

**AQUARIUS – PLANNING A
NSF FACILITIES REQUEST**

- NSF's Lower Atmosphere Observing Facilities (LAOF) are available on a competitive basis to all qualified scientists from universities, NCAR, and other U.S. government agencies.
- Any such scientists who require these facilities and associated services to carry out their research objectives are welcome to apply.
- All facility deployment is driven by
 - scientific merit,
 - the capabilities of a specific platform to carry out the proposed observations, and
 - facility scheduling for the requested time.



**Request Lower
Atmosphere
Observing
Facilities**

TO DATE

- AQUARIUS Team has submitted a letter of interest for a C-130 request

AQUARIUS | Air Quality Research in the Western US

- *Scientific focus:* Wintertime particulate matter in mountain basins
- *LAOF requested:* NSF/NCAR C-130
- *Lead Investigator:* Gannet Hallar (U. of Utah) et al.
- *Deployment dates:* Dec 2021–Feb 2022
- *Deployment location:* Salt Lake City, UT
- *NSF Science Program:* AGS/ PDM and Atmospheric Chemistry



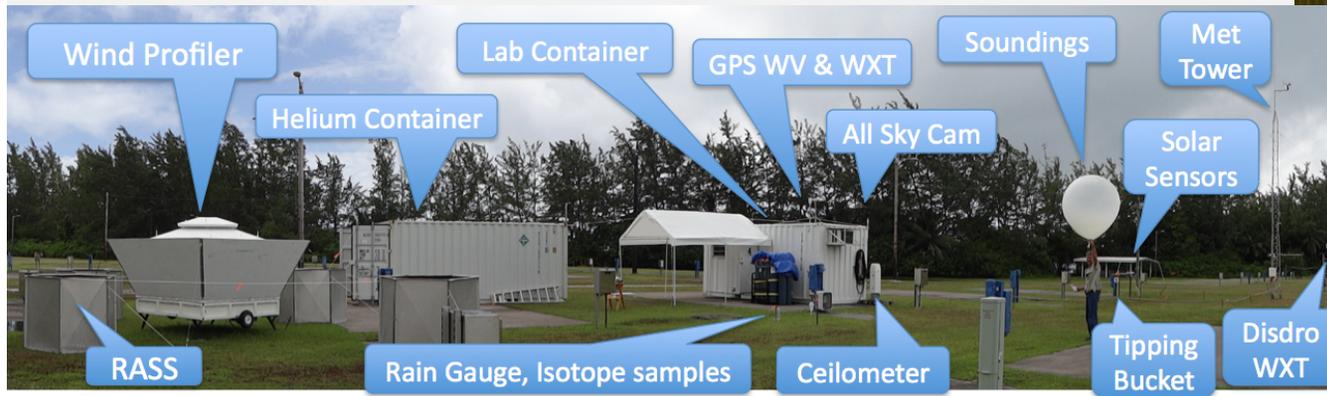
CAPABILITIES OF C-130

- 10-hour flight endurance
- 2,900 nautical mile range at up to 27,000 ft.
- Payload capacity of up to 13,000 lbs.



PLAN MOVING FORWARD

- Based on the response to this workshop, the Steering Committee is considering that AQUARIUS may fall within the “Large Project Category” as defined by the request process.
- The Steering Committee has been discussing proposing for additional facilities, if need is demonstrated from this workshop
 - University of Wyoming King Air
 - Integrated Sounding System
 - Others?



NEED FEEDBACK FROM GROUP WHAT TYPE OF REQUEST NEEDED?

"SMALL PROJECT" DEFINITION

The LAOF request process is determined on the basis of the complexity of the field component and the deployment costs. In general, small field campaigns display one or more of the following attributes:

- Domestic or "friendly" (as deemed by a review committee) foreign deployments
- Small investigator team and few individual science proposals ✘
- Involvement of a single or small number of LAOF
- Straight-forward deployment logistics
- Little to no interagency collaboration ✘
- LAOF deployment costs under \$1.25 Million

NEED FEEDBACK FROM GROUP WHAT TYPE OF REQUEST NEEDED?

"LARGE PROJECT" DEFINITION

The LAOF request process is determined on the basis of the complexity of the field component and the deployment costs. In general, large field campaigns display one or more of the following attributes:

- International and/or remote deployments 
- Significant international and/or interagency collaboration 
- Large investigator team and multiple science proposals 
- Involvement of multiple LAOF, especially aircraft that require operations coordination 
- Multiple science objectives 
- Difficult deployment logistics 
- Lengthy field activities 
- LAOF deployment costs in excess of \$1.25 Million

Documentation Requirements	Large Projects	Small Projects
1. Letter of Intent (LOI)	✓	✓
2. Scientific Program Overview (SPO)	✓	
3. Experimental Design Overview (EDO)	✓	
4. NSF Scientific Grant Proposal	✓	✓
5. Facility Request Form(s)	✓	✓
6. Science & Experiment Design Overview Presentation Slides	✓	✓

SPO and EDO may only list two PIs:

AQUARIUS

A. Gannet Hallar, U. of Utah
Chris Cappa, U. of California, Davis

RAF Global Planning Chart : 2021

2021 Planning Chart
NCAR / EOL Research Aviation Facility

2/26/2019

Aircraft	Project	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
C130													
LOI Flt Hrs 120?	AQUARIUS Hallar Utah										15		15

2022 Planning Chart
NCAR / EOL Research Aviation Facility

2/26/2019

Aircraft	Project	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
C130													
LOI Flt Hrs 120?	AQUARIUS Hallar Utah		15 28										

KEY:	Upload & Download	Approved	Field Deployment	Approved	Flexible Tasks / PKG	Mandatory Limit	ANNUAL ----->						
		Requested		Requested									