimble® Floodlight™ satellite shadow reduction technology is the solution—delivering dramatic improvements to accuracy and position availability when working in urban canyons and under tree canopy.



Satellite shadow prevents position acquisition in difficult GNSS environments

WHAT IS SATELLITE SHADOW?

Satellite shadow occurs when an obstacle between a GNSS satellite and a receiver stops the receiver from tracking the satellite effectively.

As more satellites are blocked from view, it becomes progressively more difficult for the receiver to compute accurate positions. In extreme cases there are simply too few satellites in view to compute positions at all.

HOW DOES FLOODLIGHT TECHNOLOGY MITIGATE SATELLITE SHADOW?

Trimble Floodlight technology reduces the effects of satellite shadow in three ways:

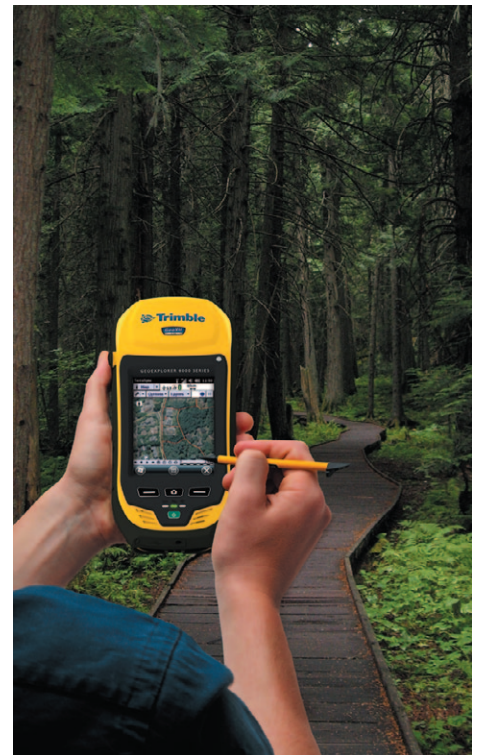
1. By combining GPS and GLONASS tracking, satellite availability is increased by up to 60% over GPS-only positioning.
2. Advanced tracking algorithms speed up signal acquisition and ensure more stable tracking of satellites with weakened signals. With steadier tracking comes smoother positioning that is less prone to drop-outs and spikes caused by erratic satellite tracking.
3. Floodlight technology uses altitude-constrained positioning to reduce the impact of weakened or blocked signals. This technique limits the impact of weak signals, allows 3D positioning with fewer satellites, and improves horizontal and vertical accuracy.

Floodlight technology is compatible with real time and postprocessed workflows. There is no extra configuration, back-office processing, or quality control required—it just works.

WHY IS FLOODLIGHT TECHNOLOGY BETTER THAN OTHER TECHNIQUES TO IMPROVE POSITION AVAILABILITY?

Receivers that address satellite shadow by offering GPS and GLONASS positioning are only solving part of the problem.

Other solutions that use lower quality thresholds may increase position yield in obstructed conditions, but do so at the expense of accuracy. Floodlight technology tackles satellite shadow by improving satellite visibility and tracking while safeguarding against the effects of weak satellite signals on position quality—achieving the best possible position.

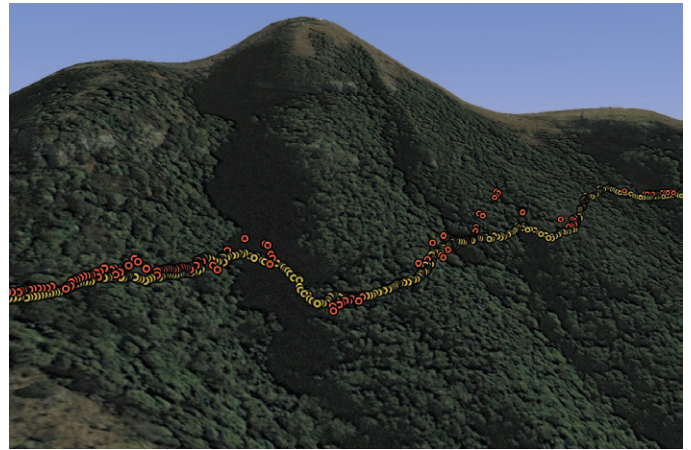


WHAT LEVELS OF PERFORMANCE CAN BE ACHIEVED?

The results speak for themselves. The images below show performance before and after the introduction of Floodlight Technology in a high-rise urban canyon and dense canopy environment. In both cases the red shows the results of positioning with a GeoExplorer® 2008 series handheld that does not include Floodlight technology. The yellow shows the same routes measured with a GeoExplorer 6000 series handheld with Floodlight technology enabled.



Results 1: Real-time data collection in a high-rise urban canyon environment.¹



Results 2: Postprocessed data collection in a dense canopy environment.²



HOW CAN I TAKE ADVANTAGE OF FLOODLIGHT TECHNOLOGY?

Trimble Floodlight satellite shadow reduction technology is available exclusively on GeoExplorer 6000 series handheld computers.

The GeoXH™ handheld computer ships with Floodlight technology as a standard feature and delivers 10 cm (4 inch) accuracy in more places than ever before. Floodlight technology is available as an optional upgrade for the GeoXT™ handheld which achieves 50 cm (20 inch) accuracy after postprocessing or 75 cm (30 inch) accuracy in real time.

Equipped with Trimble Floodlight satellite shadow reduction technology, the Trimble GeoExplorer 6000 series continues to track satellites and compute positions accurately under the most demanding GNSS conditions.

The result is more productive data collection without compromising precision.

¹ Typical results for real-time data collection in a high-rise urban canyon environment. Shows the performance comparison of a GeoXH 2008 series handheld compared to the GeoXH 6000 series handheld computer with Floodlight technology enabled. This data was collected with real-time VRS™ network corrections broadcasting GPS and GLONASS corrections. Results will vary with environment and method of data collection.

² Typical results for postprocessed data collection in a dense canopy environment. Shows the performance comparison of a GeoXH 2008 series handheld compared to the GeoXH 6000 series handheld computer with Floodlight technology enabled. This data was collected with and postprocessed in GPS Pathfinder® Office software version 4.10. Results will vary with environment and method of data collection.

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