

## CONTRAIL ID CHART



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Space Administration  
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### Short-lived

A contrail that forms and disappears as the plane moves along. Although its length remains about constant it may be very short, or it may span a large fraction of the sky. Generally it is very thin.



### Persistent

A thin contrail that remains in the sky after the plane has disappeared. These contrails are not much wider than the short-lived contrails and are thinner than 1 finger held at arm's length.



### Persistent Spreading

A thick contrail that remains in the sky after the plane has disappeared. They are wider than 1 finger held at arm's length. These contrails can grow to resemble natural cirrus clouds.



*Contrails* are clouds formed when water vapor condenses and freezes around small particles (aerosols) that exist in aircraft exhaust. Some of that water vapor comes from the air around the plane; and, some is added by the exhaust of the aircraft. Clouds are the largest variable controlling Earth's atmospheric temperature and climate. Any change in global cloud cover may contribute to long-term changes in Earth's climate. Contrails, especially persistent contrails, represent a human-caused increase in the Earth's cloudiness, and are likely to be affecting climate and ultimately our natural resources. Scientists today are trying to learn more about the longevity of persistent contrails and how much they may affect the climate in the future.

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[http://asd-www.larc.nasa.gov/GLOBE/Count/Oct2005/ConEdNews\\_p8.pdf](http://asd-www.larc.nasa.gov/GLOBE/Count/Oct2005/ConEdNews_p8.pdf)

NASA, in an October 2005 newsletter states: "A recent investigation focuses on how aircraft can avoid creating vapor trails, also known as contrails. These spindly threads of condensation may not seem important but some persist for hours and behave in the same way as high altitude cirrus clouds, trapping warmth in the atmosphere and exacerbating global warming..."