The way the wind blows dictates the runway used for takeoffs and landings. Flying into the wind (headwind) enhances performance; tailwinds are allowed but generally only to 10 knots.

Winds blowing across the runway (crosswinds) are restrictive based on inherent aircraft limits. Don't be alarmed if you see a pilot land briefly on one main wheel, because that's how crosswind landings are performed.

Winds generally increase with altitude, and they can sometimes surpass hurricane strength because of jet streams. I've flown in winds clocked at 220 knots (400 km/h) at cruising level.

Winds can suddenly change in direction and/or speed, which is called wind shear. But near the ground, onboard devices warn pilots of precarious changes, plus many airports have a system forewarning of shearing winds.

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A STAR ALLIANCE MEMBER

Image of a logo with a star icon