Pew Research Center's 2023-24 Religious Landscape Study (RLS) methodology

The Religious Landscape Study (RLS) is a national cross-sectional survey conducted for Pew Research Center by NORC at the University of Chicago. It was conducted in English and Spanish from July 17, 2023, to March 4, 2024, among a nationally representative sample of 36,908 U.S. adults. A geographically stratified address-based sample (ABS) was drawn from the United States Postal Service's Computerized Delivery Sequence File (CDS).

In order to optimize disclosure risk and data utility, the Center is releasing two versions of the dataset – a public-use file (PUF) and a restricted-use file (RUF). The PUF is available to all users at www.pewresearch.org, and will also be made available via ICPSR. Among other variable exclusions, the PUF does not include any geographic information. The PUF includes more limited information about religion than the RUF, and some variables in the PUF are more coarsened compared with in the RUF (e.g., age).

The RUF will be accessible via ICPSR with a data use agreement (estimated publication date is in June 2025). The RUF includes additional variables (including geographic indicators for state and some metropolitan areas) and more granular values (including more detailed information about religion).

Sample sizes and margins of sampling error, by religious group

Group	Unweighted sample size	Plus or minus ...
U.S. adults	36,908	0.8 percentage points
Religiously affiliated	25,764	0.9 percentage points
Christian	23,186	0.9 percentage points
Protestant	15,099	1.2 percentage points
Evangelical	8,298	1.5 percentage points
Mainline	5,333	2.0 percentage points
Historically Black	1,468	3.5 percentage points
Catholic	6,958	1.7 percentage points
Orthodox Christian	225	9.9 percentage points
Latter-day Saint (Mormon)	565	6.2 percentage points
Other religions	2,578	3.0 percentage points
Jewish	850	5.0 percentage points
Muslim	273	8.3 percentage points
Buddhist	348	8.4 percentage points
Hindu	247	8.7 percentage points
Religiously unaffiliated	10,729	1.4 percentage points
Atheist	1,999	3.3 percentage points
Agnostic	2,401	2.9 percentage points
Nothing in particular	6,329	1.8 percentage points

Note: The margins of sampling error shown here are calculated at the 95% confidence level using a formula based on the variability of the survey weights.
Source: Religious Landscape Study of U.S. adults conducted July 17, 2023-March 4, 2024.

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The survey was designed to produce reliable state and national estimates of the U.S. adult population. In geographies with a sufficiently large number of completed interviews, metropolitan statistical area (MSA) estimates are also available.

A total of 205,100 sampled addresses were mailed survey invitations. Respondents were given a choice to complete the survey online, by mail, or by calling a toll-free number and completing the survey over the phone with an interviewer. Of the 36,908 U.S. adults who completed the survey, 25,250 did so online, 10,733 did so by mail, and 925 did so by phone.

After accounting for the complex sample design and loss of precision due to weighting, the national margin of sampling error for these respondents is plus or minus 0.8 percentage points at the 95% level of confidence.

The research plan for this project was submitted to NORC's institutional review board (IRB), which is an independent committee of experts that specializes in helping to protect the rights of research participants. This research was declared exempt under category 2 of IRB code (approval #: FWA 00000142).

NOTE: Previous versions of the RLS were conducted in 2007 and 2014 by telephone using a random-digit-dial (RDD) frame. To help us determine which results from the 2023-24 RLS (conducted mainly online and on paper using an ABS frame) are comparable with those of the past surveys, we conducted an experimental telephone bridge study among 1,519 respondents using a dual-frame RDD method. ***These interviews are not part of the RLS estimates and are not included in any released dataset.*** *But the results of the bridge study and additional details about its methodology are available in Appendix A of our report "Decline of Christianity in the U.S. Has Slowed, May Have Leveled Off." Analysts wishing to compare the results of the 2023-24 RLS to the results of the prior landscape studies are strongly encouraged to review Appendix A first (https://www.pewresearch.org/religion/2025/02/26/appendix-a-comparing-results-across-religious-landscape-studies/).*

Sample design

The survey has a complex sample design constructed to ensure reliable estimates for the nation as a whole, for each state (and the District of Columbia), and for some of the largest MSAs.

The sample frame of the 2023-24 RLS is an address-based sample comprised of addresses from the USPS CDS file. It is maintained by Vericast and is updated monthly. All residential addresses on the ABS frame were geocoded and assigned to one of 93 strata.

Addresses were initially stratified by state and the District of Columbia. When sample sizes were large enough, states were further partitioned into target MSA strata and non-MSA state strata. For example, the entire state of Connecticut is comprised of one stratum, but five strata cover California (Los Angeles-Long Beach-Anaheim; San Francisco-Oakland-Berkeley; Riverside-San Bernardino-Ontario; San Diego-Chula Vista-Carlsbad; and all other addresses within California). Strata were defined at the county level and respected state boundaries.

The sample was proportionally allocated but adjusted to account for differential nonresponse and to ensure that a minimum of 300 people in each state completed the survey. Additionally, allocation was optimally adjusted within states so that the survey obtained at least 250 completed surveys from respondents in at least 32 large MSAs while balancing overall design effects due to unequal probability of household selection.[1] Addresses were randomly selected within each stratum.

Once an address was sampled, an invitation was mailed to the address. The invitation asked the adult in the household with the next birthday to complete the survey.

Sampled addresses were contacted in two batches. Addresses in the first batch were first contacted on July 14, 2023, while those in the second batch were first contacted on Oct. 27, 2023. Response rates from the first batch informed the size of the second batch, to ensure the study reached the targeted number of completed interviews.

Data collection

The survey used a sequential mixed-mode protocol in which sampled households were first invited to respond online and then, if they did not respond online, mailed a paper version of the questionnaire. A toll-free phone number was included in all contact attempts, and individuals were told they could call it to complete the survey over the phone with an interviewer.

The first mailing included a letter introducing the survey and providing the information needed to respond online or by phone (website URL, unique access PIN, and phone number). A pre-incentive of $2 was included in the mailing and could be seen through a windowed envelope. The letter promised an additional $10 once the survey was complete.[2] The invitation was generic; it asked respondents to “answer some questions in a short online survey” and said that “the survey

[1] The sample design only included strata for 32 metropolitan statistical areas (MSAs). However, the survey yielded a sufficiently large sample to enable reporting on two additional MSAs.
[2] Individuals who completed the survey online were given a choice to collect their incentive as an Amazon or Walmart gift code. Mail respondents were mailed a $10 Mastercard gift card. Phone respondents could choose an Amazon gift code, Walmart gift code, or Mastercard gift card.

asks about a variety of topics that affect you and your community." We intentionally avoided telling respondents in the letter that the survey focused heavily on religion, because we wanted to minimize the risk of biasing the survey's results by appealing disproportionately to people who are interested in religion. Materials were sent in both English and Spanish to 15% of addresses, and in English only to 85% of addresses.

One week after the first mailing, NORC sent a postcard reminder to all sampled individuals, followed a week later by a reminder letter to nonrespondents.

After that, a 16-page paper version of the survey, postage-paid return envelope, cover letter and another $2 prepaid incentive were mailed to nonrespondents. The timing and postage method for this mailing varied. Addresses sampled as part of the first batch were mailed these materials 10 days after the reminder letter was sent out, whereas addresses in the second batch were mailed two months after the reminder letter. The second batch delay was designed to avoid sending mail over the holiday season from Thanksgiving through New Year's Day. Mailings to the first batch of addresses and 75% of the second batch were sent using first class mail. The remaining 25% of addresses in the second batch were sent via UPS Mail Innovations. This change was made to increase the response rate while respecting budget limitations.

One to two weeks later, a reminder postcard followed the paper surveys.

A sample of 60% of nonresponding addresses in the first sample batch also received a second paper version of the survey approximately one month after the first; this sample was drawn proportional to the household's response propensity estimated through predictive modeling using big data classifiers. This mailing included a copy of the paper questionnaire, a cover letter, postage-paid envelope, and an additional prepaid incentive. The hardest-to-reach nonrespondents received a $5 incentive while others received a $2 incentive. This final mailing was not sent to the second sample batch due to budget and time constraints.

In addition to the above protocol, a methodological contact experiment was built into the 2023-24 RLS. When available, cellphone numbers were appended to nonresponding addresses and a random subsample of these numbers received a text message. The text message contained either a link to the web survey or gave recipients both the web link and the toll-free telephone number for completing the survey via phone. In the first sample batch, text messages were sent following the final mailing. In the second sample batch, they were sent following the reminder web letter and before the first paper questionnaire was sent.

Languages

English materials were mailed to all sampled addresses while Spanish materials were also included in mailings to the 15% of addressees identified as most likely to have a Spanish speaker. Addresses that were likely to be home to Spanish-speaking people were identified using a combination of vendor-provided commercial flags, Bayesian Improved Surname and Geocoding (BISG), and isolated Spanish language Census tracts.

For the web survey, the landing page was displayed in English initially but allowed respondents to toggle between English and Spanish. Respondents who called in to complete the survey over the phone were routed to an English or bilingual interviewer as appropriate. Paper questionnaires in both languages were sent to households flagged to receive bilingual materials.

Weighting and variance estimation

Household-level weighting

The first step in weighting was to create a base weight for each sampled mailing address, to account for its probability of selection into the sample. The base weight for mailing address k is called BW_k and is defined as the inverse of its probability of selection. The addresses had a probability of selection based on the stratum from which they were sampled.

Each sampled mailing address was assigned to one of four categories according to its final screener disposition. The categories were 1) household with a completed interview, 2) household with an incomplete interview, 3) ineligible (i.e., not a household; these were primarily postmaster returns), and 4) addresses for which status was unknown (addresses that were not identified as undeliverable by the post office but from which no survey response was received).

The next step in the weighting process was to adjust the base weight to account for eligibility and nonresponse within each stratum. The proportion of ineligible households in each stratum was calculated under the assumption that all sampled households with unknown eligibility (category 4) were, in-fact, eligible. The proportion of ineligible households was then used to estimate the total number of *eligible* households in each stratum on the sampling frame. The base weights for responding households in each stratum (category 1) were then scaled so that their sum was equal to these estimated totals.

Person-level weights for national and state-level analysis

An initial adult base weight was calculated for the cases with a completed interview as the product of the truncated number of adults in the household (max value of 3) multiplied by the household weight. This adjustment accounted for selecting one adult in each household.

Next, an adaptive mode adjustment factor was applied to the adult base weight so that the relative weights for respondents who completed the survey in an offline mode (PAPI or CATI) were increased by a factor of two.

The final step in the adult weighting was to calibrate the adult weights for respondents who completed the survey, so that the calibrated weights (i.e., the estimated number of adults) aligned with benchmarks for noninstitutionalized U.S. adults (refer to the benchmarks listed in the accompanying table). For some raking dimensions that include the cross-classification of demographic variables within states (State x Race/Ethnicity, State x Gender x Education, and State x Age x Education), cells with fewer than 30 completed interviews were collapsed with neighboring cells to prevent the creation of extreme weight values and to ensure the convergence of the raking process. These weights were then trimmed separately within each stratum at the 1st and 99th percentiles, to reduce the loss in precision stemming from variance in the weights.

2023-24 Religious Landscape Study raking dimensions

Variable	Benchmark source
Age x Gender Education x Gender Education x Age Race/Ethnicity x Education Born inside versus outside the U.S. among Hispanic adults and Asian Americans Sampling stratum State x Race/Ethnicity State x Metropolitan status State x Age State x Gender State x Education State x Gender x Age State x Gender x Education State x Age x Education	2022 American Community Survey (ACS) 1-Year Public Use Microdata Sample
Voter registration	2020 CPS Voting and Registration Supplement
Party affiliation	2024 National Public Opinion Reference Survey (NPORS)

Note: Estimates from the ACS are based on noninstitutionalized adults. ACS estimates for sampling stratum and metropolitan status are calculated by proportionately allocating respondent weights according to the Public Use Microdata Area (PUMA) in which they reside based on figures from the Missouri Census Data Center's Geocorr 2022. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total U.S. adult population.
Source: Religious Landscape Study of U.S. adults conducted July 17, 2023-March 4, 2024.

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Person-level weights for the analysis of MSAs

An additional set of weights was created for the purpose of producing estimates for the 34 MSAs in which there were at least 250 completed interviews.[3] To create this weight, the person-level weight for respondents living in these MSAs was further calibrated on the following dimensions within each MSA:

- Race/Ethnicity
- Age
- Gender
- Education
- Gender x Age
- Gender x Education
- Age x Education

Because MSA is not available on the American Community Survey 1-Year Public Use Microdata Sample, weighting benchmarks were estimated by allocating each case's weight to one or more MSAs, according to the Public Use Microdata Area (PUMA) in which they live. This allocation was performed using a crosswalk from the Missouri Census Data Center's Geocorr 2022 that contained the share of each PUMA's population residing in every MSA as of the 2020 decennial census.

For some raking dimensions (Race/Ethnicity, Gender x Education, and Age x Education), cells with fewer than 25 completed interviews were collapsed with neighboring cells to prevent the creation of extreme weight values and to ensure the convergence of the raking process. In a final step, the MSA weight was trimmed separately within each MSA at the 1st and 99th percentiles.

[3] The sample design only included strata for 32 MSAs. However, the survey yielded a sufficiently large sample to enable reporting results for two additional MSAs.

Variance estimation

Bootstrap replication was used to facilitate variance estimation and conducting tests of statistical significance. Five hundred sets of replicates were created using the Rao-Wu rescaling bootstrap procedure as implemented in the survey package for the R statistical computing platform. The entire process for creating national weights was performed on the full sample and then separately repeated for each replicate. The result is a total of 501 separate weights for each respondent that have incorporated the variability from the complex sample design and weighting.[4] Replicate weights were not created for the MSA weights.

The margins of sampling error reported in the tables here and on the RLS interactive website take into account the effect of weighting but they are *not* calculated using bootstrap replication. Margins of error are instead calculated using a formula based on the variability of respondent weights.[5] This formula can be very conservative because it assumes that the weights are unrelated to the survey variables. Variance estimates that use the bootstrap replicates will generally show a greater level of precision because they are able to account for correlations between survey variables and the weights.

Response rates

NORC assigned all sampled cases a result code and used these codes to compute response rates consistent with AAPOR definitions. The response rates are weighted by the base weight to account for the differential sampling in this survey. The AAPOR RR3 response rate was 20%.[6]

[4] For additional details on bootstrap replication, refer to Rust, K.F., and J.N.K. Rao. 1996. "Variance estimation for complex surveys using replication techniques." Statistical Methods in Medical Research.
[5] We used this formula when reporting these margins of error for a variety of reasons; doing so maintains consistency between the national weights and MSA weights, and calculating replicate weights for the Religious Landscape Study's interactive website would require too high of a computational burden.
[6] The weighted share of unscreened households assumed to be eligible for the screener interview (occupied "e") was 96.6%.

AAPOR disposition codes

AAPOR code	Description of cases	Count
1.1 – Complete	Respondent completed the last question on the web or phone survey or returned a paper screener; responded to at least 70% of questions asked; and (for web) took longer than 5 minutes to complete the survey.	36,908
2.11 – Refusal	Respondent called in or wrote an email/letter declining to participate.	370
2.1131 – Blank questionnaire mailed back, 'implicit refusal'	We received a blank paper survey back in the reply envelope.	324
2.12 – Break-off	Survey begun but stopped before completion.	1,860
2.27 – Completed questionnaire, but not returned during field period	Paper questionnaire returned after deadline.	2
2.9 – Other non-interview	Respondent removed due to quality control (e.g., survey was submitted but fewer than 30% of questions were answered).	817
3.199 – Nothing ever returned	Respondent did not log in to the website or return a paper survey or call in to the toll-free line. Additionally, the post office did not return anything as undeliverable.	149,770
3.2 – Housing unit exists; unknown if eligible respondent	Paper survey was returned but we could not confirm that an adult completed the survey.	550
4.10 – Selected respondent screened out	No one 18 years of age or older lives in the household.	16
4.313 – No such address	Mail was returned as undeliverable.	14,482
4.62 – Seasonal, vacation, temporary residence	Adults do not live in the housing unit full time.	1

Source: Religious Landscape Study of U.S. adults conducted July 17, 2023-March 4, 2024.

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Sample sizes and margins of error for states and metro areas

The following tables show the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

Sample sizes and margins of error for states

State	Unweighted sample size	Plus or minus ...	State	Unweighted sample size	Plus or minus ...
Alabama	498	6.2 percentage points	Montana	363	7.3 percentage points
Alaska	350	7.7 percentage points	Nebraska	329	7.0 percentage points
Arizona	712	5.5 percentage points	Nevada	363	7.6 percentage points
Arkansas	348	7.3 percentage points	New Hampshire	313	8.0 percentage points
California	3,746	2.4 percentage points	New Jersey	900	4.4 percentage points
Colorado	596	6.1 percentage points	New Mexico	348	7.1 percentage points
Connecticut	372	6.8 percentage points	New York	2,013	3.0 percentage points
Delaware	345	7.4 percentage points	North Carolina	1,109	4.1 percentage points
District of Columbia	344	7.3 percentage points	North Dakota	367	6.8 percentage points
Florida	2,114	3.1 percentage points	Ohio	1539	3.4 percentage points
Georgia	858	4.7 percentage points	Oklahoma	375	7.1 percentage points
Hawaii	348	8.1 percentage points	Oregon	462	6.7 percentage points
Idaho	346	7.1 percentage points	Pennsylvania	1,446	3.6 percentage points
Illinois	835	4.8 percentage points	Rhode Island	384	7.5 percentage points
Indiana	655	5.0 percentage points	South Carolina	517	6.3 percentage points
Iowa	310	7.8 percentage points	South Dakota	367	7.0 percentage points
Kansas	352	7.4 percentage points	Tennessee	898	4.4 percentage points
Kentucky	428	6.2 percentage points	Texas	2,988	2.5 percentage points
Louisiana	454	6.2 percentage points	Utah	340	7.3 percentage points
Maine	343	7.2 percentage points	Vermont	373	7.3 percentage points
Maryland	568	6.1 percentage points	Virginia	906	4.5 percentage points
Massachusetts	573	5.8 percentage points	Washington	878	4.7 percentage points
Michigan	1,004	4.2 percentage points	West Virginia	335	7.0 percentage points
Minnesota	533	5.7 percentage points	Wisconsin	625	5.4 percentage points
Mississippi	338	7.7 percentage points	Wyoming	367	7.1 percentage points
Missouri	633	5.2 percentage points			

Note: The margins of sampling error shown here are calculated at the 95% confidence level.
Source: Religious Landscape Study of U.S. adults conducted July 17, 2023-March 4, 2024.

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Sample sizes and margins of error for metro areas

MSAs	Unweighted sample size	Plus or minus ...	MSAs	Unweighted sample size	Plus or minus ...
Atlanta	492	6.4 percentage points	Minneapolis	368	7.0 percentage points
Austin	294	7.7 percentage points	Nashville	266	9.0 percentage points
Baltimore	262	9.1 percentage points	New York	2,025	3.0 percentage points
Boston	477	6.4 percentage points	Orlando	253	8.9 percentage points
Charlotte	252	8.6 percentage points	Philadelphia	856	4.8 percentage points
Chicago	724	5.0 percentage points	Phoenix	454	6.9 percentage points
Cincinnati	348	7.8 percentage points	Portland	318	8.1 percentage points
Cleveland	296	8.6 percentage points	Providence	461	7.3 percentage points
Columbus	278	8.4 percentage points	Riverside, CA	375	8.2 percentage points
Dallas	759	5.1 percentage points	Sacramento	273	9.4 percentage points
Denver	304	8.9 percentage points	St. Louis	290	7.9 percentage points
Detroit	425	6.2 percentage points	San Antonio	256	9.0 percentage points
Honolulu	256	9.4 percentage points	San Diego	334	7.8 percentage points
Houston	715	5.6 percentage points	San Francisco	451	6.8 percentage points
Las Vegas	251	8.9 percentage points	Seattle	453	6.7 percentage points
Los Angeles	1,249	4.2 percentage points	Tampa	293	7.9 percentage points
Miami	553	6.7 percentage points	Washington, D.C.	940	4.9 percentage points

Note: The margins of sampling error shown here are calculated at the 95% confidence level. “MSAs” are metropolitan statistical areas.
Source: Religious Landscape Study of U.S. adults conducted July 17, 2023-March 4, 2024.

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