

**DIRECTORY OF RESEARCH PUBLICATIONS(U) NAVAL  
ENVIRONMENTAL PREDICTION RESEARCH FACILITY MONTEREY CA  
JAN 86**

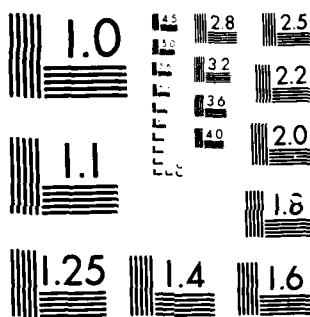
**UNCLASSIFIED**

**F/G 5/2**

NL

END

FILMED  
4-66  
DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS 1963-A

11

7th Edition

AD-A164 875



# DIRECTORY OF RESEARCH PUBLICATIONS

JANUARY 1986

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

DTIC  
ELECTE  
FEB 28 1986

B

NAVAL ENVIRONMENTAL PREDICTION  
RESEARCH FACILITY  
MONTEREY, CALIFORNIA 93943-5006

DTIC FILE COPY



86 2 28 005

## FOREWORD

This directory lists research publications produced by the Naval Environmental Prediction Research Facility (NEPRF) since the command was established in 1971. Abstracts of the last calendar year's publications also are provided.

The following identification information is given:

- (1) Report number assigned by NEPRF
- (2) Government accession (AD) number where assigned
- (3) Date of publication
- (4) The publication's title, author(s), and number of pages

Publications are listed in sequence by type (see key to letter prefixes on first page of listings), report number, and year published.

Requests for copies of individual publications for official use may be directed to:

Commanding Officer  
Attn: Technical Library  
Naval Environmental Prediction Research Facility  
Monterey, CA 93943-5006

While in print, copies of publications will be supplied from stocks on hand. An asterisk (\*) by a report's number indicates the publication is out of print and no longer available for distribution from NEPRF.

Registered, qualified users may request copies from:

Director  
Defense Technical Information Center (DTIC)  
Cameron Station  
Alexandria, VA 22314

Others may purchase copies (paper or microfiche) from:

National Technical Information Service (NTIS)  
U.S. Department of Commerce  
Springfield, VA 22151

Prices are available upon request from NTIS.

(Note: When ordering copies from DTIC or NTIS, cite the Government accession (AD) number where assigned.)

This seventh Edition of January 1986 incorporates  
and supersedes all previous listings/editions

**DTIC**  
**ELECTE**  
**S FEB 28 1986 D**

B

|                    |                                     |
|--------------------|-------------------------------------|
| ion For            |                                     |
| GRA&I              | <input checked="" type="checkbox"/> |
| AS                 | <input type="checkbox"/>            |
| anced              | <input type="checkbox"/>            |
| ation              |                                     |
| Title/             |                                     |
| A. Authority Codes |                                     |
| and/or             |                                     |
| Dist               | Annual                              |
| A-1                |                                     |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                    |
|---------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 1-71       | 739-702   | Dec 1971    | Large-Scale 'Turnover' in the Oceans -- S. Larsen, D. Dale, T. Laevastu -- 36 pp                                                                                               |
| TP 1-72       | 739-364   | Jan 1972    | A Summary of the U.S. Navy Program and FY 1971 Progress in Weather Modification and Control -- Environmental Prediction Research Facility -- 72 pp                             |
| TP 2-72       | 738-847   | Jan 1972    | The Effects of Oceanic Fronts on Properties of the Atmospheric Boundary Layer -- T. Laevastu, K. Rabe, G. Hamilton -- 54 pp                                                    |
| TP 3-72*      | 745-759   | Mar 1972    | A Description of the EPRF Hydrodynamical-Numerical Model -- T. Laevastu, K. Rabe -- 58 pp                                                                                      |
| TP 3A-72      | 745-760   | Mar 1972    | Appendices to ENVPREDRSCHFAC Technical Paper No. 3-72 Entitled A Description of the EPRF Hydrodynamical-Numerical Model -- Environmental Prediction Research Facility -- 34 pp |
| TP 4-72       | 746-451   | Jul 1972    | Numerical Modeling of the Growth of Ice Crystals, Graupel, and Hail -- E. Hindman, D. Johnson -- 56 pp                                                                         |
| TP 5-72       | 746-130   | May 1972    | Geographic and Monthly Variation of Rapid Intensification and Low-Latitude Weakening of Tropical Cyclones of the Western North Pacific Ocean -- S. Brand -- 36 pp              |
| TP 6-72       | 746-131   | May 1972    | Changes in the Characteristics of Typhoons Crossing the Philippines -- S. Brand, J. Blelloch -- 38 pp                                                                          |
| TP 7-72*      | 746-880   | Jul 1972    | Speed of Tropical Storms and Typhoons After Recurvature in the Western North Pacific Ocean -- L. Burroughs, S. Brand -- 43 pp                                                  |
| TP 8-72       | 751-579   | Jun 1972    | The Mean Winds of the Upper Troposphere Over the Central and Eastern Pacific -- J. Sadler -- 29 pp                                                                             |

Listed publications are identified by the following letter prefixes:

AR -- Applications Report  
 CPN -- Computer Programming Note  
 CR -- (NEPRF) Contractor Report  
 TM -- Technical Memorandum  
 TN -- Technical Note  
 TP -- Technical Paper  
 TR -- Technical Report

\* indicates Out of Print

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                 |
|---------------|-----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 9-72*      | 522-652L  | Sep 1972    | The Validity of Forecasts of Ballistic Wind and Density for Fleet Ballistic Missile Systems, 1971-1972 Spring, Fall and Winter Case Studies: Eurasia and Eastern Test Range -- D. Schertz, P. Lowe -- 81 pp |
| TP 10-72      | 761-620   | Sep 1972    | A Numerical Study in Optimum Track Ship Routing Climatology -- F. Nagle -- 174 pp                                                                                                                           |
| TP 11-72*     | 524-343L  | Dec 1972    | The Effects of Subthermocline Ducts on the Propagation of Sound -- T. Laevastu, P. Wolff, -- 50 pp                                                                                                          |
| TP 12-72      | 907-418   | Dec 1972    | Monsoon Meteorology, by Colin S. Ramage; A Digest for Africa and Adjoining Indian Ocean Waters -- L. Brody -- 80 pp                                                                                         |
| TP 13-72*     | 757-328   | Oct 1972    | A Study of Numerical Simulation of Maritime Fog -- D. Feit -- 46 pp                                                                                                                                         |
| TN 1*         | ---       | Apr 1972    | Computation of Flushing and Other Pollution Problems in Pearl Harbor with Hydrodynamical-Numerical (HN) Models -- Environmental Prediction Research Facility -- 21 pp                                       |
| TN 2          | 776-231   | Apr 1972    | Coastal Sea-Air Interactions and the Extent of Coastal Influence -- Environmental Prediction Research Facility -- 26 pp                                                                                     |
| TN 3          | 776-226   | Apr 1972    | A Description of Linear and Nonlinear Computational Instability -- D. Haney -- 11 pp                                                                                                                        |
| TN 4          | 776-227   | Jun 1972    | Estimating Wind Speed Changes at Land/Sea Boundaries -- R. Cormier -- 10 pp                                                                                                                                 |
| TN 5          | 776-228   | Jun 1972    | Visibility Calculations for Microphysical Computer Models -- D. Johnson -- 29 pp                                                                                                                            |
| TN 6          | 776-229   | Jul 1972    | A Bibliography of Selected Publications on Mediterranean Meteorology -- O. Haney -- 33 pp                                                                                                                   |
| CPN 1         | A-011-119 | Jan 1972    | NODCXBT Subroutine for CDC 1604 -- K. Rabe -- 6 pp                                                                                                                                                          |
| CPN 2         | A-012-938 | Jan 1972    | NODCBCD Subroutine for CDC 1604 -- K. Rabe -- 5 pp                                                                                                                                                          |
| CPN 3         | A-011-409 | Jan 1972    | Basic Zoom Program - Extraction of a Portion of Hemispheric Analyses and Interpolation to a New Grid of Desired Size, Location, and Orientation -- G. Wiese -- 32 pp                                        |
| CPN 4         | A-011-410 | Sep 1972    | STATPROG Subroutines for CDC 1604 -- C. Simpson -- 22 pp                                                                                                                                                    |

| Report Number        | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                 |
|----------------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR B2-0272-001(CSU)* | 741-717   | Feb 1972    | Diagnostic Study of the Planetary Boundary Layer over the Oceans -- W. Gray (Colorado State University) -- 99 pp                                                                            |
| TR S1-0972-002(SRI)  | 757-814   | Sep 1972    | Further Development of Objective Methods for Registering Landmarks and Determining Cloud Motions from Satellite Data -- D. Wolf, R. Endlich, D. Hall (Stanford Research Institute) -- 82 pp |
| TP 1-73              | 758-007   | Jan 1973    | The 1972 Typhoon Analog Program (TYFOON-72) -- J. Jarrell, R. Wagoner -- 44 pp                                                                                                              |
| TP 2-73              | 764-859   | Mar 1973    | Tropical Cyclones of the North Indian Ocean -- J. Sadler, R. Gidley -- 62 pp                                                                                                                |
| TP 3-73              | 766-797   | Mar 1973    | The Low-Level Structure of Weak Tropical Waves - A Preliminary Report -- R. Fett, R. Nagle, W. Mitchell -- 26 pp                                                                            |
| TP 4-73              | 767-031   | Jun 1973    | The Typhoons of October 1970 in the South China Sea: Intensification, Decay and Ocean Interaction -- C. Ramage -- 49 pp                                                                     |
| TP 5-73              | 767-030   | Jun 1973    | State of the Sea Around Tropical Cyclones in the Western North Pacific Ocean -- S. Brand, J. Blelloch, D. Schertz -- 32 pp                                                                  |
| TP 6-73              | 767-934   | Sep 1973    | Oceanic Fog--A Numerical Study -- E. Barker -- 74 pp                                                                                                                                        |
| TP 7-73*             | 771-379   | Sep 1973    | Handbook for Forecasters in the Bay of Bengal -- M. Cuming -- 170 pp                                                                                                                        |
| TP 8-73              | 769-538   | Oct 1973    | Changes in the Characteristics of Typhoons Crossing the Island of Taiwan -- S. Brand, J. Blelloch -- 21 pp                                                                                  |
| TP 9-73              | 776-232   | Dec 1973    | The Evaluation of Hong Kong Harbor as a Typhoon Haven -- D. Mautner, S. Brand -- 130 pp                                                                                                     |
| TP 10-73             | 775-616   | Dec 1973    | Potential Cumulus Rainfall Modification-- Panama Canal Zone -- P. Lowe -- 18 pp                                                                                                             |
| TN 7                 | 772-085   | Sep 1973    | Computation of Tidal Currents in the Vicinity of S. Stefano Island -- K. Rabe -- 24 pp                                                                                                      |
| TN 8                 | 772-093   | Nov 1973    | Coastal Sea-Air Interactions and the Extent of Coastal Influence -- T. Laevastu -- 32 pp                                                                                                    |
| TN 9                 | 772-094   | Nov 1973    | A Model of Circulation and Dispersion in Pearl Harbor -- S. Larson -- 32 pp                                                                                                                 |
| CPI 5                | A-011-411 | Jan 1973    | Mediterranean Sea-Surface Temperature Analysis Program - MEDSST -- A. Anderson, S. Larson, L. I'Anson -- 121 pp                                                                             |

| Report Number        | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                              |
|----------------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPN 6                | A-011-412 | Jan 1973    | Program BTREPORT -- A. Anderson, S. Larson -- 80 pp                                                                                                                                      |
| CPN 7                | A-011-413 | Feb 1973    | Mediterranean Mixed Layer Depth Analysis Program - MEDMLD -- A. Anderson -- 62 pp                                                                                                        |
| CPN 8                | A-011-414 | Feb 1973    | The WAVE32 Program -- S. Larson, A. Anderson -- 59 pp                                                                                                                                    |
| CPN 9                | A-011-415 | Feb 1973    | The MLDZOOM Program -- S. Larson, A. Anderson -- 34 pp                                                                                                                                   |
| CPN 10               | A-035-170 | Jul 1973    | Ocean Climatology Extraction and Adjustment Program for the Mediterranean Program SOVEL -- T. Laevastu -- 22 pp                                                                          |
| CPN 11               | A-011-416 | Nov 1973    | Program GRAPHIC -- C. Simpson, D. Johnson -- 36 pp                                                                                                                                       |
| CPN 12               | A-011-417 | Dec 1973    | Subroutine SKEWTLP -- J. Ficke -- 12 pp                                                                                                                                                  |
| TR S1-0673-003(ESC)* | 767-026   | May 1973    | Satellite Observations of Anomalous Local Wind Events in the Mediterranean Region -- J. Meneely, E. Merritt (Earth Satellite Corporation) -- 138 pp                                      |
| TR S1-0873-004(ESC)  | 770-208   | Aug 1973    | The NIMBUS 5 ESMR and its Application to Storm Detection -- R. Sabatini, E. Merritt (Earth Satellite Corporation) -- 51 pp                                                               |
| TR 1-73 (ODSI)       | 770-207   | Sep 1973    | Extending the Computerized Typhoon/Tropical Storm Prediction Program (Typhoon 72) Toward Seven Days -- (Ocean Data Systems, Inc.) -- 115 pp                                              |
| TR 2-73 (CSC)        | 773-964   | Nov 1973    | Organizational Structures for Constant Resolution Earth Data Bases -- P. Beaudet, F. Chan, L. Goldshlak (Computer Sciences Corporation) -- 190 pp                                        |
| TR 3-73 (ARA)        | 774-524   | Sep 1973    | Development of Digital Enhancement Techniques Applicable to Direct Readout (APT) Meteorological Satellite Images -- I. Tamches, N. Kelknap (Applied Research Associates, Inc.) -- 123 pp |
| TP 1-74              | 774-683   | Jan 1974    | Tropical Cyclone Movement Forecasts Based on Observations from Satellites -- R. Fett, S. Brand -- 70 pp                                                                                  |
| TP 2-74              | 777-429   | Mar 1974    | Using Helicopters to Clear Fog: A Numerical Study -- D. Johnson, E. Barker, P. Lowe -- 38 pp                                                                                             |
| TP 3-74              | 777-958   | Feb 1974    | A Numerical Simulation of Warm Fog Dissipation by Electrically Enhanced Coalescence -- P. Tag -- 51 pp                                                                                   |



| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                          |
|---------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 4-74       | 778-316   | Mar 1974    | The Computation of Saturation Vapor Pressure -- P. Lowe, J. Ficke -- 27 pp                                                                                                           |
| TP 5-74*      | 777-406   | Mar 1974    | A Three-Parameter Model for Limited Area Forecasting -- L. Bengtsson -- 112 pp                                                                                                       |
| TP 6-74       | A-000-267 | Apr 1974    | An Evaluation of the Harbors of Kaohsiung and Chilung (Keelung), Taiwan as Typhoon Havens -- M. Brown -- 108 pp                                                                      |
| TP 7-74       | 781-259   | May 1974    | A Numerical Study of Clearing Warm Fog by Using Hygroscopic Seeding in Conjunction with Helicopter Downwash -- P. Tag -- 40 pp                                                       |
| TP 8-74       | 781-324   | May 1974    | Cost Effectiveness of Typhoon Forecasts Improvements -- S. Brand, J. Blelloch -- 31 pp                                                                                               |
| TP 9-74       | 782-364   | May 1974    | A Role of the Tropical Upper Tropospheric Trough in Early Season Typhoon Development -- J. Sadler (University of Hawaii) -- 54 pp                                                    |
| TP 10-74      | 785-245   | Jul 1974    | Computation of Real-Time Currents off Southern California with Multi-Layer Hydrodynamical-Numerical Models -- T. Laevastu, G. Hamilton -- 72 pp                                      |
| TP 11-74      | 786-347   | Aug 1974    | A Tropical Cyclone Analog Program for the North Indian Ocean -- S. Brand, J. Long, J. Blelloch, G. Hamilton -- 20 pp                                                                 |
| TP 12-74      | A-000-088 | Aug 1974    | Monsoonal Influences on the Annual Variation of Tropical Cyclone Development -- C. Ramage (University of Hawaii) -- 34 pp                                                            |
| TP 13-74      | 786-699   | Aug 1974    | The Effect of Utilizing Empirically Derived Values of Coalescence Efficiency in a Microphysical Cloud Model -- P. Tag -- 38 pp                                                       |
| TP 14-74      | 787-481   | Sep 1974    | Mesoscale Feedback from the Ocean to the Atmosphere in Coastal and Oceanic Frontal Regions -- T. Laevastu, G. Hamilton -- 46 pp                                                      |
| TP 15-74      | A-004-620 | Oct 1974    | Description of the Optimized EPRF Multi-Layer Hydrodynamical-Numerical Model -- R. Bauer -- 66 pp                                                                                    |
| TP 16-74      | A-001-271 | Oct 1974    | A Tropical Cyclone Analog Program for the Southwest Indian Ocean -- S. Brand, J. Blelloch, J. Long -- 20 pp                                                                          |
| TN 10         | 778-609   | Jan 1974    | A Vertically Integrated Hydrodynamical-Numerical Model (W. Hansen Type): Model Description and Operating/Running Instructions -- Environmental Prediction Research Facility -- 69 pp |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                               |
|---------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TN 11         | 778-619   | Jan 1974    | A Multilayer Hydrodynamical-Numerical Model (W. Hansen): Model Description and Operating/Running Instructions -- T. Laevastu -- 60 pp                                                                                                                     |
| TN 12         | 778-610   | Jan 1974    | Computation of Tides, Currents and Dispersal of Pollutants in Lower Bay and Approaches to New York with Fine and Medium Grid Size Hydrodynamical-Numerical Models -- T. Laevastu, M. Clancy, A. Stroud -- 57 pp                                           |
| TN 13         | 778-617   | Jan 1974    | Computation of Tides, Currents and Dispersal of Pollutants in the New York Bight from Block Island to Atlantic City with Large Grid Size, Single and Two-Layer Hydrodynamical-Numerical Models -- T. Laevastu, R. Callaway, A. Stroud, M. Clancy -- 84 pp |
| TN 14         | 777-048   | Mar 1974    | Summaries and Abstracts of Tropical Publications of the Navy Weather Research Facility and Environmental Prediction Research Facility, 1968 to Feb 1974 -- Environmental Prediction Research Facility -- 20 pp                                            |
| TN 15         | 778-618   | Mar 1974    | Typhoon and Tropical Storm Intensity Forecasts for 24, 48 and 72 Hour Using Statistical Regression Equations -- R. Elsberry, G. Coltrane, P. Krueger -- 26 pp                                                                                             |
| TN 16         | 779-005   | Apr 1974    | A Fine Mesh Sea-Level Pressure Analysis Scheme Incorporating Effects of Elevation and Terrain -- L. Brody -- 31 pp                                                                                                                                        |
| CPN 13        | A-035-169 | Mar 1974    | Users Guide to UPDATE -- J. Long -- 16 pp                                                                                                                                                                                                                 |
| CPN 14        | 787-480   | Sep 1974    | Users Guide for Direct Readout Data Converter (DRDC) -- G. Hunolt -- 127 pp                                                                                                                                                                               |
| CPN 15        | A-005-310 | Sep 1974    | Program COATEM -- B. van der Bijl (Compass Systems, Inc.) -- 17 pp                                                                                                                                                                                        |
| CPN 16        | A-005-311 | Sep 1974    | Program TRUWIND -- B. van der Bijl (Compass Systems, Inc.) -- 7 pp                                                                                                                                                                                        |
| CPN 17        | A-005-312 | Sep 1974    | Program ROGMAP -- R. Bauer, B. van der Bijl (Compass Systems, Inc.) -- 20 pp                                                                                                                                                                              |
| CPN 18        | A-005-321 | Sep 1974    | A Ray Trace Program Package for the CDC 1604 Computer -- B. van der Bijl (Compass Systems, Inc.) -- 36 pp                                                                                                                                                 |
| CPN 19        | A-005-322 | Oct 1974    | Program PLOTS (HN Model Pen Plots) -- R. Bauer, B. van der Bijl (Compass Systems, Inc.) -- 50 pp                                                                                                                                                          |

| Report Number      | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                 |
|--------------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 1-74<br>(ERT)*  | A-001-300 | Jan 1974    | Oceanographic Studies Using Satellite Data: Detection of Near-Shore Phenomena in ERTS Imagery -- C. Bowley, J. Barnes (Environmental Research & Technology, Inc.) -- 121 pp                                                                                                                 |
| TR 2-74<br>(SRI)   | 779-331   | Nov 1973    | Objective Methods for Determining Cloud Motions from Satellite Data -- D. Hall, F. Tomlin, D. Wolf (Stanford Research Institute) -- 45 pp                                                                                                                                                   |
| TR 3-74<br>(ODSI)* | 780-423   | Apr 1974    | Survey of Pacific Theatre Satellite Data Users -- W. Hubert (Ocean Data Systems, Inc.) -- 100 pp                                                                                                                                                                                            |
| TR 4-74<br>(ODC)*  | 780-772   | Mar 1974    | Objective Methods for Locating the Center of Tropical Storms -- D. Dartt, M. Ulstad, R. Weinberg (Control Data Corporation) -- 16 pp                                                                                                                                                        |
| TR 5-74<br>(ESC)   | 783-547   | May 1974    | The Application of the NIMBUS 5 ESMR to Sea Surface Wind Determination -- R. Sabatini (Earth Satellite Corporation) -- 80 pp                                                                                                                                                                |
| TR 6-74<br>(ERT)*  | A-001-092 | Jun 1974    | Mapping of Sea Surface Temperature by the NOAA-2 Satellite -- J. Cogan, J. Willand (Environmental Research & Technology, Inc.) -- 72 pp                                                                                                                                                     |
| TR 7-74<br>(ODSI)  | 787-021   | Jul 1974    | Survey of Atlantic Theatre Satellite Data Users -- W. Hubert (Ocean Data Systems, Inc.) -- 112 pp                                                                                                                                                                                           |
| TP 1-75            | A-008-346 | Jan 1975    | Preliminary Investigation of the Monthly and Seasonal Variation of Total Mass of the Atmosphere of the Northern Hemisphere and its Possible Use as a Partial Measure of Water Vapor Content Change of the Atmosphere -- W. Rudloff, T. Laevastu, J. Harding, S. Larson, G. Britton -- 17 pp |
| TP 2-75            | A-006-255 | Jan 1975    | An Investigation of Interactions Between Double Clouds Using a Two-Dimensional Numerical Model -- W. Sweet, P. Lowe -- 110 pp                                                                                                                                                               |
| TP 3-75            | A-007-301 | Feb 1975    | Summary Report of Hydrodynamical-Numerical (HN) Model Workshop and AGU Topical Meeting: Hydrodynamical-Numerical Models for Coastal and Open Ocean Areas -- T. Laevastu -- 93 pp                                                                                                            |
| TP 4-75            | A-008-158 | Mar 1975    | A Maritime Boundary Layer Model for the Prediction of Fog -- E. Barker -- 51 pp                                                                                                                                                                                                             |
| TP 5-75            | A-024-271 | Nov 1975    | Handbook for Forecasters in the Mediterranean; Weather Phenomena of the Mediterranean Basin; Part 1: General Description of the Meteorological Processes -- E. Reiter -- 344 pp                                                                                                             |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                        |
|---------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 6-75       | A-009-530 | Mar 1975    | The Navy's Analog Scheme for Forecasting Tropical Cyclone Motion over the Northeastern Pacific Ocean -- J. Jarrell, C. Mauck, R. Renard -- 27 pp                                                   |
| TP 7-75       | A-010-792 | Mar 1975    | Monthly Mean Evaporation and Surface Winds over the Northern Hemisphere Oceans and Their Year-To-Year Variations -- S. Larson, T. Laevastu -- 50 pp                                                |
| TP 8-75       | A-010-122 | Mar 1975    | A 26-Year Time Series of Monthly Mean Winds Over the Oceans: Part I - A Statistical Verification of Computed Surface Winds Over the North Pacific and North Atlantic -- S. Larson -- 89 pp         |
| TP 9-75       | A-011-817 | May 1975    | A Statistical and Spectral Analysis of the Air-Sea Interactions at OWS NOVEMBER -- K. Rabe, R. Bourke -- 89 pp                                                                                     |
| TP 10-75      | A-010-123 | Apr 1975    | A 26 Year Time Series of Monthly Mean Winds Over the Ocean: Part II - Monthly Anomalies at Selected Points in the North Pacific -- S. Larson -- 104 pp                                             |
| TP 11-75      | ---       | ---         | Unpublished                                                                                                                                                                                        |
| TP 12-75      | A-012-369 | Apr 1975    | Further Development of a 3-7 Day Typhoon Analog Forecast Model for the Western Pacific -- W. Yogi, J. Long, J. Steuckert (Ocean Data Systems, Inc.) -- 37 pp                                       |
| TP 13-75      | A-010-121 | May 1975    | An Evaluation of the Harbors of Subic Bay and Manila, Republic of the Philippines, as Typhoon Havens -- J. Douglass -- 115 pp                                                                      |
| TP 14-75      | A-011-818 | May 1975    | Classification and Analysis/Forecasting of Near-Surface Ocean Thermal Structure -- T. Laevastu -- 34 pp                                                                                            |
| TP 15-75      | A-012-348 | Jun 1975    | An Evaluation of the Harbor of Yokosuka, Japan as a Typhoon Haven -- R. Graff -- 100 pp                                                                                                            |
| TP 16-75      | A-011-057 | Mar 1975    | Tropical Cyclone Genesis in the Western North Pacific -- W. Gray (Colorado State University) -- 66 pp                                                                                              |
| TP 17-75      | A-014-100 | Jul 1975    | An Evaluation of Sasebo Harbor, Japan as a Typhoon Haven -- D. Rudolph -- 115 pp                                                                                                                   |
| TP 18-75      | A-020-304 | Oct 1975    | Island Barrier Effects on Sea State and Atmospheric Moisture as Detected by a Numerical Wave Model and Sensors of the Defense Meteorological Satellite Program (DMSP) -- R. Fett, K. Rabe -- 67 pp |
| TP 19-75      | A-018-847 | Nov 1975    | An Evaluation of Apra Harbor, Guam as a Typhoon Haven -- M. Brown, S. Brand -- 79 pp                                                                                                               |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                      |
|---------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 20-75      | A-021-213 | Nov 1975    | Objective Analysis Technique in Sigma Coordinates -- D. Schiessl -- 150 pp                                                                                                                                       |
| TP 21-75      | A-025-087 | Dec 1975    | An Evaluation of the Harbors of Buckner Bay and Naha, Okinawa as Typhoon Havens -- D. Rudolph, F. Blake, S. Brand, J. Bleiloch -- 90 pp                                                                          |
| TP 22-75      | A-019-307 | Dec 1975    | An Evaluation of the Harbors of Inchon, Pusan and Chinhae, Republic of Korea, as Typhoon Havens -- D. Rudolph -- 130 pp                                                                                          |
| TP 23-75      | A-019-312 | Dec 1975    | An Evaluation of the Harbors of Kwakuni and Kure, Japan as Typhoon Havens -- J. Manning -- 82 pp                                                                                                                 |
| TP 24-75      | A-020-640 | Dec 1975    | An Evaluation of the Numazu Operating Area and Kagoshima Harbor, Japan as Typhoon Havens -- R. Wixom -- 125 pp                                                                                                   |
| TN 17         | A-008-156 | Feb 1975    | Surface Currents Deduced from Ship Drift at the Periphery of Costa Rica Dome -- T. Laevastu -- 7 pp                                                                                                              |
| TN 18         | A-010-234 | Mar 1975    | An Evaluation of Available Wave Refraction Models for Use on the CDC 3100 Computer -- K. Rabe -- 30 pp                                                                                                           |
| TN 19         | A-010-546 | Apr 1975    | Puerto Rico Operating Area Search and Rescue Program - USAR -- K. Rabe -- 60 pp                                                                                                                                  |
| TN 20*        | A-010-791 | Apr 1975    | Direct Solution of Elliptic Equations by Block Cyclic Reduction and Factorization -- T. Rosmond, F. Faulkner -- 34 pp                                                                                            |
| TN 21         | A-013-192 | Jun 1975    | NVA Upper Air Temperature and Wind Analysis for a 12-Level European Area Model -- A. Groll -- 53 pp                                                                                                              |
| TN 22*        | A-014-083 | Aug 1975    | Interrelationships between Tropical North Pacific Atmospheric Circulation, Explosive Volcanism, Sea Surface Temperature and Western North Pacific Tropical Storms and Typhoons -- J. Harding, S. Larson -- 25 pp |
| TN 23         | ---       | ---         | Unpublished                                                                                                                                                                                                      |
| CPN 20        | A-020-045 | May 1975    | A Cloud Advection Model -- R. Nagle -- 113 pp                                                                                                                                                                    |
| CPN 21        | A-008-841 | Mar 1975    | The Delaware-Dobson Wave Refraction Model -- K. Rabe -- 47 pp                                                                                                                                                    |
| CPN 22        | A-013-191 | Mar 1975    | Subroutines for Direct Solution of Three-Dimensional Elliptic Equations -- T. Rosmond -- 39 pp                                                                                                                   |
| CPN 23*       | A-013-190 | Apr 1975    | Subroutines for the Direct Solution of Two-Dimensional Elliptic Equations -- T. Rosmond -- 32 pp                                                                                                                 |

| Report Number       | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                  |
|---------------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 1-75             | ---       | ---         | Unpublished                                                                                                                                                                                  |
| TR 2-75<br>(CSC)    | A-010-232 | Apr 1975    | Feasibility Study of a Quadrilateralized Spherical Cube Earth Data Base -- F. Chan, E. O'Neill (Computer Sciences Corporation) -- 114 pp                                                     |
| TR 3-75<br>(ESC)    | A-010-541 | Feb 1975    | Sea Surface Wind Speed Estimates from the NIMBUS 5 ESMR -- R. Sabatini (Earth Satellite Corporation) -- 55 pp                                                                                |
| TR 4-75*<br>(MII)   | ---       | Feb 1975    | Techniques for Processing VTPR Side-Scan Radiances Including Diagnosis for the Clear-Column Radiance Components -- M. Holl (Meteorology International Incorporated) -- 93 pp plus Appendix A |
| TR 5-75*<br>(UD)    | A-014-320 | May 1975    | Interpretation of Structures Over Oceanic Regions in DMSP Data -- K. Szekiolda (University of Delaware) -- 41 pp                                                                             |
| TR 6-75<br>(ESC)    | A-009-850 | Apr 1975    | Applications of the NIMBUS 5 ESMR to Rainfall Detection Over the Oceans and to Sea-Ice Detection -- R. Sabatini, D. Hlavka, R. Arcese (Earth Satellite Corporation) -- 77 pp                 |
| TR 7-75*<br>(ERT)   | A-014-427 | May 1975    | Mapping of Sea Surface Temperature by the DMSP Satellite -- J. Cogan, J. Willand (Environmental Research & Technology, Inc.) -- 82 pp                                                        |
| TR 8-75<br>(SRI)    | A-021-173 | Oct 1975    | Correlation of Cloud Brightness and Radiance with Precipitation Intensity -- R. Blackmer (Stanford Research Institute) -- 134 pp                                                             |
| TR 9-75<br>(SRI)    | A-021-772 | Oct 1975    | Implementation of the SRI Objective Cloud Tracking System at EPRF -- D. Hall, D. Wolf (Stanford Research Institute) -- 62 pp                                                                 |
| TR 10-75<br>(SRI)   | A-020-689 | Oct 1975    | Use of Infrared Radiance Measurements in Dynamic Analysis -- P. Davis (Stanford Research Institute) -- 76 pp                                                                                 |
| TR 11-75*<br>(CDC)  | A-022-650 | Oct 1975    | Objective Tropical Storm Parameters from Satellite Cloud Patterns -- D. Dartt (Control Data Corporation) -- 23 pp + Figures                                                                  |
| TR 12-75<br>(MII)   | A-023-908 | Dec 1975    | Tests and Evaluations of CLRX, the Diagnosis of Clear Column Radiances -- M. Holl (Meteorology International Incorporated) -- 109 pp                                                         |
| TR 13-75*<br>(ODSI) | A-024-736 | Nov 1975    | Data Assimilation Restorative-Iterative Model (RIMOD) -- P. Kesel, R. Welck (Ocean Data Systems, Inc.) -- 154 pp                                                                             |

| Report Number     | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                      |
|-------------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TP 1-76           | A-023-676 | Mar 1976    | A Tropical Cyclone Analog Program for the Southwest Pacific Ocean and Australian Region -- S. Brand, J. Blelloch -- 23 pp                                                        |
| TP 2-76           | A-025-456 | Feb 1976    | Tropical Cyclone Initiation by the Tropical Upper Tropospheric Trough -- J. Sadler (University of Hawaii) -- 104 pp                                                              |
| TP 3-76           | A-027-533 | May 1976    | An Evaluation of the Harbor of Cebu, Republic of the Philippines, as a Typhoon Haven -- B. Hassell -- 74 pp                                                                      |
| TP 4-76           | A-027-532 | May 1976    | Cross-Equatorial Interactions in the Development of a Winter Typhoon: Nancy 1970 -- C. Guard (University of Hawaii) -- 46 pp                                                     |
| TP 5-76           | A-034-188 | Jun 1976    | Typhoon Havens Handbook for the Western Pacific and Indian Oceans -- S. Brand, J. Blelloch -- 256 pp                                                                             |
| TP 6-76           | A-027-410 | May 1976    | Clearing Fog by Seeding with Charged Water Drops: A Numerical Study -- P. Tag -- 49 pp                                                                                           |
| TP 7-76           | A-031-174 | Jul 1976    | The Climatology and Forecasting of Eastern North Pacific Ocean Tropical Cyclones -- R. Renard, W. Bowman -- 79 pp                                                                |
| TP 8-76           | A-029-717 | Aug 1976    | A Wind Wave Tropical Cyclone Model for the Western North Pacific Ocean -- S. Brand, K. Rabe, T. Laevastu -- 21 pp                                                                |
| TN 24             | A-021-638 | Feb 1976    | A Generalized Version of the Fields by Information Blending (FIB) Technique -- B. Maxwell -- 86 pp                                                                               |
| CPN 24            | A-037-226 | Jan 1976    | Calibration, Earth Location and Mapping Programs for the NIMBUS-5 Electronically Scanning Microwave Radiometer (ESMR) -- R. Nagle -- 134 pp                                      |
| TR 1-76<br>(SRI)  | ---       | Dec 1975    | Analysis of Radio-Radar Propagation Conditions Using Satellite-Viewed Cloud Cover and Rawinsonde Observations -- R. Blackmer (Stanford Research Institute) -- 62 pp              |
| TR 2-76*<br>(CDC) | A-027-412 | Jan 1976    | A Pilot Analysis of the Curvature of Extratropical Storms -- D. Dartt (Control Data Corporation) -- 21 pp + Figures                                                              |
| TR 3-76<br>(CSC)  | A-026-294 | May 1976    | Extended Studies of a Quadrilateralized Spherical Cube Earth Data Base -- E. O'Neill, R. Laubscher (Computer Sciences Corporation) -- 114 pp                                     |
| TR 4-76<br>(MII)  | A-034-291 | Jan 1976    | Development of the Capability for Surface-Wind Analysis on a Portable Grid (FIB/UV-PORT) -- B. Mendenhall (Meteorology International Incorporated) -- 40 pp + Appendices A and B |

| Report Number  | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                                                 |
|----------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 5-76*       | ---       | Mar 1976    | Program Development for Reduction of Meteorological Satellite Data to Vertical Temperature and Humidity Profiles -- (Ocean Data Systems, Inc.)-- I, 197 pp; II, 332 pp                                                                                                                                                      |
| TR 6-76 (ESC)  | A-046-629 | Sep 1976    | A Preliminary Study of the Applicability of NIMBUS 6 ESMR to Sea-Surface Wind Speed Estimates -- R. Sabatini, L. Heitkemper, D. Hlavka (Earth Satellite Corporation) -- 45 pp                                                                                                                                               |
| TR 7-76* (ERT) | ---       | Nov 1976    | An Algorithm to Retrieve Water Vapor Information from Satellite Measurements -- R. Crane (Environmental Research & Technology, Inc.) -- 37 pp                                                                                                                                                                               |
| AR 77-01       | A-046-542 | Mar 1977    | Meteorological Phenomena of the Arabian Sea -- L. Brody -- 196 pp                                                                                                                                                                                                                                                           |
| AR 77-02       | A-046-589 | May 1977    | The Regeneration of South China Sea Tropical Cyclones in the Bay of Bengal -- J. Sadler, B. Kilonsky (University of Hawaii) -- 24 pp                                                                                                                                                                                        |
| AR 77-03       | B-024-969 | Jan 1977    | Navy Tactical Applications Guide. Volume I Techniques and Applications of Image Analysis -- R. Fett, W. Mitchell -- 110 pp                                                                                                                                                                                                  |
| TR 77-01*      | A-048-168 | Jul 1977    | Tropical Cyclone Research by Data Compositing -- W. Gray, W. Frank (Colorado State University) -- 70 pp                                                                                                                                                                                                                     |
| TR 2-77*       | ---       | Apr 1977    | Development of a Synoptic Climatology of Tropospheric Refractive Conditions for the Eastern Pacific Ocean Off the West Coast of the United States Task One and Task Two -- P. Kalinyak (Meteorology International Incorporated) -- 174 pp                                                                                   |
| TR 77-03       | A-055-162 | Sep 1977    | The Environment of South Korea and Adjacent Sea Areas -- M. Nestor -- 284 pp                                                                                                                                                                                                                                                |
| TR 77-04       | A-070-305 | Jan 1979    | Navy Tactical Applications Guide. Volume II Environmental Phenomena and Effects -- R. Fett, P. LaViolette, M. Nestor, J. Nickerson, K. Rabe -- 161 pp                                                                                                                                                                       |
| TR 77-05       | A-056-586 | Nov 1977    | An Analysis of Western North Pacific Tropical Cyclone Forecast Errors -- J. Jarrell, S. Brand, D. Nicklin -- 41 pp                                                                                                                                                                                                          |
| TR 77-06       | ---       | Sep 1977    | Development of a Synoptic Climatology of Tropospheric Refractive Conditions for the Eastern Pacific Ocean Off the West Coast of the United States, Task Three: The Assessment of Refractive Structures from Typical Synoptic Patterns -- M. Cuming, F. Caton, P. Kalinyak (Meteorology International Incorporated) -- 82 pp |



| Report Number        | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                            |
|----------------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 77-07*            | ---       | Mar 1976    | Evaluation of Objective Parameters Derived from Concentric Cloud Parameters -- D. Penlt                                                                                                                                |
| TR 77-08             | A-053-620 | Jul 1977    | Evaluation of the FIB Methodology for Application to Cloud Motion Wind Data -- W. Viezee, D. Wolf, R. Endlich (SKI International) -- 98 pp                                                                             |
| SRI Rept<br>ERO 4854 | A-053-619 | Mar 1977    | Application of the SRI Automatic Cloud-Tracking System to SMS-GOES Data -- D. Wolf, D. Hall, R. Endlich (Stanford Research Institute) -- 60 pp                                                                         |
| MI Rept<br>M-225     | ---       | Sep 1977    | Methods and Programs to Utilize Satellite Indirect Soundings in Environmental Analysis and Prediction -- M. Holl (Meteorology International Incorporated) -- 67 pp                                                     |
| TM 77-01             | ---       | Jun 1977    | Application of an Array Processor in Satellite Image Processing -- P. Zeleny, R. Nagle -- 20 pp                                                                                                                        |
| TR 78-01             | A-060-077 | Jun 1978    | New Results of Tropical Cyclone Research from Observational Analysis -- W. Gray, W. Frank (Colorado State University) -- 108 pp                                                                                        |
| TR 78-02             | A-060-910 | Jul 1978    | Extratropical Storm Evolution from Tropical Cyclones in the Western North Pacific Ocean -- S. Brand, C. Guard -- 24 pp                                                                                                 |
| TR 78-03             | A-067-079 | Dec 1978    | Level Assignment in the Assimilation of Satellite Cloud-Tracked Winds -- D. Lee -- 74 pp                                                                                                                               |
| TR 78-04             | A-066-742 | Dec 1978    | Use of a Second-Moment Turbulence Closure Model for Computation of Refractive Index Structure Coefficients -- S. Burk -- 60 pp                                                                                         |
| CR 78-01             | A-065-545 | Dec 1978    | Tropical Cyclone Strike Probability Forecasting -- J. Jarrell (Science Applications, Inc.) -- 47 pp                                                                                                                    |
| CR 78-02             | A-065-929 | Oct 1978    | Wind Characteristics over Subic Bay, Philippine Island, During Typhoon Passage - Determination by Physical Modeling in a Meteorological Wind Tunnel -- H. Woo, J. Cermak, J. Lou (Colorado State University) -- 102 pp |
| CR 78-03             | A-070-373 | Dec 1978    | Literature Survey of Marine Aerosol Research -- J. Podzimek -- 248 pp                                                                                                                                                  |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                    |
|---------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 79-01      | A-075-524 | Jun 1979    | Monthly Climatology for Evaporation Duct Occurrence in the North Atlantic Ocean -- W. Sweet -- 40 pp                                                                                           |
| TR 79-02      | A-075-456 | Jul 1979    | Summary of an EASTPAC Refractive Structure Climatology -- W. Sweet -- 30 pp                                                                                                                    |
| TR 79-03      | A-074-275 | Jun 1979    | Modeling the Refractive Index Structure Parameter in the Marine Planetary Boundary Layer -- S. Burk, A. Goroch, A. Weinstein, H. Panofsky -- 58 pp                                             |
| TR 79-04      | A-074-812 | Jul 1979    | A Preliminary Analysis of Mesoscale Effects of Topography on Tropical Cyclone-Associated Surface Winds -- S. Brand, R. Chambers, H. Woo, J. Cermak, J. Lou, M. Danard -- 42 pp                 |
| TR 79-05      | A-074-809 | Aug 1979    | Airborne Expendable Bathythermograph (AXBT) Observations Immediately Before and After Passage of Typhoon Phyllis in August of 1975 -- CAPT W. Schramm, USN -- 48 pp                            |
| TR 79-06      | A-077-727 | Aug 1979    | Winter Shamal in the Persian Gulf -- T. Perrone -- 180 pp                                                                                                                                      |
| CR 79-01      | A-073-098 | Mar 1979    | The Application of Measures of Synoptic Similarity to the Evaluation and Development of Atmospheric Prediction Models: Task 1 -- M. Holl, M. Cuming (Meteorology International, Inc.) -- 90 pp |
| CR 79-02      | A-074-337 | Jun 1979    | TWINDX: A Planetary Boundary Layer Model for the Winds in Extratropical and Tropical Ocean Areas -- W. Pierson (City College of City University of New York) -- 94 pp                          |
| • CR 79-03    | A-077-901 | Jul 1979    | Dynamic Data Assimilation by the Noise Freezing Method -- Y. Sasaki, T. Baxter, J. Goerss (University of Oklahoma) -- 80 pp                                                                    |
| CR 79-04      | A-076-256 | Jul 1979    | Dynamical Analysis of Mediterranean Cyclogenesis -- Y. Sasaki, J. McGinley (University of Oklahoma) -- 52 pp                                                                                   |
| CR 79-05      | A-077-902 | Jul 1979    | Comparative Study of Anomalous Gray-Shade Patterns in DMSP and LANDSAT imagery -- J. Barnes, C. Bowley, A. Bussey, R. Isaacs (Environmental Research & Technology, Inc.) -- 108 pp             |
| CR 79-06      | A-078-624 | Aug 1979    | Tropical Cyclone Origin, Movement and Intensity Characteristics based on Data Compositing Techniques -- W. Gray (Colorado State University) -- 126 pp                                          |
| CR 79-07      | A-080-056 | Nov 1979    | A Use of Time Series in Improving Weather Forecasting -- Frank D. Faulkner, Craig Comstock, Robert R. Fossum (U.S. Naval Postgraduate School) -- 26 pp                                         |

| Report Number | AD Number  | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                                                          |
|---------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 80-01      | AD-A083156 | Feb 1980    | Anomalous Microwave Propagation Assessment in the Lower Troposphere Using a Bulk Meteorological Parameter -- W. Sweet -- 24 pp                                                                                                                                                                                                       |
| TR 80-02      | AD-A091665 | Jul 1980    | Meteorological Factors Affecting Evaporation Duct Height Climatologies -- W. Sweet -- 28 pp                                                                                                                                                                                                                                          |
| TR 80-03      | AD-A091664 | Aug 1980    | Determination of the Primary Specular Point in the Sun glint Pattern of a Polar-Orbiting Satellite Image -- T. Tsui, R. Fett -- 26 pp                                                                                                                                                                                                |
| TR 80-04      | ---        | Nov 1980    | Frequency of Occurrence of Atmospheric Turbulence Conditions Affecting USMC Modular Universal Laser Equipment (MULE) -- A. Goroch -- 34 pp. Distribution limited to U.S. Government agencies only; test and evaluation; 6 Nov 1980. Other requests for this document must be referred to Naval Weapons Center, China Lake, CA 93555. |
| TR 80-05      | AD-A094280 | Oct 1980    | Assessment/Forecasting of Anomalous Microwave Propagation in the Troposphere Using Model Output -- W. Sweet -- 40 pp                                                                                                                                                                                                                 |
| TR 80-06      | AD-A098031 | Nov 1980    | Frequency of Adverse Weather Conditions Affecting High Energy Laser Systems Operations -- A. Goroch, T. Brown -- 124 pp                                                                                                                                                                                                              |
| TR 80-07      | AD-A099591 | Mar 1981    | Navy Tactical Applications Guide, Volume 3: North Atlantic and Mediterranean Weather Analysis and Forecast Applications - Meteorological Satellite Systems -- R. Fett, G. Stevenson, J. Bates --                                                                                                                                     |
| TR 80-08      | AD-A098124 | Dec 1980    | An Automatic Cloud Tracking System Based on the Cross-Covariance Method -- D. Lee, R. Nagle -- 62 pp                                                                                                                                                                                                                                 |
| TR 80-09      | AD-A097691 | Dec 1980    | Comparison of the Marine Index of Refraction Structure Parameter, $C_n^2$ , Model with Optical Measurements -- A. Goroch -- 36 pp                                                                                                                                                                                                    |
| TR 80-10      | AD-A102635 | Dec 1980    | Regional Forecasting Aids for the Mediterranean Basin (Handbook for Forecasters in the Mediterranean, Part 2) -- L. Brody, M. Nestor -- 178 pp                                                                                                                                                                                       |

| Report Number | AD Number   | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                                                    |
|---------------|-------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR 80-01      | AD-A081089  | Feb 1980    | Deformation of the Marine Inversion and Development of Marine Fog and Stratus Resulting from Warm Water Patches: Numerical Modeling and Verification with Satellite Imagery -- C. Rogers, J. Hanley (Calspan Advanced Technology Center) -- 32 pp                                                                              |
| CR 80-02      | AD-A082031  | Apr 1980    | The Application of Measures of Synoptic Similarity to the Evaluation and Development of Atmospheric Prediction Models: Task 2 -- M. Holl, M. Cuming, B. Hawkins (Meteorology International Incorporated (MII)) -- 46 pp                                                                                                        |
| CR 80-03      | AD-A091841  | Aug 1980    | The Eastern Pacific Tropical Cyclone Strike Probability Program (EPSTRKP) -- J. Jarrell (Science Applications, Inc.) -- 30 pp                                                                                                                                                                                                  |
| CR 80-04      | AD-A093197  | Oct 1980    | Optimum Track Ship Routing (OTSR) Applications of the Tropical Cyclone Strike/Wind Probability Program -- D. Chin, K. Nuttall, M. McKim, H. Hamilton, C. Buenafe (Systems and Applied Sciences Corp.) -- 22 pp                                                                                                                 |
| CR 80-05      | AD-A098094  | Dec 1980    | Satellite Wind-Profile Techniques -- R. Mancuso, R. Endlich (SRI International) -- 64 pp.                                                                                                                                                                                                                                      |
| CR 80-06      | AD-A097927  | Dec 1980    | Investigation of the Effect of Low Level Maritime Haze on DMSP VHR and LF Imagery -- R. Isaacs (Atmospheric & Environmental Research, Inc.) -- 125 pp                                                                                                                                                                          |
| TR 81-01      | AD-B058454L | Mar 1981    | Shipboard Radiological Fallout Model (Shipboard Numerical Aid Program (SNAP) No. 6.0) -- R. W. Titus, A. J. Klapp -- 90 pp. Distribution is limited to U.S. Government agencies only. Other requests for this document must be referred to: Commander, Naval Air Systems Command, Department of the Navy, Washington, DC 20361 |
| TR 81-02      | AD-B060991  | Jul 1981    | A Climatology of North Atlantic Effects On Forward Looking Infrared (FLIR) Systems -- B. K. Katz, A. K. Goroch -- 118 pp. Distribution is limited to U.S. Government agencies only. Other requests for this publication must be referred to Commander, Naval Ocean Systems Center, San Diego, CA 92152.                        |
| TR 81-03      | AD-A104025  | Jul 1981    | The Atmospheric Transmission Generation System for Satellite Infrared Sounders -- T. J. Kleespies -- 40 pp                                                                                                                                                                                                                     |

| Report Number | AD Number   | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                             |
|---------------|-------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 81-04      | AD-A104892  | Aug 1981    | Evaluation of a Method for Short-Range Forecasting of Evaporation Duct Heights -- W. A. Sweet -- 40 pp                                                                                                                                                                                                  |
| TR 81-05      | AD-A107647  | Sep 1981    | A Verification Study of the Improved Regional Rapid Analog System (IRRAS) -- L. R. Brody -- 52 pp                                                                                                                                                                                                       |
| TR 81-06      | AD-B065213L | Oct 1981    | Climatology of Infrared Range in Pacific Ocean Regions of the Northern Hemisphere -- A. K. Goroch, T. Brown -- 36 pp.<br>Distribution is limited to U.S. Government agencies only. Other requests for this publication must be referred to: Commander, Naval Ocean Systems Center, San Diego, CA 92152. |
| CR 81-01      | AD-A0988848 | Feb 1981    | Survey of Available Systems for Identifying Systematic Errors in Numerical Model Weather Forecasts -- P. A. Harr, W. D. Groscup (Control Data Corporation) -- 94 pp                                                                                                                                     |
| CR 81-02      | AD-A102053  | Mar 1981    | Further Analysis of Tropical Cyclone Characteristics from Rawinsonde Compositing Techniques -- W. M. Gray (Colorado State University) -- 132 pp                                                                                                                                                         |
| CR 81-03      | AD-A102106  | Apr 1981    | Tropical Cyclone Wind Probability Forecasting (WINDP) -- J. D. Jarrell (Science Applications, Inc.) -- 70 pp                                                                                                                                                                                            |
| CR 81-04      | AD-A102594  | Jul 1981    | Atlantic Hurricane Strike Probability Program (STRIKPA) -- J. D. Jarrell (Science Applications, Inc.) -- 30 pp                                                                                                                                                                                          |
| CR 81-05      | AD-A108756  | Oct 1981    | Atlantic Hurricane Wind Probability Forecasting (WINDPA) -- J. D. Jarrell (Science Applications, Inc.) -- 20 pp                                                                                                                                                                                         |
| CR 81-06      | AD-A113651  | Nov 1981    | Characteristics of Water Vapor Tracked Winds -- F. R. Mosher, T. Stewart (Space Science & Engineering Center, University of Wisconsin-Madison) -- 54 pp                                                                                                                                                 |

| Report Number | AD Number  | Report Date | Title -- Author(s) -- Pages                                                                                                                                  |
|---------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 82-01      | AD-A112515 | Jan 1982    | A Climatology of the Refractive Index Structure Function Parameter, $C_n^2$ , in the North Atlantic Ocean Region -- T. Brown, A. K. Goroch -- 100 pp         |
| TR 82-02      | --         | --          | No listing                                                                                                                                                   |
| TR 82-03      | AD-A116101 | Jun 1982    | Hurricane Havens Handbook for the North Atlantic Ocean -- R. J. B. Turpin, S. Brand -- 282 pp                                                                |
| TR 82-03      | AD-A130264 | Jun 1983    | Hurricane Havens Handbook for the North Atlantic Ocean, CHANGE 1 -- R. J. B. Turpin, S. Brand -- 172 pp                                                      |
| TR 82-04      | AD-A121103 | Aug 1982    | Climatology of Surface Infrared Extinction Coefficients in the North Atlantic Ocean Region -- T. Brown, A. K. Goroch -- 92 pp                                |
| TR 82-05      | AD-A122034 | Oct 1982    | A Technique for Predicting Surface Wind Distributions of Tropical Cyclones in the Western North Pacific -- T. Tsui, R. Brody, S. Brand -- 42 pp              |
| TR 82-06      | --         | Nov 1982    | A Comparison of Two Initialization Methods in Data Assimilation -- E. Barker -- 154 pp                                                                       |
| CR 82-01      | AD-A112823 | Jan 1982    | Estimation of Vertical Wind Shear from Infrared and Microwave Radiances -- H. Panofsky, J. Cahir, A. Cavalier, F. Gadomski -- 76 pp                          |
| CR 82-02      | AD-A115027 | Jan 1982    | Final Report on A.R.A.P.'s Model for the Atmospheric Marine Environment -- W. Lewellen, D. Oliver, R. Sykes -- 178 pp                                        |
| CR 82-03      | AD-A113374 | Jan 1982    | Time Scales of Systematic Errors in a Numerical Weather Forecast -- P. Harr -- 58 pp                                                                         |
| CR 82-04      | AD-A115129 | Feb 1982    | Ocean/Troposphere/Stratosphere Forecast Systems: A State-of-the-Art Review -- R. Elsberry, R. Haney, R. Williams, R. Bogart, H. Hamilton, E. Hinson -- 80 pp |
| CR 82-05      | AD-A114556 | Mar 1982    | On the Speed of Recurving Typhoons Over the Western North Pacific Ocean -- B. Cheng-Lan, J. Sadler -- 62 pp                                                  |
| CR 82-06      | AD-A114532 | Apr 1982    | Tropical Cyclone Wind Probability Forecasting for the Eastern North Pacific (EPWINDP) -- J. Jarrell -- 18 pp                                                 |

| Report<br>Number | AD<br>Number | Report<br>Date | Title -- Author(s) -- Pages                                                                                                                                     |
|------------------|--------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR 82-07         | AD-A115791   | Apr 1982       | Shipboard Tropical Cyclone Applications<br>Software System for the Western North<br>Pacific Ocean -- D. Chin -- 38 pp                                           |
| CR 82-08         | --           | --             | Unpublished                                                                                                                                                     |
| CR 82-09         | AD-A120022   | Aug 1982       | Validation of Bulk Turbulence Modeling<br>in Stable Regimes -- R. Golus, H.<br>Panofsky -- 42 pp                                                                |
| CR 82-10         | AD-A121154   | Aug 1982       | Forecast Aids for Predicting Tropical<br>Cyclone Associated Gusts and Sustained<br>Winds for Cubi Point, Philippines --<br>J. Jarrell; R. Englebretson -- 18 pp |
| CR 82-11         | AD-A121180   | Aug 1982       | Forecast Aids for Predicting Tropical<br>Cyclone Associated Gusts and Sustained<br>Winds for Yokosuka, Japan -- J.<br>Jarrell, R. Englebretson -- 20 pp         |
| CR 82-12         | AD-A120040   | Sep 1982       | Wind Probabilities and Tropical Cyclone<br>Readiness Conditions -- J. Jarrell --<br>40 pp                                                                       |
| CR 82-13         | AD-A121130   | Sep 1982       | Tropical Cyclone Satellite Images in<br>Lagrangian Coordinates -- V. Peterson,<br>S. Uhrich -- 72 pp                                                            |
| CR 82-14         | AD-A122908   | Dec 1982       | Terrain Adjusted Tropical Cyclone Wind<br>Probabilities -- J. Jarrell - 20 pp                                                                                   |

| Report Number | AD Number  | Report Date | Title -- Author(s) -- Pages                                                                                                                                                       |
|---------------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 83-01      | AD-A150097 | June 1984*  | NTAG Volume 4, Part 1 - Eastern North Pacific Weather Analysis and Forecast Applications.                                                                                         |
| TR 83-02      | AD-A135466 | June 1983   | Navy Tactical Applications Guide, Operational Environmental Satellites -- R. Fett, W. Bohan, J. Bates, S. Tipton -- 70 pp                                                         |
| TR 83-03      | A134412    | June 1983   | Navy Tactical Applications Guide, Volume 5 Part 1, Indian Ocean (Red Sea/ Persian Gulf) Weather Analysis and Forecast Applications -- R. Fett, W. Bohan, R. Englebretson -- 91 pp |
| TR 83-04      | AD-A126007 | Feb 1983    | Evaluation of the Tropical Cyclone Spiral Linearization Technique -- S. Swadley -- 44 pp                                                                                          |
| TR 83-05      | AD-A129902 | June 1983   | Coupled Ocean-Atmospheric Modeling for 3-15 Day Numerical Prediction: A Workshop Report -- T. Rosmond, A. Weinstein, S. Piacsek -- 88 pp                                          |
| TR 83-06      | AD-A134590 | Sep 1983    | Short-Range Local Forecasting of Coastal Summer Stratus by Statistical Techniques - A Pilot Study -- W. Sweet -- 56 pp                                                            |
| CR 83-01(a)   | AD-A126245 | Jan 1983    | Satellite Moisture Retrieval Techniques Volume 1: Technique Development and Evaluation -- A. Rosenberg, D. Hogan, C. Bowman -- 96 pp                                              |
| CR 83-01(b)   | AD-A126446 | Jan 1983    | Satellite Moisture Retrieval Techniques Volume 2: Atmospheric Sounding Bibliography -- A. Rosenberg, E. Hutter, J. Horan -- 136 pp                                                |
| CR 83-02      | AD-A128796 | Feb 1983    | Evaluation of U.S. Navy Tropical Cyclone Storm Surge Requirements in the Western North Pacific and Indian Oceans -- A. Compton -- 138 pp                                          |
| CR 83-03      | AD-A127130 | Mar 1983    | Tropical Cyclone Wind Probability Forecasting for the North Indian Ocean (WINDPIO) -- J. Jarrell -- 20 pp                                                                         |
| CR 83-04      | AD-A128749 | Apr 1983    | Satellite Measurements of Maritime Aerosol Parameters -- M. Griggs -- 32 pp                                                                                                       |
| CR 83-05      | AD-A129862 | May 1983    | Further Developments of the A.R.A.P. Model for the Atmospheric Marine Environment -- W. Lewellen, R. Sykes, and D. Oliver -- 172 pp                                               |

\*Delayed printing



| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                                                                        |
|---------------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR 83-06      | A134312   | Jun 1983    | Forecasters Handbook for the Middle East/Arabian Sea -- W. Hubert, A. Hull, D. Morford, R. Englebreton -- 226 p.                                                                                                                                                                                                                                   |
| CR 83-07      | A136146   | Oct 1983    | Tropical Cyclone Wind Probability Forecasting for the Southern Hemisphere (WINDPSH) -- J. Jarrell -- 20 pp.                                                                                                                                                                                                                                        |
| CR 83-08      | A137846   | Dec 1983    | Forecast Aids for Predicting Tropical Cyclones Associated Gusts and Sustained Winds for Agana, Hong Kong, Kadena and Misawa -- J. Jarrell, J. Sanders -- 48 pp.                                                                                                                                                                                    |
| CR 83-09      | A139892   | Dec 1983    | Aerosol Characteristics on the Alboran Sea, October 1982 -- J. Mack, C. Rogers, J. Kile -- 144 pp.                                                                                                                                                                                                                                                 |
| TR 84-01      | A141468   | Feb 1984    | A Spiral Analysis Technique for Monitoring and Predicting Tropical Cyclone Intensity Using Satellite Data -- B. Cook -- 104 pp.                                                                                                                                                                                                                    |
| TR 84-02      | A141215   | Feb 1984    | The Use of Satellite Observed Cloud Patterns in Northern Hemisphere 300 mb and 1000/300 mb Numerical Analysis -- S. Swadley -- 86 pp.                                                                                                                                                                                                              |
| TR 84-03      | A142212   | Apr 1984    | Tropical Cyclone Sea-State Probability Model Development and Applications -- J. Jarrell, D. Chin, T. Brown, S. Brand -- 76 pp.                                                                                                                                                                                                                     |
| TR 84-04      | A144066   | May 1984    | Rain Rate Climatologies Over Marine Regions -- A. Goroch, T. Brown, M. Vanderhill -- 84 pp.                                                                                                                                                                                                                                                        |
| TR 84-05      | B086637L  | Jun 1984    | Climatology of North Pacific Environmental Effects on Forward Looking Infrared (FLIR) Systems -- B. Katz, A. Goroch -- 70 pp. Distribution is limited to U.S. Government agencies only; administrative/operational use; June 1984. Other requests for this document must be referred to Commander, Naval Ocean System Center, San Diego, CA 92152. |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 84-06      | A144001   | Jun 1984    | Programming Guide for Shipboard Numerical Aid Programs (SNAP) -- T. Brown -- 32 pp.                                                                                                                                                                                                                                                                                         |
| TR 84-07      | A144752   | Jun 1984    | Statistical Tropical Cyclone Forecasting Techniques for the Southern Hemisphere -- T. Keenan -- 52 pp.                                                                                                                                                                                                                                                                      |
| TR 84-08      | --        | Nov 1984    | Forecasters Handbook for the Southern African Continent and Atlantic/Indian Ocean Transit -- F. Williams et al. -- 325 pp.*                                                                                                                                                                                                                                                 |
| TR 84-09      | A146487   | Jul 1984    | Documentation Guide for Shipboard Numerical Aid Programs (SNAP) -- R. Wimmer, T. Brown -- 62 pp.                                                                                                                                                                                                                                                                            |
| TR 84-10      | --        | Dec 1984    | Propagation-Based C <sup>2</sup> Displays for Radar Emissions and AAW Force Disposition -- R. Paulus -- 46 pp. Distribution is limited to U.S. Government agencies only; administrative/operational use; December 1984. Other requests for this document must be referred to Commanding Officer, Naval Environmental Prediction Research Facility, Monterey, CA 93943-5106. |
| CR 84-01      | A142216   | Mar 1984    | Assessing and Displaying the Effects of Elevated Trapping Layers in Support of Navy Command and Control -- P. Petit, H. Hamilton -- 82 pp.                                                                                                                                                                                                                                  |
| CR 84-02      | A144785   | May 1984    | Setting Hurricane Conditions of Readiness With High Confidence -- G. Kostyschack and J. Jarrell -- 34 pp.                                                                                                                                                                                                                                                                   |
| CR 84-03      | A145286   | Jun 1984    | Handbook for Sea Ice Analysis and Forecasting -- W. Stringer, D. Barnett, R. Godin -- 324 pp.                                                                                                                                                                                                                                                                               |
| CR 84-04      | A144529   | Jun 1984    | Cloud Bands Structure of Hurricane David, 1979 - A Case Study -- F. Nicholson -- 46 pp.                                                                                                                                                                                                                                                                                     |

\* Delayed printing: Dec 1985

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                |
|---------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| CR 84-05      | A146667   | Jul 1984    | Simple Mesoscale Models for Operational Use in Regions of Topographic and Thermal Forcing: Development and Evaluation -- C. Mass -- 86 pp. |
| CR 84-06      | A147555   | Sep 1984    | Pearl Harbor and South Coast of Oahu Hurricane Haven Study -- R. Gilmore, J. Jarrell -- 32 pp.                                             |
| CR 84-07      | --        | Oct 1984    | Diagnostic Aids and Analyses for Smaller-Scale Moisture Structure -- J. Cahir, G. Forbes, W. Lottes -- 100 pp.                             |
| CR 84-08      | A149628   | Oct 1984    | Varying Structure and Intensity Change Characteristics of Four Western North Pacific Tropical Cyclones -- C. Askue, W. Gray -- 104 pp.     |
| CR 84-09      | A156188   | Dec 1984    | Mean Cloudiness Over the Global Tropics from Satellite Observations -- J. Sadler, B. Kilonsky, L. Oda, A. Hori --                          |
| CR 84-10      | A153016   | Dec 1984    | Parameterization of Subgrid-Scale Fluxes in Mesoscale Meteorological Models -- W. Lewellen, R. Sykes, S. Parker -- 122 pp.                 |
| CR 84-11      | A153085   | Dec 1984    | Characteristics of North Indian Ocean Tropical Cyclone Activity -- C-S. Lee, W. Gray -- 110 pp.                                            |

| Report Number | AD Number | Report Date | Title -- Author(s) -- Pages                                                                                                                                                             |
|---------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TR 85-01      | A155435   | Feb 1985    | Navy Tactical Applications Guide, Volume 5, Part 2 Indian Ocean (Arabian Sea/Bay of Bengal) Weather Analysis and Forecast Applications -- R. Fett, W. Bohan, R. Englebretson -- 202 pp. |
| TR 85-02      | --        | Jul 1985    | An Application of Discriminant Analysis to a Tropical Cyclone Intensification Forecasting Algorithm -- B.J. Cook -- 40 pp.                                                              |
| TR 85-03      | --        | Oct 1985:   | Design Considerations for an Advanced Tropical Cyclone Model -- R. Elsberry, M. Fiorino -- 152 pp.                                                                                      |
| CR 85-01      | A155435   | Feb 1985    | Assessment of the Performance of an In-Field Gaussian Plume/Puff Model for Overwater Use -- C. Skupniewicz, G. Schacher -- 54 pp.                                                       |
| CR 85-02      | A155027   | Feb 1985    | Accuracy and Operational Use of Medium and Extended Range Numerical Atmospheric Forecasts: A Review -- R. Elsberry, H. Hamilton, P. Petit -- 84 pp.                                     |
| CR 85-03      | A155623   | Feb 1985    | Medium Range Atmospheric Forecast System: Evaluation Plan -- P. Petit, H. Hamilton, R. Elsberry -- 40 pp.                                                                               |
| CR 85-04      | A155240   | Feb 1985    | Medium Range Atmospheric Forecast System: Evaluation Report -- P. Petit, H. Hamilton, R. Elsberry -- 86 pp.                                                                             |
| CR 85-05      | A155484   | Mar 1985    | Ship-To-Ship Propagation: Maritime Data Analyses -- J. Manning, J. Dowling, J. Hummel -- 130 pp.                                                                                        |

Abstracts of 1985 Publications

Naval Environmental Prediction Research Facility  
Monterey, CA 93943-5006

TR 85-01, February 1985: Navy Tactical Applications Guide, Volume 5, Part 2  
Indian Ocean (Arabian Sea/Bay of Bengal) Weather Analysis and Forecast  
Applications -- R. Fett, W. Bohan, R. Englebreton -- 202 pp.

Case studies describing regional environmental analysis and forecast applications based on satellite data and conventional meteorological observations for the Indian Ocean area are presented. Topics include Northeast Monsoon, Southwest Monsoon, coastal zone phenomena, and ocean-atmosphere interaction. The studies provide insights into identifiable patterns of weather development that occur frequently, so that once the basic pattern is recognized at an early stage this information can be used for improved weather analysis and forecasting.

TR 85-02, July 1985: An Application of Discriminant Analysis to a Tropical  
Cyclone Intensification Forecasting Algorithm -- B.J. Cook -- 40 pp.

A stepwise screening discriminant analysis is used to develop an algorithm for forecasting tropical cyclone intensification. Some potential predictors used in the analysis are derived from FNOC (Fleet Numerical Oceanography Center) zonal wind analyses. Other potential predictors considered are simple climatological parameters and persistence of intensification. The potential predictors are screened by a stepwise discriminant analysis program to determine which significantly discriminate between three (intensifying, filling, and neither) intensification categories. The best discriminators are then used as predictors in an intensification forecasting algorithm.

The algorithm is developed and tested on Western Pacific tropical cyclone data from the years 1974-82. In addition to the independent test, stability of the algorithm is investigated and a test is conducted to compare forecasts produced by the algorithm with forecasts made by JTWC (Joint Typhoon Warning Center) and with forecasts of persistence of intensification. The algorithm shows skill relative to persistence and compares favorably with the official forecasts, although most of the differences between the scores are not significant. For this data set, JTWC did not forecast tropical cyclone intensification significantly better than the derived algorithm or persistence.

TR 85-03, October 1985: Design Considerations for an Advanced Tropical Cyclone  
Model -- R. Elsberry, M. Fiorino -- 152 pp.

A project planning meeting on dynamical tropical cyclone models was held January 3-4 1985 at NAVENVPREDRSCHFAC to guide development of a next-generation forecast model, or Advanced Tropical Cyclone Model (ATCM). The meeting was structured in three groups: an Operational group (OP) to provide forecast needs and real world constraints; a Numerical Aspects group (NUM) with expertise in the numerical modeling issues; and a Data Analysis and Initialization group (DAI) to guide the development of the data analysis and initialization component of the ATCM.

The OP group stated that an ATCM should provide the primary tropical cyclone track guidance in the 48-72 h range and that the model should predict wind distribution. It was emphasized that to achieve these goals successfully, the ATCM system must (1) analyze and predict synoptic-scale features adjacent to the tropical cyclone; (2) allow the user to specify the initial intensity and the horizontal and vertical structure of the tropical cyclone; (3) handle multiple storms; and (4) include topographic effects.

The NUM group recommended that the first version of the ATCM have uniform horizontal resolution (vice a two-way interactive, moving nested grid) of about 50 km, and a vertical resolution of about 10 layers. The domain size should be on the order of 9000 km (E-W) by 6000 km (N-S). Because the storm simulation ultimately will be governed by the physics in the model, it was recommended that a dynamical-physical interactive physics package be used with constraints to ensure a realistic representation of the vortex.

The DAL group agreed that the lack of an accurate and complete specification of the wind field in the environment of the tropical cyclone is in the primary restricting factor in the performance of the dynamical models. Although existing analysis techniques may be adequate, the initial humidity fields will need special treatment and the storm circulation should be specified with a model-generated "bogus" storm.

CR 85-01, February 1985: Assessment of the Performance of an In-Field Gaussian Plume/Puff Model for Overwater Use -- C. Skupniewicz, G. Schacher -- 54 pp.

A U.S. Navy chemical hazard forecast computer model is tested for consistency with Naval Postgraduate School field data which was used in its development. The model's attempt to forecast puff dispersion, for which a parameterization has not been developed, are examined by comparison to relative dispersion data sets. The parameterizations developed from the NPS data set are compared to an independently derived set of parameterizations demonstrating the generic applicability of the model. It was found that the model predicts the total width over which a hazard might occur reasonably well, but under-predicts the downwind hazard distance. This is due to lack of separate consideration of meander effects.

CR 85-02, February 1985: Accuracy and Operational Use of Medium and Extended Range Numerical Atmospheric Forecasts: A Review -- R. Elsberry, H. Hamilton, P. Petit - 84 pp.

The potential benefits of medium range (5-10 day) and extended range (10-15 day) atmospheric forecasts in support of the U.S. Navy are assessed. The present and likely near-future state of the art of medium range and extended range forecasting are surveyed, summarized, and related to specific operational requirements and applications of such forecasts. Conclusions regarding the required skill for longer-range forecasts are provided. Several issues relating to forecast system support at a central site, and to presentation, distribution and use of products, are presented.

CR 85-03, February 1985: Medium Range Atmospheric Forecast System: Evaluation Plan -- P. Petit, H. Hamilton, R. Elsberry -- 40 pp.

A plan for conducting a comprehensive evaluation of the accuracy and utility -- with respect to operational Navy applications -- of a medium range (5-10 day) atmospheric forecast system is presented. Detailed evaluation procedures for verification data collection and reduction for practical skill assessment are provided.

CR 85-04, February 1985: Medium Range Atmospheric Forecast System: Evaluation Report -- P. Petit, H. Hamilton, R. Elsberry -- 86 pp.

The results of a comprehensive evaluation of the accuracy and utility -- with respect to operational Navy applications -- of a medium range (5-7 day) atmospheric forecast system are presented. Several nonstandard, but operationally relevant, objective measures of forecast model skill are employed, along with more traditional measures. Summary conclusions and recommendations for future evaluations are provided.

CR 85-05, March 1985: Ship-To-Ship Propagation: Maritime Data Analyses -- J. Manning, J. Dowling, J. Hummel -- 130 pp.

An analysis of two sets of atmospheric optical and supporting meteorological data has been performed. The first data set was taken by an airborne differential absorption lidar (DIAL) system. From this data set, vertical water vapor density profiles were extracted and used to calculate transmittances for CW and pulsed DF lasers. Thermal blooming calculations also were made to compare the performance of a laser optimized using a standard atmosphere water vapor profile with a laser optimized using DIAL-derived profiles. The difference was found to be small for the conditions used here.

The second data set consisted of long-path atmospheric transmittance and radiosonde measurements made in support of a long focal length imaging demonstration (LFLID). Measured transmittances were compared with LOWTRAN 6 transmittance calculations. Good agreement was obtained in the 3-5 micrometer range. Comparisons for the 8-12 micrometer region showed calculated transmittances about a factor of 10 lower than measured values.

**END**

**FILMED**

**386**

**DTIC**