Equatorial region known for massive storms

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(AP) -- It's the birthplace of some of the world's strongest storms, a nearly continuous band of colliding weather systems near the equator where the Air France jet vanished in the night.

The region is known to scientists as the Intertropical Convergence Zone. It's where winds from the northern and southern hemispheres clash, spawning violent thunderstorms that can tower up to 60,000 feet, far higher than any commercial airliner could fly over.

Officials suspect the Air France jet carrying 228 people that crashed into the Atlantic Ocean on Sunday night between Brazil and Africa may have run into trouble as it crossed into this zone. Reports indicate the plane may have passed into a 400-mile-long cluster of developing thunderstorms with lightning and 100 mph updrafts.

Basically, this zone, which experts refer to as the ITCZ, is a stormy weather band that wraps some 25,000 miles around the world, generally hugging the equator. Like an ocean current, it's fluid in its movements as the seasons change, deviating several degrees north and south.

The zone's shape is more like a slithering snake than a pencil-straight line, and can sometimes be several hundred miles wide.
While the region can be quiet and calm, it is also "the birthplace of our strongest storms on Earth," said Henry Margusity, a senior meteorologist for AccuWeather.com.

In the tropics, the intense sun and warm water along the equator heat the

air, making it buoyant and sending it upward as the north and south trade winds collide. The convergence of weather from opposite hemispheres fuels the zone's production of thousands of small storms that can merge to form massive ones, sometimes in continuous bands.

Delta Air Lines pilot Keith Rosenkranz has flown through this region a few dozen times and said aviators expect to see extreme weather there, but often zigzag through it, or fly around it.

Rosenkranz said pilots often see billowing clouds and flashes of lightning, the first visual indicators that a storm is ahead and a change of direction might be necessary.

"You can get hail that is blown miles - 10, 20, 50 miles away toward an aircraft," he said. "If you fly an aircraft into a huge thunderstorm, you may not make it out. That's a potential hazard and that's why pilots don't fly into thunderstorms, period, but they're certainly more prevalent along the equator."

Still, a plane crash caused solely by a storm in this zone is rare, said Larry Burch, deputy director of the Kansas City, Mo.-based Aviation Weather Center, a branch of the National Weather Service that issues daily weather advisories for pilots.

Thousands of flights every year travel across this stormy equatorial region worldwide without incident. Anytime a flight goes from Australia, for instance, to Los Angeles, it crosses into the zone.

"It's something that's done every day," Burch said.

"For the most part, a pilot is not going to fly right into a thunderstorm ... They know these conditions are always there," Burch added. "What happened Sunday night, though, I just can't say."

Thunderstorms are suspected to have played a role in the crash two years ago of a Kenya Airways flight immediately after take-off from Cameroon, a West African nation which sits along this active equatorial region. Although the final report on that accident is not complete, some speculate storms lingered a few miles from the runway and that the pilot unwittingly flew into them, possibly encountering massive wind shear. All 114 people aboard died.

"The ITCZ is certainly thought of as a hazard, but it's not normally thought of as life-threatening," said Richard Pasch, a senior hurricane specialist at the National Hurricane Center in Miami. "But strong thunderstorms are an aviation hazard, period."