NOAA COOPERATIVE SCIENCE CENTER IN ATMOSPHERIC SCIENCES & METEOROLOGY

EDUCATION RESEARCH IMPACT

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)

Fellows Handbook (2021-2022)

1867
HOWARD
UNIVERSITY

JSU
JACKSON
STATE
UNIVERSITY

PennState

SAN DIEGO STATE
UNIVERSITY
Leadership Starts Here

UTEP

UMBC
AN HONORS UNIVERSITY IN MARYLAND

UNIVERSITY OF
MARYLAND

SAN JOSÉ STATE
UNIVERSITY

UNIVERSITY
AT ALBANY
State University of New York

TUSKEGEE
UNIVERSITY

UNIVERSIDAD
UMET
METROPOLITANA

FORT VALLEY STATE UNIVERSITY
A State and Land-Grant Institution • University System of Georgia

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

EDUCATIONAL PARTNERSHIP PROGRAM
WITH MINORITY SERVING INSTITUTIONS
NOAA

Note: The NCAS-M Fellows Handbook (2020-2021) serves as a guide to the operational procedures and processes of the NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M).

The handbook is a living document. NCAS-M may change, delete, suspend, or discontinue parts of the handbook at any time without prior notice.

Every reasonable effort has been made to ensure the accuracy, reliability, and completeness of the procedures and processes found in the handbook. If any discrepancies exist between the information in this handbook and institution policies, the information at the institution shall take precedence.

Table of Contents

I. NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M).....6

Overview 6

NOAA..... 6

NCAS-M 7

II. Administration and Personnel 21

Overview 21

NCAS-M Application..... 21

On Receiving NCAS-M Fellowship..... 21

During NCAS-M Fellowship 21

On Completing NCAS-M Fellowship..... 22

III. NCAS-M Website and Social Media Profiles..... 22

IV. Appendices..... 24

A. Experiential Training Summer Program (ETSP) 25

B. NOAA Experiential and Research Training Program (NERTO) 27

C. Letter of Understanding 32

D. Individual Student Development Plan..... 38

E. Acknowledgment Guidelines 51

F. Individual Postdoctoral Development Plan..... 53

G. NCAS-M Fellow Contact Form 58

H. NCAS-M Fellow Travel Request Form..... 59

I. NCAS-M Fellow Travel Report Form 60

J. NCAS-M Fellow Purchase Request Form 63

List of Tables

Table 1: NCAS-M Staff Contact Information and Offices 11
Table 2: NCAS-M Partnering Institutions - Key Personnel 12
Table 3: NCAS-M Education and Training Requirements for ASM Student and Postdoctoral Fellows 15

List of Figures

Figure 1: NCAS-M Organizational Chart 10

Introduction

This handbook was developed by the NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M) to guide fellows, faculty advisors, and NOAA mentors about the policies and procedures at NCAS-M. The document provides: a) information about NCAS-M (e.g., overview, mission, and structure), b) information for NCAS-M Fellows (e.g., requirements), and c) information regarding administrative and personnel policies and procedures.

I. NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)

Overview

The **NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology** (NCAS-M) is a cooperative science center (CSC) funded by the National Oceanic and Atmospheric Administration, Jose E. Serrano Educational Partnership Program with Minority Serving Institutions (NOAA EPP/MSI) Cooperative Agreement. The first part of this overview gives some background on NOAA, which is followed by an overview of NCAS-M.

National Oceanic and Atmospheric Administration (NOAA)

NOAA is a bureau in the Department of Commerce and has roots in the Nation's first scientific agency, the Survey of the Coasts (1807). The current organization was formed in 1970.

NOAA's Mission:
To understand and predict changes in climate, weather, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources. More on NOAA's science, service, and stewardship.

NOAA long-term goals are:

NOAA's Goals:

1. Climate Adaptation and Mitigation - *An informed society anticipating and responding to climate and its impacts*.
2. Weather-Ready Nation - *Society is prepared for and responds to weather-related events*.
3. Healthy Oceans - *Marine fisheries, habitats, and biodiversity sustained within healthy and productive ecosystems*.

4. Resilient Coastal Communities and Economies - *Coastal and Great Lakes communities that are environmentally and economically sustainable*.

NOAA Office of Education (NOAA OEd):
NOAA OEd coordinates education activities across NOAA and develops NOAA's Education Strategic Plan and Policy. These efforts help ensure that NOAA's education program and activities are based on NOAA science and support the agency's cross-cutting priority of promoting environmental literacy efforts that directly benefit the NOAA mission. NOAA OEd implements and manages scholarship program as well as offers competitive grant program at the national and regional level.

NOAA Jose E. Serrano Educational Partnership Program with Minority Serving Institutions (NOAA EPP/MSI):
NOAA EPP/MSI administers financial assistance through competitive processes to Minority Serving Institutions (MSIs). The goal of NOAA EPP/MSI is to increase the number of students from underrepresented communities who are educated, trained, and graduate in fields that directly support NOAA's mission. NOAA/EPP/MSI is aimed at increasing programs and opportunities for individuals to pursue applied research and education in atmospheric, oceanic, and environmental sciences and remote sensing technology, in support of NOAA's mission.

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)

NCAS-M is a Cooperative Science Center funded by the NOAA Jose E. Serrano Educational Partnership Program with Minority Serving Institutions Cooperative Agreement #NA16SEC4810006 and is the CSC aligned primarily with the National Weather Service (NWS). NCAS-M is comprised of 13 institutions of higher education:

Partners: **Howard University** (lead), Fort Valley State University, Jackson State University, Pennsylvania State University, State University of New York-Albany, Universidad Metropolitana, University of Puerto Rico-Mayaguez, University of Texas-El Paso, University of Maryland Baltimore County, University of Maryland, San Diego State University, San Jose State University, and Tuskegee University. The NCAS-M partnership is a unique balance of minority-serving and majority-serving institutions located along the eastern seaboard, the southwest, the Gulf coast, and the United States (US) Caribbean.

The cooperative agreement and related activities under NCAS-M are aimed at producing a diverse group of highly trained professionals for NOAA and the broader atmospheric and environmental sciences workforce.

NCAS-M's Mission:
NCAS-M's mission is to increase the number of workforce-ready graduates from underrepresented communities in NOAA-related sciences, with emphasis on scientific, technological, and societal challenges associated with atmospheric sciences and meteorology.

NCAS-M's aim is for EPP-funded graduates to enter NOAA mission workforce as hires by NOAA, NOAA contractors, NOAA partners, or resource management agencies, academia, or as entrepreneurs.

NCAS-M's overall goal is to conduct education and research that directly supports NOAA's mission to recruit, train, and graduate students particularly from underrepresented communities for the agency mission workforce.

NCAS-M is funded by NOAA/EPP Cooperative Agreement #NA16SEC4810006.

NCAS-M Personnel Roles and Responsibilities

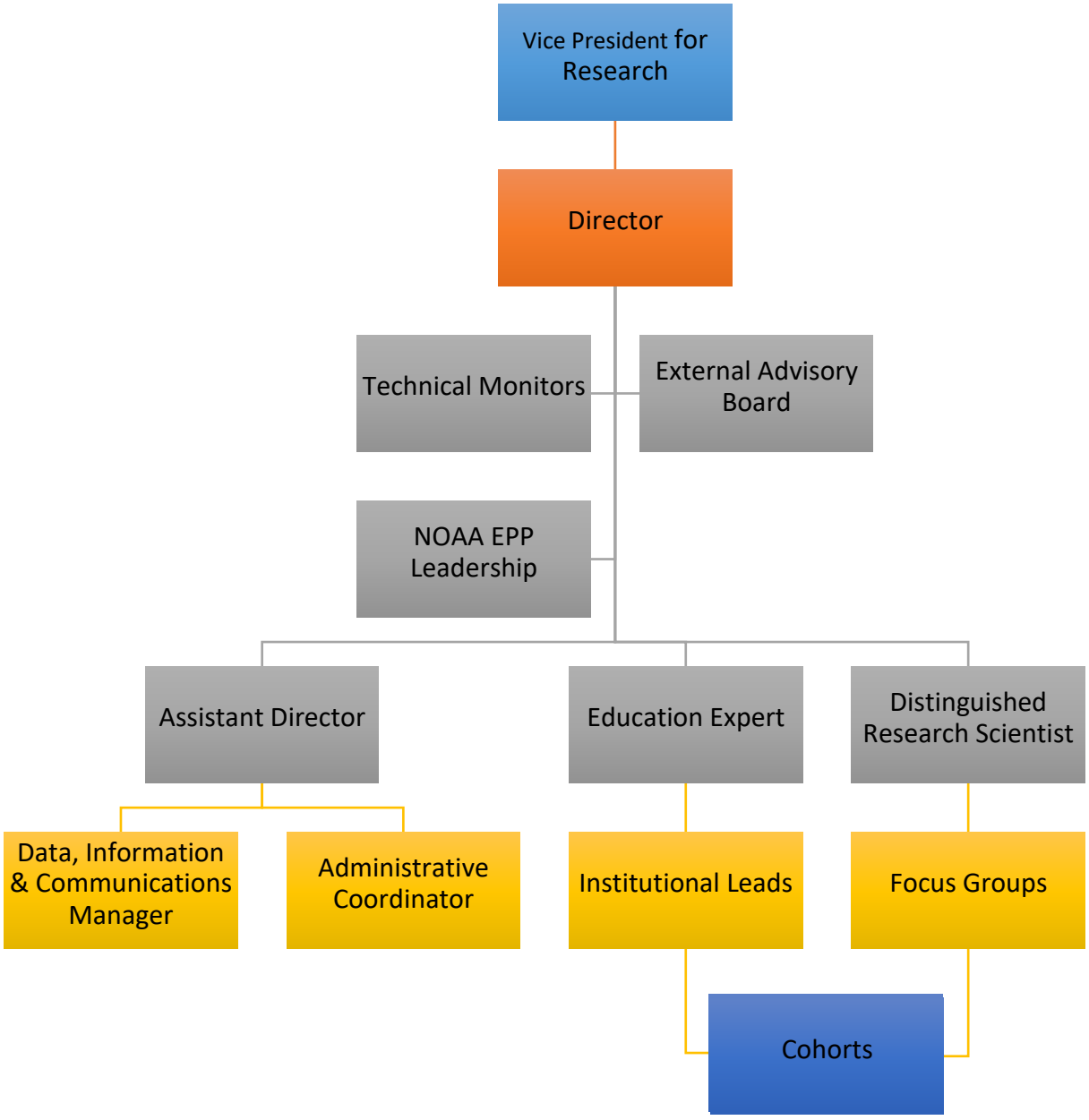
This section describes the roles and responsibilities of key NCAS-M personnel (see Figure 1 and Table 1 for NCAS-M key personnel contact information).

Person Primary / Position	Role / Key Responsibilities
Sen Chiao Director	• Overall leadership, administration, and planning • Liaises with NOAA leadership • Primary liaison with NOAA Education • Engagement with NWS, Technical Monitors, and NOAA stakeholders
Terri Adams, PhD Deputy Director	• Works with Director on administration and planning • Liaises with NOAA leadership • Engagement with NWS, Technical Monitors, and NOAA stakeholders
Kimberly Smith, MS Assistant Director	• Compliance assurance • Budget implementation • Office management • Subaward execution and monitoring • Grants online monitoring
Charles Ichoku, PhD Distinguished Scientist	• Coordination and advancement of center-wide research plan • Assessment of research productivity • Grantsmanship • Reporting on Center science
Jo-Anne Manswell Butty, PhD Education Expert	• Student Communications • Planning and implementation of Education and Professional development programs • Reporting on E&PD • Student compliance

Ricardo Sakai, PhD Senior Research Scientist	• Scientific management and operations at Beltsville • Coordination of student research at Beltsville • Grantsmanship
Leticia Williams, PhD Research Associate	• Collaborative research with NOAA • Publications
Darryl Stephens Budget Analysis	• Works with Assistance Director • Budget implementation
Melika Matthews Data Manager	• Student tracker • Website • Center calendar of events
Principal Investigators /Researchers	• NCAS-M partner institution lead investigators • Responsible for managing education and research training components at partner institutions, integration of the various components, and serve as the primary point of contact for NCAS-M

NCAS-M Organizational Chart

Figure 1: NCAS-M Organizational Chart



NCAS-M Staff Contact Information and Offices

Table 1 provides contact information for NCAS-M staff.

Table 1: NCAS-M Staff Contact Information and Offices

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M) 1840 7th St NW Rm 305 HURB1 Washington, DC 20001 (202) 865-8678 / (202) 865-8294 (fax) Key Personnel				
TITLE	**NAME**	**OFFICE PHONE**	**EMAIL**	**ROOM #**
Director	Dr. Sen Chiao		sen.chiao@howard.edu	303
Deputy Director	Dr. Terri Adams	202-806-6707	tadams-fuller@howard.edu	
Assistant Director	Ms. Kimberly Smith HU Beltsville	202-865-8536 301-419-9030	kl_smith@howard.edu	326
Distinguished Scientist	Dr. Charles Ichoku HU Beltsville	202-865-8545 301-419-9035	charles.ichoku@howard.edu	325
Education Expert	Dr. Jo-Anne Manswell Butty	202-865-8537	jmanswell-butty@howard.edu	326
Senior Scientist	Dr. Ricardo Sakai	301-419-9030	ricardo.k.sakai@howard.edu	HU Beltsville
Research Associate	Dr. Leticia Williams		leticia.williams12@howard.edu	
Budget Analysis	Mr. Darryl Stephens		darryl.stephens@howard.edu	305
Data Manager	Ms. Melika Matthews	202-865-8680	melika.matthews@howard.edu	305
NCAS-M Main Office		202-865-8678		305
NCAS-M Student Office (HU)		202-865-8681 202-865-8683		304

Table 2: NCAS-M Partnering Institutions - Key Personnel

NCAS-M Partner Institutions Key Personnel			
	NAME	**PRINCIPAL INVESTIGATOR**	**EMAIL**
1	Howard University (HU)	Dr. Terri Adams	tadams-fuller@howard.edu
2	Fort Valley State University (FVSU)	Dr. Hari P. Singh	singhh@fvsu.edu
3	Jackson State University (JSU)	Dr. Mehri Fadavi	mfadavi@jsums.edu
4	Pennsylvania State University (PSU)	Dr. Jose Fuentes	jdfuentes@psu.edu
5	San Diego State University (SDSU)	Dr. Samuel Shen	sam.shen@sdsu.edu
6	San Jose State University (SJSU)	Dr. Sen Chiao	sen.chiao@howard.edu
7	Tuskegee University (TU)	Dr. Souleymane Fall	sfall@mytu.tuskegee.edu
8	University at Albany, State University of NY (UAlbany)	Dr. Qilong Min	qmin@albany.edu
9	University of Maryland Baltimore County (UMBC)	Dr. Belay Demoz	bdemoz@umbc.edu
10	University of Maryland, College Park (UMD)	Dr. Xin-Zhong Liang	xliang@umd.edu
11	Universidad Metropolitana (UM)	Dr. Juan Arratia	um_jarratia@suagm.edu
12	University of Puerto Rico, Mayaguez (UPRM)	Dr. Roy Armstrong	roy.armstrong@upr.edu
13	University of Texas, El Paso (UTEP)	Dr. Rosa Fitzgerald	rfitzgerald@utep.edu

NCAS-M - Partner Institutions
Principal Investigators/Researchers - Contact List

PARTNERS

Howard University

- Dr. Sen Chiao
- Dr. Terri Adams – 202-806-6700
- Dr. Kurban Haydar – 202-431-9790
- Dr. Charles Ichoku – 202-865-8545
- Dr. Ricardo Sakai – 518-478-3718
- Dr. Carolyn Stroman – 202-582-7489
- Dr. Tia Tyree – 443-271-3608

Fort Valley State University

- Dr. Hari P. Singh – 478-822-1077

Jackson State University

- Dr. Mehri Fadavi – 601-979-3645
- Dr. Duanjun Lu – 601-979-3614
- Dr. Remata Reddy – 601-979-3636
- Dr. Loren White – 601-979-3635

Penn State University

- Dr. Jose Fuentes – 434-806-8083

San Diego State University

- Dr. Samuel Shen - 619-594-6280

San Jose State University

- Dr. Sen Chiao

Tuskegee University

- Dr. Souleymane Fall – 334-552-0850
- Dr. Jose Essamuah-Quansad– 334-727-8419
- Dr. Gamal Salah El Afandi – 334-724-4790

University at Albany, State University of New York

- Dr. Qilong Min – 518-437-8742
- Dr. Everette Joseph – 518-437-8700

University of Maryland, Baltimore County

- Dr. Belay Demoz – 410-455-2715

University of Maryland, College Park

- Dr. Xin-Zhong Liang – 301-405-6300, 301-708-8097

Universidad Metropolitana

- Dr. Juan Arratia – 787-766-1717

University of Puerto Rico, Mayaguez

- Dr. Roy Armstrong – 787-899-2048 x249

University of Texas, El Paso

- Dr. Rosa Fitzgerald – 915-747-7530
- Dr. Thomas Gil – 915-747-5168
- Dr. William Stockwell – 202-806-6913

NCAS-M Fellowship Program

NCAS-M provides undergraduate and graduate student fellowships to increase the participation of students from traditionally underrepresented communities in NOAA mission-related scientific, management, and policy professional workforce and advance the educational achievement of all Americans. Following is a description of the requirement of students at the different levels.

NCAS-M Baccalaureate Fellows (BF)

During the academic year, BF students will successfully complete their coursework, participate in NCAS-M orientations, work actively with a professor to be mentored, select and work on a research project, attend group meetings, attend relevant NOAA-mission activities, and collaborate with each other professionally.

Additionally, BF students will be required to: a) participate in at least one summer NOAA mission-relevant research and training -- rising sophomores are required to complete the Experiential Training Summer Program (see description in Appendix A) , b) complete an individualized student development (SDP) plan four (4) times a year in collaboration with their advisor/NOAA mentor (i.e., planning forms, mid-year progress report, end-of-year progress report, summer progress report), c) participate in activities aimed at success in their career paths (i.e., through participation in center-wide education and research webinars, professional meetings, and institutional research events), and d) participate in center-wide trainings (i.e., professional development workshops and webinars) (see Table 3).

NCAS-M Graduate Fellows (GF) (Master's and Doctoral)

NCAS-M GF will also be required to engage in activities that require inter- and intra-institution collaboration and teaming to: a) participate in NOAA Experiential Research and Training Opportunities (NERTO) or mission-relevant experiential training (see description in Appendix B), b) complete an individualized student development plans four (4) times a year, in collaboration with their advisor/NOAA mentor (i.e., planning forms, mid-year progress report, end-of-year progress report, summer progress report), c) participate in activities aimed at success in their career paths (i.e., through participation in education and research webinars, professional meetings, and institutional research events), and d) participate in center-wide trainings (i.e., professional development workshops and webinars) (see Table 3).

The NERTO experience is expected to help fellows obtain top-tier practical training experiences in a NOAA mission-relevant field. During the year, GF will also participate in ASM group meetings and seminars, work actively on a research project with a professor/NOAA mentor, attend activities at NOAA, pair with a NOAA researcher, present their research, attend leadership trainings, participate

in courses and seminars offered at NCAS-M centers, and collaborate with each other professionally.

NCAS-M Core Competencies

Core competency attainment is a goal at NCAS-M and captured in various required NCAS-M student education and training activities e.g., summer NOAA mission-relevant research and training for undergraduates, NERTO experience for graduate students, participation and presentations at professional meetings, monthly webinars, and monthly focus groups.

Following are the NCAS-M core competencies:

1. Knowledge of NOAA's and NCAS-M's mission
2. Knowledge of the human dimensions associated with environmental, climate, and severe weather issues
3. Understanding observational strategies and techniques relevant to NOAA's mission
4. Data analysis relative to discipline
5. Effective science communication
6. Knowledge of professional development skills related to the NOAA mission workforce

Table 3: NCAS-M Education and Training Requirements for NCAS-M Student and Postdoctoral Fellows

Level	Minimum Rate Per Year ($)	Purpose	Support Time Period	Education and Training Requirements[1]
Baccalaureate	12,000	Scholarship tuition, stipend, student-travel support	Up to 2 years	All UG student fellows are required to: a) apply for <u>one</u> NOAA mission research and training summer internship experience annually b) participate in <u>one</u> NCAS-M Application Workshop Training c) participate in at least <u>two</u> center-wide professional development activities annually d) complete Student Development Plans (SDP) (planning form, mid-year, end-of-year, and summer) e) have <u>one</u> faculty member advisor **and** <u>one</u> NOAA mentor

[1] All program activities (e.g., attending professional meetings) are contingent on funds

Master's	25,000	Fellowship tuition, stipend, travel	Up to 2 years	All Master's student fellows are required to: a) receive one-time support of up to $10,000 for research-related travel b) participate in a one-time NOAA Experiential Research and Training Opportunity (NERTO) ($5,000) c) attend at least one professional meeting a year d) participate in at least two professional development activities per year (i.e., center-wide professional development trainings and advanced research/skill training) e) complete SDPs (planning form, mid-year, end-of-year, and summer) f) have one faculty member advisor **and** one NOAA mentor
Doctoral	36,000		Up to 2 years	All doctoral student fellows are required to: a) receive one-time support of up to $20,000 for research-related travel b) participate in one-time NERTO experience ($10,000) c) attend at least one professional meeting a year (aim to present) d) participate in at least two professional development activities (i.e., center-wide professional development trainings and advanced research/skill training) e) complete SDPs (planning form, mid-year, end-of-year, and summer) f) have one faculty member advisor **and** one NOAA mentor
Postdoctoral Fellows			2 years	All postdoctoral fellows are required to: a) collaborate with other postdoctoral fellows, ASM scientists, and NOAA scientists b) conduct research that addresses NOAA-mission science priority areas c) co-locate at a NOAA facility for a minimum duration of six (6) consecutive months and not to exceed one(1) year d) complete IPDDP (planning form, mid-year progress report, and end of year progress report)

NCAS-M Undergraduate and Graduate Fellowship Program

The NCAS-M Fellowship Program supports NCAS-M postsecondary student fellows (undergraduate and/or graduate) financially. NCAS-M fellows are grouped by cohorts. Cohorts are established when students enter the program annually (i.e., students entering the NCAS-M program in 2016-2017 will be assigned to Cohort 1, students entering in 2017-2018 will be assigned to Cohort 2, and so on).

This section highlights the NCAS-M Fellow requirements for undergraduate and graduate students:

1. Must be a United States citizen
2. Must maintain a 3.0 GPA per semester and make satisfactory progress toward doctoral, master's, or bachelor's degree
3. NCAS-M fellowships are renewable for:
    - Doctoral degree - no more than two (2) years
    - Master's degree - no more than two (2) years
    - Bachelor's degree - no more than two (2) years
4. NCAS-M fellowship program will pay the minimum amount listed per degree program annually for up to two (2) years to NCAS-M fellows:
    - Doctoral student – $36,000 USD per year
    - Master's student – $25,000 USD per year
    - Undergraduate student – $12,000 USD per year

    The amounts listed can represent any combination of tuition, stipend, and conference travel paid directly to the fellow. NCAS-M will not pay for repeat courses and does not support international travel.
5. Research goals must be aligned with NOAA/NCAS-M research guidelines. NCAS-M Fellows must be able to fully address how their specific research fits into the research themes of the Center.
6. Fellows must maintain full-time status every semester. (Note: graduate students at the writing stage of their thesis or dissertation, having met all other requirements, could be exempt from the "full-time status" requirement when enrolled in thesis or dissertation credits, with approval).
7. Graduate fellows must have a NCAS-M faculty advisor and a NOAA mentor; undergraduate fellows must have a NCAS-M faculty advisor.
8. Fellows must attend at least one (1) professional meeting or research-related travel one time per year.
    - Attendance to the American Meteorological Society (AMS) conference is strongly advised to occur before your tenure as a NCAS-M fellow has ended
    - Attendance to all professional meetings must be completed by August 31 of each fiscal year
    - Professional meetings and/or research travel must be approved by your advisor and Lead Investigator at the partner institutions
9. Graduate fellows are required to engage in a NOAA Experiential Research and Training Opportunity (NERTO) experience during their fellowship. The following dollar amounts will cover the cost of expenses and travel that might be incurred when completing the NERTO experience.
    - Doctoral - $10,000 per year stipend and travel *
    - Master's - $5,000 per year stipend and travel *

    *All NERTO must be approved by the NCAS-M faculty advisor and institution's lead investigator
10. Undergraduate fellows (rising sophomores) are required to apply for a NOAA funded summer internship opportunity.

11. Fellows are required to complete an Individual Student Development Plan (SDP) four times a year (see Appendix D).
12. Fellows are required to participate in NCAS-M center-wide professional development activities during the NCAS-M fiscal year.
13. Fellows are required to participate in all NCAS-M scheduled workshops, meetings, trainings, and activities. This is not limited to and will include: NOAA Education Partnership Program (EPP) Biennial Forum, professional development workshops, and center-wide trainings.
14. Fellows may periodically be required to attend special events of NOAA and other activities determined as necessary and appropriate by the NCAS-M program.
15. Fellows should identify themselves as a NCAS-M fellow in email communication and/or correspondences.
16. Fellows will be funded at a maximum of two-year commitment and all Fellows are expected to participate full-time during each summer.
17. Fellows cannot engage in full-time employment (40 hours per week) outside of the Center, degree program, and/or academic institution.
18. Fellows must adhere to all computer, data, attribution/acknowledgement, and resource policies (see Appendix E).
19. Academic problems or personal concerns encountered with my education, research, and training should be brought to the attention of the NCAS-M faculty advisor.
20. All requests or grievances related to the NCAS-M program must be in writing to the NCAS-M Education Lead and/or the NCAS-M student ombudsperson. Any verbal request will be considered unofficial and will not be acted upon until it is followed by a written request.
21. NCAS-M fellows will be tracked longitudinally for 3 years upon leaving the program for any reason. Data collected will include post NCAS-M employment/career and education information.

NCAS-M Postdoctoral Fellows (PF) Program

The goal of the NCAS-M PF program is to support advanced training in NOAA-related sciences. NCAS-M will support two PF in the thematic areas of atmospheric sciences and meteorology. The PF will work on project teams that involve multiple academic institutions and will co-locate at a NOAA facility for a minimum duration of six (6) consecutive months and not to exceed one (1) year (see Table 3). This would engage and expand the NCAS-M collaboration with NOAA in atmospheric sciences and meteorology. PF will complete an Individual Postdoctoral Development Plan (IPDDP) three (3) times a year (planning form, mid-year progress report, and end-of-year progress report). In addition to the NCAS-M faculty mentor, each PF is expected to be collaborative with other NCAS-M Corporative Science Centers (CSC) PF, CSC scientists, and NOAA scientists. The PF will receive support for travel, professional development (technical skills training where relevant), and be included in strategic planning, project management, and student mentoring (see Table 3 and Appendix C for Letter of Understanding).

Following are the requirements for the NCAS-M Postdoctoral Fellow:

1. Must be United States citizens.
2. Must be a recent doctoral graduate; within two (2) years of graduation.
3. Doctoral degree field must support NOAA's mission.
4. Period of eligibility to be supported on award funds in the NCAS-M Postdoctoral Fellowship program is 24 months within a 26-month period.
5. Research should be collaborative amongst other postdoctoral fellows, NCAS-M scientists, and NOAA scientists.
6. Research must address NOAA-mission science priority areas.
7. Postdoctoral Fellow must co-locate at a NOAA facility for a minimum duration of six (6) consecutive months and not to exceed one (1) year over the tenure of the Fellowship.
8. Must complete an individual postdoctoral development plan (IPDDP) three (3) times a year (see Appendix F).
9. Must adhere to all computer, data, attribution/acknowledgement, and other NCAS-M resource policies.
10. All requests or grievances related to the NCAS-M program must be in writing to the NCAS-M director. Any verbal request will be considered unofficial and will not be acted upon until it is followed by a written request.

NCAS-M Faculty Advisor and NOAA Mentor

Each NCAS-M graduate student must have a NOAA mentor. The role of the NOAA mentor, collaborating with the academic NCAS-M mentor, is to assure the NOAA mission-relevance of the student's project. The NOAA mentor may also provide and /or support guidance to enhance the development of skills and competencies for the NOAA mission future workforce.

This section highlights the requirements for the NCAS-M Faculty Advisor and NOAA Mentor:

1. Each NCAS-M undergraduate and graduate fellow must be assigned a NCAS-M faculty advisor and NOAA mentor.
2. The NOAA mentor and NCAS-M faculty advisor will collaborate to assure NOAA mission-relevance of student research and to familiarize the student with NOAA workplace culture and expectations.
3. NOAA mentors will be solicited for all NOAA line offices.
4. NCAS-M faculty advisors will be experienced faculty and scientists at the various NCAS-M institutions.
5. The NCAS-M mentoring program between NCAS-M faculty advisors and NOAA mentors will take place during student experiential training opportunities.

6. NCAS-M faculty advisors and NOAA mentors will expose NCAS-M students to both formal and informal mentoring opportunities (e.g., with researcher and scientist at annual professional meetings and other informal professional events)

II. Administration and Personnel

Overview

All NCAS-M fellows are required to become familiar with NCAS-M's policies and procedures during and after the fellowship. All fellows are expected to follow NCAS-M policies and procedures while pursuing their academic and professional goals and conducting any NCAS-M-related business.

NCAS-M Application

Prospective fellows must apply to NCAS-M:

- **NCAS-M Application**: Application form, resume, official transcript, cover letter (found at ncas-m.org).

On Receiving NCAS-M Fellowship

On receiving an offer as a Fellow, NCAS-M may conduct a comprehensive background check for education confirmation. You will be asked to complete/sign the following:

- **Acceptance Letter:** Formal acceptance of NCAS-M support.
- **Letter of Understanding (LOU):** The LOU lays out the terms and conditions for a NCAS-M Fellowship (see Appendix C).
- **Fellow Contact Form:** This form collects contact and background information on the fellow (see Appendix G).

During NCAS-M Fellowship

To maintain a cordial and productive working relationship, the fellow is expected to adhere to the rules, regulations, and responsibilities of the LOU (see Appendix C), to be professional, to meet deadlines for submitting required documentation, and to observe rules and procedures pertaining to academics and NCAS-M requirements.

Travel Procedures

Travel for professional meetings or research must be recommended by your faculty advisor and approved by the NCAS-M director, in advance. (Note: Fellows hotel reservations are always for double rooms)

- Please complete the **NCAS-M Fellow Travel Request Form** and have your advisor and the director sign to approve travel (see Appendix H).
- Please complete the **NCAS-M Fellow Travel Report** Form after travel (see Appendix I).

Purchasing Procedures

The purchase of items for NCAS-M must be recommended and approved by your advisor and approved by the NCAS-M director, in advance.

- Please complete the **NCAS-M Fellow Purchasing Form** and have your advisor and the director sign to approve purchases (see Appendix J).

On Completing NCAS-M Fellowship

In situations where fellows voluntarily or involuntary separate from NCAS-M, they are expected to comply with NCAS-M's expectations for completing the fellowship.

NCAS-M makes all efforts to ensure longevity of employment relationships by appropriately matching fellows with advisors and mentors. However, if NCAS-M determines that a fellow's performance does not improve despite continued support, or if the fellow repeatedly violates NCAS-M practices, rules, or standards of conduct, the fellow's tenure with NCAS-M will be terminated (see Letter of Understanding, Appendix C).

In a voluntary separation situation, NCAS-M requests that the fellow provide a two-week notice prior to the day of departure. In addition, NCAS-M would like to conduct an exit interview to discuss the Fellow's reasons for leaving and any other impressions that the Fellow may have about the project.

Any NCAS-M property issued to the fellow must be returned to NCAS-M at the time of exit. The materials can be given to the assistant director or the director.

Also, be aware that all NCAS-M fellows will be tracked for three years upon leaving the program for any reason. Data collected will include post NCAS-M employment/career and education information.

III. NCAS-M Website and Social Media Profiles

A student center link can be found on the NCAS-M website (ncas-m.org). From this link, fellows/students will be able to obtain information about NCAS-M and upload required documents (e.g., Individual Student Development Plans – SDP and other required forms).

NCAS-M has multiple social media platforms to help faculty, students, staff and stakeholders stay connected and learn about all its activities. Please connect and follow the sites to stay abreast of NCAS-M program news and use the platforms to share photographs, updates, and milestones about your academic pursuits.

The official NCAS-M website and social media accounts are at the following sites:

Website	**http://ncas-m.org**
Twitter	**@NCASNews**
Instagram	**@NCASNews**
Facebook	**@NoaaCenterForAtmosphericSciences**

IV. Appendices

A. Experiential Training Summer Program (ETSP) Description
B. NOAA Experiential Research and Training Opportunity (NERTO) Description
C. NCAS-M Letter of Understanding
D. Individual Student Development Plan
E. NCAS-M Acknowledgement Guidelines
F. Individual Postdoctoral Development Plan
G. NCAS-M Fellow Contact Form
H. NCAS-M Fellow Travel Request Form
I. NCAS-M Fellow Travel Report Form
J. NCAS-M Fellow Purchasing Form

APPENDIX A

Experiential Training Summer Program (ETSP)

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M) Experiential Training Summer Program for Rising Sophomores (ETSP)

Overview

The Experiential Training Summer Program provides a rising sophomore with summer experiential training in NOAA mission-relevant research and training at an NCAS-M institution. Students are required to work with NCAS-M researchers on an approved NOAA mission relevant project during the summer. Researchers will submit and get approval for the proposed NOAA mission-relevant research project. Student travel and housing expenses will be covered. ETSP students will receive a $5,000 stipend ($4,500 during the summer and an additional $500 after proof of application to a NOAA scholarship program (e.g., a) Ernest F. Hollings Undergraduate Scholarship; b) Educational Partnership Program with Minority Serving Institutions Undergraduate Program). Students will also receive a housing allowance of $2,500.

NCAS-M Experiential Training Summer Program (ETSP)

Who: 10 rising sophomores from NCAS-M institutions annually

Student Stipend: $5,000 ($4,500 during summer and an additional $500 after proof of application to NOAA scholarship programs)

Program Length: 8-week NOAA mission-relevant research and training program (to include professional/career development)

Date: June - July

Location: NCAS-M Institutions

Requirements for ETSP: **Student**: Rising sophomore, minimum 3.0 GPA, official transcript, U.S. citizen, resume, one letter of recommendation (sponsoring institution can require more), and student must apply to Ernest F. Hollings Undergraduate Scholarship and/or EPP/MSI Undergraduate Scholarship in fall 2021. **Faculty**: Research proposal (NCAS-M research mentor must submit and get approval for a NOAA-mission relevant research project that students will engage in over the summer).

ETSP Program Activities Overview: The ETSP program is 8 weeks long. During Weeks 1 to 7, student will engage in NOAA mission-relevant research and training at the NCAS-M institution. During Week 8, student will engage in a virtual poster session and virtual career/professional development workshop.

For additional information, please contact: Jo-Anne Manswell Butty, Ph.D., Education Expert, NCAS-M
jmanswell-butty@howard.edu (202) 865-8537

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology

Experiential Training Summer Program (ETSP) | Virtual

Program Elements | Virtual

1. All students will participate in a minimum of eight hours per week in the following four joint activities:
    a. 1-hour weekly check-in call – All ETSP interns and Education Expert (NCAS-M staff and faculty mentors are optional)
    b. 5 hours weekly technical skill course on geospatial analysis. Three online hour-long lectures will occur on M, W, Fr with 1-hour recitations on T & Th. This course will focus on R studio and geospatial analysis related to NOAA mission research.
    c. 1-hour weekly professionalization course (technical presentations) – (e.g., ***a)*** NOAA 101, ***b)*** PowerPoint and other ways to Construct and Format a Research Poster, ***c)*** Prezi vs PowerPoint – Selecting Your Medium and Speaking on Camera, ***d)*** Elevator Speech/Perfecting the Elevator Speech, ***e)*** NOAA Mission Relevant Communication, ***f)*** Stage Presence and the Basics of Oral Technical Presentations, and ***g)*** The Role of Human Dimensions in NOAA Mission-Relevant Research)
    d. 1-hour lightly moderated student session. This session is meant to be a community-building activity led by alumni of NCAS-M programs. Icebreakers will be used to connect students to each other to address the loss of social engagement due to the changes from place-based instruction.

2. All students will participate in a 30-minute progress update with the institutional research advisor, the NOAA collaborator(s) every other week. Education expert may sit in. This would be each individual student and not the full group. The purpose would be to check progress against the work plan, identify deeper issues, and obtain feedback on the student from the mentors.

3. The online form for mid-term and end-of-program evaluation for interns and mentors that must be completed at the end of week 4 and at the end of week 8. These evaluations are conducted to assess research progress and needs.

4. All students will generate video abstracts – a 2-minute introduction of themselves, their research project and its objectives, and a sense of the anticipated or tangible outcomes. The students must include why their project is of relevance to the NOAA community and the human/societal dimensions of their work. These abstracts will be posted to YouTube after quality control review and can serve as a professional hallmark in their early careers.

5. A Virtual Research Colloquium will be conducted at the culmination of the program, during Week 8.

APPENDIX B

NOAA Experiential and Research Training Program (NERTO)

NOAA EXPERIENTIAL RESEARCH AND TRAINING OPPORTUNITY (NERTO)

Overview

The NOAA Experiential Research and Training Opportunity (NERTO) is a NCAS-M graduate student requirement during the two-year fellowship. This unique NOAA mission experience integrates academics with practical NOAA mission-relevant experiential training. The NERTO experience must be completed by NCAS-M fellows at a NOAA facility under the guidance of a full-time NOAA employee and must be a minimum of twelve weeks.

Steps to Complete the NERTO Application

- Current NERTO internship opportunities can be found in the NOAA Student Scholarship Internship Opportunity (SSIO) portal and new opportunities can the written and uploaded to the NOAA SSIO portal (https://oedwebdbapps.iso.noaa.gov/ssio/).
- The URL to access the MS Word template for SSIO projects could be found at: https://oedwebapps.iso.noaa.gov/ssio/Docs/Graduate_Student_Project_Development_Template.doc.
- Once the project is written, the NOAA mentor (full-time NOAA employee) will upload the project to the SSIO portal https://oedwebdbapps.iso.noaa.gov/ssio/
- The NOAA mentor may also reach out to the EPP/MSI Program Office (oed.epp10@noaa.gov) with any questions.
- Information on NERTO can be found at the NERTO URL, http://www.noaa.gov/noaa-experiential-research-training-opportunities-nerto
- Once the project is uploaded to the SSIO database, students will email a cover letter, resume, and unofficial transcript to jmanswell-butty@howard.edu to be submitted to NOAA Office of Education (OEd) to finalize the application package.
- After the application is reviewed by the NOAA mentor/hosting office, the next steps include:
  i. Interview of student (optional) - make decision about selection of applicant for project;
  ii. Collaboration in the development of the 12-week NERTO internship plan through communication between NCAS-M student, NCAS-M student's academic advisor, NCAS-M Center Director (Dr. Vernon Morris) kept in the communication loop throughout the process;
  iii. NOAA mentor develops offer letter and sends to NOAA EPP/MSI;
  iv. **NOAA mentor makes arrangement for badging, network access, and space at the hosting NOAA facility;**
  v. NOAA mentor provides NOAA EPP/MSI the offer letter for the NCAS-M student who is selected for the NERTO internship as outlined in Key NERTO Elements; and the NCAS-M also takes actions to support a successful NERTO internship;
  vi. NCAS-M fellows must remember to complete the NCAS-M NERTO Form prior to the start of the NERTO experience and submit to the NCAS-M education expert, Dr. Jo-Anne Manswell Butty (jmanswell-butty@howard.edu); and
  vii. The NERTO Final Report must be submitted 14 days after the end of the NERTO to NCAS-M, after which it will be submitted to the EPP/MSI Program Office.

Important Information

The NERTO online resources are available to aid in navigating through the EPP/MSI NERTO experience. Of note:

1. The **internship start date is negotiated between the NOAA Host Mentor and the CSC.**
2. The **EPP/MSI NERTO is to be completed in 12 contiguous weeks at a NOAA facility (although NERTO by telework has been authorized in 2020 because of shutdowns due to COVID-19).**
3. The **EPP/MSI NERTO intern is required to complete 40 hours per week for this internship.**
4. **Internship security (badging) and network access** are the responsibility of the NOAA Host Mentor for the internship.
5. The established internship start/end date and updated (as appropriate) 12-week EPP/MSI NERTO Internship Plan must be shared with the EPP/MSI Program Office by the NOAA mentor.

NOAA EPP/MSI requests that each NCAS-M-supported EPP/MSI NERTO intern understand they are:

- NOAA EPP/MSI-supported;
- aspiring professionals who are bringing value to the hosting NOAA office/lab and gaining knowledge and skills in NOAA mission areas;
- to avail themselves of NCAS-M professional development opportunities such as professional correspondence development, resume writing, planning for manuscript development, etc. before, during, and after the EPP/MSI NERTO internship;
- supported in the EPP/MSI NERTO internship and as an NCAS-M Fellow will continue to be supported, as allowable with award funds;
- to be familiar with the NERTO resources accessible online;
- aware that any EPP/MSI NERTO period is a minimum of 12 contiguous weeks and a maximum duration of 12 months as determined by NCAS-M; and,
- NOAA EPP/MSI has the highest expectations for the investment in each student and their successful NERTO internship.

NOAA EPP/MSI requests that all NCAS-M students participating in an EPP/MSI NERTO graduate internship, must have the email signature block below:

First Name Last Name
NOAA EPP NERTO Intern
NOAA CSC Graduate Fellow or Scholar (Cohort #)
NOAA NERTO Hosting Office
Address and Phone/eMail Details
NOAA Award # NA16SEC481000#

<<Sample>>
June Smith
NOAA EPP NERTO Intern
NOAA NCAS-M Graduate Scholar (Cohort 3)
NOAA OAR ATDD
Memphis, TN 12345
june.smith@noaa.gov
Ph. 123-456-7890
NOAA Award # NA16SEC4810006

FAQs

1. ***How are NCAS-M student prepared prior to NERTOs?***
   - NOAA 101 Briefing
   - Distinguished Scientist (DS) and Education Expert (EE) meet with students individually (*discuss interests, responsibilities, and expectations on both sides*)
   - Fellow's advisor meets with student (*discuss research topics and rules of engagement during NERTO*)
   - DS, EE, and Institutional Advisor meet with students prior to NERTO to discuss roles and responsibilities during NERTO
   - Student completes NCAS-M NERTO Form

2. ***What is the role of NCAS-M during NERTO?***
   - Weekly check-ins during NERTO (DS, EE, and Institutional Advisor) check-in weekly with student. If follow-up or off-line check-ins are necessary, they will also be done.
   - Bi-weekly check-ins during NERTO (Institutional Advisor) check-in bi-weekly with NOAA mentor by email (copy DS and EE). If follow-up or off-line check-ins are necessary, they will also be done.

3. ***What are students' responsibilities at the end of NERTO?***
   - Student completes NERTO Final Performance Report that should be reviewed by Institutional Advisor before submission to EE with copy to DS and Deputy Director.

4. ***Does the NOAA site fund NCAS-M fellows?***
   - No, NCAS-M fellows are already funded through their NCAS-M fellowship for the NERTO experience.

5. ***How much funding are NCAS-M fellows allocated to spend for their NERTO experience?***
   - Doctoral (up to $10,000); Master's (up to $5,000). NERTO funding may be used for transportation, lodging, and per diem (when the NERTO internship is in a different location from the home institution or not local).

6. ***Would the NCAS-M fellow be working on one specific project, projects assigned through their program, or projects as assigned through the office?***
   - Fellows will be working with their NOAA mentors on the research projects outlined in their approved 12-week NERTO Workplan.

7. ***When should NCAS-M fellow complete their NERTO experience?***
   - The NERTO experience must be completed before the two-year fellowship ends.

8. ***Is there a specified time period to complete the NERTO experience?***
   - The NERTO experience must be a minimum of twelve weeks. It can be longer based on the project and approval from the Center Director, NCAS-M fellow's faculty advisor, and NOAA mentor.

9. ***When should NCAS-M fellow submit their NCAS-M NERTO Form?***
   - The NCAS-M fellow should submit their NCAS-M NERTO Form prior to the start of the NERTO experience to Dr. Jo-Anne Manswell Butty (jmanswell-butty@howard.edu). The NCAS-M NERTO Form must be completed in consultation with the faculty advisor and NOAA mentor.

NERTO Resources

THE NOAA Office of Education recommends a review of the available resources for CSC, NOAA Mentor, and CSC-supported student:

- http://www.noaa.gov/frequently-asked-questions-for-mentors-of-eppmsi-graduate-students-nerto
- http://www.noaa.gov/frequently-asked-questions-on-nerto-for-csc-students
- www.noaa.gov/eppnerto

For more information, please contact Jo-Anne Manswell Butty, PhD, NCAS-M Education Expert – jmanswell-butty@howard.edu | (202) 865-8537

NERTO Pathway

APPENDIX C

Letter of Understanding
NCAS-M Student Fellowship

Undergraduate and Graduate Fellowship Program

The primary goal of the NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M) is to use collaborative research as a mechanism to educate and produce a highly skilled cadre of technical and environmentally-literate professionals, with a focus on underrepresented populations, who will directly contribute to the NOAA workforce through science, service, and stewardship.

The goal of the NCAS-M Fellowship is to support advanced training and matriculation of students in NOAA-related sciences.

I accept this support with the understanding of the program and Fellowship goals. In accepting the NCAS-M Fellowship, I agree to abide by the following rules, regulations, and responsibilities:

1. I understand that I am expected to exhibit the highest level of academic integrity, honesty, and respect toward self and others at all times.

2. I understand that the NCAS-M Fellowship program is an educational and financial support program that requires participation in education, research, training, and professional development activities designated by the Center.

3. I understand that the NCAS-M fiscal year begins September 1 of each year and ends August 31 of following year. I further understand that the Fellowship will be administered during this timeframe with the specified dates on my award letter.

4. I understand that I must be a United States citizen to receive program funding.

5. I understand that I am required to maintain a 3.0 GPA each semester and make satisfactory progress toward my Doctoral, Master's, or Bachelor's degree. I further understand that I will not be financially supported if I do not meet the minimum 3.0 GPA every semester.

6. I understand that NCAS-M is not obligated to pay or reimburse for repeat courses.

7. I understand that the NCAS-M Fellowship program will pay the minimum amount listed below for up to two (2) years to fellows in the program:
   - Doctoral student – $30,000 USD per year in tuition and/or stipend
   - Master's student – $25,000 USD per year in tuition and/or stipend
   - Undergraduate student – $12,000 USD per year in tuition and/or stipend

Annual renewal during the two-year period will be based upon academic standing, research progress, and fulfilment of NCAS-M program requirements.

8. I understand that I am required to disclose in writing all additional funding sources received outside of my NCAS-M Fellowship. This is necessary to make sure we are in compliance with the conditions of the federal award.

9. I understand I must attend at least one (1) professional meeting or research-related travel one time per year. This travel will be supported by funds from the award given to each institutional partner.

    - Attendance to the American Meteorological Society (AMS) conference is strongly advised before your tenure as a NCAS-M fellow has ended
    - Attendance to all professional meetings must be completed by August 31 of each fiscal year
    - Professional meetings and/or research travel must be approved by your advisor and the Institutional Lead Investigator

10. I understand that no international travel is to be supported with funds from this program.

11. I understand that the NCAS-M Fellows will be funded for a two (2)-year commitment, and all Graduate Fellows are expected to participate full-time during each summer.

12. I understand that as a NCAS-M Fellow, I cannot engage in employment outside of the Center, degree program, and/or academic institution without written prior approval by both the academic advisor and the NCAS-M Director. No co-mingling of federal funds is permissible.

13. I understand that my research goals must be in alignment with NOAA/NCAS-M strategic plan and I must be able to fully articulate how my specific research fits into the research themes of the Center.

14. I understand that I must maintain full-time enrollment status every semester I am funded. If I fail to maintain full-time enrollment status for any reason, I revoke my right to the financial award detailed in my award letter (Note: graduate students at the writing stage of their thesis or dissertation, having met all other requirements, could be exempt from the “full-time enrollment status” requirement when enrolled in thesis or dissertation credits).

15. I understand I must have a NCAS-M faculty advisor and a NOAA mentor associated with my graduate or undergraduate research.

16. I understand that all graduate students must engage in a 12-week NOAA Experiential Research and Training Opportunity (NERTO) before their tenure as a NCAS-M Fellow ends. The following dollar amounts are allocated to help defray the extra cost of expenses and travel that might be incurred when completing the NERTO.

    - Doctoral - $10,000 per year stipend and travel

- Master's – $5,000 per year stipend and travel
- All NERTOs must be approved in advance of their start date in writing by the NOAA Office of Education, the faculty advisor, the NCAS-M Education Lead, and the NCAS-M Director.

17. I understand that all freshmen and sophomore undergraduate fellows are expected to submit competitive applications to at least one of the NOAA Office of Education Fellowship programs (Ernest F. Hollings Undergraduate Scholarship and/or Educational Partnership Program with Minority Serving Institutions Undergraduate Scholarship). All junior and senior undergraduate fellows should seek summer internships at NOAA facilities with the assistance of your NCAS-M faculty advisor and/or the Education Lead.

18. I understand that I am required to complete an Individual Student Development Plan (SDP) four (4) times a year over the tenure of the Fellowship.

19. I understand that I am required to participate in the NCAS-M center-wide professional development activities during each NCAS-M fiscal year. I further understand that the lead institution, Howard University, will cover all expenses associated with this activity. Exceptions must be submitted in writing and approved by the faculty advisor and the Education Lead.

20. I understand that I am required to participate in all NCAS-M scheduled workshops, meetings, trainings, and activities. This will include but is not limited to: NOAA Education Partnership Program (EPP) Biennial Forum, professional development workshops, and center-wide trainings.

21. I understand that periodically the NCAS-M Fellowship program will require that I attend special events at NOAA or other activities determined as necessary and appropriate by the NCAS-M program.

22. I understand that I should identify myself as a NCAS-M Fellow in all communications and/or correspondences (e.g., in your school email signature, LinkedIn, business cards). I understand that specific guidelines will be provided.

23. I understand that I must adhere to all computer, data, attribution/acknowledgement, and other NCAS-M resource policies in all oral and visual presentations. I understand that specific guidelines will be provided on the NCAS-M website.

24. I understand that I am obligated to balance my time among academics, research, and support of NCAS-M programs and operations. Also, that concurrent with coursework, I am expected to complete research assignments and reports in a timely manner and consistent with the program goals to fulfill research tasks and NOAA requirements.

25. I understand that the NCAS-M program will be taking photographs and videos on a periodic basis. Please let us know in writing if you do not give permission to have photographs and videos taken.

26. I understand that I must have an email account on file, which I must check regularly. Moreover, I understand that I am responsible for a timely response to all communications conveyed in these messages.

27. I understand that relevant academic problems or personal concerns encountered with my education, research, and training should be brought to the attention of my NCAS-M faculty advisor and/or NCAS-M Education Lead.

28. I understand that all requests or grievances related to the NCAS-M program must be in writing to the NCAS-M Education Lead and/or the NCAS-M student ombudsperson. Any verbal request will be considered unofficial and will not be acted upon until it is followed by a written request.

29. I have read all NCAS-M program requirements and I fully understand my responsibilities as part of this program. I further realize that my Fellowship may be terminated at any time without further compensation if the NCAS-M program determines that I am not meeting my responsibilities or have failed to comply with any terms of this Letter of Understanding/Contract.

30. Special exceptions to any requirement will only be evaluated if prior notice is submitted in writing to the Director and Education Lead for consideration of the request by the NCAS-M Executive Management Team. All supporting documentation must be provided at the time of the submission.

By signing this document, I acknowledge full compliance:

_____	_____	_____
NCAS-M Fellow (Signature)	Print Name	Date
_____	_____	_____
NCAS-M Fellow Major Advisor (Signature)	Print Name	Date
_____	_____	_____
NCAS-M Director (Signature)	Print Name	Date

Letter of Understanding

Postdoctoral Fellowship Program

The NOAA Center for Atmospheric Sciences and Meteorology (NCAS-M) program goal is to conduct education and research that directly supports NOAA's mission, strategic plan, objectives, and outcomes to recruit, train, and graduate students, particularly from underrepresented minority communities, to become eligible to successfully compete and enter agency mission workforce, academia, and other STEM focused management agencies.

The goal of the NCAS-M postdoctoral fellowship is to support advanced training in NOAA-related sciences.
I accept this support with the understanding of the program and fellowship goals. In accepting a NCAS-M post-doctoral fellowship, I agree to abide by the following rules, regulations, and responsibilities:

1. I understand that I am expected to exhibit the highest level of honesty, academic integrity, and respect toward self and others at all times.
2. I understand that I must be United States citizens to receive program funding.
3. I understand that I must be a recent doctoral graduate -- within two (2) years of graduation to qualify for this program.
4. I understand that my doctoral degree field must support NOAA's mission.
5. I understand that the period of eligibility for the postdoctoral fellow to be supported on award funds in the NCAS-M fellowship program is 24 months within a 26-month period.
6. I understand that my research should be collaborative among other postdoctoral fellows, NCAS-M scientists, and NOAA scientists.
7. I understand that my research must address NOAA-mission science priority areas.
8. I understand that I must be co-located at a NOAA facility for a minimum duration of six (6) consecutive months and not to exceed one (1) year.
9. I understand that I must complete an individual postdoctoral development plan.
10. I understand that my salary will be paid bimonthly starting September 1, 2016 through August 31, 2017.
11. I understand that I must adhere to all computer, data, attribution/acknowledgement, and other NCAS-M resource policies.
12. I understand that I must have an email account on file, which I must check daily. Moreover, I understand that I am responsible for a timely response to all information relayed in these messages.
13. I understand that all requests or grievances related to the NCAS-M program must be in writing to the NCAS-M Director. Any verbal request will be considered unofficial and will not be acted upon until it is followed by a written request.
14. I have read all the NCAS-M program requirements, and I fully understand my responsibilities as part of this program. I further realize that my fellowship may be terminated at any time without further compensation if the NCAS-M program determines that I am not meeting my responsibilities or have failed to comply with any terms of this Letter of Understanding.

By signing this document, I acknowledge full compliance:

_____	_____	_____
NCAS-M Postdoctoral Fellow (Signature)	Print Name	Date
_____	_____	_____
NCAS-M Postdoctoral Fellow Advisor (Signature)	Print Name	Date
_____	_____	_____
NCAS-M Director (Signature)	Print Name	Date

APPENDIX D

Individual Student Development Plan

NCAS-M Individual Student Development Plan (SDP)

Individual Student Development Plan (SDP)

- **Directions**

DIRECTIONS: The Individual Student Development Plan (SDP) consists of four sections: 1) Annual Planning Form, 2) Mid-Year Progress Report, 3) Year-End Progress Report, and 4) Summer Progress Report. You will also be asked to complete important Background Information. 1) Annual Planning Form - To be completed by student to plan education and research activities for the upcoming year. 2) Mid-Year Progress Report - To be completed by student to document accomplishments, challenges, and needs by mid-year (report will cover fall semester). 3) Year-End Progress Report - To be completed by student to document accomplishments, challenges, and needs by year-end (report will cover spring semester). 4) Summer Progress Report - To be completed by student at the end of summer (report will cover summer experience). ** Please complete the appropriate section (e.g., SUMMER PROGRESS REPORT) that includes a Background Information section. You must complete the form in one sitting. Thank you! **

- Sections*
  - 1. Annual Planning Form
  - 2. Mid-Year Progress Report
  - 3. Year-End Progress Report
  - 4. Summer Progress Report

Select the section you are documenting your progress.

This field is required.

- Background Information

DIRECTIONS: Please complete all questions in this section. If you do not have the information, please state this or put N/A if it is not applicable.

- Today's Date*

- Name*

  First Last

- Phone*

- Email*

  Enter Email Confirm Email

- NCAS-M Institution*

- Semester/Year entered NCAS-M Program*

  (e.g., Fall/2018)

- Previous Institution

- Cohort (Select One) *
  - Cohort 1 (2016-2017)
  - Cohort 2 (2017-2018)
  - Cohort 3 (2018-2019)
  - Cohort 4 (2019-2020)
  - Cohort 5 (2020-2021)

  (Academic year you entered the NCAS-M program).

- Degree and Degree Name*

  (e.g., MS, Atmospheric Sciences)

- Expected Graduation Date*

(e.g., Spring 2018)

- Faculty Advisor Name*

- Faculty Advisor Institution/Department*

(e.g., Howard University/Dept of Economics)

- Faculty Advisor Email*

Enter Email Confirm Email

- NOAA Mentor Name

- NOAA Mentor Line Office

- NOAA Mentor Division/Unit

- NOAA Mentor Email

Enter Email Confirm Email

- Research Thematic Area (Select One) *

- Process-level Understanding and Enhanced Modeling Capabilities
- Improved Quantification of Forecast Uncertainty
- Advancing the Development of High-Resolution Models
- Integrated Social Sciences
- Effective Communication of Climate and Weather Risk

- Other

- Research Project Title*

- Current Cumulative GPA*

- Previous Semester GPA*

- **Annual Planning Form**

  DIRECTIONS: Please document your activities for the upcoming academic year.

- COURSEWORK: List all courses you will enroll in during the academic year (fall and spring).*

- RESEARCH: List research activities you will be involved in during the academic year (fall and spring) and your role.*

(Students are required to attend one professional meeting or research-related travel one time per academic year)

- PROFESSIONAL MEETINGS/CONFERENCES: List all professional meetings/conferences you will attend during the academic year -- include conference title, dates, location, presentation title, and presentation type.*

(Students are required to attend one professional meeting or research-related travel one time per academic year)

- NOAA EXPERIENTIAL RESEARCH AND TRAINING OPPORTUNITY (NERTO): State the NERTO you will be completing during the academic year -- include title, line office, line office location, start date, end date, NOAA mentor, and NOAA co-mentor. *

(All graduate students are required to participate in one NERTO experience as a NCAS-M fellow; All undergraduate rising sophomores must apply for a NOAA summer internship program)

- PROFESSIONAL DEVELOPMENT ACTIVITIES: List the professional development activities you will participate in during the academic year -- include activity name, date, location*

(All students are required to participate in two professional development activities – one (1) center-wide professional development training and one (1) advanced research/skill training annually)

- PUBLICATIONS: List peer-reviewed and other publications which you will be working on during the academic year -- include title, publication type, journal/book title, journal factor, authors, volume, issue, edition, publication date, pages, and online link. *

- PRESENTATIONS AT CONFERENCES: List presentations you will make at professional meetings during the academic year -- include meeting name, date, location, and title of presentation. *

- SOCIAL SCIENCES INTEGRATION: Describe how you will integrate social sciences (SS) in your research during the academic year. Also, if you will attend any SS trainings -- include training title, date, and location. *

NCAS-M CORE COMPETENCY DEVELOPMENT

Please indicate whether you participated in any NCAS-M activities that developed the following NCAS-M Core Competencies (CC) during the fall: (1) Knowledge of NOAA's and NCAS-M's mission, (2) Knowledge of the human dimensions associated with environmental, climate, and severe weather, (3) Understanding observational strategies and techniques relevant to NOAA's mission, (4) Data analysis relative to discipline, and (5) Effective science communication.

- Complete the individual student development plan (SDP)*
  - Not Met
  - In Progress
  - Met
  - N/A

  (CC 1, 2)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment
- Participate in NOAA mission-relevant research and training for undergraduate students (e.g., Experiential Training Summer Program - ETSP)*
  - Not Met
  - In Progress
  - Met
  - N/A

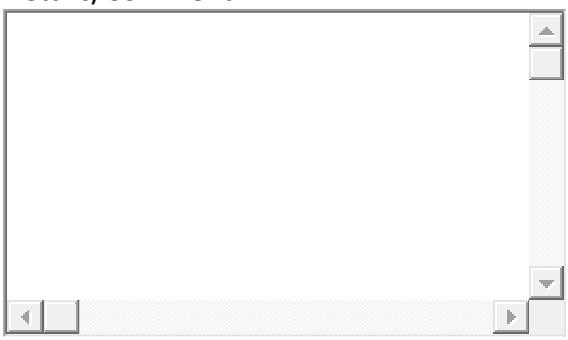
  (CC 1,2,3,4,5)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment

- Complete NOAA scholarship applications (e.g., Hollings and EPP/MSI Undergraduate Scholarships)*
  - ○ Not Met
  - ○ In Progress
  - ○ Met
  - ○ N/A

  (CC 1,5)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment



- Participate in NOAA Experiential Research and Training Opportunity (NERTO) experience for graduate students*
  - ○ Not Met
  - ○ In Progress
  - ○ Met
  - ○ N/A

  (CC1,2,3,4,5)
- Date

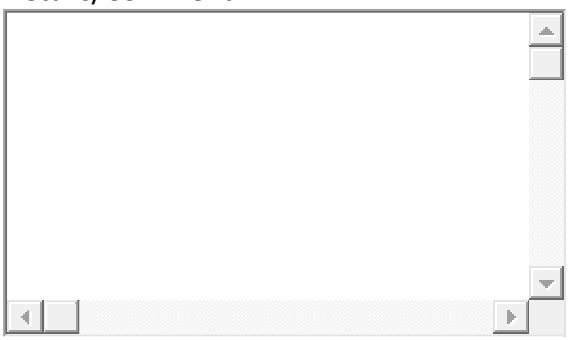
  Date Format: MM slash DD slash YYYY
- Details/Comment

- Participate and/or present at professional meeting(s) (e.g., AMS, AGU)*
  - Not Met
  - In Progress
  - Met
  - N/A

(CC1,5)

- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment



- Participate in NOAA mission research-related field campaign, labs, and facilities.*
  - Not Met
  - In Progress
  - Met
  - N/A

(CC1,2,3,4,5)

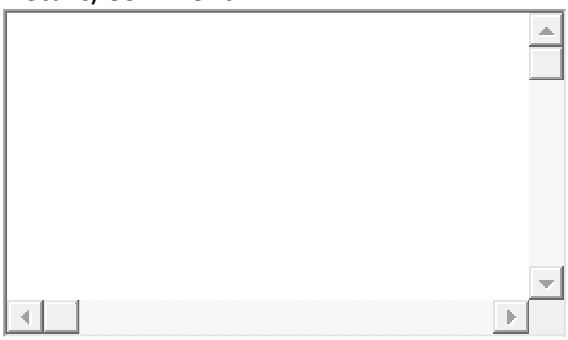
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment

- Prepare and/or publish in refereed journal.*
  - Not Met
  - In Progress
  - Met
  - N/A

  (CC1,2,3,4,5)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment



- Participate in NOAA-mission technical/skill development workshop(s).*
  - Not Met
  - In Progress
  - Met
  - N/A

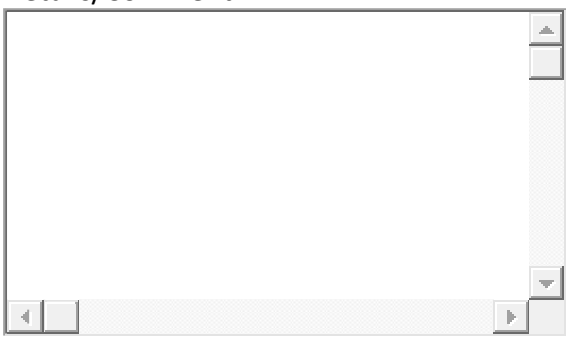
  (CC1,2,3,4,5)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment

- Participate in NCAS-M monthly webinars.*
    - Not Met
    - In Progress
    - Met
    - N/A

(CC1,2,3,4,5)

- Details/Comment



- Participate and present at NCAS-M monthly focus groups.*
    - Not Met
    - In Progress
    - Met
    - N/A

(CC1,2,3,4,5)

- Date

Date Format: MM slash DD slash YYYY

- Details/Comment

- Establish professional profile on professional networking sites to document NOAA mission-relevant STEM career progress (e.g., LinkedIn).*
    - ○ Not Met
    - ○ In Progress
    - ○ Met
    - ○ N/A

  (CC1,5)
- Date

  Date Format: MM slash DD slash YYYY
- Details/Comment

- Signature
- Agreement*
  - ☐ By clicking this checkbox, you certify that all information provided in this document has been reviewed and agreed to by your NCAS-M Advisor and NOAA Mentor. They will be emailed a copy of this form upon submission.
- Signature

NCAS PROGRAM REQUIREMENT CHECKLIST

General:

- ☐ You must maintain at least a 3.0 GPA every semester
- ☐ Have one faculty member advisor **and** one NOAA mentor (graduate students)
- ☐ Have one faculty advisor (undergraduate students)

One Time Experience:

- ☐ Participate in a one-time NERTO experience (graduate students)

Annual:

- ☐ Attend at least one professional meeting (aim to present) or research-related travel annually
- ☐ Participate in at least two professional development activities (i.e., one center-wide professional development trainings and one advanced research/skill training)
- ☐ Complete SDPs four times a year (planning form, mid-year, end-of-year, and summer)

APPENDIX E

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)

Acknowledgment Guidelines

"NCAS-M is funded by NOAA/EPP Cooperative Agreement #NA16SEC4810006"

REQUIRED DISCLAIMERS

Disclaimers - All publications in scientific journals must contain acknowledgement of NOAA EPP support with the appropriate award number and the following statement: *"This publication was made possible by the National Oceanic and Atmospheric Administration, Office of Education Educational Partnership Program award. Its contents are solely the responsibility of the award recipient and do not necessarily represent the official views of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration."* In addition, all publications and other materials, except scientific articles or papers published in scientific journals, must contain the following statement: *"Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration."*

Required Attributions - Along with the NOAA logo, the following acknowledgment of EPP support must appear in the publication of any material, whether copyrighted or not, and any posters or oral presentations which is substantially based upon or developed under this award: *"This material is based upon work supported by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Educational Partnership Program under Agreement No. NA16SEC4810006."*

AEROSE Data Acknowledgment - AEROSE is the trans-Atlantic AERosols and Ocean Science Expeditions. *"AEROSE is supported primarily by NOAA through the Educational Partnership Program via Cooperative Agreement NA16SEC4810006. Additional support is provided by NOAA NESDIS STAR. The AEROSE science team is also acknowledged for providing data analysis and access to metadata generated from the campaigns. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration."*

Relevant citations when referring to NCAS:

L. Robinson, J. Rousseau, D. Mapp, V. Morris, M. Laster, An Educational Partnership Program with Minority Serving Institutions: A Framework for Producing Minority Scientists in NOAA-Related Disciplines. *Journal of Geoscience Education 55*(6) 486-492, 2008.

N. Nalli, E. Joseph, V. R. Morris, C. D. Barnet, W. W. Wolf, D. Wolfe, P. J. Minnett, M. Szczodrak, M. A. Izaguirre, R. Lumpkin, H. Xie, A. Smirnov, T. S. King, and J. Wei, Multi-year observations of the tropical Atlantic

atmosphere: Multidisciplinary applications of the NOAA Aerosols and Ocean Science Expeditions (AEROSE). *Bulletin of the American Meteorological Society (BAMS) 92*(6), 765-789, June 2011.

V. Morris, P. Clemente-Colon, N. Nalli, E. Joseph, R. Armstrong, Y. Detres, M. Goldberg, P. J. Minnett, R. Lumpkin, Measuring Trans-Atlantic Aerosol Transport from Africa. *EOS,* 565-566, Dec 12, 2006.

V. Morris, T.-W Yu, E. Joseph, R. A. Armstrong, Y. Detres, R. Fitzgerald, R. Karim, X. Liang, and Q. Min, The NOAA Center for Atmospheric Sciences (NCAS): Its Mission, Current Status, and Significant Achievements from 2002-2005. *Bulletin of the American Meteorological Society (BAMS) 88*(2), 141, 2007.

APPENDIX F

Individual Postdoctoral Development Plan

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)

Individual Postdoctoral Development Plan (IPDDP)

Individual Post-Doctoral Development Plan (IPDDP)

- **Directions**

DIRECTIONS: The IPDDP consists of three sections: 1) Annual Planning Form, 2) Mid-Year Progress Report, and 3) Year-End Progress Report. You will also be asked to complete important Background Information. 1) The Annual Planning Form should be completed by the postdoctoral fellow at the beginning of the fiscal year to plan postdoctoral activities for the upcoming year. 2) The Mid-Year Progress Report should be completed by the postdoctoral fellow at mid-point of the fiscal year. This form should document accomplishments, challenges, and needs. 3) The Year-End Progress Report should be completed by the postdoctoral fellow at the end of the fiscal year. This form should document accomplishments, challenges, and needs. **At this time, please complete the YEAR-END PROGRESS REPORT that includes a Background Information section. ** Thank you!

- Sections*
  - ○ 1. Annual Planning Report
  - ○ 2. Mid-Year Progress Report
  - ○ 3. Year-End Progress Report

Select the section you are documenting your progress.

- **Background Information**
- Today's Date*

- Name*

First Last

- Phone*

- NCAS-M Institution*

- Date of Hire*

- Highest Degree*

- Graduation Date*

- Graduation Institution*

- NCAS-M Advisor*

- NCAS-M Advisor Institution/Department*

  (e.g., Howard University/Dept of Economics)

- NCAS-M Advisor Email*

Enter Email Confirm Email

- NOAA Mentor*

- NOAA Mentor Line Office*

- NOAA Mentor Line Division/Unit*

- NOAA Mentor Email*

Enter Email Confirm Email

- NCAS-M Research Thematic Area*

Process-level Understanding and Enhanced Modeling Capabilities

- Research Project Title*

- **Year-End Progress Report**

Directions: Please document your activities from March 1, 2019 to August 31, 2019 (year-end). Please feel free to include challenges and needs for any of these items.

- CONFERENCES: List all conferences you attended and conference presentations you made from March 1, 2019 to August 31, 2019 (year-end) - include conference title, dates, location, presentation title, and presentation type. *

- RESEARCH: List research projects you were involved in from March 1, 2019 to August 31, 2019 (year-end) that address NOAA-mission science - include project title and team members. *

- NOAA SITE-BASED RESEARCH: List NOAA site-based research projects you were involved in from March 1, 2019 to August 31, 2019 (year-end) - include title, line office, line office location, start date, end date, and NOAA mentor.*

(Each postdoctoral fellow must participate in co-location of at least a one-time NOAA site-based research opportunity that is six (6) consecutive months and not to exceed one (1) year)

- PUBLICATIONS: List peer-review publication(s) you worked on from March 1, 2019 to August 31, 2019 (year-end) (include journal name and proposed date for publication(s) submission) - include title, publication type, journal/book title, journal factor, authors, volume, issue, edition, publication date, pages, and online link.*

- TECHNICAL SKILLS DEVELOPMENT: List technical skills you acquired from March 1, 2019 to August 31, 2019 (year-end) (e.g. use of statistical software, lab equipment) - include title, date, and location.*

(e.g. use of statistical software, lab equipment)

- COLLABORATIVE ACTIVITIES: List collaborative research activities among postdoctoral fellows, CSC scientists, and NOAA scientists you participated in from March 1, 2019 to August 31, 2019 (year-end) - include activity names, names of collaborators, and titles. *

- Signature
- Agreement*
  - ☐ By clicking this checkbox, you certify that all information provided in this document has been reviewed and agreed to by your NCAS-M Advisor and NOAA Mentor. They will be emailed a copy of this form upon submission.
- Signature

NCAS-M Postdoctoral Fellow Checklist

- ☐ Collaborative research among other postdoctoral fellows, NCAS-M scientists, and NOAA scientists
- ☐ Co-location at a NOAA facility for a minimum of six (6) consecutive months and not to exceed one (1) year
- ☐ Completion of individual postdoctoral development plan (3 times a year)
- ☐ Research in NOAA-mission science priority areas

APPENDIX G

NCAS-M Fellow Contact Form

NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)
Howard University
1840 7th Street, NW, HURB1 #305
Washington, DC 20001

NCAS-M Fellow Contact Form

Name: (Last, First, Middle Initial)	**Date:**	
Current Address:		
Permanent Address:		
US Citizen* __Yes __No		
Home Phone #:	**Cell/Mobile Phone#:**	
Date of Birth:	**Gender**	**Student ID#:**
Personal E-mail:	**School E-mail:**	
Preferred E-mail: Personal or School		
Major:	**Classification** :**	
Research Interest/Topic:		
NCAS-M Partner Institution:		
Academic Advisor Name:	**Expected Graduation Date:**	
Name of Emergency Contact:	**Emergency Contact Phone #:**	
Relationship:		
Emergency Contact Address:		
Signature:		
Ethnicity:__Black or African American; __American Indian or Alaska Native; __Asian; __Hispanic or Latino		
Ethnicity:__Native Hawaiian or Other Pacific Islander; __White; __None; __Other		
*Citizenship Verification by: US Birth Certificate and State ID; Valid US Naturalization Certificate; US Passport		
** Identify: Undergraduate or Graduate student and current level (Freshmen, Sophomore, Junior, Senior, Master or PhD student)		

APPENDIX H

NCAS-M Fellow Travel Request Form

NCAS Travel Request Form ***Please complete every question on this form***

Traveler's Full Name: _____

Contact Number: _____ Email: _____

Date of Birth: _____ Gender: _____

Purpose of Travel (i.e.: Conference/Event/Seminar): _____

Airport Departure Preference (Airport/Airport Code):_____

Exact Dates of Travel: _____
**Please state the exact date of departure and your return of your travel*

Will a hotel be needed? (***Select one***) Yes: _____ No: _____

List Three (3) Hotel Preferences: _____

_____

Will a rental car be needed? (***Select one***) Yes: _____ No: _____
**This is for faculty and staff only*

Estimated Expenditures:

1. Transportation: _____
2. Lodging: _____
3. Meals: _____
4. Miscellaneous: _____

TOTAL REQUESTED _____

Please write any special needs or accommodations will be needed for this trip below:
_____
_____

Advisor Recommendation/Approval:	**Date:**	**Name:**	**Signature:**
Director Approval:	**Date:**	**Name:**	**Signature:**

APPENDIX I

NCAS-M Fellow Travel Report Form

NCAS-M Fellow Travel Report Form

Summary and Lessons Learned from Travel Activity

Student Name: _____ Advisor Name: _____

Research/Travel Focus Area: _____ Primary Objective(s): _____

Conference / Workshop / Other Travel Activity: _____

Approval by	Date	Name	Signature
Student			
Advisor			

Lessons learned purpose and objectives

Throughout any project life cycle, lessons are learned and opportunities for improvement are discovered. As part of our desire to continuously improve process, we seek to document lessons learned from each travel activity in order to assess student benefits, to evaluate our investments, to determine the root causes of problems that occurred and to avoid those problems in the future, later project stages or future projects. The data requested below is designed to meet these needs.

The objective of this report is gathering all relevant information for better planning and evaluation of future travel support, improving implementation of student travel, and preventing or minimizing risks for future travel-related activities.

Through this travel report form and associated report, we seek answers to two primary questions.

- What was/were your objective(s) for attending this meeting/activity?
- Were the project goals attained?

Lessons learned questions

Lessons Learned Questions	Success Factors
What were your goals and objectives for travel?	
Did you make a presentation? If so, list the type of presentation and title	
What was the response to your presentation? Were there questions that you could not answer? What did you learn through the process?	
In which specific sessions or activities did you participate? What was your role in the activity?	
Did you attend a significant number of seminars and/or presentations? Approximately how many? Please list these, including primary speaker's name and title of the talk.	
Were the keynote speakers / presentations informative and/or effective? Explain how.	
How many key professional contacts did you make and who were they? Include name and affiliation of each.	
What skills/knowledge did you gain through this travel opportunity? Please explain.	
How will this activity impact your educational and life goals?	

Conference/Activity

Highlights

Top 3 Significant Travel Activity Successes

Project Success	Factors That Contributed To Success

Travel/Activity Shortcomings and Solutions

- What (if any) circumstances were not anticipated?
- What needs to be done over or differently to correct these?

Shortcoming	Recommended Solutions

Approvals

Prepared by: _____

Student Traveler // Date

Received by: _____

NCAS-M Representative // Date

APPENDIX J

NCAS-M Fellow Purchase Request Form

NCAS-M Fellow Purchase Request Form

Requestor: _____

Contact Name/Number: _____

Vendor Name: _____

Vendor Address: _____

_____

Vendor Telephone/Fax: _____

Vendor Email/Web Address: _____

Items to Purchase:

Catalog/Item #	Description/Name	Quantity	Price

Date Needed: _____

Activity Title (If Known): _____

Brief Description of Activity: _____

_____

Ship to Address: _____

_____

Advisor Approval:	**Date:**	**Name:**	**Signature:**
Director Approval:	**Date:**	**Name:**	**Signature:**