

# BRIGHT STREAKS – FAST WINDS ON MARS

**Bright streaks that extend much further than ejecta streaks normally seen around martian craters indicate tornado-like winds follow impact events on planets with atmospheres.**

- In images from the Thermal Emission Imaging System (THEMIS) instrument on board the Mars Odyssey spacecraft, bright streaks in the nighttime infrared indicate areas where there is more heat retention, and less coverage from dust and small rocks. In these images, streaks were observed emanating from some of the larger martian impact craters that extended much further than normal ejecta patterns.



- Using modeling based on experiments from NASA's Vertical Gun Range, these streaks may have been caused by winds up to 800 km/hr (500 mph) just above the surface that, when they encountered raised surface features like the edges of older craters, creates vortices that drop and scour the surface in their wake.
- These features are seen in most, but not all, impacts 20km (12.5mi) or more in diameter, indicating that they might provide information about atmospheric conditions at the time of impact.