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Why does OC's sun hide in June?

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By Franklin O'Donnell 6/5/85
Graphic by Bob Reynolds/The Register

Newcomers to Orange County usually expect Southern California to be hot and beautiful all summer, but morning clouds giving way to sunny afternoons are more usual this time of year. That has to do with our unique position between the desert and sea.

In typical June weather, according to Orange Coast College earth scientist Dr. Tom Garrison, heat over the desert to our east causes air to rise, creating a low pressure zone. The cooler ocean, meanwhile, is blanketed by a "marine layer" of low clouds at an altitude of anywhere from a few hundred to 8,500 feet.

When the desert heats up and air pressure drops, it pulls the layer of low clouds in off the ocean; the closer you are to the ocean, the more clouds and fog. It usually isn't until noon or so that the air heats enough to burn the cloud layer off.

The pattern isn't usually broken until later in summer, when offshore cyclones may intrude and throw the marine layer into disarray. The final blow comes around September, when hot Santa Ana winds from the east intrude and break the morning-cloud pattern.

Those winds are born in the Four Corners area where Utah, Arizona, Colorado and New Mexico meet. High pressure over that region forces air downward, spinning clockwise for

hundreds of miles and picking up temperature as it moves downward. By the time the winds reach Orange County, they may be at 90 to 92 degrees F.; it's not unusual in September for Newport Beach to be hotter than Palm Springs.

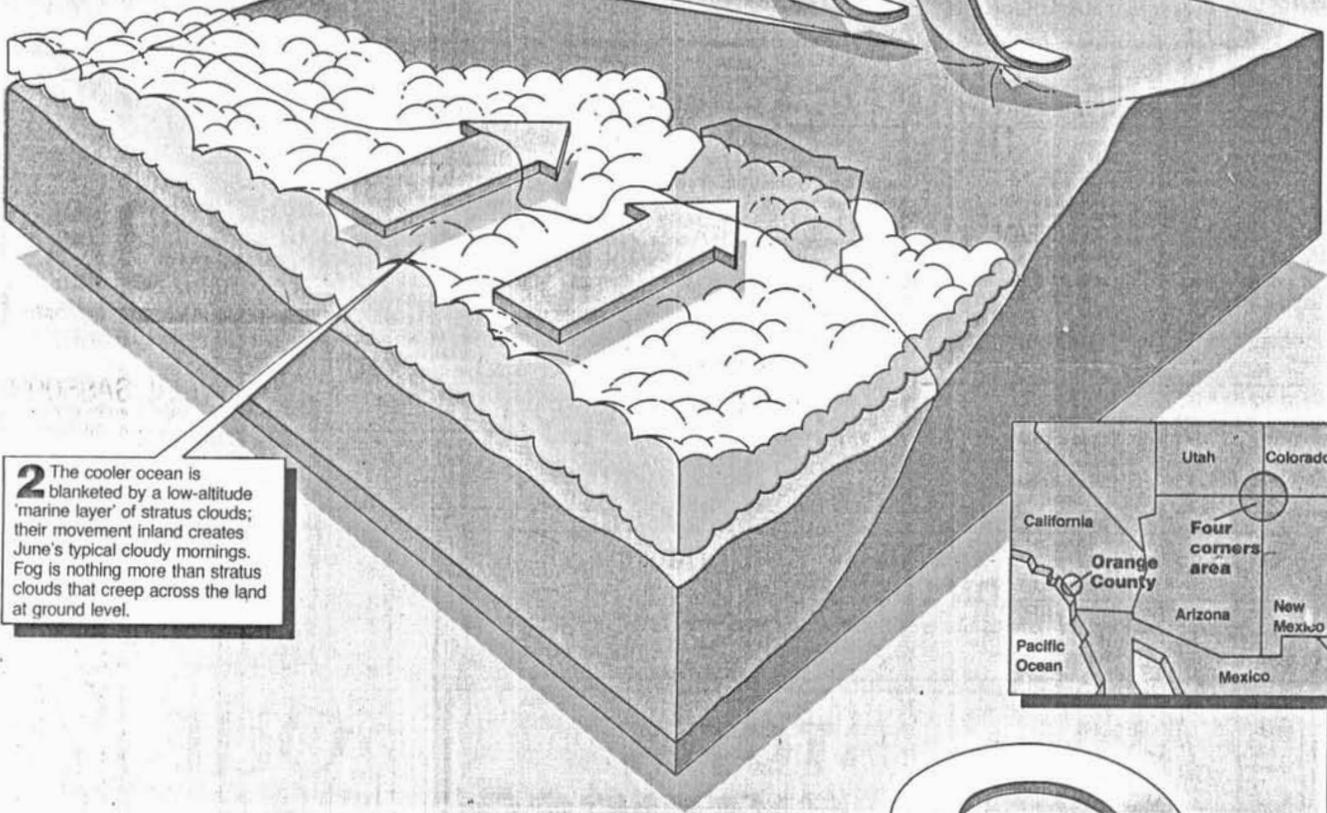
Though June 21 marks the day the sun is highest above the equator, it's not the hottest day of the year here — thanks to what is called "thermal inertia," the time lag it takes the Northern Hemisphere to heat up. OC's hottest weather usually comes in September or October.

"People generally feel there's no weather in Southern California — and, generally, they're right," says Garrison. "What goes on is more subtle than other areas of the country."

June

Cloudy mornings/
warm afternoons

1 As spring ends, thermometers climb in California's eastern desert, causing hot air to rise. As that air moves upward, it leaves a zone of low air pressure that, in turn, draws in cold air from the ocean.

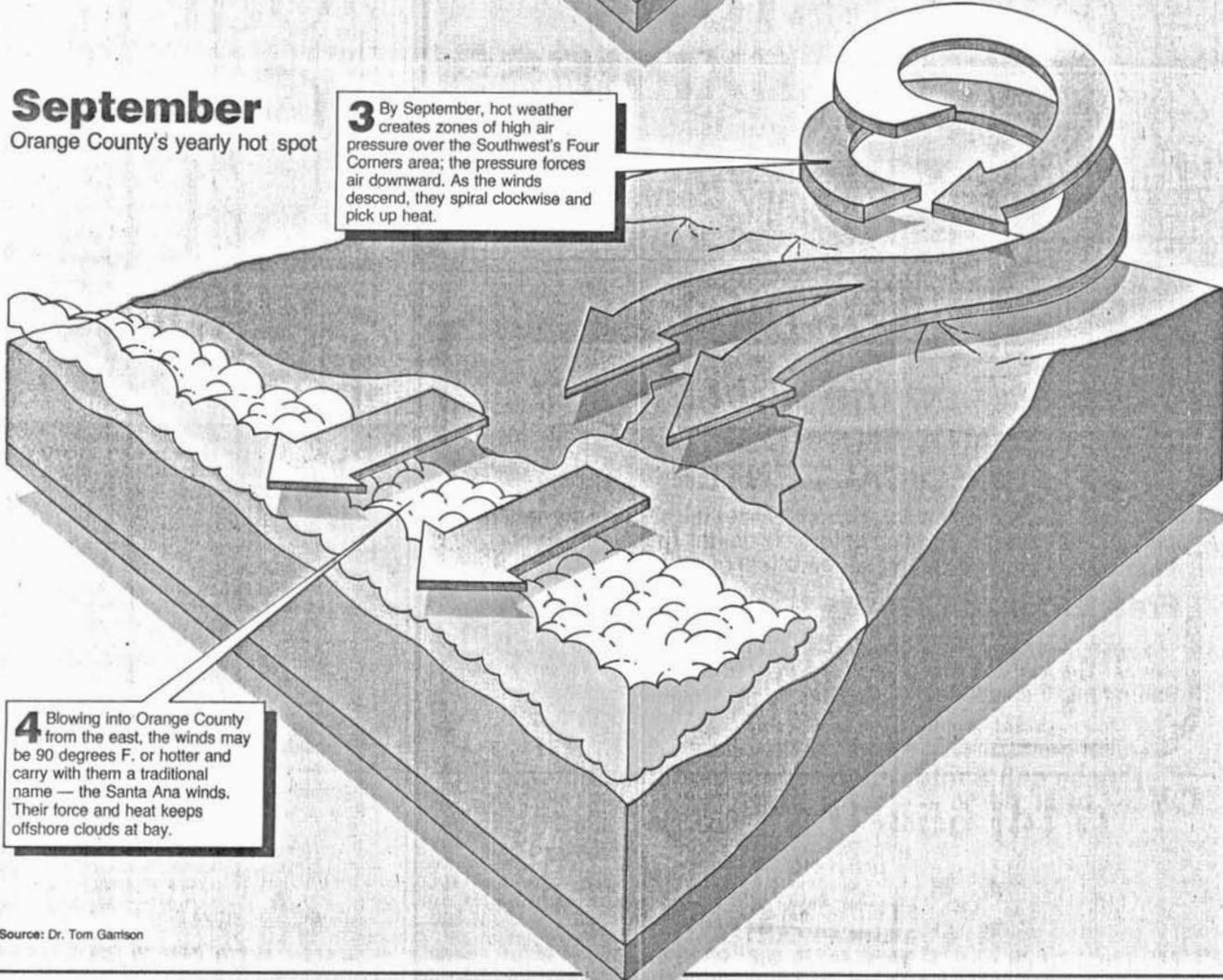


2 The cooler ocean is blanketed by a low-altitude 'marine layer' of stratus clouds; their movement inland creates June's typical cloudy mornings. Fog is nothing more than stratus clouds that creep across the land at ground level.

September

Orange County's yearly hot spot

3 By September, hot weather creates zones of high air pressure over the Southwest's Four Corners area; the pressure forces air downward. As the winds descend, they spiral clockwise and pick up heat.



4 Blowing into Orange County from the east, the winds may be 90 degrees F. or hotter and carry with them a traditional name — the Santa Ana winds. Their force and heat keeps offshore clouds at bay.