

## **Cali Crash**

On December 20, 1995, about 2142 eastern standard time, American Airlines (AAL) flight 965, a regularly scheduled passenger flight from Miami, Florida, to Cali, Colombia, struck trees and then crashed into the side of a mountain near Buga, Colombia, in night, visual meteorological conditions, while descending into the Cali area. The airplane crashed 33 miles northeast of the Cali (CLO) very high frequency omnidirectional radio range (VOR) navigation aid. The airplane was destroyed, and all but four of the 163 passengers and crew on board were killed.

### **Pilots Details**

Captain Nicholas Tafuri aged 57 is in charge of flight 965 with more than 13,000 hours of flying experience and over 2000 of them in Boeing 757.

First officer Donnie R. Williams age 39 flying for American Airlines over 9 years and flight 965 is the first trip to Cali.

### **Passengers**

4 passengers among 163 on board with crew members were survived in the crash were Gonzalo Dussan Monroy, Michelle Dussan, Mercedes Ramirez, and Mauricio Reyes.

1. Mercedes Ramirez: On the December 20 it was her 21<sup>st</sup> Birthday and she is a college student this trip is gift from her parents who were in the flight with her.
2. Gonzalo Dussan Monroy: He was moving to Cali with family including his wife, son, and survived daughter Michelle Dussan to seasonal holidays of Christmas.
3. Mauricio Reyes: A 19-year-old college student who is seated in the next row of Mercedes Ramirez and survived.

### **Aircraft**

Boeing 757: Sophisticated airlines equipped with state-of-the-art technology.

To guide the plane on its proper pre-programmed flight path. The aircraft must Passover a series of waypoints these are generally radio beacons at fixed positions along the route the plane's computer picks up the signal from these beacons one after the other and guides it safely to the destination. The flight approaching tallua radio beacon at the head of the valley which leads to Cali. After passing tallua they should Passover the final waypoint called Rozo.



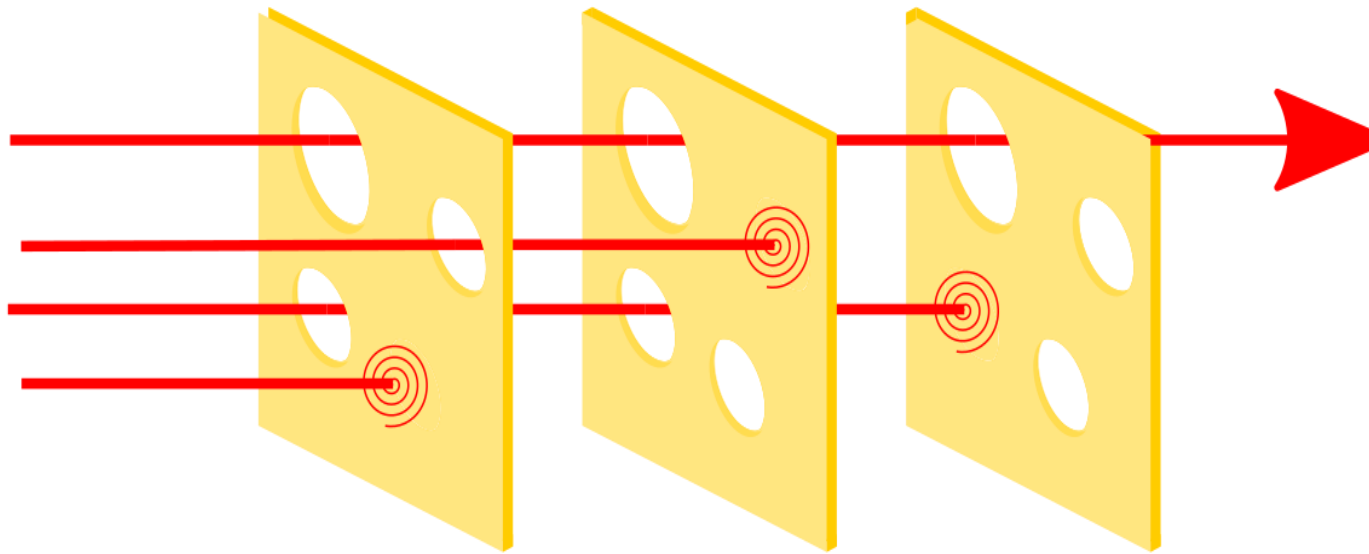
## **Events**

The announcement begins from the cockpit “Ladies and gentlemen this is your captain speaking we have begun our descent for landing at Cali it’s a lovely evening is about to end” final descent roughly 63 miles from Cali. Cali airport is situated at the end of a long valley on both sides of the valley there are number of mountains stretched approx. 14000 feet.

Nelson Rivera (Cali air traffic controller)

## **Swiss cheese Model**

A risk management model used to illustrate how accidents and failures typically occur due to a combination of factors rather than a single root cause.



1. Due to prior act of terrorism, due to bombing of the radar system by FARC terrorist group in 1992 the radar is not functional the position of the aeroplane is obtained by crew through DME (Distance Measurement Equipment).
2. The crew asks the ATC "Can we skip the tallua waypoint" the ATC replied inform us when you reach the Rozo – 1 waypoint the misunderstanding between the ATC and crew took place captain thinks that he is being told to fly directly to Cali and forget all about tallua.
3. All the waypoints from the computer system is erased including one which he approaching (tallua).
4. 11 min before the estimated time of arrival ATC told to use runway 1-9 instead of 0-1 this incident set off a chain events that will end in disaster.

The pilots have to locate the new charts for the approach to 1-9 enter the new route into the computer and still fly the plane. The controller keeps asking to report after passing tallua but having erased it from there computer they have no idea.

5. Captain asks to ATC we will skip the tallua and we will report Rozo and captain types R on the computer and always Rozo is the first in alphabetical order but that is not at the first the captain without noticing clicks on the execute button and that is the waypoint Romeo Vor



The pilots noticed that we were moving somewhere else rather than the Rozo the captain manually enters the radio frequency of the tallua waypoint that is 117.70 and now they entered to another valley parallel to the route and they decide to give up on tallua and directly to airport.

Plane's Ground Proximity warning system is telling them they're about to crash and they crashed after a little time when they violently in the up position.



Locals living near the town of bulgar north of Cali report hearing a massive explosion rescue team race to the spot 3 AM after 6 hrs of the crash they search a mountain. At first light the Columbian Airforce started searching they not leaved in night due to lack of night vision equipment. Rescue team approaching the summit of el deluvio among 163 passengers crew on board only four survived investigators started searched that how a sophisticated airlines with state-of-the-art tech could veer-off cause and crash more than 35 miles from the airport.

The investigation was conducted by the Aeronautica Civil of the Government of Colombia, with assistance from the National Transportation Safety Board, in accordance with the provisions of Annex 13 to the Convention on International Civil Aviation.