

Tropospheric Ducting FAQs

Below are some common questions and answers that our customers have regarding tropospheric ducting, the potential impact on their wireless broadband service and how Etex addresses these issues:

Q: "What is tropospheric ducting, and how does it affect my wireless broadband service?"

A: *Tropospheric ducting is when the atmosphere allows radio waves, including those used for wireless broadband, to travel long distances due to temperature and humidity variations. It can extend your broadband signal range but may also cause signal fluctuations and interference, depending on atmospheric conditions.*

Q: "Can tropospheric ducting improve my signal strength and connectivity in certain conditions?"

A: *While this is a rare anomaly, tropospheric ducting can sometimes even boost signal strength temporarily, enabling wireless broadband signals to travel beyond their typical range.*

Q: "How can I tell if my current connectivity issues are due to tropospheric ducting?"

A: *Pay attention to local weather conditions. Tropospheric ducting is often associated with specific weather patterns, such as temperature inversions, high humidity, or atmospheric pressure changes and of course, always contact Etex to inquire whether we are aware of any widespread connectivity issues related to atmospheric conditions.*

Q: "Are there specific times of the year or weather conditions when tropospheric ducting is more likely to occur?"

A: *Seasonal variations, high humidity, temperature inversions and atmospheric pressure changes are all factors that can increase the likelihood of tropospheric ducting; however, it is important to note that it is not a guaranteed occurrence, and it can still be extremely unpredictable. If you experience connectivity issues during any of these conditions, it's a good indication that tropospheric ducting may be a contributing factor.*

Q: "What steps does Etex take to mitigate the effects of tropospheric ducting on my connection?"

A: *While Etex has tools and equipment to detect and minimize these disruptions through network optimization and monitoring, it is important to note that extreme tropospheric conditions can still cause major disruptions to your wireless broadband connections and prevention is nearly impossible. We strive to effectively communicate these conditions as soon as we become aware. Please remember to check your SmartHub account for updates as to when tropospheric ducting is happening and when it has cleared.*

Q: "Can tropospheric ducting lead to slower data speeds and latency issues on my broadband service?"

A: *Yes! The bending and refraction of radio waves in the duct can cause delays in signal propagation, resulting in higher latency or ping times. Signal quality may also suffer from slower data transfer rates and reduced throughput. Interference with other signals, both from Etex and other neighboring networks can lead to data packet collisions, further impacting speed and reliability.*

Q: "Is there any way to predict or forecast when tropospheric ducting might impact my wireless broadband?"

A: *Tropospheric ducting is influenced by weather conditions, temperature inversions, and other atmospheric factors. It is extremely unpredictable and can be sporadic, making it challenging for network operators to account for and manage.*

Q: "Are there any recommended strategies or technologies to minimize the impact of tropospheric ducting on my service?"

A: *While the best strategy to help minimize the impact of tropospheric ducting is to consider having a backup internet connection other than wireless, such as a mobile hotspot or a secondary service, to ensure connectivity during ducting events. The recommended technology is fiber internet. Fiber is known for its reliability and stability, providing consistent internet speeds even during adverse weather conditions. If fiber internet is available in your area, it is certainly a better solution during ducting events or generally for a more consistent internet experience. You may check our website or call our business office during normal business hours to find out if fiber internet is available in your area.*

Q: "If my service is affected by tropospheric ducting, how quickly can I expect it to be restored to normal?"

A: *The duration of service disruption caused by tropospheric ducting can vary widely depending on the specific weather conditions. In some cases, the disruption may be relatively short-lived and self-resolving, while in others, it may persist for a longer period. Some factors that can influence the restoration time are tropospheric conditions and whether the ducting is localized or more widespread. While these issues are generally temporary and depend on specific weather conditions, they can be very frustrating for both Etex and their customers.*