

## NOAA Administrative Order 202-735D

### NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

#### SCIENTIFIC INTEGRITY POLICY

Issued 11/26/90; Effective 11/07/90; Revised xx/xx/2011

#### SECTION 1. PURPOSE.

.01 To promote a continuing culture of scientific excellence and integrity, and establish a policy on the integrity of scientific activities the agency conducts and uses to inform management and policy decisions. This Order also establishes a scientific Code of Conduct and Code of Ethics for Science Supervision and Management for National Oceanic and Atmospheric Administration (NOAA) employees and contractors who conduct, supervise, assess, and/or interpret scientific information for the use of NOAA, the Department of Commerce, and the Nation.

.02 The Procedural Handbook to this Order establishes processes for responding to allegations of misconduct. This handbook has the full force and authority of this NOAA Administrative Order (NAO).

.03 Additional information and resources related to scientific integrity and implementation of this NAO is available at: <http://nrc.noaa.gov/scientificintegrity.html>

#### SECTION 2. SCOPE.

.01 This Order applies to:

- a. All NOAA employees, political and career, who are engaged in, supervise, or manage scientific activities, analyze and/or publicly communicate information resulting from scientific activities, or use scientific information or analyses in making bureau or office policy, management, or regulatory decisions; and
- b. All contractors who engage in or assist with activities identified in Section 2.01a.

.02 This order also addresses applicable policy for NOAA employees and contractors who supervise, manage or otherwise assist in the administration of NOAA financial assistance awards (*i.e.*, grants and/or cooperative agreements) pertaining to NOAA-funded research conducted by external organizations and persons.

.03 This Order does not alter the requirements applicable to the specific activities, topics, and persons that are explicitly covered by other applicable federal statutes, regulations or policy directives, or by other NOAA or Department of Commerce Orders, such as but not limited to:

- a. Department policy for engaging in public communications, as specified in Departmental Administrative Order (DAO) 219-1.
- b. The Information Quality Act (Section 515 of Public Law 106-554) that may be applicable to any information disseminated by NOAA.
- c. Testimony before Congress or information or written materials provided to Congress that are addressed by DAOs 218-1, "Legislative Activities," 218-2, "Legislative and Intergovernmental Affairs," and 218-3, "Reports to Congress Required by Law," and NOAA Administrative Order 218-1 "The Preparation and Clearance of Congressional Testimony."<sup>1</sup>
- d. Rulemakings, adjudications, or publication in the Federal Register.
- e. Requirements for authorizing the production, printing, and distribution of publications and audiovisuals that are addressed by DAO 219-4.
- f. Department regulations and policies pertaining to financial assistance awards, as specified in 15 C.F.R. Parts 14 and 24 (as applicable), the Department of Commerce Financial Assistance Standard Terms and Conditions (March 2008), and in DAO 203-26, "Department of Commerce Grants Administration," as supplemented by the Department's Grants Manual, as each may be periodically updated.

.04 This Order shall not be interpreted to conflict with the rights of an employee under the law, including the Federal Service Labor-Management Relations Statute (5 U.S.C. Chapter 71); Department Administrative Order (DAO) 202-711, Labor-Management Relations; and various collective bargaining agreements; those provisions of Chapter 75 of Title 5 of United States Code relating to disciplinary action of employees; and, the Whistleblower Protection Act of 1989, Pub. L. No. 101-12. Additionally, this Order shall not be interpreted to conflict with any rights accorded a union representative under the Federal Service Labor-Management Relations Act when communicating as a union representative.

### **SECTION 3. DEFINITIONS**

#### **Allegation**

Any written or oral statement or other indication of possible scientific misconduct made to a NOAA employee, contractor, or to an employee of a NOAA research partner.

#### **Conflict of Interest**

Any financial or non-financial interest which conflicts with the actions or judgments of an individual when conducting scientific activities because it:

1. Could impair the individual's objectivity; or

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<sup>1</sup> C.f., Holdren, Memorandum for the Heads of Executive Departments and Agencies on Scientific Integrity (December 17, 2010), Section 5: Implementation, which states "In addition, the Director of the Office of Management and Budget (OMB) will be issuing guidance to OMB staff concerning the review of draft executive branch testimony on scientific issues prepared for presentation to the Congress. That guidance will provide standards that are to be applied during the review of scientific testimony."

2. Could create an unfair competitive advantage for any person or organization; or
3. Could create the appearance of either (1) or (2).

### **Decision-Makers**

Employees who may:

- Develop policies or make determinations about policy or management;
- Make determinations about expenditures of Department of Commerce or NOAA funds;
- Implement or manage activities that involve, or rely on, scientific activities; or
- Supervise employees who engage in scientific activities.

### **Fabrication**

Making up data or scientific results and recording or reporting them for the purposes of deception. (Federal Policy on Research Misconduct, 65 FR 76260-76264, December 6, 2000.)

### **Falsification**

Manipulating research materials, equipment, or processes; or changing or omitting data or results such that the research is not accurately represented in the research record. (Federal Policy on Research Misconduct, 65 FR 76260-76264, December 6, 2000.)

### **Financial Interest**

Any matter affecting a personal financial interest or a financial interest imputed to the individual (including, but not limited to, the individual's spouse and any entity for which the individual serves in a personal capacity as an officer or board member, such as due to fiduciary duties to the organization under state law). See 18 U.S.C. § 208.

### **Fundamental Research Communication**

The complete definition of "Fundamental Research Communication" is found in DAO 219-1 [http://www.osec.doc.gov/omo/dmp/daos/dao219\\_1.html](http://www.osec.doc.gov/omo/dmp/daos/dao219_1.html)

A brief definition is: Public Communication prepared as part of the employee's official work regarding the products of basic or applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community. Matters of policy, budget or management are not considered Fundamental Research Communications.

### **Non-Financial Conflict of Interest**

Individual participation in a matter where one of the parties is or is represented by someone with whom the individual has a covered relationship (including, but not limited to, a spouse's employer and any entity for which the individual is actively involved in a personal capacity). See 5 C.F.R. § 2635.502(b).

## **Plagiarism**

The appropriation of another person's ideas, processes, results, or words without giving appropriate credit. (Federal Policy on Research Misconduct, 65 FR 76260-76264, December 6, 2000.)

## **Research**

Research is the systematic study directed toward fuller scientific knowledge or understanding of the subject studied. (National Science Foundation Survey of Federal Funds for Research and Development, <http://www.nsf.gov/statistics/randdef/fedgov.cfm#gs>)

- Basic research is defined as systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.
- Applied research is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

## **Science**

Knowledge obtained and tested through use of the scientific method. Science may also include the observation and classification of facts with the goal of establishing verifiable knowledge derived through induction and hypothesis.

## **Scientific Activities**

Activities involving inventorying, monitoring, experimentation, study, research, modeling, and scientific assessment.

Scientific activities are conducted in a manner specified by standard protocols and procedures and include any of the physical, biological, or social sciences as well as engineering and mathematics that employ the scientific method. Inspections for regulatory compliance and resulting records are not included because they are covered by separate requirements.

## **Scientific Assessment**

Evaluation of a body of scientific or technical knowledge which typically synthesizes multiple factual inputs, data, models, assumptions, and/or implies best professional judgment to bridge uncertainties in the available information.

## **Scientific Integrity**

The condition resulting from adherence to professional values and practices, when conducting and applying the results of science that ensures objectivity, clarity, reproducibility, and utility and that provides insulation from bias, fabrication, falsification, plagiarism, outside interference, censorship, and inadequate procedural and information security.

### **Scientific Method**

A method of research in which a problem is identified, relevant data are gathered, a hypothesis is formulated from these data, and the hypothesis is empirically tested.

### **Scientific Product**

Presentation of the results of scientific activities including the analysis, synthesis, compilation, or translation of scientific information and data into formats for the use of NOAA, the Department of Commerce, and the Nation.

## **SECTION 4. NOAA PRINCIPLES OF SCIENTIFIC INTEGRITY**

.01 NOAA is an organization based upon science, scientific research, and providing and using scientific advice for decision-making. NOAA's ability to achieve its strategic vision of "healthy ecosystems, communities, and economies that are resilient in the face of change" relies on transparency, traceability, and scientific integrity at all levels. Transparency, traceability, and integrity are, therefore, core values of our organization and the reason for issuing this Order.

.02 NOAA scientists are encouraged to publish data and findings in ways that contribute to the most effective dissemination of NOAA science and that best enhance NOAA's reputation for reliable science, including online in open formats and through peer-reviewed, professional, or scholarly journals. Development and dissemination of scientific and technical products must be consistent with NOAA policies and procedures related to peer review, the Open Government Directive (Office of Management and Budget, 2009b), NOAA's information quality guidelines, and other legislative and policy mandates.

.03 In support of a culture of openness, and consistent with DAO 219-1 (Public Communication) and their official duties, NOAA scientists may freely speak to the media and the public about scientific and technical matters based on their official work, including scientific and technical ideas, approaches, findings, and conclusions based on their official work. Additional guidance for employees is available in DAO 219-1 ([http://www.osec.doc.gov/omo/dmp/daos/dao219\\_1.html](http://www.osec.doc.gov/omo/dmp/daos/dao219_1.html)).

.04 NOAA scientists are free to present viewpoints within their area of professional expertise that extend beyond science to incorporate personal opinion but must make clear they are presenting their individual opinions when doing so – not the views of the Department of Commerce or NOAA.

.05 Scientific leadership is a key component of advancing the mission of government agencies. NOAA scientists are, therefore, encouraged, consistent with Federal ethics laws and regulations, to engage with their peers in academia, industry, government, and non-governmental organizations through presenting their work at scientific meetings, serving on editorial boards and on scientific and technological expert review panels, and actively participating in professional societies and national/international scientific advisory and science assessment bodies.

.06 NOAA supports the election or appointment of its scientists and engineers to fellowships or positions in professional organizations, including as officers and on governing boards, subject to applicable ethics requirements and Department of Commerce policy. Pursuant to

Department of Commerce policy, NOAA employees may generally serve in their personal capacity as officers and on governing boards of outside organizations or in their official capacity as a government liaison. Service in an official capacity on a governing board or as an officer of an outside organization is subject to restrictions under ethics laws<sup>2</sup>; an ethics official should be consulted before accepting an appointment on behalf of NOAA to such a position.

.07 NOAA supports the recognition of the outstanding science conducted by its employees. NOAA scientists should, therefore, be able to accrue the professional benefits of any honors and awards for their research and discoveries, subject to applicable law.

.08 NOAA will make every effort to establish a culture of transparency, integrity, and ethical behavior among its employees through a combination of policy, opportunities for training, and open communications, both internally and with the public. NOAA, therefore, commits to providing regular training to its employees and contractors. NOAA also commits to post information to ensure that its employees, contractors, and grantees are fully aware of their rights regarding publication of their research, communication with the media and the public, participation in professional scientific societies, and their responsibility to report waste, fraud, and abuse.

## **SECTION 5. NOAA POLICY ON INTEGRITY OF SCIENTIFIC ACTIVITIES**

.01 NOAA scientists, science managers, and supervisors shall uphold the fundamental Principles of Scientific Integrity, the Code of Scientific Conduct, and the Code of Ethics for Science Supervision and Management outlined in the following sections of this Order.

.02 NOAA recognizes the importance of scientific activity and information as methods for maintaining and enhancing its effectiveness and establishing credibility and value with the public, both nationally and internationally. NOAA is dedicated to preserving the integrity of the scientific activities it conducts, and activities that are conducted on its behalf. It will not tolerate loss of integrity in the performance of scientific activities or in the application of science in decision-making. To that end, NOAA will:

- a. Facilitate the free flow of scientific information online and in other formats, consistent with privacy and classification standards, and in keeping with the Department of Commerce and NOAA data sharing and management policies. Where appropriate, this information will include data and models underlying regulatory proposals and other policy decisions.
- b. Document the scientific findings considered in decision making and ensure public access to that information and supporting data through established Department of Commerce and NOAA procedures—except for information and data that are restricted from disclosure under procedures established in accordance with statute, regulation, Executive Order, Presidential Memorandum, or other legal authority.

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<sup>2</sup> The Office of Government Ethics has published a proposed rule (*Federal Register* 76:85, 3 May 2011, p. 24816) that would create a government-wide exemption to 18 U.S.C. § 208. The exemption would permit the appointment of Federal employees to serve on the boards of directors and as officers of nonprofit organizations, including scientific organizations, professional societies, and similar bodies that are actively involved in matters under the jurisdiction of the Department. DOC and NOAA are supportive of this proposed rule. [Paragraph will be updated as appropriate.]

- c. Ensure that the selection and retention of employees in scientific positions or in positions that rely on the results of scientific activities are based on the candidate's integrity, knowledge, credentials, and experience relevant to the responsibility of the position.
- d. Ensure that NOAA and Department of Commerce public communications guidance provides procedures by which scientists may speak to the media and the public about scientific and technical matters based on their official work and areas of expertise. In no circumstance may any NOAA official ask or direct Federal scientists to suppress or alter scientific findings.
- e. Ensure that data and research used to support policy decisions undergo independent peer review by qualified experts, where feasible, appropriate, and consistent with law.
- f. Provide information to employees on whistleblower protections.
- g. Communicate scientific and technological findings by including, when necessary and appropriate, a clear explication of underlying assumptions; accurate contextualization of uncertainties; and a description of the probabilities associated with both optimistic and pessimistic projections, including best-case and worse case scenarios.
- h. Communicate policies for ensuring scientific integrity and responsibilities to employees, contractors, and grantees that assist with developing or applying the results of scientific activities, as appropriate.
- i. Encourage the enhancement of scientific integrity through appropriate, cooperative engagement with the communities of practice represented by professional societies and organizations.
- j. Examine, track, resolve, and report all reasonable allegations of scientific misconduct while seeking to ensure the rights and privacy of those covered by this policy and ensuring that unwarranted allegations do not result in slander, libel, or other damage to them.
- k. Facilitate the sharing of best administrative and management practices that promote the integrity of NOAA's scientific activities.

.03 As provided in Section M.10 of the Department of Commerce Financial Assistance Standard Terms and Conditions (March 2008) (<http://oam.eas.commerce.gov/docs/GRANTS/DOC%20STCsMAR08Rev.pdf>) and supplemental award terms, as applicable, grantee organizations have the primary responsibility for promptly investigating allegations of scientific or research misconduct under a NOAA award and for promptly notifying the NOAA Grants Officer of allegations of scientific or research misconduct and reporting the results of its investigation for appropriate disposition. NOAA grantees are also required to follow all Codes of Conduct as stated in Section J of the Department of Commerce Financial Assistance Standard Terms and Conditions. NOAA Cooperative and Joint Institutes are further subject to the rules and guidelines stated in the NOAA Cooperative Institute Handbook (<http://www.nrc.noaa.gov/ci/policy/docs/handbook.pdf>).

.04 It is NOAA policy to protect those who uncover and report allegations of scientific and research misconduct, as well as those accused of scientific and research misconduct in the absence of a finding of misconduct, from prohibited personnel practices (as defined in 5 U.S.C. 2302(b)).

## SECTION 6. CODE OF SCIENTIFIC CONDUCT

.01 All NOAA employees and contractors identified in Section 2.01, will to the best of their ability exhibit:

a. **Honesty** in all aspects of scientific effort through:

- Clearly differentiating between facts, personal opinions, assumptions, hypotheses, and professional judgment in reporting the results of scientific activities and characterizing associated uncertainties in using those results for decision making, and in representing those results to other scientists, decision-makers, and the public.
- Preserving the integrity of the data record through adherence to NOAA data management standards and not fabricating or deleting raw data.
- Approaching all scientific activities objectively, and completely and accurately reporting results in a timely manner without allegiance to individuals, organizations, or ideology.
- Disclosing any apparent, potential, or actual conflicts of interest or non-financial conflicts of interest of their own and others.
- Objectively considering conflicting data and/or studies.

b. **Accountability** in the conduct of research and interpretation of research results through:

- Using resources entrusted to them responsibly, including equipment, funds, and employees' time.
- Disclosing all research methods used, available data, and final reports and publications consistent with applicable scientific standards, laws, and policy.
- Providing scientific advice to NOAA as requested to inform management and other decision-making.

c. **Professional courtesy and fairness** in working with others and respect for ideas of others through:

- Neither unfairly hindering the scientific activities of others nor engaging in dishonesty, fraud, deceit, misrepresentation, coercive manipulation, or other scientific or research misconduct.
- Providing constructive, objective, and frank criticism to others on their scientific activities as appropriate for standards of respectful peer review, and accepting constructive criticism from others.
- Contributing to open and respectful scientific discourse that adheres to scientific standards for reporting results and conclusions and respects the

intellectual property rights of others, including acknowledging and crediting prior work.

d. **Good stewardship** of research on behalf of others through:

- Diligently creating, using, preserving, documenting, and maintaining collections and data.
- Adhering to established quality assurance and quality control programs; following Department of Commerce records retention policies, and complying with Federal law and agreements related to use, security, and release of confidential and proprietary data.
- Adhering to the laws and policies related to protection of natural and cultural resources and to research animals while conducting scientific activities.
- Respecting to the fullest extent permitted by law, confidential and proprietary information provided by communities, such as Native American Groupings, and individuals whose interests are studied or affected by scientific activities or the resulting information.
- Immediately reporting any observed, suspected, or apparent Scientific and Research Misconduct through means established in Section 8 and the Procedural Handbook for this Order.

## **SECTION 7: CODE OF ETHICS FOR SCIENCE SUPERVISION AND MANAGEMENT**

.01 NOAA science managers and supervisors identified in Section 2.01 will adhere to the guidelines for Scientific Integrity established in the March 9, 2009, *Presidential Memo to Heads of the Executive Departments and Agencies*. Specifically, science managers and supervisors will ensure:

- a. The selection, promotion, and retention of candidates for science and technology positions in NOAA are based on the candidate's knowledge, credentials, experience, and integrity;
- b. Appropriate rules and procedures are in place to preserve the integrity of the scientific process and the dissemination of its scientific products and information;
- c. The establishment and use of Federal Advisory Committees will follow procedures established by the Federal Advisory Committee Act and in accordance with the guidelines enunciated in the Office of Science and Technology Policy memorandum on Scientific Integrity of Dec. 17, 2010.
- d. When scientific or technological information is considered in policy decisions, the information will be subject to well-established scientific processes, including peer review where appropriate, and policy decisions shall appropriately and accurately reflect the best available science in compliance with relevant statutory standards;
- e. Except for information that is properly restricted from disclosure under procedures established in accordance with statute, regulation, patent/trademark,

Executive Order, Presidential Memorandum, or other legal authority, the scientific or technological findings or conclusions considered or relied on in policy decisions shall be made available to the public in a timely fashion;

- f. Procedures are in place to identify and address instances in which the scientific process or the integrity of scientific and technological information may be compromised; and
- g. Additional procedures are adopted, including any appropriate whistleblower protections, as are necessary to ensure the integrity of scientific and technological information and processes on which the agency relies in its decision making or otherwise uses or prepares.

.02 NOAA science managers and supervisors, political and career, must never suppress, alter, or otherwise impede the timely release of scientific or technological findings or conclusions, unless explicitly required by department or government-wide regulation, law, Executive Order, or other legal authority. Further, managers and supervisors will not intimidate or coerce employees, contractors, grantees or others to alter or censor scientific findings. Nor shall they implement institutional barriers to cooperation and the timely communication of scientific findings or technology. Any such interference will be considered a violation of this section: NOAA's Code of Ethics for Science Supervision and Management.

03. Decisions by NOAA science managers and supervisors to approve or not approve a written or audiovisual Fundamental Research Communication must be based only on whether the work is scientifically meritorious: specifically, the methods used are clear and appropriate, the presentation of results and conclusions is impartial, and there are no apparent, actual, or potential conflicts of interest. Consistent with DAO 219-1, the approval or non-approval of Fundamental Research Communications cannot be based on policy, budget, or management implications of the research.

04. The NOAA Research Council shall develop a NOAA-wide framework for review and approval of written and audiovisual materials constituting Fundamental Research Communications consistent with the criteria in 7.03. Each Line Office shall develop and document procedures for review and approval consistent with the Research Council's framework. The procedures must include time limits for review and approval, and procedures for redress if the time limits are not met.

05. NOAA science managers and supervisors will immediately report suspected cases of scientific or research misconduct through means established under Section 8 and the handbook for this Order.

## **SECTION 8. SCIENTIFIC AND RESEARCH MISCONDUCT AND RESPONDING TO ALLEGATIONS**

.01 Scientific and Research Misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing scientific and research activities, or in the products or reporting of these activities. Scientific and Research Misconduct specifically includes (a) intentional circumvention of the integrity of the science and research process by violation of NOAA's Code of Ethics for Science Supervision and Management, and (b) actions that compromise the scientific process by violating NOAA's Code of Scientific Conduct. Scientific and Research Misconduct does not include honest error or differences of opinion.

.02 Procedures for lodging and responding to allegations of misconduct are provided in the Procedural Handbook to this Order.

## **SECTION 9. AUTHORITIES**

.01 Statutes, Regulations, and Policies

- a. 5 U.S.C. § 301 allows the head of an executive department to prescribe regulations for the conduct of its employees.
- b. Standards of Ethical Conduct for Employees of the Executive Branch, 5 C.F.R. § 2635 and Conflict of Interest, 18 U.S.C. § 208, and related rulings by the Office of Government Ethics.
- c. Federal Policy on Research Misconduct (Dec. 6, 2000), available at [http://nrc.noaa.gov/plans\\_docs/fed\\_research\\_misconduct\\_dec\\_2000.pdf](http://nrc.noaa.gov/plans_docs/fed_research_misconduct_dec_2000.pdf).
- d. Presidential Memo to Heads of the Executive Departments and Agencies (March 9, 2009), available at [http://www.whitehouse.gov/the\\_press\\_office/Memorandum-for-the-Heads-of-Executive-Departments-and-Agencies-3-9-09/](http://www.whitehouse.gov/the_press_office/Memorandum-for-the-Heads-of-Executive-Departments-and-Agencies-3-9-09/)
- e. Office of Science and Technology Policy Memorandum on Scientific Integrity (Dec., 17, 2010), available at <http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf> .

## **SECTION 10: COMMUNICATION OF POLICY**

.01 As part of the responsibility to prevent and detect misconduct, NOAA will communicate its scientific integrity policies and procedures both internally to NOAA employees and contractors, and to NOAA partners, grantees, and others involved in external research. A general statement of the integrity policy is posted on the NOAA Research Council's Scientific Integrity Commons website at <http://nrc.noaa.gov/scientificintegrity.html>, and will also be referenced in financial assistance award solicitations and in requests for proposals. A specific effort will be made to communicate the NOAA Scientific Integrity Policy to the individuals involved in peer review panels evaluating proposals to NOAA grants programs and cooperative agreements, or evaluating internal NOAA scientific programs and activities.

## **SECTION 11. EFFECT ON OTHER ISSUANCES.**

This document supersedes NAO 202-735D Scientific Misconduct, effective November 7, 1990.

An electronic copy of this Order will be posted in place of the superseded Order on the NOAA Office of the Chief Administrative Officer website under the NOAA Administrative Issuances Section. <http://www.corporateservices.noaa.gov/~ocao/index.html>

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Chief Administrative Officer  
**Or**  
Under Secretary of Commerce  
for Oceans and Atmosphere

Offices of Primary Interest:  
Office of the Assistant Secretary  
Office of General Counsel (GC)

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