



A policeman places a toy given by the relatives of a child killed in the crash of a passenger of the Russian Tupolev Tu-154 plane, at the crash site, in Sukha Balka, 40 km from the Ukrainian city of Donetsk in 2006.

## Satellite data might have prevented jetliner crash: scientists

Sep 10, 2007

TRIESTE, Italy (AFP) — The crash of a Russian jet in Ukraine last year that killed 170 people, including 45 children, might have been prevented by satellite weather software costing 1500 dollars (1200 euros), according to a study released Monday.

The software and satellite dishes providing access to data from EUMETSAT -- the European Organisation for the Exploitation of Meteorological Satellites -- have since been installed in five Ukrainian cities, said Olesksiy Kryvobok, a scientist at the HydroMeteorological Institute in Kiev.

The crash helped spur that decision, he said.

In the study, Kryvobok showed that Meteostat Second Generation (MSG) images recorded in Austria an hour before the Tupolev Tu-154 plummeted to earth near Donetsk on August 22, 2006 clearly identified the violent storm cell that the plane's pilots were unable to circumvent.

Other images taken only 30 minutes earlier did not.

"It is very difficult to predict such storms," he said. "But if you use this satellite system, it is easy to detect, making it possible to warn the pilot."

Exactly what caused the crash of Pulkovo Airlines flight 612, en route from the Russian seaside resort of Anapa to Saint Petersburg, was fiercely contested in the six months following the accident.

A preliminary investigation by Russia's Emergency Situations Ministry the day after the crash suggested that it might have been struck by lightning, but officials soon backed away from that explanation.

Finally Russia's Interstate Aviation Committee concluded that the crash was due purely to human error.

The pilots, it said, showed "a lack of control over flight speed and a failure to carry out instructions on preventing the plane from stalling," also citing "unsatisfactory cooperation among the crew."

When a first attempt to circumvent the storm failed, the pilot attempted to climb over the top, taking the plane from 11,961 to 12,794 meters (39,242 to 41,975 feet) in 10 seconds. The jet stalled, and the crew were unable to recover.

Onboard storm-monitoring equipment and radar information relayed by air traffic controllers usually suffice to avoid dangerous weather patterns.

Kryvobok said his study, presented at the Fourth European Conference on Severe Storms in Trieste, did not conflict with this assessment.

But access to the MSG images would have given the pilot more time to react to the danger ahead. Storms at that altitude, he said, are "extremely rare."

Launched in 2002 and operational in 2004, MSG is a geostationary satellite, meaning that it stays at a fixed point -- somewhere along the equator -- relative to the Earth's surface at all times.

The advantage for weather forecasters is a continuous stream of images that monitor rapidly changing storm patterns at least every 15 minutes.

The development and construction of MSG-1 cost 475 million euros. But the software to run it only cost Ukraine's weather service 1500 dollars "and fit on five (USB-type) keys," said Kryvobok.

Crashes of commercial jets caused by weather alone or weather-related pilot error account for 26 percent of some 1,500 accidents in the last 50 years, according to [planecrashinfo.com](http://planecrashinfo.com), a website that compiles statistics based on official inquiries.