



## SANTA ANA WINDS: GEOGRAPHY

**NEWS:** How 'Santa Ana' winds and climate change are fueling wildfires in Malibu

### WHAT'S IN THE NEWS?

Santa Ana winds are strong, dry winds from high-pressure systems over the Great Basin, common from October to January, increasing wildfire risks by drying vegetation and lowering humidity. Climate change has worsened California's wildfire crisis, with rising temperatures and prolonged dry seasons intensifying fire severity.

### Role of Santa Ana Winds

- **Formation:** High-pressure systems over the Great Basin create strong, dry winds moving toward the California coast.
- **Characteristics:** These winds heat up as they descend, reducing humidity to extremely low levels.
- **Impact:** Dry vegetation becomes highly flammable, increasing wildfire risks.
- **Seasonality:** Most common from October to January due to inland high-pressure systems.

### Impact of Climate Change

- **Wildfire Intensity:** Climate change has intensified wildfires, with longer seasons and larger fires.
- **Statistics:** 10 of California's largest wildfires occurred in the last 20 years, with five in 2020.
- **Contributing Factors:** Rising temperatures, earlier snowmelt, and prolonged dry seasons stress vegetation, increasing fire susceptibility.
- **Future Risks:** Wildfire threats will grow as global warming exceeds 3°C by century's end, far surpassing the 1.5°C target in climate agreements.



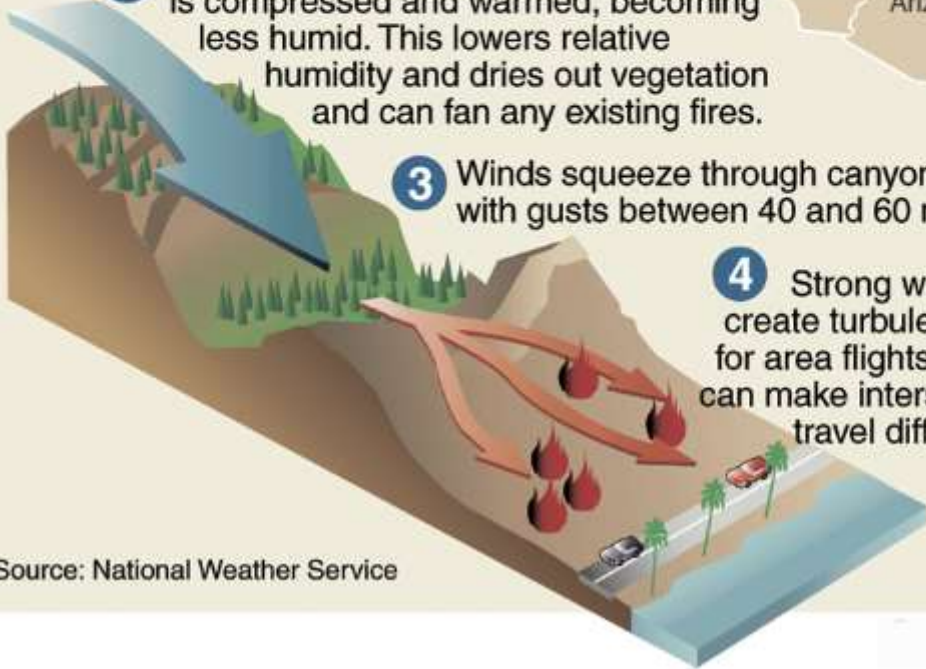
## Santa Ana winds

In addition to increasing the threat of wildfires, Santa Ana winds can cause trouble for drivers and pilots in Southern California.

**1** Desert winds originate from a clockwise flow of air around a high-pressure system east of the Sierras.



**2** Air extends from the mountains, and is compressed and warmed, becoming less humid. This lowers relative humidity and dries out vegetation and can fan any existing fires.



**3** Winds squeeze through canyons with gusts between 40 and 60 m.p.h.

**4** Strong winds create turbulence for area flights and can make interstate travel difficult.

Source: National Weather Service

Source : <https://indianexpress.com/article/explained/explained-climate/how-santa-ana-winds-and-climate-change-are-fueling-wildfires-in-malibu-9726854/>

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