



King Air B200 Aircraft

From the outside NASA's Beechcraft King Air B200 aircraft looks like a small plane that can carry about a dozen passengers. But inside, NASA 529, which is based at NASA's Langley Research Center in Hampton, Va., is a flying science platform that can study the Earth's atmosphere.



The twin-turboprop engine plane was built in 1982, but came to NASA Langley from NASA's Marshall Space Flight Center in January 1996. Until recently, researchers used NASA 529 to develop technologies to make airplanes safer, to test a sensor that may improve measurements of the Earth's surface and for program support.

Its payload capacity and flexibility make it an excellent instrument platform, so now the aircraft is equipped with a suite of state-of-the-art active and passive sensors, developed at Langley, to help scientists better understand our atmosphere and air quality.

Among the instruments on board that support projects for NASA's Science Mission Directorate and other government agencies is the NASA Langley High Spectral Resolution Lidar or HSRL. It is used to characterize small particles in the atmosphere called aerosols.

The HSRL instrument is an innovative technology that is similar to radar. But instead of the radio waves that radar uses to determine and map locations, directions

and speeds, lidar uses laser light. Lidar allows researchers to see the vertical distribution of the atmosphere. The advanced HSRL makes measurements that can even distinguish among different aerosol types, such as urban pollution versus desert dust.

High Spectral Resolution Lidar can help scientists not only better understand Earth's changing climate, but also measure the quality of the air we breathe.

Aircraft Statistics

Altitude	28,000 ft (8.5 km)
Range	920 miles (800 nmi/1300 km)
Endurance	4.5 hours
Speed	298 miles per hour (259 knots) cruise
Current Payload Configuration	2,500 lb (1136 kg) max, 500 lb (227 kg) with full fuel load
Electrical Power	Two DC generators with inverters that supply AC power
Communication	Iridium phone and modem

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