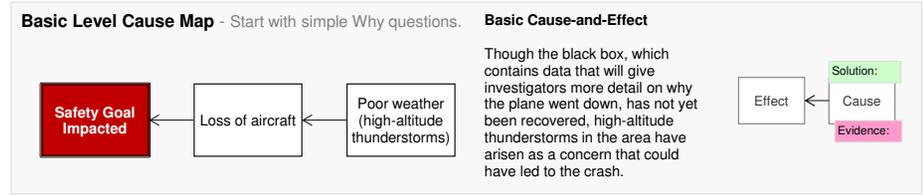


# 1 Problem

What When	Problem(s)	Crash of AirAsia flight QZ8501
	Date	December 28, 2014
	Time	06:17 local time (23:17 GMT)
Where	Different, unusual, unique	Poor weather; unable to increase flying height; aircraft did not have permission to fly route
	Facility, site	Java Sea, off Borneo
	Unit, area, equipment	Airbus A320
	Task being performed	Traveling at 32,000'
Impact to the Goals	<b>Safety</b>	162 killed (all on board)
	<b>Environmental</b>	?
	<b>Customer Service</b>	Plane missing for nearly 3 days
	<b>Regulatory</b>	Company's flights on route suspended
	<b>Production/ Schedule</b>	
	<b>Property/ Equipment</b>	Loss of aircraft
	<b>Labor/ Time</b>	Search, investigation
Frequency	No previous fatal accidents involving AirAsia aircraft; weather is a primary contributing factor in 23% of all aviation accidents worldwide (per FAA)	

# 2 Analysis



**AirAsia pilots relied on "self-briefings" regarding the weather.** Pilots in other locations have expressed concern about the adequacy of weather information pilots obtain using this method. Direct pilot briefings with dispatchers based on detailed weather reporting are recommended to ensure that pilots have the information they need to safely traverse areas of poor weather (or stay out of them altogether).

**Heavy air traffic in the area delayed approval to climb out of storm.** At 6:12 local time the flight crew requested to climb to higher altitude to attempt to escape the storm. Air traffic control did not attempt to respond to the plane until 6:17, at which point it could no longer be contacted. Air traffic in the area was heavy, possibly because:

**The plane did not have permission to fly the route it was on.** AirAsia was licensed to fly the route it was taking at the time of the crash four days a week, but not the day of the crash. The takeoff airport used incorrect information in allowing the plane to take off in the first place (and the airline certainly used incorrect information in trying to fly the route as well). The selection of the route has been determined not to be a factor in the crash, but it certainly may have resulted in the overcrowding that led to the delayed response from air traffic control. It also resulted in the airline's flights on that route being suspended.

**It took almost three days to find the plane.** The delay is renewing calls for universal tracking of aircraft or real-time streaming of flight data that were initially raised after the loss of Malaysia Airline flight MH370, which is still missing ten months after losing radar contact. Not only would this reduce the suffering of families while waiting to hear their loved ones' fates, it would reduce resources required to find lost aircraft and, in cases where survival is possible, increase the chance of survival of those on the plane.

# AIRASIA QZ8501 CRASH Cause Map

## Bad Weather in Area Cited as Possible Cause

AirAsia flight QZ8501, and the 162 people on-board, was lost on December 28, 2014 while flying through high-altitude thunderstorms. Because of a delay in finding the plane and continuing bad weather in the area, the black box, which contains data that will give investigators more detail on why the plane went down, has not yet been recovered.

"From our data it looks like the last location of the plane had very bad weather and it was the biggest factor in behind the crash. These icy conditions can stall the engines of the plane and freeze and damage the plane's machinery."

- Edvin Aldrian, head of Research at BMKG (Indonesian Weather Agency)

**More Detailed Cause Map** - Add detail as information becomes available.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

