
Look Who's Talking Careers

By 1Lt Joe Shanahan

STEM Careers in Polar Climate

Grades 7-12

Single Class

Career Area & Job Title:

Navigator, New York Air National Guard (NYANG)

The Big Picture - What I do:

As a navigator with the NYANG, I complete an extensive preflight planning process prior to every flight to include the route of flight, fuel planning, and flight record keeping. The route of flight is annotated using geographic coordinates (latitude and longitude) that I enter into the Self Contained Navigational System known as SCNS. While planning a mission we consider the air speed and altitude we will be flying at as well as any special mission requirements. For example, some of the IcePod instruments we use, like the laser altimeter, require us to be at a lower elevation and slower airspeed than we normally fly for cruise. The fuel planning system is a simple formula we use to calculate how much fuel each engine uses per hour added to the minimum required for safety. Once in flight, I use the inertial navigation systems (INS) and radar to guide the plane, checking against the entered waypoints in SCNS and plotting our position on charts. In polar environments, I use a navigational system known as Grid to guide the plane enroute and the aircraft's radar for an instrument approach to a ski landing.

What I Like Most About My Job:

Traveling to remote locations, such as Greenland and Antarctica. Very few people in the world get to go to these locations and it is a privilege. Our mission is unique and we do a job that no one else does.

The Most Unusual Part About My Job:

As a navigator we also track our position using celestial procedures. This requires using a sextant and calculating the position of the sun in the sky to determine our heading and location. We are the only unit that still uses this skill set.

What Type of Schooling/Experience is Needed?

A bachelor's degree is needed to become an officer. After that it can take up to two years to complete aviation training to become an Air Force C-130 navigator. Then after finishing basic C-130 navigator training, it can take another six months to become proficient in the ski qualifications that are unique to LC-130 aircraft.

Photo



1Lt Shanahan at Alert Station, the world's most northern station.

Education

- Bachelor's Degree in History
- Finishing Master's Degree in Education to become certified to teach in NY State

Want More Activities:

www.ldeo.columbia.edu/polareducation