

Office of the Chief Information Officer & High Performance Computing and Communications

National Oceanic and Atmospheric Administration Information Quality Guidelines

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PART I: BACKGROUND, NOAA INFORMATION, DEFINITIONS, AND SCOPE

BACKGROUND

Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554), hereinafter "Section 515," directs the Office of Management and Budget (OMB) to issue government-wide guidelines ([OMB Guidelines](#)) that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies." OMB complied by issuing guidelines which direct each federal agency to (A) issue its own guidelines ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by the agency; (B) establish administrative mechanisms allowing affected persons to seek and obtain correction of information that does not comply with the OMB 515 Guidelines ([Federal Register](#): February 22, 2002, Volume 67, Number 36, pp. 8452-8460, herein "OMB Guidelines") or the agency guidelines; and (C) report periodically to the Director of OMB on the number and nature of complaints received by the agency regarding the accuracy of information disseminated by the agency and how such complaints were handled by the agency.

In compliance with OMB directives, the Department of Commerce (DOC) has issued Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Disseminated Information (available from <http://www.doc.gov>).

This document implements Section 515 and fulfills the OMB and DOC information quality guidelines. It may be revised periodically, based on experience, evolving requirements of the National Oceanic and Atmospheric Administration (NOAA) and concerns expressed by the public. Covered information disseminated by NOAA will comply with all applicable OMB, DOC, and (these) NOAA Information Quality Guidelines.

In implementing these guidelines, NOAA acknowledges that ensuring the quality of information is an important management objective that takes its place alongside other NOAA objectives, such as ensuring the success of NOAA missions, observing budget and resource priorities and restraints, and providing useful information to the public. NOAA intends to implement these guidelines in a way that will achieve all these objectives in a harmonious way.

NOAA INFORMATION

NOAA's mission is to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. To accomplish this mission, NOAA:

- creates and disseminates reliable assessments and predictions of weather, climate, the space environment, and ocean and living marine resources;
- produces and assures access to nautical and geodetic products and services;
- implements integrated approaches to environmental management and ocean and coastal resources development, protection and restoration for economic and social health, protects essential fish habitat, maintains sustainable fisheries, and works toward recovery of endangered and threatened species of fish and marine mammals;
- works to ensure access to sustained, reliable observations from satellites to ships to radars to data buoys;
- develops public private and international partnerships for the expansion and transfer of environmental knowledge and technologies; and
- invests in scientific research and the development of new technologies to improve current operations and prepare for the future.

DEFINITIONS

The definitions in this section apply throughout these Guidelines.

Quality is an encompassing term comprising utility, objectivity, and integrity. Therefore, the guidelines sometimes refer to these four statutory terms, collectively, as "quality."

Utility refers to the usefulness of the information to its intended users, including the public. In assessing the usefulness of information that the agency disseminates to the public, NOAA considers the uses of the information not only from its own perspective but also from the perspective of the public. As a result, when transparency of information is relevant for assessing the information's usefulness from the public's perspective, NOAA takes care to ensure that transparency has been addressed in its review of the information.

Objectivity consists of two distinct elements: presentation and substance. The presentation element includes whether disseminated information is presented in an accurate, clear, complete, and unbiased manner and in a proper context. The substance element involves a focus on ensuring accurate, reliable, and unbiased information. In a scientific, financial, or statistical context, the original and supporting data shall be generated, and the analytic results shall be developed, using sound statistical and research methods.

Integrity refers to security - the protection of information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification.

Information means any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms. This definition includes information that an agency disseminates from a web page, but does not include the provision of hyperlinks to information that others disseminate. This definition does not include opinions, where the agency's presentation makes it clear that what is being offered is someone's opinion rather than fact or the agency's views.

Government information means information created, collected, processed, disseminated, or disposed of by or for the Federal Government.

Information dissemination product means any books, paper, map, machine-readable material, audiovisual production, or other documentary material, regardless of physical form or characteristic, an agency disseminates to the public. This definition includes any electronic document, CD-ROM, or web page.

Dissemination means agency initiated or sponsored distribution of information to the public. Dissemination does not include distribution limited to: government employees or agency contractors or grantees; intra- or inter-agency use or sharing of government information; or responses to requests for agency records under the Freedom of Information Act, the Privacy Act, the Federal Advisory Committee Act or other similar law. This definition also does not include distribution limited to: correspondence with individuals or persons, press releases, archival records, public filings, subpoenas or adjudicative processes.

Agency initiated distribution of information to the public refers to information that the Agency distributes or releases which reflects, represents, or forms any part of the support of the policies of the Agency. In addition, if the Agency, as an institution, distributes or releases information prepared by an outside party in a manner that reasonably suggests that the Agency agrees with the information, this would be considered Agency initiated distribution and hence Agency dissemination because of the appearance of having the information represent Agency views. By contrast, the Agency does not "initiate" the dissemination of information when an Agency scientist or grantee or contractor publishes and communicates his or her research findings in the same manner as his or her academic colleagues, even if the Agency retains ownership or other intellectual property rights because the Federal government paid for the research.

Agency sponsored distribution of information to the public refers to situations where the Agency has directed a third party to distribute or release information, or where the Agency has the authority to review and approve the information before release. By contrast, if the Agency simply provides funding to support research, and if the researcher (not the Agency) decides whether to distribute the results and - if the results are to be released - determines the content and presentation of the distribution, then the Agency has not "sponsored" the dissemination even though it has funded the research and even if the Agency retains ownership or other intellectual property rights because the Federal government paid for the research. Note that subsequent Agency dissemination of such

information would require that the information adhere to the Agency's information quality guidelines even if it was initially covered by a disclaimer.

Influential information means information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.

Scientific information means factual inputs, data, models, analyses, technical information, or scientific assessments based on the behavioral and social sciences, public health and medical sciences, life and earth sciences, engineering, or physical sciences. This includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, graphic, cartographic, narrative or audiovisual forms that involves a field identified in the preceding sentence. This definition includes scientific information that an agency disseminates from a web page, but does not include the provision of hyperlinks to scientific information that others disseminate. This definition does not include opinions, where the agency's presentation makes clear that what is being offered is someone's opinion rather than fact or the agency's views.

Influential scientific information means scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.

Scientific assessment means an evaluation of a body of scientific or technical knowledge, which typically synthesizes multiple factual inputs, data, models, assumptions, and/or applies best professional judgment to bridge uncertainties in the available information. These assessments include, but are not limited to, state-of-science reports; technology assessments; weight-of-evidence analyses; meta-analyses; health, safety, or ecological risk assessments; toxicological characterizations of substances; integrated assessment models; hazard determinations; or exposure assessments.

The term **highly influential scientific assessment** means influential scientific information that the agency or the Administrator of the Office of Information and Regulatory Affairs in the Office of Management and Budget determines to be a scientific assessment that: (i) could have a potential impact of more than \$500 million in any year, or (ii) is novel, controversial, or precedent-setting or has significant interagency interest.

Reproducibility means that the information is capable of being substantially reproduced, subject to an acceptable degree of imprecision. For information judged to have more (less) important impacts, the degree of imprecision that is tolerated is reduced (increased). With respect to analytic results, "capable of being substantially reproduced" means that independent analysis of the original or supporting data using identical methods would generate similar analytic results, subject to an acceptable degree of imprecision or error.

Transparency is not defined in the OMB Guidelines, but the Supplementary Information to the OMB Guidelines indicates (p. 8456) that "transparency" is at the heart of the reproducibility standard. The Guidelines state that "The purpose of the reproducibility standard is to cultivate a consistent agency commitment to transparency about how analytic results are generated: the specific data used, the various assumptions employed, the specific analytic methods applied, and the statistical procedures employed. If sufficient transparency is achieved on each of these

matters, then an analytic result should meet the reproducibility standard." In other words, transparency - and ultimately reproducibility - is a matter of showing how you got the results you got.

SCOPE

These guidelines cover information disseminated by NOAA on or after October 1, 2002, regardless of when the information was first disseminated, except that pre-dissemination review procedures shall apply only to information first disseminated on or after October 1, 2002.

Information Disseminated by NOAA and Covered by these Guidelines

NOAA disseminates a wide variety of information that is subject to the OMB Guidelines. This dissemination could occur through a variety of mechanisms, including analyses and assessments supporting a rulemaking. To facilitate development of information quality standards and procedures, NOAA's disseminated information is grouped into the following categories: 1) Original Data; 2) Synthesized Products; 3) Interpreted Products; 4) Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories; 5) Natural Resource Plans; 6) Experimental Products; and 7) Corporate and General Information.

Original Data are data in their most basic useful form. These are data from individual times and locations that have not been summarized or processed to higher levels of analysis. While these data are often derived from other direct measurements (e.g., spectral signatures from a chemical analyzer, electronic signals from current meters), they represent properties of the environment. These data can be disseminated in both real time and retrospectively. Examples of original data include buoy data, survey data (e.g., living marine resource and hydrographic surveys), biological and chemical properties, weather observations, and satellite data.

Synthesized Products are those that have been developed through analysis of original data. This includes analysis through statistical methods; model interpolations, extrapolations, and simulations; and combinations of multiple sets of original data. While some scientific evaluation and judgment is needed, the methods of analysis are well documented and relatively routine. Examples of synthesized products include summaries of fisheries landings statistics, weather statistics, model outputs, data display through Geographical Information System techniques, and satellite-derived maps.

Interpreted Products are those that have been developed through interpretation of original data and synthesized products. In many cases, this information incorporates additional contextual and/or normative data, standards, or information that puts original data and synthesized products into larger spatial, temporal, or issue contexts. This information is subject to scientific interpretation, evaluation, and judgment. Examples of interpreted products include journal articles, scientific papers, technical reports, and production of and contributions to integrated assessments.

Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories are time-critical interpretations of original data and synthesized products, prepared under tight time constraints and covering relatively short, discrete time periods. As such, these warnings, forecasts, and advisories represent the best possible

information in given circumstances. They are subject to scientific interpretation, evaluation, and judgment. Some products in this category, such as weather forecasts, are routinely prepared. Other products, such as tornado warnings, hazardous chemical spill trajectories, and solar flare alerts, are of an urgent nature and are prepared for unique circumstances.

Natural Resource Plans are information products that are prescribed by law and have content, structure, and public review processes (where applicable) that are based upon published standards (e.g., statutory or regulatory guidelines). These plans are a composite of several types of information (e.g., scientific, management, stakeholder input, policy) from a variety of internal and external sources. Examples of Natural Resource Plans include fishery, protected resource, and sanctuary management plans and regulations, and natural resource restoration plans.

Experimental products are products that are experimental (in the sense that their quality has not yet been fully determined) in nature, or are products that are based in part on experimental capabilities or algorithms. Experimental products fall into two classes. They are either 1) disseminated for experimental use, evaluation or feedback, or 2) used in cases where, in the view of qualified scientists who are operating in an urgent situation in which the timely flow of vital information is crucial to human health, safety, or the environment, the danger to human health, safety, or the environment will be lessened if every tool available is used. Examples of experimental products include imagery or data from non-NOAA sources, algorithms currently being tested and evaluated, experimental climate forecasts, and satellite imagery processed with developmental algorithms for urgent needs (e.g., wildfire detection).

Corporate or general information includes all non-scientific, non-financial, non-statistical information. Examples include program and organizational descriptions, brochures, pamphlets, education and outreach materials, newsletters, and other general descriptions of NOAA operations and capabilities.

Information Not Covered by these Guidelines

Information with distribution intended to be limited to government employees or agency contractors or grantees.

Information with distribution intended to be limited to intra- or inter-agency use or sharing of government information.

Responses to requests for agency records under the Freedom of Information Act, the Privacy Act, the Federal Advisory Committee Act or other similar law.

Information relating solely to correspondence with individuals or persons.

Press releases, fact sheets, press conferences or similar communications in any medium that announce, support the announcement or give public notice of information NOAA has disseminated elsewhere.

Archival records, including library holdings.

Archival information disseminated by NOAA before October 1, 2002, and still maintained by NOAA as archival material.

Public filings.

Responses to subpoenas or compulsory document productions.

Information limited to adjudicative processes, such as pleadings, including information developed during the conduct of any criminal or civil action or administrative enforcement action, investigation or audit against specific parties, or information distributed in documents limited to administrative action determining the rights and liabilities of specific parties under applicable statutes and regulations.

Solicitations (e.g., program announcements, requests for proposals).

Hyperlinks to information that others disseminate, as well as paper-based information from other sources referenced, but not approved or endorsed by NOAA.

Policy manuals and management information produced for the internal management and operations of NOAA, and not primarily intended for public dissemination.

Information presented to Congress as part of legislative or oversight processes, such as testimony of NOAA officials, and information or drafting assistance provided to Congress in connection with proposed or pending legislation, that is not simultaneously disseminated to the public. (However, information which would otherwise be covered by applicable guidelines is not exempted from compliance merely because also presented to Congress.)

Documents not authored by NOAA and not intended to represent NOAA's views, including information authored and distributed by NOAA grantees, as long as the documents are not disseminated by NOAA (see definition of "dissemination").

Research data, findings, reports and other materials published or otherwise distributed by employees or by NOAA contractors or grantees that are identified as not representing NOAA views.

Opinions where the presentation makes it clear that what is being offered is not the official view of NOAA.

PART II: INFORMATION QUALITY STANDARDS AND PRE-DISSEMINATION REVIEW

Information quality is composed of three elements: utility, integrity and objectivity. Quality will be ensured and established at levels appropriate to the nature and timeliness of the information to be disseminated. NOAA will conduct a pre-dissemination review of information it disseminates to verify quality. Information quality is an integral part of the pre-dissemination review; it is also integral to information collections conducted by NOAA, and is incorporated into the clearance process required by the Paperwork Reduction Act (PRA) to help improve the quality of information that NOAA collects and disseminates to the public. NOAA offices already are required to demonstrate in their PRA submissions to OMB the "practical utility" of a proposed collection of information that they plan to disseminate. Additionally, for all proposed collections of information that will be disseminated to the public, NOAA offices should demonstrate in their PRA clearance submissions to OMB that the proposed collection of information

will result in information that will be collected, maintained, and used in a way consistent with applicable information quality guidelines.

As OMB has recognized (OMB Guidelines, pp. 8452-8453), "information quality comes at a cost." In this context, OMB directed that "agencies should weigh the costs (for example, including costs attributable to agency processing effort, respondent burden, maintenance of needed privacy, and assurances of suitable confidentiality) and the benefits of higher information quality in the development of information, and the level of quality to which the information disseminated will be held." Therefore, in deciding the appropriate level of review and documentation for information disseminated by NOAA, the costs and benefits of using a higher quality standard or a more extensive review process will be considered. Where necessary, other compelling interests such as privacy and confidentiality protections will be considered.

The utility and integrity standards below pertain to all categories of information disseminated by NOAA. Following the utility and integrity standards are objectivity standards for each of the specific categories of information disseminated by NOAA. It should be noted that in urgent situations that may pose an imminent threat to public health or welfare, the environment, the national economy, or homeland security, these standards may be waived temporarily.

Because most of the standards presented in this document reflect existing practice in NOAA, the present tense has been used when describing them; but regardless of tense used, a performance standard is intended.

UTILITY

Utility means that disseminated information is useful to its intended users. "Useful" means that the content of the information is helpful, beneficial, or serviceable to its intended users, or that the information supports the usefulness of other disseminated information by making it more accessible or easier to read, see, understand, obtain, or use. Where the usefulness of information will be enhanced by greater transparency, care is taken that sufficient background and detail are available, either with the disseminated information or through other means, to maximize the usefulness of the information. The level of such background and detail is commensurate with the importance of the particular information, balanced against the resources required, and is appropriate to the nature and timeliness of the information to be disseminated.

As a service organization, NOAA strives to continually improve the usefulness of its data and information products. A broad definition of NOAA's customers includes the American public, other federal agencies, state and local governments, academia, the private sector, recreational concerns, and many different national and international organizations. NOAA interacts with its customers through workshops, surveys, product reviews and other similar mechanisms to assess and improve the utility and accessibility of its products.

NOAA disseminates data products in a manner that allows them to be accessible and understandable to a broad range of users. NOAA meets the needs of its customers by disseminating information through a variety of media, which can include printed publications, diskettes or CD-ROM, the internet, and broadcast media. NOAA also utilizes

standard data formats and consistent attribute naming and unit conventions to ensure that its information is accessible to a broad range of users with a variety of operating systems and data needs.

INTEGRITY

Prior to dissemination, NOAA information, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information.

All electronic information disseminated by NOAA adheres to the standards set out in Appendix III, "Security of Automated Information Resources," OMB Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

Confidentiality of data collected by NOAA is safeguarded under legislation such as the Privacy Act and Titles 13, 15, and 22 of the U.S. Code.

Additional protections are provided as appropriate by 50 CFR Part 600, Subpart E, Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act, NOAA Administrative Order 216-100 - Protection of Confidential Fisheries Statistics.

OBJECTIVITY

Objectivity ensures that information is accurate, reliable, and unbiased, and that information products are presented in an accurate, clear, complete, and unbiased manner. In a scientific, financial, or statistical context, the original and supporting data are generated, and the analytic results are developed, using commonly accepted scientific, financial, and statistical methods.

Accuracy. Because NOAA deals largely in scientific information, that information reflects the inherent uncertainty of the scientific process. The concept of statistical variation is inseparable from every phase of the scientific process, from instrumentation to final analysis. Therefore, in assessing information for accuracy, the information is considered accurate if it is within an acceptable degree of imprecision or error appropriate to the particular kind of information at issue and otherwise meets commonly accepted scientific, financial, and statistical standards, as applicable. This concept is inherent in the definition of "reproducibility" as used in the OMB Guidelines and adopted by NOAA. Therefore, original and supporting data that are within an acceptable degree of imprecision, or an analytic result that is within an acceptable degree of imprecision or error, are by definition within the agency standard and are therefore considered correct.

Influential Information. As noted in the Definitions above, influential information is information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.

A clear and substantial impact is one that has a high probability of occurring. If it is merely arguable or a judgment call, then it would probably not be clear and substantial. The impact must be on a policy or decision that is in fact expected to occur, and there must be a link between the information and the impact that is expected to occur.

Without regard to whether information is influential, NOAA strives for the highest level of transparency about data and methods for all categories of information in all its scientific activities, within ethical, feasibility, cost, and confidentiality constraints. This supports the development of consistently superior products and fosters better value to the public. It also facilitates the reproducibility of such information by qualified third parties.

Peer Review of Influential Scientific Information. "Influential scientific information" or "highly influential scientific assessments" that the agency intends to disseminate are subject to OMB's Final Information Quality Bulletin for Peer Review (OMB Peer Review Bulletin), issued December 16, 2004 (70 FR 2664, Jan. 14, 2005). Peer review of these information products will be conducted in accordance with that Bulletin. While the Peer Review Bulletin does not cover third party information directly, its requirements apply to such information under certain circumstances. If the agency plans to disseminate information supplied by a third party, the OMB Peer Review Bulletin should be checked for applicability. In selecting peer reviewers who are not government employees, NOAA has adapted the National Academy of Sciences policy for committee selection with respect to evaluating the potential for conflicts and will use the adapted policy ([NOAA Conflict of Interest Policy](#)).

Analysis of Risks to Human Health, Safety and the Environment. For influential information disseminated by federal agencies that constitutes assessment of risks to human health, safety or the environment, the OMB Guidelines direct the agencies to adopt or adapt as objectivity standards the principles of the Safe Drinking Water Act Amendments of 1996 (SDWA) respecting risk assessments.

Many of NOAA's environmental assessments do not constitute analysis of risks or do not lend themselves to the type of risk assessments contemplated by the SDWA principles. Some assessments of risk to humans and the environment, such as tornado or hurricane warnings, use best available science conducted in accordance with sound and objective scientific practices, but are made under exigent circumstances which do not allow for extended analysis. Some programs may be based upon existing statutory, regulatory, or other guidance that allows or requires the use of expert judgment, available data, and a mix of other qualitative and quantitative input, in order to achieve the ends of the program at issue, but are not compatible with the precise SDWA risk assessment criteria.

There are some NOAA programs which are appropriate for application of risk assessment principles. When NOAA performs and disseminates influential risk assessments that are qualitative in nature, it will apply the following two objectivity standards, adapted from the SDWA principles:

1. To the degree that the agency action is based on science, NOAA will use (a) the best available science and supporting studies (including peer-reviewed science and supporting studies when available), conducted in accordance with sound and objective scientific practices, and (b) data collected by accepted methods or best available methods.

2. NOAA will ensure that disseminated information about risk effects is presented in a comprehensive, informative, and understandable manner.

In situations requiring influential risk assessments that are quantitative in nature, NOAA generally follows basic risk assessment principles, such as the National Academies of Science paradigm of 1983, as updated in 1994, which states that "Risk assessment is not a single process, but a systematic approach to organizing and analyzing scientific knowledge and information." In doing so, NOAA applies risk assessment approaches, over a wide variety of hazards, using appropriate practices that are widely accepted among relevant scientific and technical communities.

When NOAA performs and disseminates influential risk assessments that are quantitative in nature, in addition to applying the two objectivity standards above, risk assessment documents made available to the public shall specify, to the extent practicable, the following information, adapted from the SDWA principles:

- each ecosystem component, including population, addressed by any estimate of applicable risk effects;
- the expected or central estimate of risk for the specific ecosystem component, including population, affected;
- each appropriate upper-bound and/or lower-bound estimate of risk;
- data gaps and other significant uncertainties identified in the process of the risk assessment and the studies that would assist in reducing the uncertainties; and
- additional studies known to the agency and not used in the risk estimate that support or fail to support the findings of the assessment and the rationale of why they were not used.

Third-party Information. Use of third-party information from both domestic and international sources, such as states, municipalities, agencies and private entities, is a common practice in NOAA. Collaboration on interjurisdictional studies and monitoring programs, incorporation of on-site observations into NOAA products, and utilization of global observation systems are just a few examples of when third-party information is used. NOAA's information quality guidelines are reality-based, i.e., not intended to prevent use of reliable outside information or full utilization of the best scientific information available. Although third-party sources may not be directly subject to Section 515, information from such sources, when used by NOAA to develop information products or to form the basis of a decision or policy, must be of known quality and consistent with NOAA's information quality guidelines. When such information is used, any limitations, assumptions, collection methods, or uncertainties concerning it will be taken into account and disclosed.

Confidential and proprietary data, and other supporting information which cannot be disclosed. Where confidentiality or other considerations preclude full transparency, then especially rigorous robustness checks will be applied. They may take many forms, ranging from the use of outside review panels to the use of an array of specific checks to ensure objectivity. The nature and a description of these checks will be disclosed upon request.

Objectivity Standards for Specific Information Categories

A. Original Data

Objectivity of original data is achieved by using sound quality control techniques.

Data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data collection methods, systems, instruments, training, and tools are designed to meet requirements of the target user and are validated before use. Instrumentation is calibrated using primary or secondary standards or fundamental engineering and scientific methods. NOAA's standard operating procedures (SOPs) are reviewed on a regular basis and modified as practices and procedures evolve. Deviations from current SOPs are documented and occur only if valid scientific reasons exist for such a deviation.

Original data undergo quality control prior to being used by the agency or disseminated outside of the agency. Quality control techniques can include, as appropriate:

- gross error checks for data that fall outside of physically realistic ranges (e.g. a minimum, maximum, or maximum change);
- comparisons made with other independent sources of the same measurement;
- examination of individual time series and statistical summaries;
- application of sensor drift coefficients determined by a comparison of pre- and post-deployment calibrations; and
- visual inspection of the data.

The quality control/quality assessment of NOAA data is an on-going process. A continuous effort to improve the quality of NOAA data provides for evolution and improvements in survey techniques, instrument performance and maintenance, and data processing.

NOAA strives for transparency regarding data collection procedures, level of quality, and limitations. NOAA includes metadata record descriptions and an explanation of the methods and quality controls to which original data are subjected when they are disseminated, or makes them available upon request. This additional information helps the user assess the suitability of the data for a particular task.

B. Synthesized Products

Objectivity of synthesized products is achieved using data of known quality, applying sound analytical techniques, and reviewing the products or processes used to create them before dissemination.

Data and information sources are identified or made available upon request.

NOAA uses data of known quality or from sources acceptable to the relevant scientific and technical communities in order to ensure that synthesized products are valid, credible and useful.

Synthesized products are created using methods that are either published in standard methods manuals, documented in accessible formats by the disseminating office, or generally accepted by the relevant scientific and technical communities.

NOAA reviews synthesized products or the procedures used to create them (e.g. statistical procedures, models, or other analysis tools) to ensure their validity.

- Synthesized products that are unique or not produced regularly are reviewed individually by internal and/or external experts.
- For regular production of routine syntheses, the processes for developing these products are reviewed by internal and/or external experts.

NOAA includes the methods by which synthesized products are created when they are disseminated or makes the methods available upon request.

C. Interpreted Products

Objectivity of interpreted products is achieved by using data of known quality or from sources acceptable to the relevant scientific and technical communities and reliable supporting products, applying sound analytical techniques, presenting the information in the proper context, and reviewing the products before dissemination.

Data and information sources are properly referenced or identified upon request.

Interpreted products are produced using methods that are documented in accessible formats by the disseminating office or generally accepted by the relevant scientific and technical communities.

NOAA puts its interpreted products in context. Additional information that demonstrates the quality and limitations of the interpreted products helps the user assess the suitability of the product for the user's application.

Interpreted products are reviewed. Since the production of interpreted products often involves expert judgment, evaluation, and interpretation, these products are reviewed by technically qualified individuals to ensure that they are valid, complete, unbiased, objective, and relevant. Peer reviews, ranging from internal peer review by staff who were not involved in the development of the product to formal, independent, external peer review, are conducted at a level commensurate with the scientific information in the interpreted product.

NOAA includes the methods by which interpreted products are created when they are disseminated or makes the methods available upon request.

D. Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories

Objectivity of information in this category is achieved by using reliable data collection methods and sound analytical techniques and systems to ensure the highest possible level of accuracy given the time critical nature of the products. Due to time constraints, the ability to review final products prior to dissemination is limited.

To the extent possible, NOAA uses data of known quality to provide the best possible information under tight time constraints.

Data and information sources are identified or made available upon request.

To the extent possible, information in this category is produced using methods and techniques that are documented in accessible formats by the responsible office or generally accepted by the relevant scientific and technical communities. Due to the time-critical nature of these products, individual best judgment may be introduced.

NOAA identifies and tracks performance as a mechanism for evaluating accuracy of warnings, forecasts, and advisories. Statistical analysis may be carried out for a subset of products for verification purposes.

E. Experimental Products

Experimental products are either:

1. disseminated for experimental use, evaluation or feedback, or
2. used in cases where, in the view of qualified scientists who are operating in an urgent situation in which the timely flow of vital information is crucial to human health, safety, or the environment, the danger to human health, safety, or the environment will be lessened if every tool available is used.

Objectivity of experimental products is achieved by using the best science and supporting studies available, in accordance with sound and objective scientific practices, evaluated in the relevant scientific and technical communities.

Through an iterative process, provisional documentation of theory and methods are prepared, including the various assumptions employed, the specific analytic methods applied, the data used, and the statistical procedures employed. Results of initial tests are available where possible. The experimental products and capabilities documentation, along with any tests or evaluations, are repeatedly reviewed by the appropriate NOAA units. Such products are not moved into non-experimental categories until subjected to a full, thorough, and rigorous review.

Where experimental products are disseminated for experimental use, evaluation or feedback in the form of comment or criticism, the products are accompanied by explicit limitations on their quality or by an indicated degree of uncertainty.

Where experimental products are used by NOAA in support of other NOAA products in urgent situations where the timely flow of vital information is critical, they are used by qualified scientists in conjunction with accepted non-experimental scientific methods and tools, and taking into account all available information. Such experimental products and capabilities are used only after careful testing, evaluation, and review by NOAA experts, and then are approved for provisional use only by selected field offices or other NOAA components. This process is repeated as needed to ensure an acceptable and reliable level of quality.

F. Natural Resource Plans

Natural Resource Plans are information products that are prescribed by law and have content, structure, and public review processes (where applicable) that will be based upon published standards (e.g., statutory or regulatory guidelines).

Objectivity of Natural Resource Plans will be achieved by adhering to published standards, using information of known quality or from sources acceptable to the relevant scientific and technical communities, presenting the information in the proper context, and reviewing the products before dissemination.

Natural Resource Plans (Plans) will be developed according to published standards. Links to the published standards for the Plans disseminated by NOAA are provided below.

Plans will be based on the best information available. Plans will be a composite of several types of information (e.g., scientific, management, stakeholder input, policy) from a variety of internal and external sources. Plans will often be developed under legislatively-directed deadlines that constrain the ability to conduct new studies or gather additional data. Therefore, the best information available at the time will be used in the development of Plans.

Plans will be presented in an accurate, clear, complete and unbiased manner. Natural Resource Plans often rely upon scientific information, analyses and conclusions for the development of management policy. Clear distinctions will be drawn between policy choices and the supporting science upon which they are based. Supporting materials, information, data and analyses used within the Plan will be properly referenced to ensure transparency. Plans will be reviewed by technically qualified individuals to ensure that they are valid, complete, unbiased, objective, and relevant.

Review of Natural Resource Plans, ranging from internal review by staff who were not involved in the development of the product to formal, independent, external peer review, will be conducted at a level commensurate with the scientific information in the natural resource plan and the constraints imposed by legally-enforceable deadlines.

References to Plan Guidelines

Fisheries Management Plans

Laws:

Magnuson-Stevens Fishery Conservation and Management Act

<http://www.nmfs.noaa.gov/sfa/magact/index.html>

Essential Fish Habitat Statute & Regulations:

http://www.nmfs.noaa.gov/habitat/habitatprotection/efh/stat_reg_index.htm

Technical Guidance on the Use of the Precautionary Approach to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act, V.R. Restrepo et al., NOAA Technical Memorandum NMFS-F/SPO-31, July 1998.

Associated Laws and Guidelines:

http://www.st.nmfs.gov/st1/econ/cia/laws_links.html

Protected Resource Plans

Laws and Regulations:

Endangered Species Act

<http://www.nmfs.noaa.gov/pr/laws/esa.htm>

Endangered Species Act Regulations,

50 CFR Parts 222, 223, 224, 226, and 402

Marine Mammal Protection Act

<http://www.nmfs.noaa.gov/pr/laws/mmpa.htm>

Marine Mammal Protection Act Regulations

50 CFR Parts 216, 228, 229, and 230

Guidance Documents:

<http://endangered.fws.gov/policies/index.html#ESA>

<http://www.nmfs.noaa.gov/pr/laws/esa/policies.htm#recovery>

National Marine Sanctuary Management Plans

Laws:

http://oceanservice.noaa.gov/websites/supp_nms.html

Guidance Document:

National Marine Sanctuary Management Plan handbook, Third Ed., 16 U.S.C. §1434.

Natural Resource Damage Assessment and Restoration Plans

Laws and Guidance Documents:

<http://www.darrp.noaa.gov/library/index.html>

<http://restoration.doi.gov/homepage.html>

G. Corporate and General Information

Corporate and general information disseminated by NOAA is presented in a clear, complete, and unbiased manner, and in a context that enhances usability to the intended audience. The sources of the disseminated information are identified to the extent possible, consistent with confidentiality, privacy, and security considerations and protections, and taking into account timely presentation, the medium of dissemination, and the importance of the information, balanced against the resources required and the time available.

Information disseminated by NOAA is reliable and accurate to an acceptable degree of error as determined by factors such as the importance of the information, the intended use, time sensitivity, expected degree of permanence, relation to the primary mission(s) of the disseminating office, and the context of the dissemination, balanced against the resources required and the time available. A body of information is considered to be reliable if experience shows it to be generally accurate. Accurate information, in the case of non-scientific, non-financial, non-statistical information, means information which is reasonably determined to be factually correct in the view of the disseminating office as of the time of dissemination.

Review of corporate and general information disseminated by NOAA is incorporated into the normal process of formulating the information. This review is at a level appropriate to the information, taking into account the information's importance, balanced against the resources required and the time available. Department operating units treat information quality as integral to every step of an agency's development of information, including creation, collection, maintenance, and dissemination.

Review can be accomplished in a number of ways, including but not limited to combinations of the following:

- a. Active personal review of information by supervisory and management layers, either by reviewing each individual dissemination, or selected samples, or by any other reasonable method.
- b. Use of quality check lists, charts, statistics, or other means of tracking quality, completeness, and usefulness.
- c. Process design and monitoring to ensure that the process itself imposes checks on information quality.
- d. Review during information preparation.
- e. Use of management controls.
- f. Any other method which serves to enhance the accuracy, reliability, and objectivity of the information.

PART III. ADMINISTRATIVE CORRECTION MECHANISM

A. Overview and Definitions

1. Requests to correct information. Any affected person (see "Definitions" below) may request, where appropriate, timely correction of disseminated information that does not comply with applicable information quality guidelines. An affected person would submit a request for such action directly to:

NOAA Section 515 Officer
NOAA Executive Secretariat
Herbert C. Hoover Building – Room 5230
14th and Constitution Avenue, N.W.
Washington, D.C. 20230

However, requests for correction received in compliance with the Department of Commerce guidelines and forwarded to NOAA by DOC will be considered as if submitted to the NOAA Section 515 Officer on the date received by the NOAA Executive Secretariat.

2. Appeals of denials of requests. Any person receiving an initial denial of a request to correct information may file an appeal of such denial, which must be received by the NOAA Section 515 Officer (address as in paragraph III.A.1. above) within 30 calendar days of the date of the denial of the request. The appeal must include a copy of the original request, any correspondence regarding the initial denial, and a statement of the reasons why the requester believes the initial denial was in error. No opportunity for personal appearance, oral argument, or hearing on appeal will be provided.

3. Burden of Proof. The burden of proof is on the requester to show both the necessity and type of correction sought. Information that is subjected to formal, independent, external peer review is presumed to be objective provided that, for "influential scientific information," and "highly influential scientific assessments," the peer review fulfills the requirements of the OMB Peer Review Bulletin. The requester has the burden of rebutting that presumption.

4. Definitions.

Affected person means an individual or entity that uses, benefits from, or is harmed by the disseminated information at issue.

Person means an individual, partnership, corporation, association, public or private organization, or governmental entity.

Responsible office means a sub-organization of NOAA responsible for carrying out specified substantive functions (i.e., programs) that is designated to make the initial decision on a request for correction based on NOAA information quality standards.

Staff Office means the Office of Finance and Administration, the Office of the Under Secretary of Commerce for Oceans and Atmosphere/Administrator, the Office of Chief Information Officer and High Performance Computing and Communications, Office of Marine and Aviation Operations, or any other organizational unit in NOAA that is not contained in one of the NOAA Line Offices or in another larger Staff Office.

B. Procedures for Submission of Initial Requests for Correction

1. An initial request for correction of disseminated information must be made in writing and addressed to the NOAA Section 515 Officer (address as in paragraph III.A.1. above). The NOAA Section 515 Officer will transmit the written request to the responsible office. Any NOAA employee receiving a misdirected request should make reasonable efforts to forward the request to the NOAA Section 515 Officer, but the time for response does not commence until the NOAA Section 515 Officer receives the request. A request for correction of disseminated information will not support or extend any other legally prescribed deadline for a pending action.

2. No initial request for correction will be considered under these procedures concerning:

- a. a matter not involving "information," as that term is defined herein;
- b. information that has not actually been "disseminated," according to the definition of "dissemination" herein; or
- c. disseminated information the correction of which would serve no useful purpose. For example, correction of disseminated information would serve no useful purpose with respect to information that is not valid, used, or useful after a stated short period of time (such as a weather forecast). However, this would not preclude a request for correction alleging a recurring or systemic problem resulting in repeated similar or consistent errors.

Additionally, requests that are duplicative, repetitious, or frivolous may be rejected.

Any request rejected under this provision will nevertheless be accounted for in the Department's report to OMB.

3. At a minimum, to be considered proper, initial requests must include:

- a. the requester's name, current home or business address, and telephone number or electronic mail address (to assist with timely communication);
- b. a statement that the request for correction of information is submitted under Section 515 of Public Law 106-554 (to ensure correct and timely routing);
- c. an accurate citation to or description of the particular information disseminated which is the subject of the request, including: the date and source from which the requester obtained the information; the point and form of dissemination; an indication of which NOAA office or program disseminated the information (if known); and any other details that will assist NOAA in identifying the specific information which is the subject of the request and locating the responsible office;
- d. an explanation of how the requester is affected; and

- e. a specific statement of how the information at issue fails to comply with applicable guidelines and why the requester believes that the information is not correct.
4. For any proper request (i.e., one including all the elements of paragraph III.B.3.) above, NOAA will attempt to communicate either a decision on the request, or a statement of the status of the request and an estimated decision date, within 60 calendar days after receipt of the request by the NOAA Section 515 Officer.
5. No action will be taken regarding a request not including all the elements of paragraph III.B.3. (including a request made by a person unaffected by the dissemination of the information), or a request that does not state a claim according to paragraph III.C.1. The submitter of any such request will be notified, usually within 60 calendar days, of this disposition, and, if possible, may amend the request as required and resubmit it. Whether resubmitted or not, such requests will be accounted for in the Department's annual report to OMB.
6. A proper request received concerning information disseminated as part of and during the pendency of the public comment period on a proposed rule, Natural Resource Plan ("plan"), or other action, including a request concerning the information forming the record of decision for such proposed rule, plan, or action, will be treated as a comment filed on that proposed rulemaking, plan, or action, and will be addressed in issuance of any final rule, plan, or action.

C. Action by the Responsible Office on Initial Requests for Correction

1. Upon receipt of a proper request, the head of the responsible office will make a preliminary determination whether the request states a claim. A request for correction states a claim if it reasonably demonstrates, on the strength of the assertions made in the request alone, and assuming they are true and correct, that the information disseminated was based on a misapplication or non-application of NOAA's applicable published information quality standards. In other words, to state a claim, a request for correction must actually allege that NOAA disseminated information that does not comply with applicable guidelines.

A determination that a request does not state a claim will be communicated, along with an explanation of the deficiencies, to the requester, usually within 60 calendar days of receipt. The request may be amended and resubmitted as indicated in paragraph III.B.5 above.

2. If a proper request is preliminarily determined to state a claim, the head of the responsible office will objectively investigate and analyze relevant material, in a manner consistent with established internal procedures, to determine whether the disseminated information complies with NOAA's information quality standards. The head of the responsible office will make an initial decision whether the information should be corrected and what, if any, corrective action should be taken. No opportunity for personal appearance, oral argument, or hearing is provided.

If NOAA determines that corrective action is appropriate, corrective measures may be taken through a number of forms, including but not limited to: personal contacts via letter or telephone, form letters, press releases or postings on the appropriate NOAA Web site to correct a widely disseminated error or to address a frequently raised request, or withdrawal of the information in question. The form of corrective action will be determined by the nature and timeliness of the information involved and such factors as the significance of the error on the use of the information, and the magnitude of the error.

3. The head of the responsible office will communicate his/her initial decision or the status of the request to the requester, usually within 60 calendar days after it is received by the NOAA Section 515 Officer.
4. The initial decision or status update will contain the name and title of the person communicating the decision, the name of the NOAA Line or Staff Office of which the responsible office is a part, the name and title of the head of that Line or Staff Office, and a notice that the requester may appeal an initial denial, as in paragraph III.D.1. below, within 30 calendar days of the date of the initial denial.

Normally, the person handling the appeal (Appeal Official) will be the head of the Line or Staff Office of which the responsible office is a part. To ensure objectivity, any such Appeal Official will be at least one administrative level above the official who made the initial decision. If this is not possible within the NOAA Line or Staff Office of which the responsible office is a part, then the Appeal Official will be an official from another office which is at least one administrative level above the office of the official who made the initial decision. An initial denial will become a final decision if no appeal is filed within 30 calendar days.

D. Appeals from Initial Denial

1. An appeal from an initial denial must be made within 30 calendar days of the date of the initial decision and must be in writing and addressed to the NOAA Section 515 Officer (address as in paragraph III.A.1. above). An appeal of an initial denial must include:
 - a. the requester's name, current home or business address, and telephone number or electronic mail address (in order to ensure timely communication);
 - b. a copy of the original request and any correspondence regarding the initial denial; and
 - c. a statement of the reasons why the requester believes the initial denial was in error.
2. Where an initial denial has been made concerning information that is part of the record of decision of a rulemaking, Natural Resource Plan, or other action identified in paragraph III.B.6., and an administrative appeal mechanism, such as a reconsideration process, exists, an appeal will be considered pursuant to that process.
3. The Appeal Official will decide whether the information should be corrected based on all the information presented in the appeal record. No opportunity for personal appearance, oral argument, or hearing on appeal is provided. The

Appeal Official will communicate his/her decision to the requester usually within 60 calendar days after receipt by the NOAA Section 515 Officer.