

# National Science Foundation

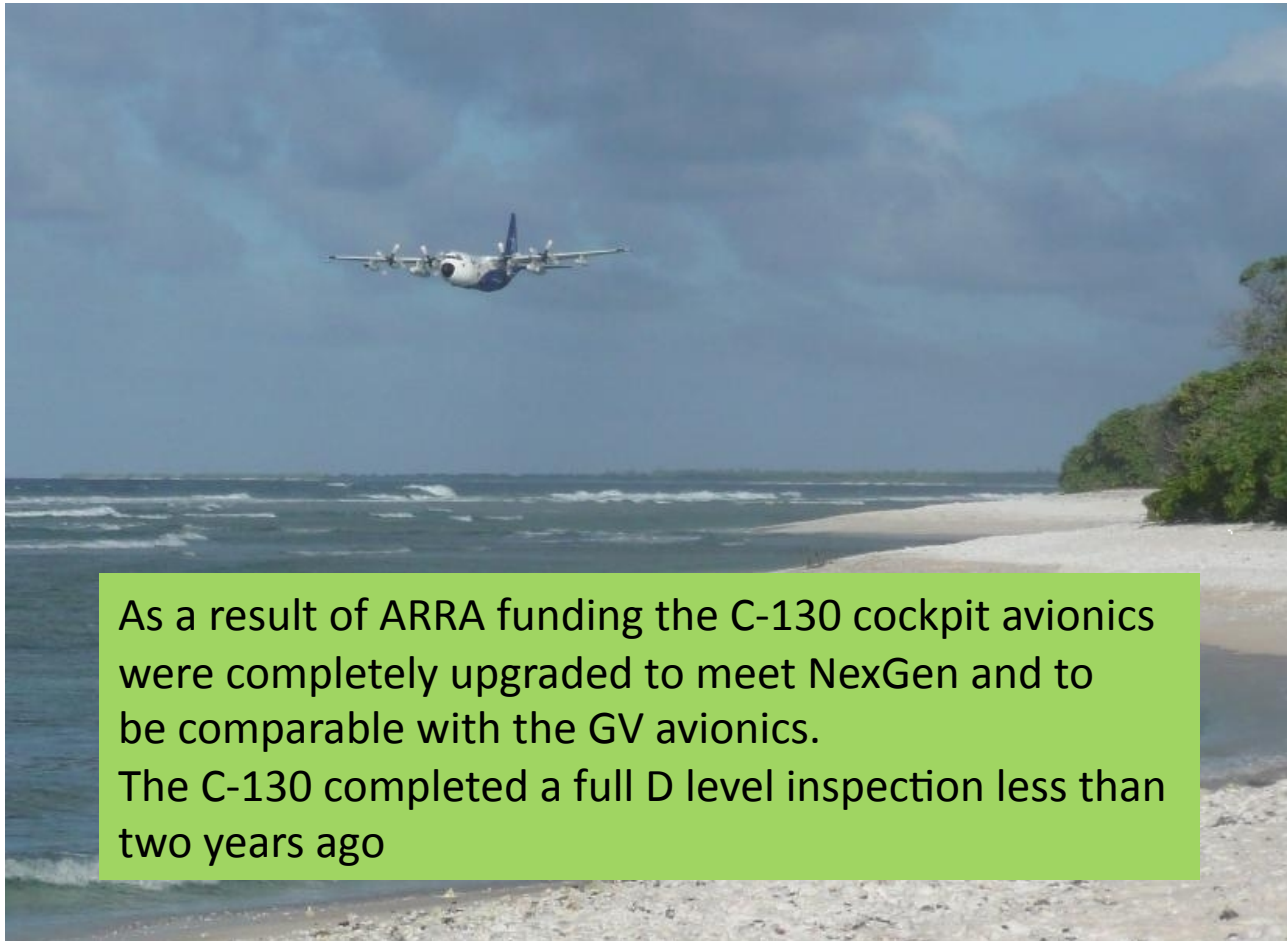
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**NCAR and Facilities Section**  
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# National Science Foundation (NSF)

## Airborne Assets

- *The NSF is continually assessing its airborne facility needs (assets removed from service and new ones added)*
- *Enhancing interagency and international collaboration is a strategic thrust (driven by science needs and budgetary constraints)*
- *CIRPAS has become a major component in the mix of airborne assets*
- *Airborne assets are typically oversubscribed and therefore priorities have to be made for their use*

# NSF C-130Q on a mission over Christmas Island



As a result of ARRA funding the C-130 cockpit avionics were completely upgraded to meet NexGen and to be comparable with the GV avionics. The C-130 completed a full D level inspection less than two years ago

# NSF C-130Q During Inspection Cascade Aerospace in Canada



Hoping they don't lose the documentation

# NSF's Office of Polar Programs operates 4 LC-130s



JATO assist for take off requires an estimated \$7M budget item each year; 8 bladed props and electronic propeller controls should eliminate the JATO requirement



# LC-130 with 8 Bladed-Props



Testing the 8 bladed props

Advantages:

Less vibration (good for instruments and crew)

Fuel savings

# NRL P-3 with ELDORA



The NSF and NRL are under a MOA through 2013 for supporting the ELDORA radar. The ELDORA has been upgraded using ARRA funding

# University of Wyoming King Air

## Cooperative Agreement between NSF and University of Wyoming



*Photograph courtesy of Vanda Grubisic, Desert Research Institute*



University of Wyoming received ARRA funds to improve instrumentation. The King Air is now equipped with the Wyoming Cloud Radar and Wyoming Cloud Lidar. The KA remains one of the most requested NSF Atmospheric facilities.



# NSF GV

## GV flying HIPPO mission (complex and pole-to-pole)



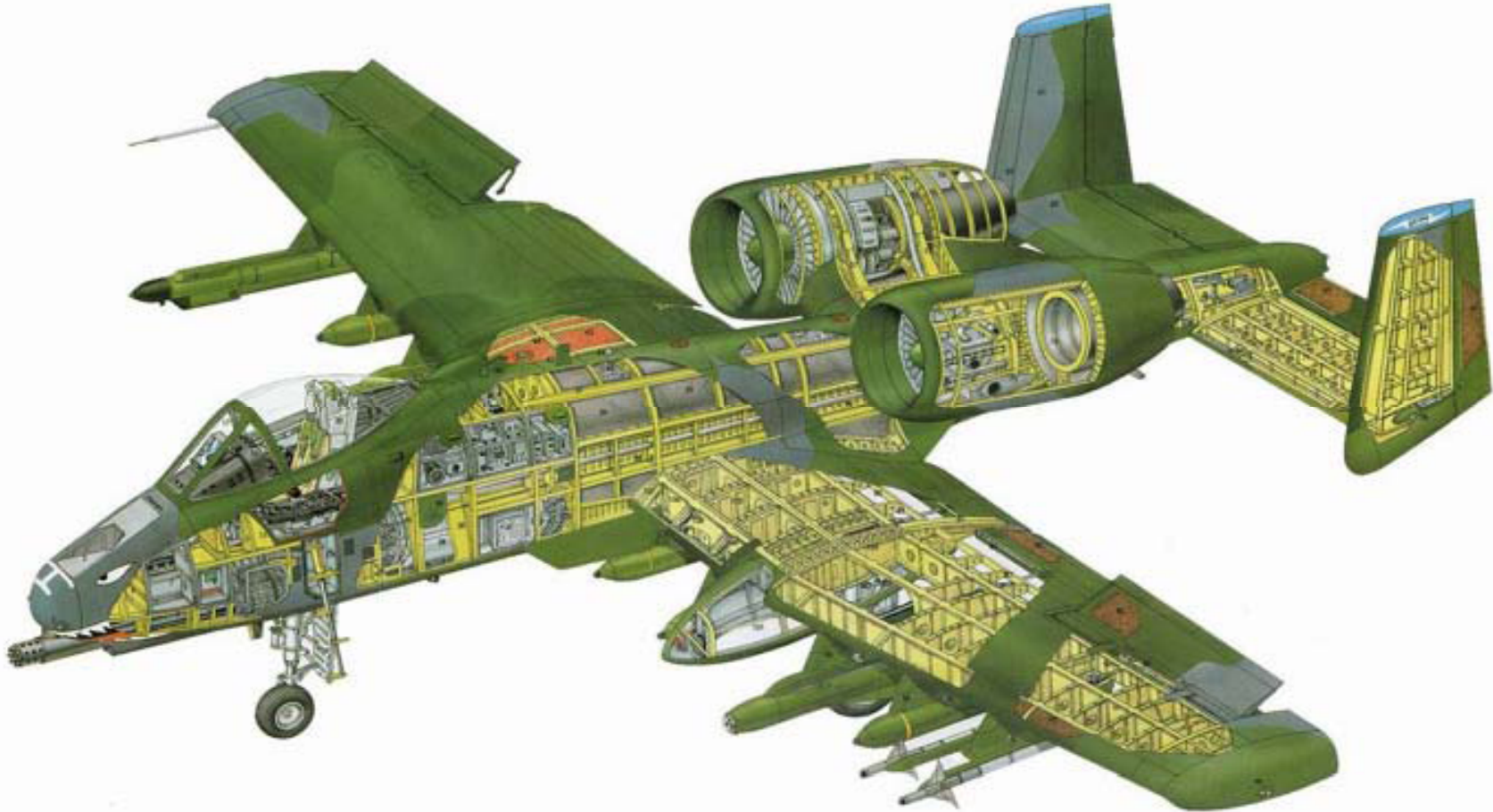
CIRPAS Twin Otter is available to  
NSF investigators (NSF-NPS MOA)



A-10 SPA to replace the T-28  
last mission in 2003



# A-10





# A-10 – a hearty bird that not even PIs can damage

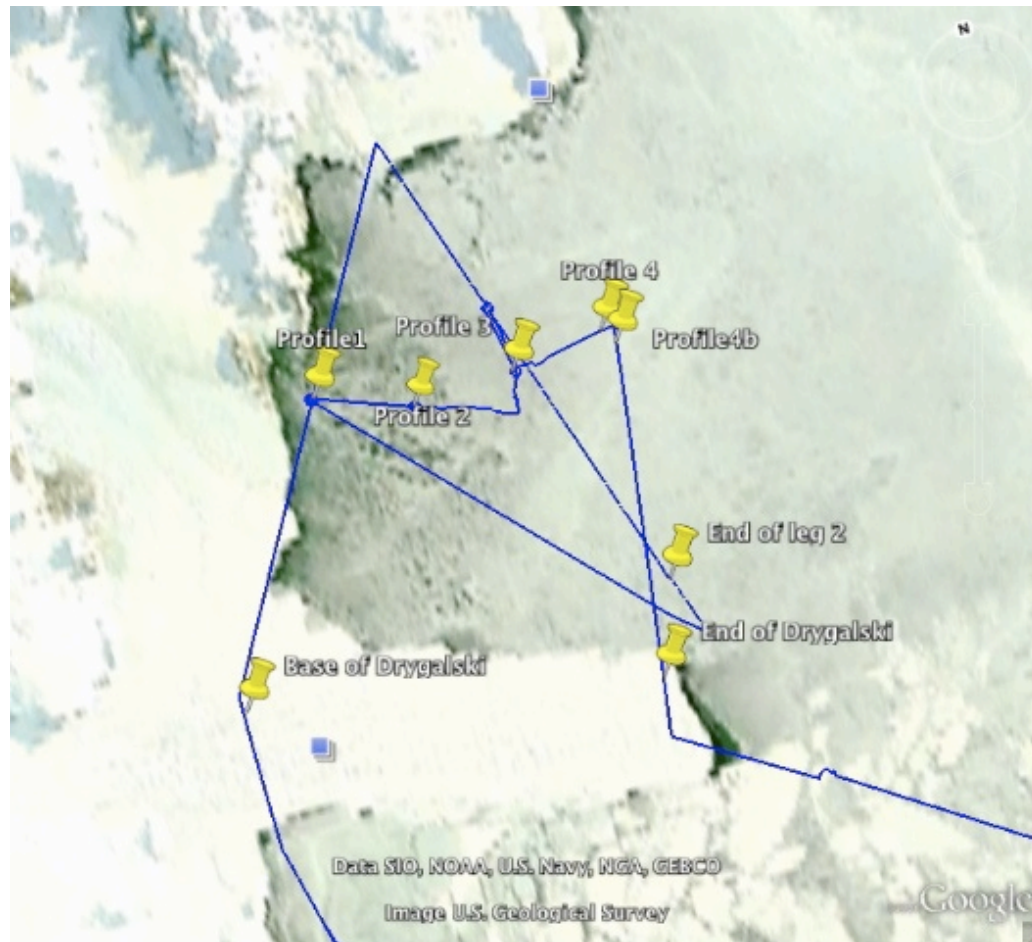


Operational as  
a NSF facility  
in late 2012 or  
early 2013.





# Flight Path of Aerosonde in Antarctica



# Aerosonde in Antarctica



UASs such as the Aerosonde are seeing increased use by NSF in science campaigns. Airspace issues limit their use in National Airspace (Certificate of Authorization (COA) requirement. Operations “easier” in selected international airspace (e.g., Maldives).

# ICARE2010

International Conference on Airborne Research for the Environment, Toulouse, France October 2010



ICARE2010 brought together researchers from Australia, USA, Canada, Europe and other areas. Good discussions on International collaboration. Aircraft exhibition and instrument inter-comparison fly off that included the NSF C-130.

# Any Questions?

