

QC  
879.5  
.U4  
no.69

ical Memorandum NESS 69



---

PUBLICATIONS AND FINAL REPORTS ON  
CONTRACTS AND GRANTS, NESS - 1974

Washington, D.C.  
April 1975



---

**noaa**

NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION

/ National Environmental  
Satellite Service



NOAA TECHNICAL MEMORANDUMS

National Environmental Satellite Service Series

The National Environmental Satellite Service (NESS) is responsible for the establishment and operation of the environmental satellite systems of NOAA.

NOAA Technical Memorandums facilitate rapid distribution of material that may be preliminary in nature and so may be published formally elsewhere at a later date. Publications 1 through 20 and 22 through 25 are in the earlier ESSA National Environmental Satellite Center Technical Memorandum (NESCTM) series. The current NOAA Technical Memorandum NESS series includes 21, 26, and subsequent issuances.

Publications listed below are available from the National Technical Information Service, U.S. Department of Commerce, Sills Bldg., 5285 Port Royal Road, Springfield, Va. 22151. Prices on request. Order by accession number (given in parentheses). Information on memorandums not listed below can be obtained from Environmental Data Service (D831), 3300 Whitehaven St., NW, Washington, D.C. 20235.

NOAA Technical Memorandums

- NESS 31 Publications and Final Reports on Contracts and Grants, 1970. NESS, December 1971, 6 pp. (COM-72-10303)
- NESS 32 On Reference Levels for Determining Height Profiles From Satellite-Measured Temperature Profiles. Christopher M. Hayden, December 1971, 15 pp. (COM-72-50393)
- NESS 33 Use of Satellite Data in East Coast Snowstorm Forecasting. Frances C. Parmenter, February 1972, 21 pp. (COM-72-10482)
- NESS 34 Chromium Dioxide Recording--Its Characteristics and Potential for Telemetry. Florence Nesh, March 1972, 10 pp. (COM-72-10644)
- NESS 35 Modified Version of the Improved TIROS Operational Satellite (ITOS D-G). A. Schwalb, April 1972, 48 pp. (COM-72-10547)
- NESS 36 A Technique for the Analysis and Forecasting of Tropical Cyclone Intensities From Satellite Pictures. Vernon F. Dvorak, June 1972, 15 pp. (COM-72-10840)
- NESS 37 Some Preliminary Results of 1971 Aircraft Microwave Measurements of Ice in the Beaufort Sea. Richard J. DeRycke and Alan E. Strong, June 1972, 8 pp. (COM-72-10847)
- NESS 38 Publications and Final Reports on Contracts and Grants, 1971. NESS, June 1972, 7 pp. (COM-72-11115)
- NESS 39 Operational Procedures for Estimating Wind Vectors From Geostationary Satellite Data. Michael T. Young, Russell C. Doolittle, and Lee M. Mace, July 1972, 19 pp. (COM-72-10910)
- NESS 40 Convective Clouds as Tracers of Air Motion. Lester F. Hubert and Andrew Timchalk, August 1972, 12 pp. (COM-72-11421)
- NESS 41 Effect of Orbital Inclination and Spin Axis Attitude on Wind Estimates From Photographs by Geosynchronous Satellites. Linwood F. Whitney, Jr., September 1972, 32 pp. (COM-72-11499)
- NESS 42 Evaluation of a Technique for the Analysis and Forecasting of Tropical Cyclone Intensities From Satellite Pictures. Carl O. Erickson, September 1972, 28 pp. (COM-72-11472)
- NESS 43 Cloud Motions in Baroclinic Zones. Linwood F. Whitney, Jr., October 1972, 6 pp. (COM-73-10029)
- NESS 44 Estimation of Average Daily Rainfall From Satellite Cloud Photographs. Walton A. Follansbee, January 1973, 39 pp. (COM-73-10539)
- NESS 45 A Technique for the Analysis and Forecasting of Tropical Cyclone Intensities From Satellite Pictures (Revision of NESS 36). Vernon F. Dvorak, February 1973, 19 pp. (COM-73-10675)
- NESS 46 Publications and Final Reports on Contracts and Grants, 1972. NESS, April 1973, 10 pp. (COM-73-11035)

(Continued on inside back cover)

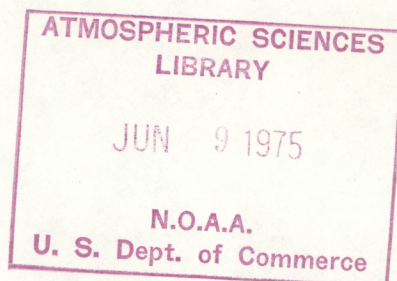


A  
QC  
879.5  
U4  
no. 69  
C 22

NOAA Technical Memorandum NESS 69

PUBLICATIONS AND FINAL REPORTS ON  
CONTRACTS AND GRANTS, NESS - 1974

Washington, D.C.  
April 1975

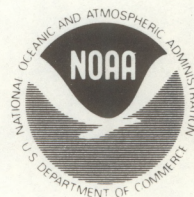


UNITED STATES  
DEPARTMENT OF COMMERCE

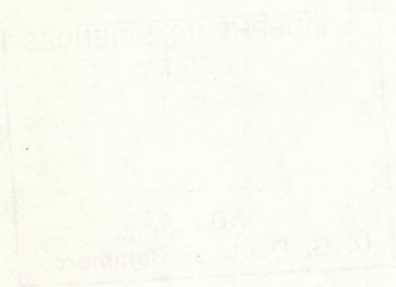
NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
Robert M. White, Administrator

*L.V. S.*

National Environmental  
Satellite Service  
David S. Johnson, Director









## C O N T E N T S

|   |    |
|---|----|
| Preface.....  | iv |
| Publications by Staff Members, NESS, 1974.....                            | 1  |
| Final Reports on Contracts and Grants<br>Sponsored by the NESS, 1974..... | 6  |



## Preface

This memorandum is one of a series containing lists of articles and reports published by or for the National Environmental Satellite Service. To date the series consists of NESC TM 1 (for 1958-66), 2 (1967), 11 (1968), and 22 (1969); and NOAA TM NESS 31 (1970), 38 (1971), 46 (1972) and 55 (1973). This issue lists items published or received during 1974 and includes items omitted from previous issues.

In this memorandum many entries are followed by an identification enclosed in parentheses. Use of these numbers will facilitate ordering copies of a report from the National Technical Information Service (NTIS--see inside cover) or from the Superintendent of Documents, U. S. Government Printing Office. Items with identification numbers prefaced by PB or CO, are ordered from the NTIS; items identified by a number and a price, e.g., (COM-7100132) (GPO \$0.50) are available in microfiche from NTIS, or in hard copy at the price shown, from the Superintendent of Documents. Reprint copies of articles listed in publication by Staff Members, NESS, will be furnished free of charge as long as supplies are on hand; copies of books listed must be obtained from the publishers; copies of reports on contracts or grants will be supplied to qualified requesters when available.



PUBLICATIONS BY STAFF MEMBERS, NESS  
1974

Bristor, Charles L., and Pichel, Walter, "3-D Cloud Viewing using Overlapped Pictures from Two Geostationary Satellites," Bulletin of the American Meteorological Society, Vol. 55, No. 11, Nov. 1974, pp. 1353-1355.

Braun, Charles, and Leidecker, Henning, "Rotation and Vibration Spectra For the H<sub>2</sub>O Dimer: Theory and Comparison with Experimental Data," Journal of Chemical Physics, Vol. 61, No. 18, Oct. 1974, pp. 3104-3113.

Crosby, David S., and Weinreb, Michael P., "Effect of Incorrect Atmospheric Statistics on the Accuracy of Temperature Profiles Derived from Satellite Measurements," Journal of Statistical Computations and Simulations, Vol. 3, No. 1, Jan. 1974, pp. 41-51.

Cochran, Donald R., "Picture of the Month - From Pictures to Winds," Monthly Weather Review, Vol. 102, No. 2, Feb. 1974, pp. 191-193.

Chen, Y. M., Woolf, Harold M., and Smith, William L., "Vertical Resolution of Temperature Profiles for High Resolution Infrared Radiation Sounder (HIRS)," NOAA Technical Report NESS 67, Jan. 1974, 14 pp. (COM-74-50230).

Erickson, Carl O., "Use of Geostationary-Satellite Cloud Vectors to Estimate Tropical Cyclone Intensity," NOAA Technical Memorandum NESS 59, Sept. 1974, 37 pp. (COM-74-11762/AS).

Erickson, Carl O., "Picture of the Month - A Jet Stream Cirrus Shield," Monthly Weather Review, Vol. 102, No. 3, Mar. 1974, pp. 260-261.

Ernst, John A., "Thunderstorm Fireworks Start Earth on the Fourth of July," Weatherwise, Vol. 27, No. 5, Oct. 1974, pp. 214-215.

Ernst, John A., "African Dust Layer Sweeps into the Southwest North Atlantic Area," Bulletin of the American Meteorological Society, Vol. 55, No. 11, Nov. 1974, pp. 1352-1353.

Ernst, John A., "The Changing Scene: SMS-1 Moves Westward," Weatherwise, Vol. 27, No. 6, Dec. 1974, pp. 264-265.

Fritz, Sigmund, "On the Causes of the Annual and Semi-Annual Variations of Radiance (or Temperature) from the Tropical Stratosphere," Journal of the Atmospheric Sciences, Vol. 31, No. 3, Apr. 1974, pp. 813-833.

Fritz, Sigmund, "Satellite Observations in the Tropics," Preprint Volume (Part 1), International Tropical Meteorology Meeting, Jan. 31-Feb. 7, 1974, Nairobi, Kenya, American Meteorological Society, pp. 9-10.



Fritz, Sigmund, "Presidential Address: Uses of Satellite Observations In Meteorology," Report of Proceedings, First Special Assembly, Melbourne, Australia, Jan. 1974, International Association of Meteorology and Atmospheric Physics, (IUGG) (IAMAP), Publication No. 15a, Toronto. Canada, 1974, pp. 13-29.

Fortuna, Joseph J., and Hambrick, Larry N., "Operation of the NOAA Polar Satellite System," NOAA Technical Memorandum NESS 60, Nov. 1974, 127 pp.

Gray, Thomas I., Jr., and Oort, Abraham H., "Interannual Variations in Convective Activity over the GATE Area," Bulletin of the American Meteorological Society, Vol. 55, No. 3, Mar. 1974, pp. 220-226.

Grody, Norman C., "Dependence of Antenna Temperature on the Polarization of Emitted Radiation for a Scanning Microwave Radiometer," NOAA Technical Report NESS 68, Jan. 1974, 11 pp. (COM-74-50341/AS).

Gruber, Arnold, "The Wavenumber-Frequency Spectra of Satellite-Measured Brightness in the Tropics," Journal of Atmospheric Sciences, Vol. 31, No. 6, Sept. 1974, pp. 1675-1680.

Gruber, Arnold, "On Streamline Patterns and Momentum Transports," Journal of the Atmospheric Sciences, Vol. 31, No. 4, May 1974, pp. 1161-1163.

Gurka, James J., and Oliver, Vincent J., "Fog Persistence Under a Cirrus Band," Monthly Weather Review, Vol. 102, No. 12, Dec. 1974, pp. 869-870.

Hoppe, Eugene R., and Ruiz, Abraham L., (Editors), "Catalog of Operational Satellite Products," NOAA Technical Memorandum NESS 53, Mar. 1974, 91 pp. (COM-74-11339/AS).

Hubert, Lester F., and Whitney, Linwood F., Jr., "Compatibility of Low-Cloud Vectors and Rawins for Synoptic Scale Analysis," NOAA Technical Report NESS 70, Oct. 1974, 26 pp. (COM-75-50065/AS).

Hubert, Lester F., "Compatibility of Rawins and Satellite Winds," Pre-print Vol. (Part 1), International Tropical Meteorology Meeting, Jan. 31-Feb. 7, 1974, Nairobi, Kenya, American Meteorological Society, Jan. 1974.

Hussey, W. John, "The Geostationary Environmental Satellite System," Proceedings of EASCON, IEEE 1974 Electronics and Aerospace Systems Conference, Oct. 7-9, 1974, Washington, D. C. Aerospace and Electronic Systems Society, IEEE Washington, Section pp. 490-497.

Johnston, Edward C., "Picture of the Month - Rapid Frontal Wave Development," Monthly Weather Review, Vol. 102, No. 11, Nov. 1974, pp. 804-806.

Johnson, David S., "The Impact of Outer-Space Technology on the Developments in Meteorology," Tenth Anniversary of the World Weather Watch, WMO-No. 342, Geneva, May 26, 1972, pp. 11-32.



Krueger, Arthur F., and Winston, Jay S., "A Comparison of the Flow Over the Tropics During Two Contrasting Circulation Regimes," Journal of the Atmospheric Sciences, Vol. 31, No. 2, Mar. 1974, pp. 358-370.

La Violette, Paul E., and Strong, Alan E., "Infrared and Visible Imagery of the Atlantic Off the East Coast of the United States Following the March 1973 Monster of the Month," Mariners Weather Log, Vol. 18, No. 3, May 1974, pp. 152-153.

Ludwig, George H., "The NOAA Operational Environmental Satellite System-Status and Plans," Preprint Volume, 6th Conference on Aerospace and Aeronautical Meteorology, Nov. 12-15, 1974, El Paso, Tex. American Meteorological Society, pp. 137-145.

Ludwig, George H., "The Future Polar Orbiting Environmental Satellite System," Proceedings of EASCON, IEEE 1974 Electronics and Aerospace Systems Conference, Oct. 7, 8, 9, 1974, Washington, D. C. Aerospace and Electronic Systems Society, IEEE Washington, Section, pp. 498-502.

McClain, E. Paul, "Environmental Earth Satellites for Oceanographic-Meteorological Studies of the Bering Sea," Oceanography of the Bering Sea, Institute of Marine Science, University of Alaska, 1974, pp. 579-593.

McClain, E. Paul, "Some New Satellite Measurements and Their Application to Sea Ice Analysis in the Arctic and Antarctic," Advance Concepts and Techniques in the Study of Snow and Ice Resources ISBN 0-309-02235-5 National Academy of Sciences, 1974, pp. 457-466.

McClain, E. Paul, "Earth Satellite Measurements as Applied to Sea Ice Problems," COSPAR, Approaches to Earth Survey Problems Through Use of Space Techniques, Proceedings of the Symposium Held in Constance, F.R.G. May 23-25, 1973, Akademie-Verlag-Berlin, Dec. 1974, pp. 149-163.

Nagle, John J., "A Method of Converting the SMS/GOES Wefax Frequency (1691 MHz) to the Existing APT/WEFAX Frequency (137 MHz)," NOAA Technical Memorandum NESS 54, Apr. 1974, 18 pp. (COM-74-11294/AS).

National Environmental Satellite Service, "Publications and Final Reports on Contracts and Grants, 1973," NOAA Technical Memorandum NESS 55, Apr. 1974, 8 pp. (COM-74-11108/AS).

National Environmental Satellite Service, "Satellite Activities of NOAA 1973," National Oceanic and Atmospheric Administration June 1974, 11 pp.

Paramenter, Frances C. "Picture of the Month - Cirrus and Upslope Cloud Patterns," Monthly Weather Review, Vol. 102, No. 1, Jan. 1974, pp. 88-90.

Quiroz, R. S., Weinreb, Michael P., and Wark, David Q., "Operational Radiance Maps of the Stratosphere, with Preliminary Details of a Major Stratospheric Warming," COSPAR, Space Research XIV, Proceedings of Open Meetings of Working Groups of the Sixteenth Plenary Meeting of COSPAR, Constance, F.R.G. May 23-June 5, 1973, Akademie-Verlag-Berlin, 1974, pp.31-37.



Rao, P. Krishna, "An Evaluation of May 1971 Satellite-Derived Sea Surface Temperatures for the Southern Hemisphere," NOAA Technical Report NESS 69, Apr. 1974, 13 pp. (COM-74-50643/AS).

Rao, P. Krishna, and McClain, R. Paul, "Images From the NOAA-3 Very High Resolution Radiometer Over the North Sea and Adjoining Countries," Weather, Dec. 1974, pp. 436-442.

Smith, Arthur H. Jr., "What Are You Looking At When You Say This Area Is A Suspect Area For Severe Weather?," NOAA Technical Memorandum NESS 56, Feb. 1974, 15 pp. (COM-74-11333/AS).

Smith, William L., Woolf, Harold M., Abel, Peter G., Hayden, Christopher M., Chalfant, Michael, and Grody, Norman, "Nimbus-5 Sounder Data Processing System Part I: Measurement Characteristics and Data Reduction Procedures," NOAA Technical Memorandum NESS 57, June 1974, 99 pp. (COM-74-11436/AS).

Smith, William L., Staelin, D. H., and Houghton, J. T., "Vertical Temperature Profiles From Satellites: Results From Second Generation Instruments Aboard Nimbus 5," COSPAR, Approaches to Earth Survey Problems Through Use of Space Techniques, Proceedings of the Symposium Held in Constance, F.R.G. May 23-25, 1973, Akademie-Verlag-Berlin, Dec. 1974, pp. 123-143.

Smith, William L., and Woolf, Harold M., "An Intercomparison of Meteorological Parameters Derived From Radiosonde and Satellite Vertical Temperature Cross Sections," NOAA Technical Report NESS 71, Nov. 1974, 13 pp.

Smith, William L., Hilleary, Donald T., Fischer, J. C., Howell, Hugh B., and Woolf, Harold M., "The Nimbus-5 ITPR Experiment," Applied Optics, Vol. 13, No. 3, Mar. 1974, pp. 499-506.

Stowe, Larry L. Jr., "Effects of Particulate Matter on the Radiance of Terrestrial Infrared Radiation: Results," Journal of the Atmospheric Sciences, Vol. 31, No. 3, Apr. 1974, pp. 755-767.

Strong, Alan E., "Remote Sensing of Algal Blooms by Aircraft and Satellite in Lake Erie and Utah Lake," Remote Sensing of Environment, Vol. 3, No. 2, 1974, pp. 99-107.

Strong, Alan E., "New Sensor on NOAA-2 Satellite Monitors. The 1972-73 Great Lakes Ice Season," Remote Sensing and Water Resources Management Proceedings No. 17, Burlington, Ontario, June 1973, pp. 171-178.

Strong, Alan E., DeRycke, Richard J., and Stumpf, Harry G., "Extensive Area of Reduced Waves Leeward of the Lesser Antilles," Geophysical Research Letters, Vol. 1, No. 1, May 1974, pp. 47-49.

Strong, Alan E., Stumpf, Harry G., Hart, Julia L., and Prichard, John A., "Extensive Summer Upwelling On Lake Michigan During 1973 Observed by NOAA-2 and ERTS 1 Satellites," Proceedings of the Ninth International Symposium on Remote Sensing of Environment, Apr. 15-19, 1974, Environmental Research Institute of Michigan, Ann Arbor, Michigan, June 1974, pp. 923-932.



Stumpf, Harry G., "A Satellite-Derived Experimental Gulf Stream Analysis," Mariners Weather Log, Vol. 18, No. 3, May 1974, pp. 149-152.

Stumpf, Harry G., and Strong, Alan E., Short Communication: "ERTS-1 Views an Oil Slick?," Remote Sensing of Environment, Vol. 3, No. 1, Apr. 1974, pp. 87-90.

Togstad, William E., and Horn Lyle, H., "An Application of the Satellite Indirect Soundings Technique in Describing the Hyperbaroclinic Zone of a Jet Streak," Journal of Applied Meteorology, Vol. 13, No. 2, Mar. 1974, pp. 264-276.

Wark, David Q., "Infrared Remote Soundings of the Atmosphere From Space," International Congress of Space Benefits, Vol. 30, Advances in the Astronautical Sciences, American Astronautical Society, Tarzana, Calif., 1973, pp. 491-496.

Wark, David Q., and Weinreb, Michael P., "Derivation of Tropospheric Water Vapor Profiles From Satellite Radiances," Preprint Volume, 6th Conference on Aerospace and Aeronautical Meteorology, Nov. 12-15, 1974, El Paso, Texas American Meteorological Society, 1974, pp. 22-225.

Wark, David Q., et al., "Aerological Soundings of the Atmosphere from NOAA-2 Data for Operational Systems," COSPAR, Approaches to Earth Survey Problems Through Use of Space Techniques, Academie-Verlag-Berlin, 1974, pp. 463-467.

Wark, David Q., Lienesch, James H., and Weinreb, Michael P., "Satellite Observations of Atmospheric Water Vapor," Applied Optics, Vol. 13, Mar. 1974, pp. 507.

Weinreb, Michael P., and Fleming, Henry, "Empirical Radiance Corrections: A Technique to Improve Satellite Soundings of Atmospheric Temperature," Geophysical Research Letters, Vol. 1, No. 7, Nov. 1974, pp. 298-301.

Weiss, Carl E., and Purdom, James F. W., "Picture of the Month - Effect of Early-Morning Cloudiness on Squall-Line Activity," Monthly Weather Review, Vol. 102, No. 5, May 1974, pp. 400-402.

Wiesnet, Donald R., McGinnis, David F., Prichard, John R., "Mapping of the 1973 Mississippi River Floods by the NOAA-2 Satellite," Water Resources Bulletin, Vol. 10, No. 5, Oct. 1974, pp. 1040-1049.

Weisnet, Donald R., "The Role of Satellites in Snow and Ice Measurements," NOAA Technical Memorandum NESS 58, Aug. 1974, 12 pp. (COM-74-11747/AS).



FINAL REPORTS ON CONTRACTS AND GRANTS  
SPONSORED BY THE NESS 1974

Arnold, James E., and Thompson, Aylmer, H. "On the Relations Between Sea-Surface Temperature Gradients and the Structure of Cloud Systems Associated with Tropical Disturbances," Final Report under NOAA Contract No. E-28-70 (N) TAMRF Project 688, Texas A & M Research Foundation, Sept. 30, 1974, 59 pp. (COM-75-10084/AS).

Aronson, J. R., von Thuna, P. C. and Butler, J. F., "Tunable Diode Laser High Resolution Spectroscopic Measurements of the  $\gamma_2$  Vibration of Carbon Dioxide," Final Report under NOAA Contract No. 3-35386, ADL Reference No., C-76028, Arthur D. Little, Inc., Aug. 1974, 41 pp.

Barnes, James C., Bowley, Clinton J., and Cogan, James L., "Snow Mapping Applications of Thermal Infrared Data From the NOAA Satellite Very High Resolution Radiometer (VHRR)," Final Report under NOAA Contract No. 3-35385, ERT Document No. 0438F, Environmental Research and Technology, Inc. Nov. 1974, 72 pp. (COM-75-10273/AS).

Carver, Keith R., "UHF Multipath Phenomena in a Marine Environment," Report under NOAA Grant 04-4-158-41, Department of Electrical and Computer Engineering, New Mexico State University, Dec. 1974, 155 pp. (COM-75-10266/AS).

Chang, Yun-Mei, Tecson Jaime J., and Fujita, T. Theodore, "METRACOM System of Cloud-Velocity Determination From Geostationary Satellite Pictures," under NOAA-NESS Grant E-198-68(G) and NSF Grant 31589, SMRP Research Paper No. 110, Department of Geophysical Sciences, University of Chicago, July 1973, 29 pp. (COM-74-10038).

Davis, Paul A., "Atmospheric Transmittance Models for Infrared Radiometric Measurements," Final Report under NOAA Contract 3-35208, Stanford Research Institute, Mar. 1974, 82 pp. (COM-74-11295/AS).

Drayson, S. R., Bartman, F. L., Kuhn, W. R., and Tallamarju, R., "Feasibility of Satellite Measurement of Stratospheric Minor Constituents by Solar Occultation," Technical Report, ORA Project 011023 under NOAA Grant NG-10-72, University of Michigan, Oct. 1973, 108 pp. (COM-74-10720).

Fujita, T. Theodore, "Overshooting Thunderheads Observed from ATS and Learjet," under NOAA Grant 04-4-158-1 and NASA Grant NGR 14-001-008, SMRP Research Paper No. 117, Department of the Geophysical Sciences, The University of Chicago, Jan. 1974, 29 pp.

Fujita, T. Theodore, "Jumbo Tornado Outbreak of 3 April 1974," under NOAA-NESS Grant 04-4-158-1 and NASA Grant NGR 14-001-008, Weatherwise, Vol. 27, No. 3, June 1974, pp. 116-126. (COM-75-10013/AS).



Fujita, T. Theodore, and Forbes, Gregory, S., "Superbreak Tornadoes of April 3, 1974 as seen in ATS Pictures," under NOAA Grant 04-4-158-1 and NASA Grant NGR 14-001-008, Preprint Volume, Sixth Conference on Aerospace and Aeronautical Meteorology, Nov. 12-15, 1974, El Paso, Tex., American Meteorological Society, Nov. 1974, pp. 165-172.

Fujita, T. Theodore, Pearl, Edward W., and Shenk, William E., "Satellite-Tracked Cumulus Velocities," under NOAA Grant E-198-68G and NASA Grant NGR-14-001-008 and NSF Grant GA-31589, SMRP Research Paper No. 114, Department of Geophysical Sciences, University of Chicago, Dec. 1973, 20 pp.

Murakami, Takio, "Atmospheric Response to Heat Sources During July" Final Report under NOAA Grant No. NG 32-72, University of Hawaii, Aug. 1974, 50 pp. (COM-75-100026/AS).

Poe, G. A., Stogryn, A., Edgerton, A. T., and Ramseier, R. O., "Study of Microwave Emission Properties of Sea Ice," Final Report 1804FR-1 under NOAA Contract No. 3-35424, Aerojet Electrosystems Co., Jan. 1974, 136 pp. (COM-73-10272).

Ruprecht, Eberhard, and Gray, William M., "Analysis of Satellite-Observed Tropical Cloud Clusters," NOAA-NESS Grant 04-3-158-51, Colorado State University, Atmospheric Science Paper No. 219, May 1974, 91 pp. (COM-74-11369/AS).

Strand, Otto Neall, "Expected Accuracy of Tropopause Height and Temperature as Derived From Satellite Radiation Measurements," NOAA Technical Report ERL 295-WPL 28, under contract for NOAA-NESS, Dec. 1973, 67 pp.

Suomi, Verner E., Principal Investigator, "Studies of the Atmosphere Using Aerospace Probes," Annual Report 1973, under NOAA Grant NG-26-72, Space Science and Engineering Center, University of Wisconsin, April 1974, 271 pp. (COM-74-11626/AS).

Tripoli, Gregory, J., and Krishnamurti, T. N., "Low Level Flows Over the GATE Area During Summer 1972," Report No. 74-3, under NOAA-NESS Grant No. 04-3-158-67 and NSF Report Grant GA-178-22, Florida State University, July, 1974, 73 pp.

Wentz, Frank J. III, "The Effect of Surface Roughness on Microwave Sea Brightness Temperatures," Final Report under NOAA Contract 3-35345, Radiometric Technology, Inc., March 1974, 90 pp. (COM-74-11263/AS).



(Continued from inside front cover)

- NESS 47 Stratospheric Photochemistry of Ozone and SST Pollution: An Introduction and Survey of Selected Developments Since 1965. Martin S. Longmire, March 1973, 29 pp. (COM-73-10786)
- NESS 48 Review of Satellite Measurements of Albedo and Outgoing Long-Wave Radiation. Arnold Gruber, July 1973, 12 pp. (COM-73-11443)
- NESS 49 Operational Processing of Solar Proton Monitor Data. Louis Rubin, Henry L. Phillips, and Stanley R. Brown, August 1973, 17 pp. (COM-73-11647/AS)
- NESS 50 An Examination of Tropical Cloud Clusters Using Simultaneously Observed Brightness and High Resolution Infrared Data From Satellites. Arnold Gruber, September 1973, 22 pp. (COM-73-11941/4AS)
- NESS 51 SKYLAB Earth Resources Experiment Package Experiments in Oceanography and Marine Science. A. L. Grabham and John W. Sherman, III, September 1973, 72 pp. (COM 74-11740/AS)
- NESS 52 Operational Products From ITOS Scanning Radiometer Data. Edward F. Conlan, October 1973, 57 pp. (COM-74-10040)
- NESS 53 Catalog of Operational Satellite Products. Eugene R. Hoppe and Abraham L. Ruiz (Editors), March 1974, 91 pp. (COM-74-11339/AS)
- NESS 54 A Method of Converting the SMS/GOES WEFAX Frequency (1691 MHz) to the Existing APT/WEFAX Frequency (137 MHz). John J. Nagle, April 1974, 18 pp. (COM-74-11294/AS)
- NESS 55 Publications and Final Reports on Contracts and Grants, 1973. NESS, April 1974, 8 pp. (COM-74-11108/AS)
- NESS 56 What Are You Looking at When You Say This Area Is a Suspect Area for Severe Weather? Arthur H. Smith, Jr., February 1974, 15 pp. (COM-74-11333/AS)
- NESS 57 Nimbus-5 Sounder Data Processing System, Part I: Measurement Characteristics and Data Reduction Procedures. W.L. Smith, H. M. Woolf, P. G. Abel, C. M. Hayden, M. Chalfant, and N. Grody, June 1974, 99 pp. (COM-74-11436/AS)
- NESS 58 The Role of Satellites in Snow and Ice Measurements. Donald R. Wiesnet, August 1974, 12 pp. (COM-74-11747/AS)
- NESS 59 Use of Geostationary-Satellite Cloud Vectors to Estimate Tropical Cyclone Intensity. Carl. O. Erickson, September 1974, 37 pp. (COM-74-11762/AS)
- NESS 60 The Operation of the NOAA Polar Satellite System. Joseph J. Fortuna and Larry N. Hambrick, November 1974, 127 pp. (COM-75-10390/AS)
- NESS 61 Potential Value of Earth Satellite Measurements to Oceanographic Research in the Southern Ocean. E. Paul McClain, January 1975, 18 pp.
- NESS 62 A Comparison of Infrared Imagery and Video Pictures in the Estimation of Daily Rainfall From Satellite Data. Walton A. Follansbee and Vincent J. Oliver, January 1975, 14 pp.
- NESS 63 Snow Depth and Snow Extent Using VIHR Data From the NOAA-2 Satellite. David F. McGinnis, Jr., John A. Pritchard, and Donald R. Wiesnet, February 1975, 10 pp.
- NESS 64 Central Processing and Analysis of Geostationary Satellite Data. Charles F. Bristor (Editor), in press, 1975.
- NESS 65 Geographical Relations Between a Satellite and a Point Viewed Perpendicular to the Satellite Velocity Vector (Side Scan). Irwin S. Ruff and Arnold Gruber, March 1975, 14pp.
- NESS 66 A Summary of the Radiometric Technology Model of the Ocean Surface in the Microwave Region. John C. Alishouse, in press, 1975, 24 pp.
- NESS 67 Data Collection System Geostationary Operational Environmental Satellite: Preliminary Report. Merle L. Nelson, March 1975, 48 pp.
- NESS 68 Atlantic Tropical Cyclone Classifications for 1974. Donald C. Gaby, Donald R. Cochran, James B. Lushine, Samuel C. Pearce, Arthur C. Pike, and Kenneth O. Poteat, April 1975, 6pp.