



Weekly Natural Gas Storage Report Performance Evaluation for 2020 through 2022

November 2024

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Introduction

The U.S. Energy Information Administration (EIA) submits this report under the Office of Management and Budget's (OMB) Statistical Policy Directive Number 3, which requires each agency that issues a Principal Federal Economic Indicator (PFEI) to report every three years on its performance. OMB Directive Number 3 requires that this performance evaluation address:

- The accuracy and reliability of the series
- The effects of revisions
- Performance relative to established benchmarks¹
- Standards for documentation
- Timeliness of releases
- Avoidance of premature disclosure

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The *Weekly Natural Gas Storage Report* (WNGSR) is DOE's only report designated as a PFEI. WNGSR collects inventories of natural gas in underground storage. It was designated as a PFEI in January 2008 because it is a key source of weekly supply data for the natural gas market. After EIA releases the WNGSR, the natural gas market reacts to the net change in inventory levels from the previous week. This information on the net changes between weekly inventory data reports helps market participants make trading decisions that often move natural gas prices \$0.03 per million British thermal units (MMBtu) to \$0.05/MMBtu each week at the time that WNGSR is released.

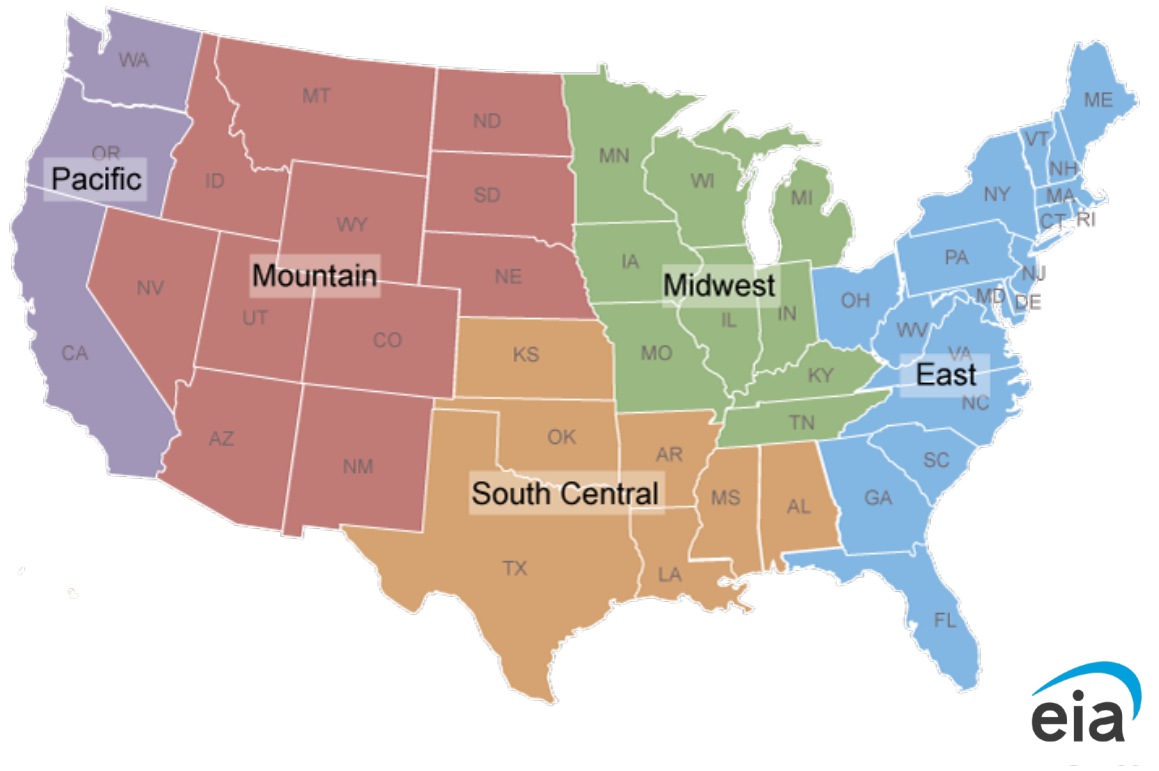
Currently, WNGSR reports data on the amount of working natural gas² in underground storage facilities as of every Friday at 9:00 a.m. central time. EIA compile and process survey submissions and release the data on its website the following **Thursday at 10:30 a.m. eastern time (ET)**, unless the release schedule is affected by a holiday or other pre-approved reasons. EIA classifies the summary totals of working gas inventories and the derived net change from the previous week's inventory for the Lower 48 states by five regions: the East, Midwest, Mountain, Pacific, and the South Central regions (**Figure 1**). EIA further subdivides totals for the South Central region into salt and nonsalt subregions according to facility type, owing to the differing operational characteristics of these facilities.

¹ Federal Register, Vol. 50, No. 186, Office of Management and Budget (September 25, 1985), pp. 38932–34, https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/omb/inforeg/statpolicy/dir_3_fr_09251985.pdf

² *Working natural gas* is natural gas in storage that is currently available to be withdrawn.

Figure 1. Regional breakdown of the Lower 48 states for the *Weekly Natural Gas Storage Report*

Natural gas storage regions



Source: U.S. Energy Information Administration

Changes to WNGSR Since 2020

The sampling and estimation methodology for WNGSR, as revised in 2018, remains in effect with no substantive changes. A sample reselection for WNGSR will occur in 2024, using the existing sampling methodology, and no changes to estimation methodology are planned. Several changes to WNGSR occurred during the 2017–19 period.³ These changes included weekly publication of estimated measures of sampling variability, the collection of a weekly census in the Pacific region, new data collection procedures explicitly separating salt and nonsalt operators in the South Central region, and a modification to the rounding methodology for published WNGSR estimates. These changes performed as expected and will be retained. The relative stability of the natural gas storage industry in the Lower 48 states suggests that WNGSR sampling and estimation methodologies will remain an effective predictor of our monthly census collection of storage estimates.⁴ However, we have made some changes in the release procedures of WNGSR.

³ https://ir.eia.gov/ngs/wngsrevaluation_2020.pdf

⁴ <https://www.eia.gov/naturalgas/storagecapacity/>

Changes introduced in 2020

In 2020, EIA made some changes to the processing and release procedures for WNGSR in response to the COVID-19 pandemic. DOE promoted remote telework options for its employees and contractor staff as part of its efforts to slow the spread of COVID-19 in March 2020, even though the Forrestal Building remained open and accessible to employees. Processing of WNGSR data and the production of the final estimates remained onsite at the Forrestal Building, while web publication of WNGSR on the EIA website became fully remote during this period.

The remote telework posture did not disrupt WNGSR collection and publication. EIA published its first WNGSR under a remote telework posture on March 19, 2020. The data entry, processing, and production of estimates occurred in the secure WNGSR room as usual, even though most of the WNGSR team remained offsite. Remote WNGSR team members provided research support and conducted respondent outreach efforts, and two team members produced the WNGSR estimates and reports onsite in the secure room. The web release of WNGSR continued onsite during the first two weeks of this period as EIA explored options for remote release of WNGSR.

EIA conducted its first fully remote web release of WNGSR on April 2, 2020. EIA implemented a remote web release of WNGSR after determining that the remote release could be done securely and reliably. Publishing WNGSR remotely meant that the handoff of the WNGSR report files would happen electronically for the first time, instead of through the established procedure of a physical meeting onsite between the WNGSR and web operations teams. EIA used Entrust encryption to facilitate the electronic handoff of the data, by passing the encrypted file on a sequestered portion of the EIA local area network (LAN), with access limited primarily to the WNGSR and web operations teams.

The encrypted data file is handed off to the EIA web operations team shortly before the WNGSR release, during a video conference with members of the WNGSR team. After ensuring the Gatekeeper software is enabled to restrict public access to the WNGSR webpage, the WNGSR team places the encrypted file on the EIA LAN, and the EIA web operations team retrieves it and immediately deletes the copy from the LAN. This encrypted file is decrypted, reviewed for accuracy and completeness, and prepared for publication by the WNGSR and web operations teams during this meeting. Once the files are verified, they are moved onto the internet release server in accordance with the established publication procedure. The new remote publication procedures have not resulted in any delayed releases or data breaches of WNGSR.

Accuracy and Reliability of the Weekly Working Gas Inventory Series

EIA collects weekly survey data from a sample of operators of underground storage facilities selected with certainty from the largest operators in each region and with probability proportional to size for the smaller operators.⁵ The WNGSR survey form, Form EIA-912, *Weekly Underground Natural Gas Storage Report*, collects data on the volumes of working gas in storage. The survey frame for the Form EIA-912 is

⁵ U.S. Energy Information Administration, *Methodology for EIA Weekly Underground Natural Gas Storage Estimates*, September 10, 2018, <http://ir.eia.gov/ngs/methodology.html>

the list of respondents in the Lower 48 U.S. states that report on Form EIA-191, *Monthly Underground Natural Gas Storage Report*, which is a census of operators of underground natural gas storage fields in the United States. EIA aggregates Form EIA-191 data by state and storage region and report the data with a two-month lag in the *Natural Gas Monthly*.

Sampling error

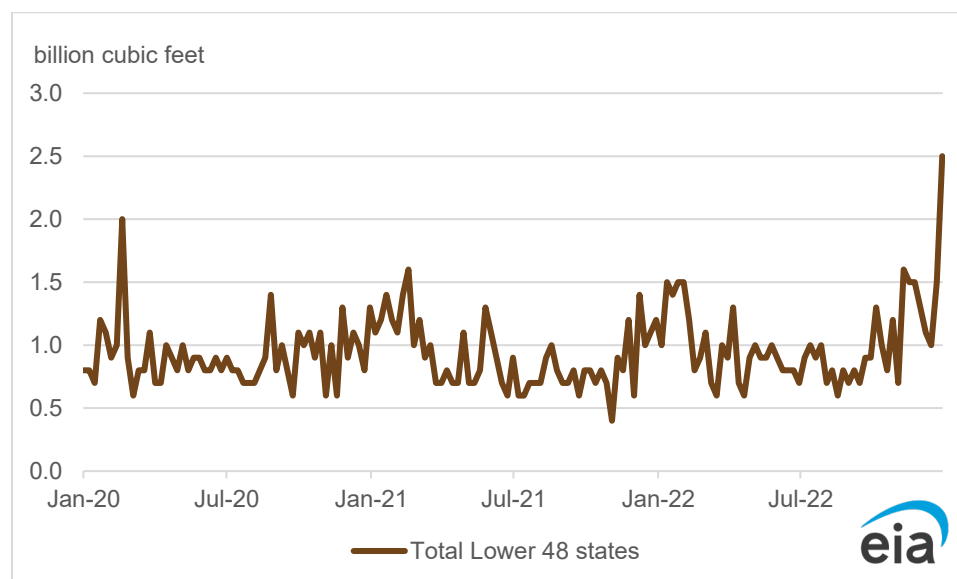
EIA uses a bootstrap method⁶ to estimate standard errors for the weekly underground storage inventory data reported on WNGSR. EIA chose this method because of its flexibility in managing the Form EIA-912's small sample sizes and nonsmooth estimator. EIA calculates coefficients of variation for the inventory estimates reported for the East, Midwest, Mountain, Pacific, and the South Central regions, as well as for the Lower 48 states (Table A1). The estimated coefficients of variation for the Lower 48 states averaged approximately 0.4% of average working gas volumes of 2,738 billion cubic feet (Bcf) during the period. For each region, EIA designed the sample for WNGSR using a threshold for the target coefficient of variation of no more than 5% for the inventory estimate of total working gas in storage. Regionally, estimated coefficients of variation from Form EIA-912 are generally less than 2% in all regions. Prior to introducing a weekly census in the Pacific region, the region often had the largest regional variation. That designation now belongs to the salt facilities subdivision of the South Central region, which had coefficients of variation that reached as high as 2.2% during the period.

In addition to computing estimated coefficients of variation for the weekly underground storage inventory data, EIA also computes estimated standard errors for weekly net changes in working natural gas storage levels (Table A2). For the Lower 48 states, the estimated standard errors for weekly net changes have averaged about 0.9 Bcf. Regionally, the estimated standard errors for weekly net changes have ranged between 0.0 Bcf and 2.4 Bcf, where the maximum of this range was associated with the period's third largest withdrawal in the South Central region for the data week ending December 30, 2022.

In general, larger standard errors on the weekly net change tend to be associated with the winter, when inventories are higher and the weekly net changes tend to be largest (Figure 2). However, the standard errors on the net change for the Lower 48 states tend to remain in a range between 0.5 Bcf and 1.5 Bcf during most weeks. The sampling error of the net change remains consistent with the reduced estimated coefficients of variation for the levels obtained following the implementation of the methodological changes in 2018. These changes resulted in collecting a weekly census in the Pacific region and the change in the Form EIA-912 data collection that required respondents in the South Central region to report their salt and nonsalt inventories separately.

⁶ Efron, B., and Tibshirani, R. J., *An Introduction to the Bootstrap*, (New York: Chapman & Hall, 1993).

Figure 2. Standard error of weekly net changes in underground working gas inventory data in Lower 48 states, 2020–2022



Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report*, 2020–22

Differences between monthly and interpolated weekly values

Comparing the WNGSR series (Form EIA-912) with monthly working gas inventories reported in the *Natural Gas Monthly* (Form EIA-191) provides an additional benchmark to evaluate the performance of the WNGSR. Form EIA-191 is a census survey (unlike Form EIA-912, which is a sample survey), and EIA generally considers the monthly data more accurate than the weekly data because the monthly data have no sampling errors. In addition, because respondents have more time to report and make adjustments to their data and EIA has more time to review and validate it, errors in measurement are less likely to occur. To perform the weekly-to-monthly comparison, EIA uses a simple average daily interpolation to transform the weekly series into a monthly series that coincides with the last calendar day of the month.

On a national level, the average absolute difference between the weekly and the monthly series for the period from January 2020 to December 2022 was 13 Bcf, or 0.5% of the average monthly working gas level for the period (2,738 Bcf), and the root mean squared difference was 17 Bcf (Table A3).

Factors contributing to the difference between the weekly and monthly working gas series include:

- Limitations of the weekly-to-monthly interpolation method, which does not take into account daily variability of storage activity.
- Revisions or resubmissions of data on the Form EIA-912 that are lower than the WNGSR publication threshold of 4 Bcf.

- Respondents' reclassifications between base gas⁷ and working gas, or other inventory adjustments, during the two-month lag between collecting the two series.
- Estimates of weekly volumes for those monthly operators not selected for the weekly sample that differ from their actual values.
- Preliminary weekly estimates reported by respondents on the Form EIA-912 that may differ from the final data reported on the Form EIA-191.

Revisions

EIA publishes revisions to the WNGSR when respondents submit revised data for the previous week that differ by 4 Bcf or greater at the regional or national level. EIA announced WNGSR's revision posting policy in a November 2002 Federal Register Notice and subsequently updated the policy in an August 2015 announcement.⁸ Form EIA-912 resubmissions that EIA receives after the WNGSR release are entered into the database for editing, imputation, and other analytical purposes, but the changes only lead to a published revision when they affect working gas storage levels by a net total of at least 4 Bcf at either a regional or national level.

Once the 4 Bcf revision publication threshold is met in any region, EIA reports all resubmissions of data for any region during the report week, regardless of size. Consequently, published revisions for the Lower 48 states may net less than 4 Bcf as a result of potential offsetting revisions in other regions.

Table 1. Published revisions to the *Weekly Natural Gas Storage Report*, 2020–22

Date published	Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states	
3/25/2021	19-Mar-21	-	-	-	-	-4	-	-4	-4	-0.23%
6/9/2022	20-May-22	0	3	0	3	1	1	1	7	0.39%
	27-May-22	-12	6	0	5	0	0	0	-1	-0.05%
	03-Jun-22	-11	9	0	5	0	0	0	4	0.20%

Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report*, 2020–22

From 2020 to 2022, EIA revised published working gas stock data on two separate occasions, covering four weeks of revised data in all. EIA reported these revisions to the public on separate publication dates as noted in Table 1. Typically, EIA reports only revisions from data resubmissions to the public.

According to published EIA policies, EIA must issue unscheduled releases of revisions to the weekly

⁷ Base gas is the volume of natural gas needed to maintain adequate reservoir pressures and deliverability rates. Base gas is not typically available for withdrawal.

⁸ *Federal Register*, Vol. 67, No. 218, U.S. Energy Information Administration (November 12, 2002), pp. 68581-83, (<http://www.eia.gov/survey/frn/naturalgas/WNGSR-Revision-Policy-Nov12-2002.pdf>); and *Federal Register*, Vol. 70, No. 79, U.S. Energy Information Administration (April 26, 2005), pp 21406-08, <http://www.eia.gov/survey/frn/naturalgas/WNGSR-Unscheduled-Release-Policy-Final-April2005.pdf>. *Notice of Changes to the Weekly Natural Gas Storage Report* http://ir.eia.gov/ngs/notice_08_31_2015.html

estimates when the cumulative sum of data changes or corrections to working gas and the net change between the two most recent report weeks is at least 10 Bcf. In this situation, at 1:00 p.m. ET on a federal workday, EIA notifies the public of an impending release, and it releases the revised report on that same day at 2:00 p.m. ET. These conditions did not occur during the 2020–22 period. EIA has never issued an unscheduled revision.

EIA also occasionally receives small revisions that do not meet the publication threshold. EIA enters these revisions into the Form EIA-912 database for analytical and record-keeping purposes, but they are not reflected in published weekly data. Between 2020 and 2022, EIA received 88 such revisions, with an average absolute difference of 667 million cubic feet (MMcf). EIA received 80 unpublished revisions between 0 MMcf and 1,999 MMcf and 8 revisions between 2,000 MMcf and 4,000 MMcf (Table 2).

Table 2. Unpublished revisions to the *Weekly Natural Gas Storage Report, 2020–22*

Range (million cubic feet)	Count	Average absolute difference (million cubic feet)
0 to 1,999	80	464
2,000 to 3,999	8	2,693

Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report, 2020–22*

Response rates

Form EIA-912 response rates, measured as a percentage of the total number of sampled companies at the time of publication, exceeded 98% for all of the report periods in 2020–22 (Table 3). EIA has never needed to publish a revision to WNGSR as a result of nonresponse.

Table 3. Response rates for the Form EIA-912 survey, 2020–22

Response rate (percentage of total number of sample companies)	Frequency count
0%–93%	0
94%–97%	0
98%–99%	1
100%	156

Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report, 2020–22*

Accuracy, Completeness, and Accessibility of Documentation

The methodological documentation for the WNGSR is available on [EIA's website](#).⁹ This document contains information about the WNGSR's processing, sampling, estimation, imputation for nonresponse, computation of estimated measures of sampling variability and summary statistics, and derivation of historical estimates that predate Form EIA-912.

Release Schedule Performance and Avoidance of Early Disclosure

Use of storage estimates before official release

EIA releases the WNGSR each Thursday at 10:30 a.m. ET except on federal holidays or for other preapproved reasons. EIA publishes specific release times and dates for each calendar year in advance and has consistently met these deadlines. EIA has never had an unauthorized release of the WNGSR data before the scheduled release time.

Access to WNGSR estimates before release is limited to project managers and analysts who work on the WNGSR project team. The information is only available to EIA employees outside the WNGSR project team with the approval of the survey manager and as specified by OMB in its Statistical Policy Directive: *Compilation, Release, and Evaluation of Principal Federal Economic Indicators*.¹⁰

Beginning with data submitted for the first report period after April 1, 2004, EIA used the information related to Form EIA-912 for statistical purposes only, as required in the Confidential Information Protection and Statistical Efficiency Act of 2002 (Title 5 of Public Law 107-347), which was reauthorized as part of the Foundations for Evidence-Based Policymaking Act of 2018, and other applicable federal laws. No other use of the estimates has been approved, and any other use is strictly prohibited by law. EIA does not disclose data in any identifiable form without the respondent's consent. By law, every EIA employee, as well as every agent, is subject to a jail term, a fine, or both if they make public any identifiable information reported through the Form EIA-912.

Timing of data release

EIA releases WNGSR data at 10:30 a.m. ET each Thursday, except for federal holidays or other preapproved reasons, such as extreme weather or inability to access the DOE Forrestal Building. Software controls are applied to ensure fairness in dissemination. These controls are regularly evaluated and adjusted, as necessary, to maintain their effectiveness. From 2020 to 2022, EIA released the WNGSR every week according to the established schedule.

⁹ U.S. Energy Information Administration, *Methodology*, January 26, 2017, <http://ir.eia.gov/ngs/methodology.html>.

¹⁰ Office of Management and Budget, *Statistical Policy Directive on Compilation, Release, and Evaluation of Principal Federal Economic Indicators*, https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/omb/inforeg/statpolicy/dir_3_fr_09251985.pdf

Protection of Market Sensitive Information

The Form EIA-912 system is located at the Forrestal Building. To gain access to the Forrestal Building, one must have a DOE employee badge or must receive a visitor's badge from the DOE security office. DOE security controls access to and from the Forrestal Building.

The Form EIA-912 processing and estimation occur in a dedicated secure room in the Forrestal Building. The processing system in the secure room is only accessible to designated EIA employees and contractors who work on the WNGSR team. EIA is reviewing ways to upgrade the WNGSR security and processing environment to take advantage of technologies that have been developed since WNGSR began. The current WNGSR processing system is not connected to any other system or to the Internet. All removable system components (hard drives and laptops), media (thumb drives), and printed documents are stored when not in use in a General Services Administration-approved safe that is located within the secure room.

Authorized staff members hold an estimation and data validation meeting with recorded attendance in the secure room, typically two days before the scheduled release. WNGSR staff review the data submissions and other validating information and then run the software to generate the final report. The final report is first verified by several staff members and then verified again before the WNGSR team delivers it for posting on the day of release.

Appendix

Table A4. Estimated coefficients of variation for the underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22*

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
03-Jan-20	1.2%	0.8%	1.0%	0.0%	0.7%	1.6%	0.7%	0.4%
10-Jan-20	1.2%	0.7%	1.0%	0.0%	0.7%	1.6%	0.7%	0.4%
17-Jan-20	1.2%	0.7%	0.9%	0.0%	0.7%	1.6%	0.7%	0.4%
24-Jan-20	1.2%	0.7%	0.8%	0.0%	0.7%	1.7%	0.8%	0.4%
31-Jan-20	1.3%	0.7%	0.8%	0.0%	0.8%	1.7%	0.8%	0.5%
07-Feb-20	1.4%	0.7%	0.8%	0.0%	0.8%	1.8%	0.8%	0.5%
14-Feb-20	1.4%	0.7%	0.8%	0.0%	0.8%	1.9%	0.8%	0.5%
21-Feb-20	1.5%	0.7%	0.9%	0.0%	0.8%	1.9%	0.9%	0.5%
28-Feb-20	1.6%	0.7%	1.1%	0.0%	0.9%	2.0%	0.9%	0.5%
06-Mar-20	1.7%	0.7%	1.2%	0.0%	0.9%	1.9%	0.9%	0.5%
13-Mar-20	1.7%	0.8%	1.3%	0.0%	0.8%	1.8%	0.9%	0.5%
20-Mar-20	1.8%	0.8%	1.5%	0.0%	0.8%	1.7%	0.9%	0.5%
27-Mar-20	1.9%	0.8%	1.4%	0.0%	0.8%	1.8%	0.9%	0.5%
03-Apr-20	1.9%	0.8%	1.4%	0.0%	0.8%	1.8%	0.9%	0.5%
10-Apr-20	1.8%	0.8%	1.4%	0.0%	0.8%	1.7%	0.8%	0.5%
17-Apr-20	1.8%	0.8%	1.4%	0.0%	0.8%	1.7%	0.8%	0.5%
24-Apr-20	1.7%	0.8%	1.2%	0.0%	0.8%	1.7%	0.8%	0.5%
01-May-20	1.6%	0.8%	1.1%	0.0%	0.8%	1.7%	0.8%	0.5%
08-May-20	1.6%	0.8%	1.1%	0.0%	0.7%	1.6%	0.8%	0.5%
15-May-20	1.6%	0.8%	1.1%	0.0%	0.7%	1.6%	0.8%	0.5%
22-May-20	1.6%	0.8%	1.1%	0.0%	0.7%	1.5%	0.7%	0.5%
29-May-20	1.6%	0.8%	1.2%	0.0%	0.7%	1.5%	0.8%	0.5%
05-Jun-20	1.6%	0.8%	1.3%	0.0%	0.7%	1.5%	0.8%	0.5%
12-Jun-20	1.5%	0.8%	1.2%	0.0%	0.7%	1.5%	0.7%	0.5%
19-Jun-20	1.5%	0.7%	1.4%	0.0%	0.7%	1.5%	0.7%	0.4%
26-Jun-20	1.4%	0.7%	1.5%	0.0%	0.7%	1.5%	0.7%	0.4%
03-Jul-20	1.4%	0.7%	1.5%	0.0%	0.7%	1.5%	0.7%	0.4%
10-Jul-20	1.4%	0.7%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
17-Jul-20	1.4%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
24-Jul-20	1.3%	0.8%	1.5%	0.0%	0.7%	1.7%	0.7%	0.4%
31-Jul-20	1.3%	0.8%	1.5%	0.0%	0.7%	1.7%	0.7%	0.4%
07-Aug-20	1.3%	0.9%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
14-Aug-20	1.3%	0.9%	1.4%	0.0%	0.7%	1.7%	0.7%	0.4%
21-Aug-20	1.3%	0.9%	1.4%	0.0%	0.7%	1.7%	0.7%	0.4%
28-Aug-20	1.2%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
04-Sep-20	1.2%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
11-Sep-20	1.1%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
18-Sep-20	1.1%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%

Table A5. Estimated coefficients of variation for the underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
25-Sep-20	1.1%	0.8%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
02-Oct-20	1.1%	0.9%	1.5%	0.0%	0.7%	1.6%	0.7%	0.4%
09-Oct-20	1.1%	0.9%	1.5%	0.0%	0.7%	1.5%	0.7%	0.4%
16-Oct-20	1.1%	0.9%	1.5%	0.0%	0.6%	1.5%	0.7%	0.4%
23-Oct-20	1.1%	0.9%	1.4%	0.0%	0.7%	1.5%	0.7%	0.4%
30-Oct-20	1.1%	0.9%	1.4%	0.0%	0.6%	1.6%	0.7%	0.4%
06-Nov-20	1.1%	0.9%	1.4%	0.0%	0.7%	1.6%	0.7%	0.4%
13-Nov-20	1.1%	0.9%	1.3%	0.0%	0.6%	1.6%	0.7%	0.4%
20-Nov-20	1.1%	0.8%	1.3%	0.0%	0.6%	1.5%	0.7%	0.4%
27-Nov-20	1.1%	0.8%	1.2%	0.0%	0.6%	1.5%	0.7%	0.4%
04-Dec-20	1.1%	0.8%	1.2%	0.0%	0.7%	1.6%	0.7%	0.4%
11-Dec-20	1.2%	0.8%	1.3%	0.0%	0.7%	1.6%	0.7%	0.4%
18-Dec-20	1.2%	0.8%	1.3%	0.0%	0.7%	1.6%	0.7%	0.4%
25-Dec-20	1.2%	0.8%	1.2%	0.0%	0.6%	1.5%	0.7%	0.4%
01-Jan-21	1.2%	0.8%	1.1%	0.0%	0.6%	1.5%	0.7%	0.4%
08-Jan-21	1.2%	0.8%	1.0%	0.0%	0.6%	1.5%	0.7%	0.4%
15-Jan-21	1.2%	0.7%	1.0%	0.0%	0.7%	1.5%	0.7%	0.4%
22-Jan-21	1.2%	0.7%	0.9%	0.0%	0.7%	1.5%	0.7%	0.4%
29-Jan-21	1.3%	0.7%	0.7%	0.0%	0.7%	1.6%	0.7%	0.4%
05-Feb-21	1.3%	0.7%	0.5%	0.0%	0.7%	1.7%	0.8%	0.4%
12-Feb-21	1.3%	0.8%	0.4%	0.0%	0.8%	1.7%	0.8%	0.4%
19-Feb-21	1.4%	0.9%	0.3%	0.0%	0.9%	2.2%	0.9%	0.5%
26-Feb-21	1.3%	0.9%	0.5%	0.0%	0.8%	2.1%	0.9%	0.5%
05-Mar-21	1.3%	0.9%	0.6%	0.0%	0.8%	2.0%	0.9%	0.5%
12-Mar-21	1.4%	0.9%	0.7%	0.0%	0.8%	1.9%	0.8%	0.5%
19-Mar-21	1.4%	0.9%	0.7%	0.0%	0.8%	1.8%	0.8%	0.5%
26-Mar-21	1.5%	0.9%	0.9%	0.0%	0.8%	1.8%	0.7%	0.5%
02-Apr-21	1.4%	0.9%	1.0%	0.0%	0.8%	1.8%	0.7%	0.5%
09-Apr-21	1.4%	0.7%	1.1%	0.0%	0.7%	1.7%	0.7%	0.4%
16-Apr-21	1.4%	0.7%	1.0%	0.0%	0.7%	1.7%	0.7%	0.4%
23-Apr-21	1.3%	0.6%	1.0%	0.0%	0.7%	1.7%	0.7%	0.4%
30-Apr-21	1.3%	0.6%	0.9%	0.0%	0.7%	1.7%	0.7%	0.4%
07-May-21	1.3%	0.6%	0.8%	0.0%	0.7%	1.7%	0.7%	0.4%
14-May-21	1.3%	0.6%	0.8%	0.0%	0.7%	1.7%	0.7%	0.4%
21-May-21	1.2%	0.6%	0.9%	0.0%	0.7%	1.7%	0.7%	0.4%
28-May-21	1.2%	0.6%	1.0%	0.0%	0.7%	1.6%	0.7%	0.4%
04-Jun-21	1.2%	0.6%	1.4%	0.0%	0.7%	1.6%	0.7%	0.4%
11-Jun-21	1.2%	0.6%	1.1%	0.0%	0.7%	1.6%	0.7%	0.4%
18-Jun-21	1.2%	0.6%	1.2%	0.0%	0.7%	1.7%	0.7%	0.4%
25-Jun-21	1.2%	0.6%	1.2%	0.0%	0.7%	1.7%	0.7%	0.4%
02-Jul-21	1.1%	0.6%	1.2%	0.0%	0.7%	1.7%	0.7%	0.4%
09-Jul-21	1.1%	0.6%	1.2%	0.0%	0.7%	1.7%	0.7%	0.4%
16-Jul-21	1.1%	0.7%	1.3%	0.0%	0.7%	1.7%	0.7%	0.4%

Table A6. Estimated coefficients of variation for the underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
23-Jul-21	1.0%	0.7%	1.3%	0.0%	0.7%	1.7%	0.7%	0.4%
30-Jul-21	1.0%	0.7%	1.2%	0.0%	0.7%	1.8%	0.7%	0.4%
06-Aug-21	1.0%	0.7%	1.2%	0.0%	0.7%	1.9%	0.7%	0.4%
13-Aug-21	1.0%	0.8%	1.2%	0.0%	0.7%	1.9%	0.7%	0.4%
20-Aug-21	0.9%	0.8%	1.2%	0.0%	0.7%	2.0%	0.7%	0.4%
27-Aug-21	0.9%	0.8%	1.2%	0.0%	0.8%	2.1%	0.8%	0.4%
03-Sep-21	0.9%	0.8%	1.3%	0.0%	0.8%	2.2%	0.8%	0.4%
10-Sep-21	0.9%	0.8%	1.3%	0.0%	0.7%	2.1%	0.8%	0.4%
17-Sep-21	0.9%	0.8%	1.3%	0.0%	0.7%	2.0%	0.8%	0.4%
24-Sep-21	0.9%	0.8%	1.4%	0.0%	0.7%	1.9%	0.7%	0.4%
01-Oct-21	0.8%	0.8%	1.4%	0.0%	0.7%	1.8%	0.7%	0.4%
08-Oct-21	0.8%	0.8%	1.4%	0.0%	0.7%	1.7%	0.7%	0.4%
15-Oct-21	0.8%	0.8%	1.4%	0.0%	0.7%	1.7%	0.7%	0.4%
22-Oct-21	0.8%	0.8%	1.4%	0.0%	0.7%	1.6%	0.7%	0.4%
29-Oct-21	0.8%	0.8%	1.4%	0.0%	0.7%	1.6%	0.7%	0.4%
05-Nov-21	0.9%	0.8%	1.4%	0.0%	0.7%	1.5%	0.7%	0.4%
12-Nov-21	0.9%	0.8%	1.4%	0.0%	0.7%	1.5%	0.7%	0.4%
19-Nov-21	0.9%	0.8%	1.3%	0.0%	0.6%	1.4%	0.7%	0.4%
26-Nov-21	0.9%	0.8%	1.3%	0.0%	0.6%	1.4%	0.7%	0.4%
03-Dec-21	0.9%	0.9%	1.2%	0.0%	0.6%	1.4%	0.7%	0.4%
10-Dec-21	0.9%	0.8%	1.2%	0.0%	0.6%	1.4%	0.7%	0.4%
17-Dec-21	1.0%	0.8%	1.1%	0.0%	0.6%	1.4%	0.6%	0.4%
24-Dec-21	1.0%	0.8%	1.1%	0.0%	0.6%	1.4%	0.6%	0.4%
31-Dec-21	1.0%	0.8%	1.1%	0.0%	0.6%	1.4%	0.6%	0.4%
07-Jan-22	1.0%	0.7%	1.0%	0.0%	0.6%	1.4%	0.6%	0.4%
14-Jan-22	1.1%	0.7%	0.9%	0.0%	0.6%	1.4%	0.7%	0.4%
21-Jan-22	1.1%	0.8%	0.8%	0.0%	0.6%	1.4%	0.7%	0.4%
28-Jan-22	1.2%	0.8%	0.8%	0.0%	0.7%	1.7%	0.7%	0.4%
04-Feb-22	1.2%	0.8%	0.7%	0.0%	0.7%	1.8%	0.7%	0.4%
11-Feb-22	1.3%	0.8%	0.6%	0.0%	0.8%	2.1%	0.7%	0.5%
18-Feb-22	1.4%	0.9%	0.7%	0.0%	0.8%	2.1%	0.8%	0.5%
25-Feb-22	1.5%	0.9%	0.7%	0.0%	0.8%	2.0%	0.8%	0.5%
04-Mar-22	1.7%	0.9%	0.8%	0.0%	0.8%	2.1%	0.7%	0.5%
11-Mar-22	1.8%	0.9%	0.9%	0.0%	0.8%	2.0%	0.7%	0.5%
18-Mar-22	1.9%	0.9%	1.1%	0.0%	0.8%	2.0%	0.7%	0.5%
25-Mar-22	1.8%	0.9%	1.2%	0.0%	0.7%	1.9%	0.7%	0.5%
01-Apr-22	1.9%	1.0%	1.2%	0.0%	0.7%	1.6%	0.7%	0.5%
08-Apr-22	2.0%	0.8%	1.2%	0.0%	0.7%	1.5%	0.7%	0.5%
15-Apr-22	1.9%	0.8%	1.2%	0.0%	0.7%	1.5%	0.7%	0.5%
22-Apr-22	1.9%	0.7%	1.2%	0.0%	0.7%	1.5%	0.7%	0.5%
29-Apr-22	1.7%	0.7%	1.1%	0.0%	0.7%	1.4%	0.7%	0.4%
06-May-22	1.5%	0.7%	0.9%	0.0%	0.7%	1.5%	0.7%	0.4%
13-May-22	1.4%	0.7%	0.7%	0.0%	0.7%	1.5%	0.7%	0.4%
20-May-22	1.3%	0.7%	0.7%	0.0%	0.7%	1.4%	0.7%	0.4%

Table A7. Estimated coefficients of variation for the underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
27-May-22	1.2%	0.7%	0.6%	0.0%	0.6%	1.3%	0.7%	0.4%
03-Jun-22	1.2%	0.7%	0.7%	0.0%	0.6%	1.3%	0.7%	0.4%
10-Jun-22	1.1%	0.8%	0.7%	0.0%	0.6%	1.3%	0.7%	0.4%
17-Jun-22	1.1%	0.8%	0.9%	0.0%	0.7%	1.3%	0.8%	0.4%
24-Jun-22	1.1%	0.8%	1.0%	0.0%	0.7%	1.4%	0.8%	0.4%
01-Jul-22	1.1%	0.8%	1.1%	0.0%	0.7%	1.3%	0.8%	0.4%
08-Jul-22	1.0%	0.8%	1.2%	0.0%	0.7%	1.4%	0.8%	0.4%
15-Jul-22	1.0%	0.7%	1.2%	0.0%	0.7%	1.3%	0.8%	0.4%
22-Jul-22	1.0%	0.7%	1.2%	0.0%	0.7%	1.3%	0.8%	0.4%
29-Jul-22	0.9%	0.7%	1.3%	0.0%	0.7%	1.3%	0.8%	0.4%
05-Aug-22	0.9%	0.8%	1.4%	0.0%	0.7%	1.3%	0.8%	0.4%
12-Aug-22	0.9%	0.8%	1.4%	0.0%	0.7%	1.3%	0.9%	0.4%
19-Aug-22	0.9%	0.8%	1.6%	0.0%	0.7%	1.3%	0.9%	0.4%
26-Aug-22	0.9%	0.8%	1.7%	0.0%	0.7%	1.2%	0.9%	0.4%
02-Sep-22	0.8%	0.8%	1.9%	0.0%	0.7%	1.1%	0.9%	0.4%
09-Sep-22	0.8%	0.8%	2.0%	0.0%	0.7%	1.1%	0.9%	0.4%
16-Sep-22	0.8%	0.8%	2.0%	0.0%	0.7%	1.0%	0.8%	0.4%
23-Sep-22	0.8%	0.8%	2.0%	0.0%	0.7%	1.1%	0.9%	0.4%
30-Sep-22	0.8%	0.8%	1.9%	0.0%	0.7%	1.0%	0.8%	0.4%
07-Oct-22	0.8%	0.8%	1.8%	0.0%	0.7%	1.1%	0.8%	0.4%
14-Oct-22	0.8%	0.8%	1.8%	0.0%	0.7%	1.1%	0.8%	0.4%
21-Oct-22	0.8%	0.8%	1.8%	0.0%	0.6%	1.1%	0.8%	0.4%
28-Oct-22	0.8%	0.8%	1.7%	0.0%	0.6%	1.3%	0.8%	0.4%
04-Nov-22	0.8%	0.7%	1.7%	0.0%	0.6%	1.3%	0.7%	0.4%
11-Nov-22	0.8%	0.7%	1.5%	0.0%	0.7%	1.5%	0.7%	0.4%
18-Nov-22	0.8%	0.7%	1.4%	0.0%	0.6%	1.3%	0.7%	0.4%
25-Nov-22	0.9%	0.7%	1.3%	0.0%	0.6%	1.3%	0.7%	0.4%
02-Dec-22	0.9%	0.7%	1.1%	0.0%	0.6%	1.4%	0.7%	0.4%
09-Dec-22	0.9%	0.7%	1.1%	0.0%	0.7%	1.4%	0.7%	0.4%
16-Dec-22	0.9%	0.6%	1.0%	0.0%	0.7%	1.5%	0.7%	0.4%
23-Dec-22	1.0%	0.7%	0.9%	0.0%	0.6%	1.3%	0.7%	0.4%
30-Dec-22	1.0%	0.7%	0.9%	0.0%	0.6%	1.0%	0.7%	0.4%

Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report, 2020–22*

Table A8. Estimated standard errors in billion cubic feet for the weekly net changes in underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22*

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
03-Jan-20	0.3	0.4	0.1	0.0	0.6	0.3	0.5	0.8
10-Jan-20	0.4	0.5	0.1	0.0	0.4	0.4	0.2	0.8
17-Jan-20	0.2	0.6	0.3	0.0	0.3	0.2	0.3	0.7
24-Jan-20	0.7	0.5	0.2	0.0	0.8	0.7	0.4	1.2
31-Jan-20	0.4	0.6	0.2	0.0	0.8	0.6	0.5	1.1
07-Feb-20	0.4	0.4	0.2	0.0	0.6	0.5	0.3	0.9
14-Feb-20	0.5	0.7	0.2	0.0	0.5	0.3	0.3	1.0
21-Feb-20	0.3	1.8	0.2	0.0	0.7	0.7	0.3	2.0
28-Feb-20	0.3	0.6	0.2	0.0	0.5	0.3	0.4	0.9
06-Mar-20	0.2	0.5	0.1	0.0	0.3	0.2	0.2	0.6
13-Mar-20	0.2	0.6	0.1	0.0	0.5	0.3	0.4	0.8
20-Mar-20	0.2	0.4	0.1	0.0	0.7	0.2	0.6	0.8
27-Mar-20	0.2	0.4	0.1	0.0	1.0	1.0	0.2	1.1
03-Apr-20	0.3	0.5	0.1	0.0	0.5	0.3	0.3	0.7
10-Apr-20	0.3	0.4	0.1	0.0	0.5	0.3	0.4	0.7
17-Apr-20	0.5	0.5	0.1	0.0	0.7	0.7	0.3	1.0
24-Apr-20	0.3	0.4	0.2	0.0	0.7	0.6	0.2	0.9
01-May-20	0.3	0.4	0.3	0.0	0.5	0.3	0.4	0.8
08-May-20	0.7	0.6	0.2	0.0	0.3	0.2	0.1	1.0
15-May-20	0.4	0.5	0.2	0.0	0.4	0.3	0.2	0.8
22-May-20	0.6	0.5	0.3	0.0	0.5	0.4	0.3	0.9
29-May-20	0.6	0.3	0.3	0.0	0.5	0.3	0.4	0.9
05-Jun-20	0.3	0.4	0.3	0.0	0.5	0.3	0.3	0.8
12-Jun-20	0.4	0.2	0.3	0.0	0.6	0.5	0.3	0.8
19-Jun-20	0.5	0.2	0.5	0.0	0.5	0.2	0.4	0.9
26-Jun-20	0.4	0.3	0.2	0.0	0.6	0.4	0.4	0.8
03-Jul-20	0.4	0.4	0.3	0.0	0.6	0.5	0.2	0.9
10-Jul-20	0.3	0.6	0.3	0.0	0.4	0.3	0.3	0.8
17-Jul-20	0.3	0.6	0.1	0.0	0.5	0.3	0.3	0.8
24-Jul-20	0.2	0.5	0.3	0.0	0.3	0.1	0.3	0.7
31-Jul-20	0.3	0.5	0.2	0.0	0.3	0.1	0.3	0.7
07-Aug-20	0.2	0.5	0.2	0.0	0.3	0.2	0.2	0.7
14-Aug-20	0.3	0.5	0.2	0.0	0.5	0.2	0.5	0.8
21-Aug-20	0.3	0.6	0.3	0.0	0.5	0.4	0.2	0.9
28-Aug-20	0.5	0.9	0.3	0.0	0.9	0.8	0.3	1.4
04-Sep-20	0.5	0.4	0.2	0.0	0.4	0.3	0.3	0.8
11-Sep-20	0.6	0.5	0.2	0.0	0.6	0.5	0.3	1.0
18-Sep-20	0.5	0.5	0.3	0.0	0.4	0.2	0.3	0.8
25-Sep-20	0.2	0.4	0.1	0.0	0.4	0.2	0.3	0.6
02-Oct-20	0.4	0.7	0.1	0.0	0.7	0.6	0.5	1.1
09-Oct-20	0.5	0.5	0.1	0.0	0.6	0.5	0.3	1.0
16-Oct-20	0.4	0.8	0.1	0.0	0.6	0.4	0.5	1.1

Table A9. Estimated standard errors in billion cubic feet for the weekly net changes in underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
23-Oct-20	0.3	0.4	0.1	0.0	0.7	0.5	0.5	0.9
30-Oct-20	0.4	0.8	0.1	0.0	0.7	0.4	0.6	1.1
06-Nov-20	0.2	0.5	0.1	0.0	0.2	0.1	0.2	0.6
13-Nov-20	0.5	0.5	0.4	0.0	0.5	0.4	0.3	1.0
20-Nov-20	0.3	0.3	0.2	0.0	0.4	0.2	0.3	0.6
27-Nov-20	0.9	0.8	0.2	0.0	0.5	0.4	0.4	1.3
04-Dec-20	0.5	0.5	0.2	0.0	0.6	0.5	0.3	0.9
11-Dec-20	0.7	0.7	0.4	0.0	0.4	0.3	0.3	1.1
18-Dec-20	0.4	0.5	0.3	0.0	0.7	0.6	0.3	1.0
25-Dec-20	0.4	0.5	0.3	0.0	0.5	0.4	0.3	0.8
01-Jan-21	0.8	0.8	0.3	0.0	0.4	0.3	0.3	1.3
08-Jan-21	0.6	0.8	0.2	0.0	0.5	0.4	0.4	1.1
15-Jan-21	0.8	0.7	0.2	0.0	0.6	0.5	0.3	1.2
22-Jan-21	1.1	0.8	0.3	0.0	0.4	0.4	0.2	1.4
29-Jan-21	0.7	0.8	0.4	0.0	0.4	0.3	0.2	1.2
05-Feb-21	0.6	0.5	0.5	0.0	0.5	0.5	0.2	1.1
12-Feb-21	1.0	0.7	0.3	0.0	0.7	0.5	0.4	1.4
19-Feb-21	0.8	0.7	0.3	0.0	1.1	1.0	0.5	1.6
26-Feb-21	0.9	0.4	0.2	0.0	0.4	0.3	0.3	1.0
05-Mar-21	0.9	0.3	0.1	0.0	0.7	0.6	0.3	1.2
12-Mar-21	0.5	0.4	0.1	0.0	0.6	0.5	0.4	0.9
19-Mar-21	0.5	0.3	0.1	0.0	0.8	0.6	0.5	1.0
26-Mar-21	0.1	0.4	0.2	0.0	0.6	0.4	0.4	0.7
02-Apr-21	0.5	0.3	0.1	0.0	0.4	0.3	0.3	0.7
09-Apr-21	0.4	0.5	0.2	0.0	0.5	0.2	0.4	0.8
16-Apr-21	0.4	0.5	0.1	0.0	0.4	0.3	0.3	0.7
23-Apr-21	0.4	0.4	0.1	0.0	0.4	0.4	0.2	0.7
30-Apr-21	0.6	0.6	0.1	0.0	0.6	0.4	0.4	1.1
07-May-21	0.3	0.4	0.1	0.0	0.5	0.4	0.2	0.7
14-May-21	0.3	0.4	0.2	0.0	0.3	0.3	0.2	0.7
21-May-21	0.5	0.4	0.2	0.0	0.4	0.3	0.3	0.8
28-May-21	0.9	0.6	0.2	0.0	0.7	0.6	0.3	1.3
04-Jun-21	0.4	0.5	0.7	0.0	0.5	0.4	0.2	1.1
11-Jun-21	0.2	0.3	0.5	0.0	0.6	0.4	0.4	0.9
18-Jun-21	0.3	0.3	0.3	0.0	0.5	0.3	0.3	0.7
25-Jun-21	0.2	0.4	0.2	0.0	0.4	0.1	0.3	0.6
02-Jul-21	0.3	0.4	0.2	0.0	0.7	0.4	0.5	0.9
09-Jul-21	0.3	0.4	0.3	0.0	0.3	0.1	0.3	0.6
16-Jul-21	0.3	0.4	0.1	0.0	0.3	0.2	0.2	0.6
23-Jul-21	0.4	0.4	0.2	0.0	0.3	0.2	0.2	0.7
30-Jul-21	0.2	0.4	0.2	0.0	0.5	0.2	0.4	0.7
06-Aug-21	0.3	0.5	0.3	0.0	0.2	0.1	0.2	0.7
13-Aug-21	0.4	0.6	0.3	0.0	0.5	0.3	0.3	0.9

Table A10. Estimated standard errors in billion cubic feet for the weekly net changes in underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
20-Aug-21	0.6	0.5	0.3	0.0	0.5	0.3	0.4	1.0
27-Aug-21	0.3	0.5	0.2	0.0	0.6	0.1	0.6	0.8
03-Sep-21	0.4	0.4	0.2	0.0	0.2	0.1	0.2	0.7
10-Sep-21	0.4	0.5	0.2	0.0	0.3	0.2	0.2	0.7
17-Sep-21	0.4	0.6	0.1	0.0	0.4	0.3	0.3	0.8
24-Sep-21	0.3	0.5	0.1	0.0	0.3	0.2	0.2	0.6
01-Oct-21	0.3	0.4	0.2	0.0	0.6	0.3	0.4	0.8
08-Oct-21	0.4	0.3	0.1	0.0	0.6	0.4	0.4	0.8
15-Oct-21	0.5	0.4	0.1	0.0	0.4	0.3	0.3	0.7
22-Oct-21	0.5	0.4	0.1	0.0	0.5	0.3	0.3	0.8
29-Oct-21	0.5	0.3	0.1	0.0	0.4	0.3	0.3	0.7
05-Nov-21	0.2	0.1	0.1	0.0	0.3	0.3	0.2	0.4
12-Nov-21	0.6	0.4	0.1	0.0	0.4	0.2	0.4	0.9
19-Nov-21	0.5	0.4	0.1	0.0	0.5	0.3	0.3	0.8
26-Nov-21	0.8	0.7	0.2	0.0	0.5	0.4	0.3	1.2
03-Dec-21	0.4	0.4	0.1	0.0	0.2	0.1	0.2	0.6
10-Dec-21	1.0	0.8	0.3	0.0	0.3	0.2	0.2	1.4
17-Dec-21	0.5	0.7	0.3	0.0	0.5	0.4	0.2	1.0
24-Dec-21	0.4	1.0	0.2	0.0	0.4	0.2	0.3	1.1
31-Dec-21	0.4	0.7	0.3	0.0	0.8	0.7	0.5	1.2
07-Jan-22	0.4	0.7	0.3	0.0	0.5	0.4	0.3	1.0
14-Jan-22	1.0	0.5	0.3	0.0	1.0	0.8	0.5	1.5
21-Jan-22	0.8	0.5	0.2	0.0	1.0	0.9	0.6	1.4
28-Jan-22	1.0	0.6	0.3	0.0	0.9	0.8	0.4	1.5
04-Feb-22	1.2	0.5	0.3	0.0	0.7	0.5	0.4	1.5
11-Feb-22	0.8	0.5	0.2	0.0	0.7	0.5	0.4	1.2
18-Feb-22	0.3	0.5	0.2	0.0	0.4	0.4	0.2	0.8
25-Feb-22	0.5	0.5	0.2	0.0	0.5	0.4	0.3	0.9
04-Mar-22	0.7	0.7	0.2	0.0	0.4	0.3	0.3	1.1
11-Mar-22	0.3	0.3	0.2	0.0	0.5	0.4	0.3	0.7
18-Mar-22	0.4	0.2	0.2	0.0	0.3	0.3	0.2	0.6
25-Mar-22	0.8	0.2	0.1	0.0	0.5	0.3	0.3	1.0
01-Apr-22	0.4	0.4	0.1	0.0	0.7	0.7	0.2	0.9
08-Apr-22	0.6	0.9	0.1	0.0	0.6	0.6	0.2	1.3
15-Apr-22	0.3	0.3	0.1	0.0	0.5	0.4	0.3	0.7
22-Apr-22	0.3	0.4	0.1	0.0	0.5	0.3	0.3	0.6
29-Apr-22	0.4	0.4	0.1	0.0	0.7	0.4	0.5	0.9
06-May-22	0.5	0.6	0.2	0.0	0.5	0.5	0.2	1.0
13-May-22	0.5	0.5	0.2	0.0	0.5	0.4	0.3	0.9
20-May-22	0.5	0.6	0.2	0.0	0.3	0.2	0.3	0.9
27-May-22	0.6	0.6	0.2	0.0	0.5	0.4	0.3	1.0
03-Jun-22	0.6	0.5	0.2	0.0	0.5	0.4	0.3	0.9
10-Jun-22	0.4	0.5	0.2	0.0	0.4	0.1	0.4	0.8
17-Jun-22	0.2	0.4	0.3	0.0	0.6	0.2	0.5	0.8

Table A11. Estimated standard errors in billion cubic feet for the weekly net changes in underground storage working gas inventory data reported on the *Weekly Natural Gas Storage Report, 2020–22* (continued)

Week ending	East region	Midwest region	Mountain region	Pacific region	South Central region	Salt	Nonsalt	Total Lower 48 states
24-Jun-22	0.4	0.3	0.2	0.0	0.5	0.3	0.4	0.8
01-Jul-22	0.2	0.4	0.2	0.0	0.5	0.4	0.3	0.7
08-Jul-22	0.2	0.4	0.3	0.0	0.6	0.4	0.5	0.9
15-Jul-22	0.2	0.4	0.3	0.0	0.9	0.8	0.4	1.0
22-Jul-22	0.3	0.4	0.2	0.0	0.7	0.6	0.3	0.9
29-Jul-22	0.5	0.4	0.3	0.0	0.6	0.6	0.1	1.0
05-Aug-22	0.3	0.4	0.3	0.0	0.5	0.4	0.2	0.7
12-Aug-22	0.3	0.4	0.3	0.0	0.4	0.4	0.2	0.8
19-Aug-22	0.3	0.3	0.4	0.0	0.3	0.2	0.2	0.6
26-Aug-22	0.3	0.5	0.4	0.0	0.4	0.3	0.3	0.8
02-Sep-22	0.1	0.2	0.4	0.0	0.5	0.4	0.3	0.7
09-Sep-22	0.2	0.5	0.3	0.0	0.4	0.4	0.2	0.8
16-Sep-22	0.2	0.4	0.2	0.0	0.5	0.4	0.2	0.7
23-Sep-22	0.4	0.5	0.2	0.0	0.6	0.5	0.3	0.9
30-Sep-22	0.6	0.4	0.1	0.0	0.5	0.3	0.4	0.9
07-Oct-22	0.5	0.4	0.1	0.0	1.1	0.9	0.6	1.3
14-Oct-22	0.7	0.4	0.1	0.0	0.6	0.5	0.5	1.0
21-Oct-22	0.5	0.2	0.1	0.0	0.6	0.4	0.4	0.8
28-Oct-22	0.6	0.4	0.2	0.0	1.0	0.9	0.4	1.2
04-Nov-22	0.4	0.2	0.1	0.0	0.5	0.3	0.4	0.7
11-Nov-22	0.3	0.3	0.4	0.0	1.5	1.3	0.7	1.6
18-Nov-22	0.9	0.6	0.2	0.0	0.9	0.9	0.4	1.5
25-Nov-22	0.3	0.6	0.2	0.0	1.3	1.3	0.2	1.5
02-Dec-22	0.4	0.4	0.5	0.0	1.0	1.0	0.3	1.3
09-Dec-22	0.2	0.6	0.3	0.0	0.8	0.6	0.5	1.1
16-Dec-22	0.2	0.5	0.3	0.0	0.8	0.7	0.3	1.0
23-Dec-22	0.3	0.8	0.3	0.0	1.2	1.1	0.6	1.5
30-Dec-22	0.6	0.4	0.1	0.0	2.4	2.3	0.5	2.5

Source: U.S. Energy Information Administration, Form EIA-912, *Weekly Underground Natural Gas Storage Report, 2020–22*

Note: Estimated measures of the standard error of the weekly net change are rounded to the nearest tenth. As a result, values that may be rounded down to 0.0 billion cubic feet do not represent the absence of sampling error. The only region with no sampling error is the Pacific region because it is based on a census of all operators in the region.

Table A12. Monthly-to-weekly differences in underground storage estimates (billion cubic feet [Bcf])

Month end	Natural Gas Monthly (Bcf)						Differences (Bcf)					
	East	Midwest	Mountain	Pacific	South Central	Total Lower 48 states	East	Midwest	Mountain	Pacific	South Central	Total Lower 48 states
Jan-20	592	717	135	209	934	2,587	6	8	1	1	7	23
Feb-20	438	541	99	199	778	2,055	9	13	1	-2	7	29
Mar-20	385	472	92	200	857	2,006	-3	3	0	0	1	2
Apr-20	428	524	109	227	1023	2,311	-7	3	1	0	-3	-8
May-20	553	641	143	276	1140	2,754	-9	1	-1	-1	-3	-13
Jun-20	655	747	177	308	1221	3,108	-6	5	0	-1	3	1
Jul-20	721	828	200	311	1207	3,267	-3	2	2	0	7	7
Aug-20	803	935	215	307	1233	3,493	-7	1	-1	-1	0	-8
Sep-20	890	1053	235	318	1313	3,809	-3	1	0	-1	4	1
Oct-20	944	1113	239	320	1281	3,897	2	7	1	0	12	23
Nov-20	929	1108	236	316	1313	3,902	-3	2	1	-1	-1	-2
Dec-20	763	918	195	282	1155	3,313	8	12	2	1	11	36
Jan-21	557	692	155	259	945	2,608	10	12	1	1	9	32
Feb-21	377	453	115	209	678	1,833	-3	5	1	0	-4	-3
Mar-21	313	395	113	197	760	1,777	-7	4	1	0	3	1
Apr-21	334	438	124	224	832	1,951	-2	4	0	0	4	7
May-21	426	532	155	274	977	2,363	1	1	0	-3	-8	-8
Jun-21	515	630	175	245	991	2,556	4	4	1	0	4	13
Jul-21	605	720	185	244	971	2,724	3	2	-1	0	5	10
Aug-21	688	827	190	242	940	2,888	4	2	1	1	5	13
Sep-21	804	966	205	248	1051	3,274	2	0	0	-1	-3	-3
Oct-21	904	1075	213	257	1184	3,634	-6	-3	0	0	-11	-21
Nov-21	842	1023	204	266	1168	3,504	11	6	2	-1	9	26
Dec-21	766	887	171	218	1141	3,182	1	6	1	1	2	13
Jan-22	503	575	128	194	791	2,191	14	14	0	-4	14	37
Feb-22	332	372	93	164	581	1,542	8	15	2	-1	23	47
Mar-22	242	296	90	165	587	1,381	3	3	1	-1	1	6
Apr-22	259	332	93	177	731	1,593	-3	-5	0	0	-6	-15
May-22	371	443	114	207	840	1,976	-8	-1	2	-1	-8	-17
Jun-22	482	556	137	240	884	2,299	-3	2	0	-1	5	3
Jul-22	557	648	147	253	872	2,478	-4	1	0	0	-4	-8
Aug-22	629	767	159	240	884	2,680	0	1	-1	-1	1	-1
Sep-22	759	917	184	247	1007	3114	-3	-1	0	0	-4	-8
Oct-22	857	1053	206	250	1170	3537	-2	0	0	-3	4	-2

Table A13. Monthly-to-weekly differences in underground storage estimates (billion cubic feet [Bcf]) (continued)

Month end	<i>Natural Gas Monthly (Bcf)</i>						<i>Differences (Bcf)</i>					
	East	Midwest	Mountain	Pacific	South Central	Total Lower 48 states	East	Midwest	Mountain	Pacific	South Central	Total Lower 48 states
Nov-22	842	1030	194	224	1179	3470	-5	5	1	-2	6	4
Dec-22	698	831	158	169	1042	2898	-6	6	-2	-5	2	-5

Source: U.S. Energy Information Administration, Form EIA-912, *Natural Gas Monthly* 2020–22