THE WATER INSTITUTE

SCIENTIFIC INTEGRITY POLICY

Version 3.0

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THE WATER INSTITUTE

The Water Institute (the Institute) is an independent, non-profit, applied research institution advancing science and developing integrated methods to solve complex environmental and societal challenges. We believe in and strive for more resilient and equitable communities, sustainable environments, and thriving economies.

The ability of the Institute to achieve this mission relies on scientific integrity at every step of the process. The confidence in the science produced by the Institute is foundational in our ability to continue our role as an independent, science-based organization that provides community, state, and national leaders with the information they need to make decisions.[1] While the Institute's science helps provide communities and decision makers with the tools they need, the Institute recognizes a clear distinction between the scientific process we perform and the policy decisions made based on the results of that science.[2]

This document establishes what scientific integrity means and details how scientific integrity will be maintained as one of the core values of the Institute.

WATER INSTITUTE VALUES

[1] National Oceanic and Atmospheric Administration Scientific Integrity Policy (NOAA SIP), Section 1. Purpose (2024).
[2] NOAA SIP, Section 5. Principles of Scientific Integrity (2024).

SCIENTIFIC INTEGRITY

Scientific integrity is defined as the adherence by researchers and their institutions to honest and verifiable methods in proposing, performing, evaluating, and reporting research activities.[3]

The integrity of research is based on a commitment to objectivity, honesty, openness, fairness, accountability, and stewardship. These values help to ensure that scientific research advances knowledge locally, nationally, and internationally. Integrity in science must be included throughout the entire research process; every step from the planning, proposing, performing, reporting, and reviewing of research must be conducted in accordance with these values. When participants in research commit research misconduct, or other misconduct, or engage in detrimental research practices they stray from the appropriate practices of science.[4]

Beyond the need for individual responsibility in research actions, scientific integrity means emphasizing a collaborative and community approach to advancing science rather than an individual or competition-based approach. To ensure objectivity to the greatest degree possible means recognizing that researchers have their own individual biases and acting to account for these. This requires fostering an environment that encourages vigorous internal discussion of different points of view as a necessary part of the scientific process.[5] Scientific integrity depends on facilitating the free flow of scientific and technological information, not only through open communication among scientists and engineers, but also between these experts and the public.[6] This free flow of information can include, but is not limited to: publications of research in peer-reviewed, professional, or scholarly journals; presentation of research findings at professional meetings; participation as editors or editorial board members of professional or scholarly journals; and full participation in professional or scholarly societies.[7]

Scientific integrity is important not only to the Institute, but for science-based organizations everywhere. Adherence to these standards ensures objectivity, clarity, reproducibility, and utility of scientific and scholarly activities and assessments. Taking action to ensure scientific integrity helps prevent bias, fabrication, falsification, plagiarism, outside interference, censorship, and inadequate procedural and information security.[8]

Maintaining scientific integrity means research is not influenced by political, partner, client, or social pressure. Science, and public trust in science, thrives in an environment that shields scientific data and analyses from inappropriate political and social influence, as well as personal beliefs.[9] Statements made in the public and in produced reports, products, and presentations, must be based upon peer-reviewed, accepted science.

Researchers should also be aware of, and avoid, any conflicts of interest, or appearance of conflicts of interest, on a project or research endeavor. Any financial or non-financial gifts to a researcher can create conflicts because it could impair the individual's objectivity or give the appearance of impairing the individual's objectivity.

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[3] Fostering Integrity in Research, (2017), National Academy of Sciences, page 16
[4] Fostering Integrity in Research, (2017), National Academy of Sciences, page 27
[5] USEPA, Approaches for Expressing and Resolving Differing Scientific Opinions (2020), page 1
[6] White House Office of Science and Technology Policy Memorandum, (2010), page 2
[7] White House Office of Science and Technology Policy Memorandum, (2010), page 4
[8] Department of the Interior, Departmental Manual, Integrity of Scientific and Scholarly Activities (2024), page 10
[9] White House Office of Science and Technology Policy, 2010, page 1

THE WATER INSTITUTE'S SCIENTIFIC INTEGRITY PRINCIPLES

1. The success of the Water Institute relies on fostering the highest standards of scientific integrity, research conduct, and transparency.
2. The Water Institute's work with others is conducted with professional equity, respect, and fairness, including when representing and acknowledging the intellectual contributions of others.[10]
3. Water Institute staff demonstrate unselfish cooperation in research. Science involves a collective approach to advancing knowledge. This cooperative and collective approach supports the next generation of scientists.
4. When working with stakeholders and the public, Water Institute researchers are open and transparent. Researchers assure that procedures are in place to protect privacy and maintain confidentiality of personal data.
5. Water Institute researchers are encouraged to present work at public meetings, publish, serve on editorial boards and expert review panels, and actively participate in professional societies.
6. Water Institute researchers strive to produce accurate, high quality, and replicable science through best practices including transparent documentation, peer review, and careful stewardship of data and code.
7. Clients and stakeholders may contribute to the applied research process, but they do not influence the Water Institute's research outcomes.
8. The Water Institute ensures legal compliance in all aspects of research, including compliance with contract language and the protection of intellectual property where appropriate.[11]
9. Water Institute researchers show personal accountability in both the conduct of research and the dissemination of the results.[12]
10. Water Institute researchers use a humane approach in evaluating the implications of research on humans and animals.[13]
11. The Water Institute communicates scientific and technological findings by including a clear explanation of underlying assumptions and accurate context of uncertainties.[14]

[10] EPA's Principals of Scientific Integrity (2014), Page 1
[11] AGU Scientific Integrity and Professional Ethics Policy (2023), page 4
[12] AGU Scientific Integrity and Professional Ethics Policy (2023), page 4
[13] AGU Scientific Integrity and Professional Ethics Policy (2023), page 4
[14] NOAA SIP, Section 7, Code of Scientific Conduct (2024).

SCIENTIFIC INTEGRITY & OPERATIONAL PLANNING

In order to maintain a reputation of excellence and continue to foster a transdisciplinary, collaborative approach to its work, the Institute must operate under a formalized scientific integrity policy and ensure that the team consistently proposes and conducts work that integrates multiple disciplines with openness and collaboration.

- The Institute serves as the "connective tissue" to connect disciplines, form a transdisciplinary approach to solving complex problems, and transition that into the hands of end users/decision-makers.
- The Institute is a respected contributor and provider of data and information to the scientific community.
- To support scientific integrity, research conduct, and transparency at the Water Institute, regular integrity and ethics training will be provided to staff. 100% of the Water Institute's staff complete a scientific integrity training every 2 years.
- The Institute's team follows consistent protocols for project management, especially related to technology usage and data management, activities and/or implementation.
- The Institute will consistently review procedures in place to identify and address instances in which the scientific process or the integrity of scientific and technological information may be compromised.[15]
- Science integrity concerns will be reported confidentially to the Institute's Chief Scientist and careful consideration will be taken to reach a resolution.[16]

I have read and acknowledge the Scientific Integrity Policy and agree to adhere to it.

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Signature Date

[15] NOAA SIP, Section 8, Code of Ethics for Science Supervision and Management (2024).
[16] See The Water Institute Science Integrity Concerns Reporting Procedures (2023)