

[By Lance Winslow](#)

Airports are needing to study the wake turbulence of aircraft taking off at large airports to improve safety. Wake turbulence has caused many accidents between large aircraft and smaller ones literally turning the aircraft upside down and putting it into a death spiral. Only the most advanced pilots can complete the induced roll and fly out of danger. But even so during take off and landing operations at an airport there is significant dangers when you are low and slow.

Due to wake turbulence aircraft are to wait a minimum of three minutes before taking off or landing behind another aircraft. If you are in a light aircraft and the wind is directly down the runway you may wish to wait five minutes to be safe. The times between aircraft means you can take off less aircraft each hour and this can cause traffic delays for airlines costing millions and wasting fuel idling to take off. Additionally upset airline passengers end up missing connecting flights.

To study the wake turbulence there are many methods. Since the wake turbulence creates spiral waves it can be studied easily by using smoke off the wing of the aircraft being studied. Another way is to use lasers and light since the light will show differences as it transfers through the differences in density of the wakes spiral waves.

I propose we use an older technique. Use the Sun as the background and a series of tracks along the runway, which always keeps the sun in the background of the plane as it takes off to catch the wake turbulence waves. These cameras on the tracks will be set up with multiple cameras also running down the track, which keeps the sun between the camera and direction of travel of the wake turbulence. As the plane departs the end of the runway, many cameras on the there tracks will go backwards as the flow of the wake turbulence moves back or at an angle to the runway and tracks. This will get all of the wake turbulence in a panoramic picture, so we can see it perfectly. If we are going to predict wake turbulence correctly, we must know all of it's characteristics. For instance here is a thought:

<http://worldthinktank.net/wttbbs/index.php?showtopic=225>

Since we know where the camera is at all times, it's movement and speed; we can figure out then know the exact direction of travel of the wake turbulence's greatest and most dangerous regions. There was a brilliant young High School UK kid who observed the issues with debris falling off aircraft on the runways and how such things lead to crashes such as the Concorde tires picking up debris from a Continental Aircraft and spitting it like bullets into the bottom of the wing, which inevitably caused a fiery crash killing all aboard. He received a scholarship for his idea of cameras running down the runway on tracks taking video feed of anything falling off of aircraft on the runways. Great idea. I simply propose we use his track system with some upgrades for this wake turbulence project of mine.

Once we collect this data and develop the program to track it all, then we couple this data with what we already know of NASA study with smoke and a 747 at a landing speed high angle of attack and the NASA study of the SR-71's shock wave photographs with the Sun in the background and the theories in the link above with this track system, then we will understand enough about the wind to manipulate it. Meaning we maybe able to figure out how to steer rotating wind currents like Tornadoes and/or drill horizontal holes in Hurricanes to disrupt them using acoustic transducers, heat and/or flying objects at high angles of attack thru it near the surface to allow relative airflows and normal surface winds to makes its further and ongoing formation difficult; perhaps during an eye wall re-establishment or early in its wind category status. But no matter what we learn or what we use this data for, one thing is for certain, we are way ahead of the game in airline and airport safety if we press on in these types of studies. I hope I made you think today; it is good for you. You know more people should try it.

"Lance Winslow" - If you have innovative thoughts and unique perspectives, come think with Lance; <http://www.WorldThinkTank.net/wttbbs>

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