GEORGIA INSTITUTE OF TECHNOLOGY — OFFICE OF CONTRACT ADMINISTRATION

PROJECT ADMINISTRATION DATA SHEET

[X] ORIGINAL [ ] REVISION NO. _____

Project No./(Center No.) G-35-689 (R6246-0A0) GTRC/~~GIT~~ DATE 12/ 12 /86

Project Director: R.G. Roper ~~School~~/Lab Geophysical Science

Sponsor: National Science Foundation

Agreement No.: Grant No. ATM-8613336

Award Period: From 12/1/86 To 5/31/88* (Performance) 8/31/88 Reports

Sponsor Amount:

	New With This Change	Total to Date
Contract Value: $		$ 68,800
Funded: $		$ 68,800

Cost Sharing No./(Center No.) G-35-374 (F6246-0A0) Cost Sharing: $ 695

Title: Radio Meteor Winds Over Atlanta (34 degrees N, 84 degrees W) August, 1974 - October, 1986

ADMINISTRATIVE DATA

OCA Contact John B. Schonk ext. 4820

1) Sponsor Technical Contact:

Brian A. Tinsley
National Science Foundation
AEO/ATM
Washington, DC 20550

202/357-7619

2) Sponsor Issuing Office:

Stanley C. Dobson
National Science Foundation
DGC/AEO
Washington, DC 20550

202/357-9630

Military Security Classification: _____
(or) Company/Industrial Proprietary: _____

ONR Resident Rep. is ACO: _____ Yes _____ No
Defense Priority Rating: _____

RESTRICTIONS

See Attached NSF Supplemental Information Sheet for Additional Requirements.

Travel: Foreign travel must have prior approval — Contact OCA in each case. Domestic travel requires sponsor approval where total will exceed greater of $500 or 125% of approved proposal budget category.

Equipment: Title vests with GIT

COMMENTS:

*Includes a 6 month unfunded flexibility period.
No funds may be expended after 5/31/88.

DEC 1986 RECEIVED SUPPORT SERVICE OCA

COPIES TO: SPONSOR'S I.D. NO. 02.107.000.86.112

Project Director

12/88

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT

Date 2/3/89

Project No. G-35-689 Center No. R6246-0A0

Project Director R.G. Roper School/Lab Geo. Sci.

Sponsor National Science Foundation

Contract/Grant No. ATM-8613336 GTRC XX GIT ____

Prime Contract No. ____

Title Radio Meteor Winds Over Atlanta (34 degrees N, 84 degrees W) August 1974-October 1986

Effective Completion Date 5/31/88 (Performance) 8/31/88 (Reports)

Closeout Actions Required:

X None
___ Final Invoice or Copy of Last Invoice
___ Final Report of Inventions and/or Subcontracts
___ Government Property Inventory & Related Certificate
___ Classified Material Certificate
___ Release and Assignment
___ Other ____

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Includes Subproject No(s). ____

Subproject Under Main Project No. ____

Continues Project No. ____ Continued by Project No. ____

Distribution:

X Project Director
X Administrative Network
X Accounting
X Procurement/GTRI Supply Services
X Research Property Management
___ Research Security Services
[redacted]
X GTRC
X Project File
X Contract Support Division (OCA)
___ Other ____

Georgia Institute of Technology
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA
ATLANTA, GEORGIA 30332
SCHOOL OF GEOPHYSICAL SCIENCES
404/894-3893

September 14, 1987

Dr. Brian Tinsley
Atmospheric Sciences (Aeronomy)
National Science Foundation
Room 644
1800 G Street NW
Washington, D.C. 20550

Annual Technical Letter, Grant No. ATM 8613336, "Radio Meteor Winds Over Atlanta (34°N, 84°W), August, 1974 - October, 1986"

Dear Brian:

Attached is the final "Schedule of Operation" of the Georgia Tech Radio Meteor Wind Facility. Whereas the final date of operation had been set as October, 1986, the system was left running with no maintenance and the data tape being changed but once a week, until the recording logic finally died in April, 1987. The transmitter continues to run without maintenance and at no cost to NSF; this is of benefit to local amateur radio astronomers who are using it as a source for meteor influx count rates.

Thus the data base undergoing climatological analysis now reads "August, 1974 - April, 1987". A complete set of weekly to monthly means, depending on data rates, for prevailing, diurnal and semidiurnal winds has been computed (and will be published as a technical report), and the data base is currently being analyzed, using both spectral and periodogram techniques, to determine the interannual variability, to date based on annual and semiannual amplitudes of the prevailing winds and tides, with a projected extension to two day waves, and longer period oscillations (planetary waves) of a few days up to some thirty day periods. This portion of the work has not proceeded as proposed, because of a recently discovered sensitivity of the analysis program to aliasing, resulting in the need to reanalyze some of the data. The completion of these climatologies is the subject of a proposal for renewal of this current grant.

With the demise of the Georgia Tech Radio Meteor Wind Facility, mesopause level winds over Atlanta will not be measured during the upcoming CEDAR initiative. However, the climatology being produced will be of use in placing in perspective the results of the "snapshots" produced by the CEDAR campaigns.

Yours sincerely,

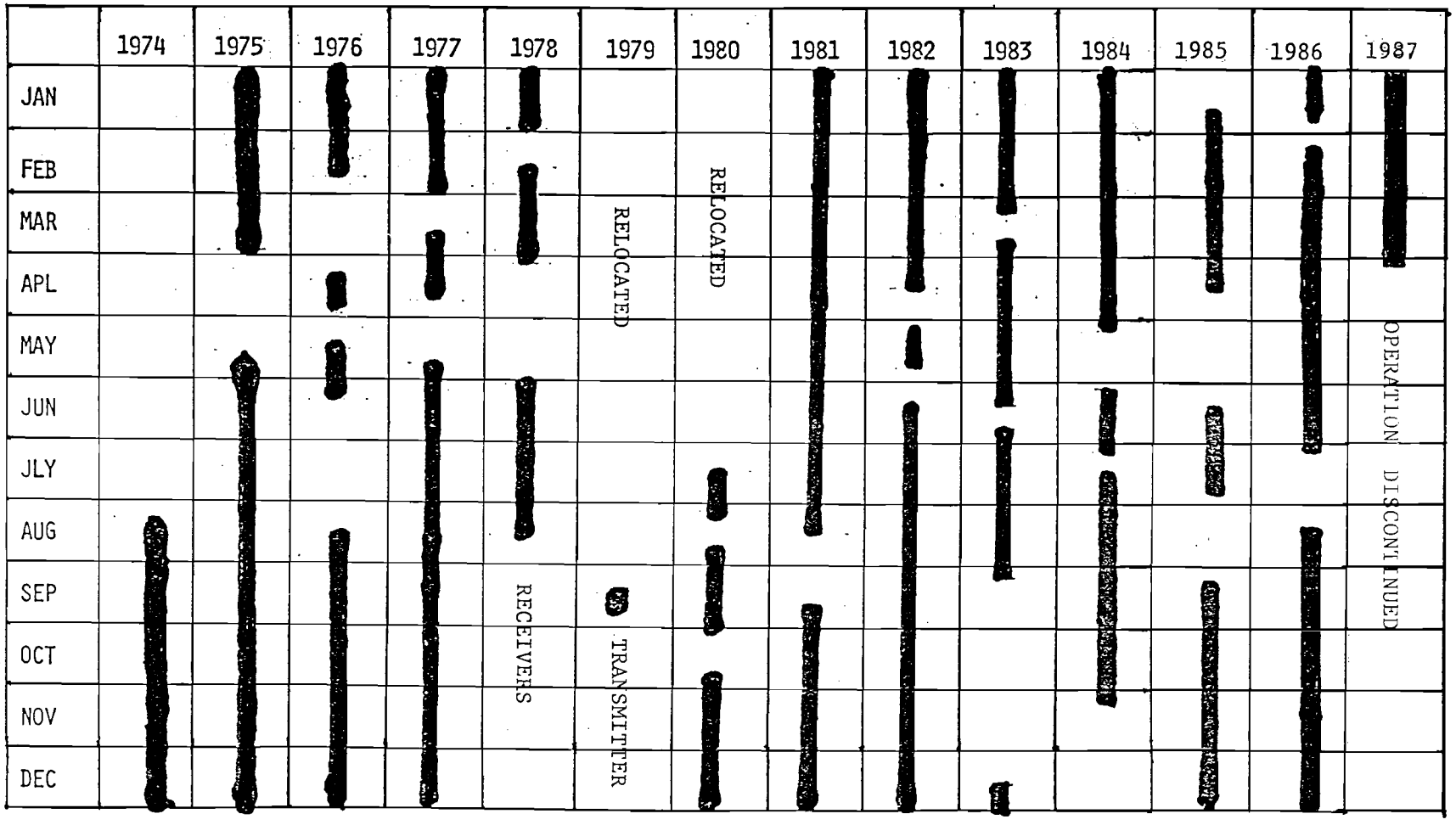
Professor R. G. Roper

RGR/ksp

Enclosure

AN EQUAL EDUCATION AND EMPLOYMENT OPPORTUNITY INSTITUTION

OPERATING SCHEDULE OF THE GEORGIA TECH RADIO METEOR WIND FACILITY



GAP denotes an interval in excess of two weeks

G-35-689

APPENDIX VII

NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

FINAL PROJECT REPORT
NSF FORM 98A

PLEASE READ INSTRUCTIONS ON REVERSE BEFORE COMPLETING

PART I—PROJECT IDENTIFICATION INFORMATION

1. Institution and Address	2. NSF Program (Aeronomy)	3. NSF Award Number
Georgia Institute of Technology Georgia Tech Research Corporation Atlanta, GA 30332-0415	Atmospheric Sciences	ATM-8613336
	4. Award Period From 12-01-86 To 5-31-88	5. Cumulative Award Amount $68,800

6. Project Title
Radio Meteor Winds Over Atlanta (34°N, 84°W), August, 1974-April, 1987

PART II—SUMMARY OF COMPLETED PROJECT *(FOR PUBLIC USE)*

The object of this project as originally defined was to produce a climatology of the mesopause level winds over Atlanta for the period August, 1974 (when the Georgia Tech Radio meteor facility became routinely operational) through October, 1986, when maintenance of the facility ceased. Since no major equipment faults occurred until April, 1987, when a major transmitter fault resulted in the final shut-down of the system, the available data base extends through this period.

A complete set of weekly to monthly means, depending on the data rates, for zonal and meridional prevailing, diurnal and semidiurnal winds over the height range 80-100 km has been computed, and is being prepared for publication as a technical report. This data indicates that Atlanta is often subject to equatorial circulation at mesopause heights, in contrast to stations at similar latitudes located in Asia and the Far East.

Significant correlations have been found over this one solar cycle period between both zonal (-0.70) and meridional (+0.98) wind gradients with height at the mesopause and the solar sunspot number for those winters with a westerly phase for the stratospheric quasibiennial oscillation.

PART III—TECHNICAL INFORMATION *(FOR PROGRAM MANAGEMENT USES)*

1. ITEM *(Check appropriate blocks)*	NONE	ATTACHED	PREVIOUSLY FURNISHED	TO BE FURNISHED SEPARATELY TO PROGRAM	
				Check (✓)	Approx. Date
a. Abstracts of Theses	X				
b. Publication Citations	X				
c. Data on Scientific Collaborators	X				
d. Information on Inventions	X				
e. Technical Description of Project and Results				X	Sept '88
f. Other *(specify)*					

2. Principal Investigator/Project Director Name *(Typed)*	3. Principal Investigator/Project Director Signature	4. Date
R. G. Roper		5/10/88