



OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

THE U.S. GEOLOGICAL SURVEY NEEDS TO IMPROVE THE STRATEGIC PLANNING, PERFORMANCE MEASURE- MENT, AND TRANSPARENCY FOR ITS NATIONAL WATER CENSUS PROGRAM



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Memorandum

To: William Werkheiser
Acting Director, U.S. Geological Survey

From: Kimberly Elmore *Kimberly Elmore*
Assistant Inspector General, Office of Audits, Inspections, and Evaluations

Subject: Management Advisory – The U.S. Geological Survey Needs To Improve the Strategic Planning, Performance Measurement, and Transparency for its National Water Census Program
Report No. 2016-WR-071

The Office of Inspector General recently conducted a review of the U.S. Geological Survey's (USGS') National Water Census program. Specifically, we reviewed the program's strategic planning and goals, performance measurement, and funding for fiscal years (FYs) 2011 – 2016. We determined that although improvements have been made in recent years, USGS has not included all of the required elements in its strategic science plan for the USGS Water Mission Area, sufficiently measured the program's performance, or transparently reported its use of funds allocated for the program.

Background

Following earlier efforts to assess the Nation's water supplies,¹ Congress directed USGS in 2002 to "prepare a report describing the scope and magnitude of the efforts needed to provide periodic assessments of the status and trends in the availability and use of freshwater resources." To prepare that report, USGS solicited input from stakeholders and used their comments and recommendations to design a water census approach for data collection.

In 2005 and 2006, USGS initiated pilot studies to assess water availability and use in the Great Lakes Basin and Colorado River Basin, respectively. In 2007, the National Science and Technology Council issued a report calling for a water census approach to assessing the Nation's water supplies. USGS issued an agencywide science strategy² the same year that identified developing a water census program as one of USGS' major strategic directions.

In 2009, Congress passed the SECURE Water Act, which established a "national water availability and use assessment program" within USGS. The program is commonly referred to as the National Water Census. The Act authorized funding of \$20 million per year until 2023 for

¹ The first national water assessment was published in 1968 by the U.S. Water Resources Council, followed by a more comprehensive assessment in 1978.

² "Facing Tomorrow's Challenges—U.S. Geological Survey Science in the Decade 2007 – 2017," USGS Circular No. 1309.

the National Water Census and \$12.5 million for grant assistance for State water resource agencies. The Act also established that the program goals are to—

1. provide an accurate assessment of the status of water resources;
2. assist in the determination of the quantity of water available for beneficial use;
3. assist in the determination of the quality of the water resources;
4. identify long-term trends in water availability;
5. use long-term trends to provide an accurate assessment of the change in the availability of water; and
6. develop the basis for an improved ability to forecast the availability of water for future economic, energy production, and environmental uses.

Although authorized in 2009, funding was first allocated for the National Water Census in FY 2011. Since 2011, nearly \$40 million has been allocated for the program.

Following a USGS realignment in 2010, the USGS Water Mission Area issued a strategic plan in 2013³ that focused the fairly broad strategic actions of the National Water Census.

Methodology

To answer our objectives, we interviewed National Water Census program and Water Mission Area personnel. We also reviewed associated criteria and documentation, including strategic plans, program and project reports, and budget justifications. The budget justifications did not show funding levels for the National Water Census, so we also reviewed allocated funding amounts reported to us by National Water Census officials. We did not verify these amounts in the USGS accounting system because the specific dollar amounts do not affect the validity of the finding, and the data was used for illustrative purposes. We ended this evaluation during the survey phase and did not continue into fieldwork because the Water Mission Area is currently revising its strategic plan.

Findings

USGS has not included all of the required elements in its strategic science plan for the USGS Water Mission Area.

The 2013 Water Mission Area strategic plan improves upon earlier plans by linking goals, objectives, and strategic actions, and includes a section describing how the Water Mission Area is integrated with other USGS mission areas. It does not, however, include all of the elements required by the Government Performance and Results Modernization Act of 2010 (GPRMA).

For example, USGS' 2013 plan includes a set of strategic actions to accomplish its objectives, but does not include "a description of the operational processes, skills and technology, and the human, capital, information, and other resources required to achieve those

³ "U.S. Geological Survey Water Science Strategy—Observing, Understanding, Predicting, and Delivering Water Science to the Nation," USGS Circular No. 1383-G.

goals and objectives,” as the GPRMA requires. USGS officials also have not determined the level of funding needed to accomplish National Water Census goals. Without a discussion of the resources required for each of the stated objectives, it is difficult to determine to what extent USGS will be able to accomplish its goals.

In addition, the 2013 plan does not sufficiently describe how USGS is working with other agencies to achieve its goals and objectives, as the GPRMA requires. We noted that the Bureau of Reclamation has related mandates under the SECURE Water Act and is cooperating with USGS on certain National Water Census projects, but a description of how the two agencies are working together is not included in USGS’ 2013 plan.

The 2013 plan also does not include “an identification of those key factors external to the agency and beyond its control that could significantly affect the achievement of the general goals and objectives,” as the GPRMA requires. In an undertaking as large as the National Water Census, with many external stakeholders and partners, it is critical to consider the factors that could negatively affect program success.

Finally, the 2013 plan does not include “a description of the program evaluations used in establishing or revising general goals and objectives, with a schedule for future program evaluations to be conducted,” as the GPRMA requires. USGS officials told us that the Water Mission Area is now conducting quarterly program reviews, and programs are conducting their own reviews every 6 months, but a description of these reviews is not included in the 2013 plan.

USGS has not sufficiently measured the performance of the National Water Census.

The 2013 Water Mission Area strategic plan includes 5 goals, 14 objectives, and 27 strategic actions. USGS officials stated that 16 of the 27 strategic actions are directly related to the National Water Census. They also acknowledged that prior strategic plans were put on the shelf and progress of the 16 strategic actions was not tracked. USGS officials also expressed the need to improve the ability to follow through on the implementation of their strategies.

USGS officials told us that they report one performance measure for the National Water Census in the U.S. Department of the Interior’s “Annual Performance Plan and Report.” This performance measure, which has been tracked since FY 2014, is the percentage of the United States “with completed, consistent water availability products.” A USGS official stated that the current performance measure could be improved by measuring data collection at a finer scale. In addition, the reported performance measure focuses on outputs, rather than outcomes. OMB recommended performance measures should focus on outcomes, and use outputs when necessary.

USGS has not transparently reported funding allocated for the National Water Census program.

We were unable to determine, from reviewing USGS budget justifications for FYs 2011 – 2016, how much funding has been allocated to the National Water Census. The reason for this is that there was no line item specifically aligned with the National Water Census when USGS began to receive SECURE Water Act appropriations in 2011. Instead, as shown in Figure 1

below, USGS allocated funding from three of its water programs for National Water Census activities for FYs 2011 – 2015. In FY 2016, USGS realigned its budget and created the Water Availability and Use Science Program (WAUSP), consolidating National Water Census activities under one program. The WAUSP funds National Water Census activities, as well as some other water-related activities. USGS officials provided us with amounts that have been allocated for the National Water Census since FY 2011 (see Figure 1). USGS budget justifications show that \$42 million was appropriated for the WAUSP in FY 2016, while USGS officials reported that approximately \$8.9 million of WAUSP funding was allocated for the National Water Census.

Funding Allocated for the National Water Census

FY	Program	Funding	FY Total
2011	HNA*	\$2,827,000	\$3,751,600
	GWRP†	\$283,600	
	NSIP‡	\$641,000	
2012	HNA	\$4,135,512	\$5,528,248
	GWRP	\$751,736	
	NSIP	\$641,000	
2013	HNA	\$4,404,950	\$7,332,885
	GWRP	\$2,318,935	
	NSIP	\$609,000	
2014	HNA	\$4,385,000	\$6,104,140
	GWRP	\$1,110,140	
	NSIP	\$609,000	
2015	HNA	\$6,445,913	\$7,999,548
	GWRP	\$944,635	
	NSIP	\$609,000	
2016	WAUSP	\$8,897,650	\$8,897,650
Total			\$39,614,071

* Hydrologic Networks and Analysis Program

† Ground-Water Resources Program

‡ National Streamflow Information Program

Figure 1. This figure indicates the USGS-reported funding allocated from various water programs, including HNA, GWRP, NSIP, and WAUSP, for the National Water Census for FYs 2011 – 2016.

As described above, the National Water Census funding is not clearly reported, which makes it difficult for stakeholders, such as Congress, the Office of Management and Budget, U.S. Department of the Interior, and others, to determine how the budget resources and expenditures are linked to program goals and objectives. It also limits USGS’ ability to ensure that National Water Census funds are used in accordance with the program’s stated objectives.

Conclusion

In recent years, USGS has realigned its management and budget structure and improved its strategic management efforts, but more work is needed to fully develop its National Water Census strategies. Without fully developed strategies, it will continue to be difficult for Congress and other stakeholders to assess whether the planned approaches are successful in achieving the program's stated objectives.

USGS is in the process of updating its Water Mission Area strategic plan and improving its performance measurement and reporting. This report intends to provide support to USGS efforts to further improve its strategic management for the National Water Census.

Recommendations

We recommend that USGS:

1. Include the elements required by the Government Performance and Results Modernization Act of 2010 in its Water Mission Area strategic plan;
2. Establish outcome-focused qualitative and quantitative performance measures for the National Water Census that will allow USGS and the other stakeholders to assess whether goals and objectives are being achieved and improve USGS' ability to monitor progress made to implement strategies; and
3. Improve transparency of the National Water Census budget by linking it to program objectives and reporting specific amounts allocated.

Please provide us with your written response to this report within 30 days. The response should provide information on actions taken or planned to address the recommendations, as well as target dates and title(s) of the official(s) responsible for implementation. Please send your response to aie_reports@doioig.gov.

If you have any questions regarding this management advisory, please contact me at 202-208-5745.

The legislation creating the Office of Inspector General requires that we report to Congress semiannually on all audit, inspection, and evaluation reports issued; actions taken to implement our recommendations; and recommendations that have not been implemented.

We conducted our review in accordance with the Quality Standards for Inspection and Evaluation as put forth by the Council of the Inspectors General on Integrity and Efficiency. We believe that the work performed provides a reasonable basis for our conclusions and recommendations.

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