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SPACE SCIENCE AND ENGINEERING CENTER

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March 2, 1983

National Aeronautics & Space Administration
Goddard Space Flight Center
Attn: Mr. Jim Greaves - Code 910
Greenbelt, MD 20771

Dear Mr. Greaves,

Please find attached the final report for NASA Contract NAS5-26540 (UW #144Q738) entitled "Continued Technical Support to the FGGE Special Effort Program". If you have any questions on this report please call me at 608-262-3755.

Thank you for your continued support.

Sincerely,

Frederick R. Mosher
Dr. Fred Mosher
Program Manager

6/MISC2/36

xc: Mr. R. Erickson-UW
Mr. Roger L. Engebretson - ONR
Graphics Arts Branch - NASA Code 253
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(NASA-CR-175214) THE SPECIAL EFFORT PROCESSING OF FGGE DATA Final Report (Wisconsin Univ.) 4 p HC A02/MF A01 CSCL 05B

N84-19986

Unclas G3/43 12504

NASA CR-175214

Final Report

on

Contract NAS5-26540

for

The Special Effort Processing of FGGE Data

Prepared by
the
Space Science and Engineering Center
University of Wisconsin-Madison
1225 West Dayton Street
Madison, Wisconsin 53706



for
The National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

February 1983

The Special Effort was an attempt at enhancing the basic FGGE level IIb data set. It focused on removing deficiencies in the objective methods of quality assurance, removing deficiencies in certain types of operationally produced satellite soundings, and removing deficiencies in certain types of operationally produced cloud tracked winds. The Special Effort was a joint NASA-NOAA-University of Wisconsin effort. The University of Wisconsin installed an interactive McIDAS capability on the Amdahl computer at the Goddard Laboratory of Atmospheric Sciences (GLAS) with one interactive video terminal at Goddard and the other at the World Weather Building. With this interactive capability a joint processing effort was undertaken to reprocess certain FGGE data sets. NOAA produced a specially edited data set for the special observing periods (SOPs) of FGGE. NASA produced an enhanced satellite sounding data set for the SOPs while the University of Wisconsin produced an enhanced cloud tracked wind set from the Japanese geostationary satellite images.

Under contract NAS 5-25148 the Space Science and Engineering Center (SSEC) of the University of Wisconsin-Madison produced enhanced cloud-tracked winds for the Winter Monex (December 1978) period and the First FGGE Special Observing Period (January-February 1979). This work was started on 4 January 1980 and completed on 7 August 1980. Under contract NAS 5-26540 SSEC produced enhanced cloud drift winds for the second FGGE Special Observing Period (May-June 1979). Work on these data sets was completed on 12 March 1982. Because of a number of computer problems [resulting in unanticipated expenses], it was not possible to totally complete the entire SOP-II period. We were directed by the NASA technical monitor to stop processing with the June 27, 1979 data set. The following is the number of enhanced Special Effort cloud wind measurements made for

each of the five months and the number of measurements originally made by the operational FGGE processing.

Month	Number of FGGE Operational Winds	Number of Special Effort Enhanced winds
December	18,600	86,475
January	28,662	72,530
February	17,584	60,473
May	22,723	86,669
June (through 27th)	18,549	73,847

As can be seen by the above table, there was a significent increase in cloud wind yield with the Special Effort.

The cloud wind data sets were written onto computer tape in the FGGE Level IIb format and shipped to Goddard Space Flight Center (Jim Edelman) for inclusion in the Special Effort data set. In addition copies were sent to Sweden's Level IIb processing center (Stan Orrhagen), to the U. S. FGGE archive at Ashville (Bob Williams) and to various researchers including K. Krishnamurti at Flordia State, T. Murakami at the University of Hawaii, W. Bourke at the Australian Numerical Meteorology Research Center and T. Hamada at the Japanese Meteorological Center. The Special Effort data is

available to researchers via the FGGE archive at Ashville. Inquiries should be addressed to:

Robert Williams
WDC-A
National Climate Center
Federal Building
Ashville, N.C. 208801
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