

witch maps and census chats

foundations of geospatial analysis

2026.09.23



MapRVA

We are geospatial enthusiasts in Richmond, VA
who make our city better one map at a time.

Upcoming Events

SEP
24
Thu

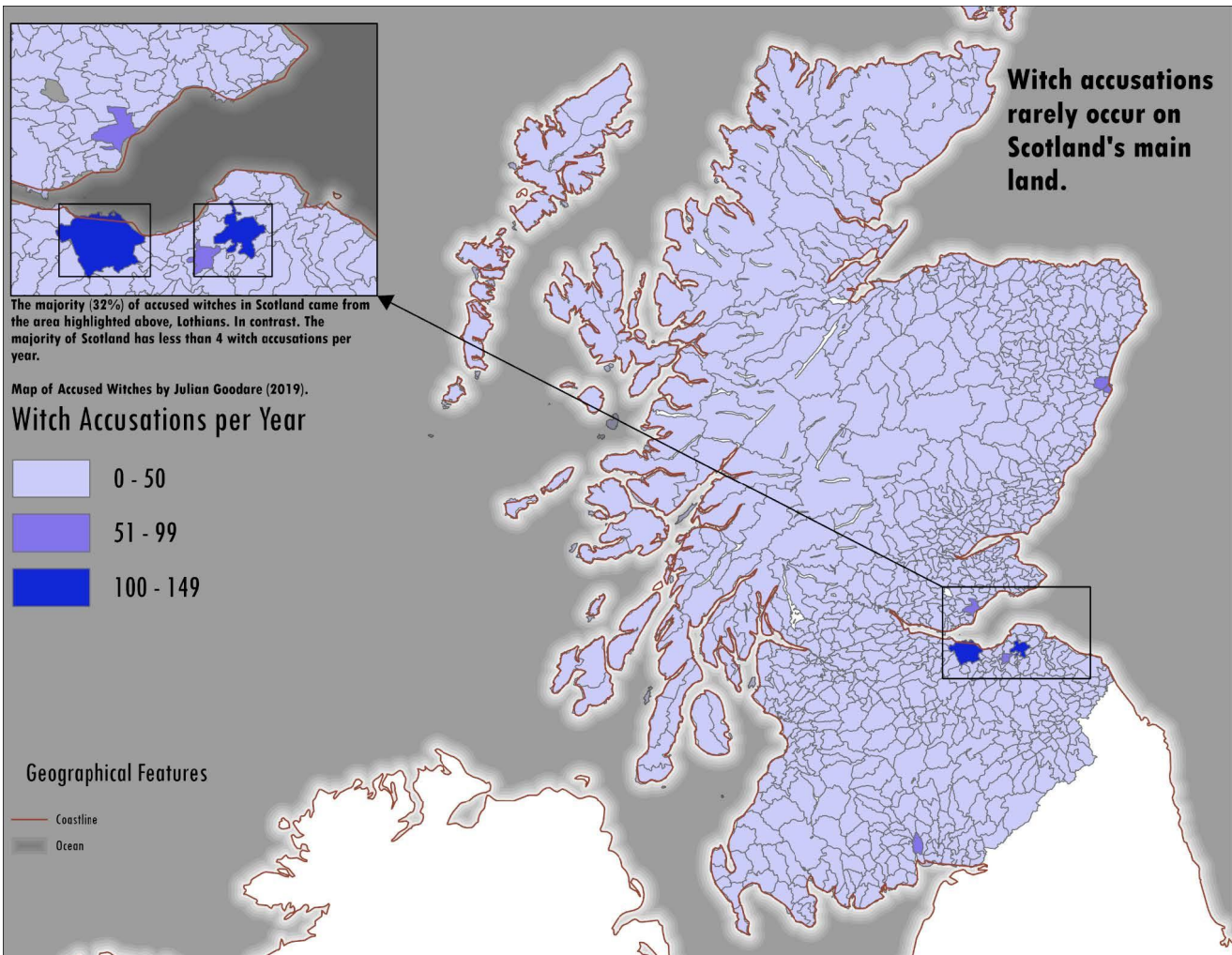
MapRVA x PlanRVA: Learn to Map!

🕒 6:00 PM 📍 PlanRVA, 424 Hull St Ste 300, Richmond, VA 23224, USA

OCT
29
Thu

Project Sidewalk with Jon E. Froehlich

🕒 6:00 PM 📍 Zoom Call (see description)



**Do we have to leave Scotland to be safe
from witches? From the mainland to the
Coast-Nowhere is safe!**



Even the most remote regions of
Scotland harbor witches.



King James, the First: Daemonologie (1597).

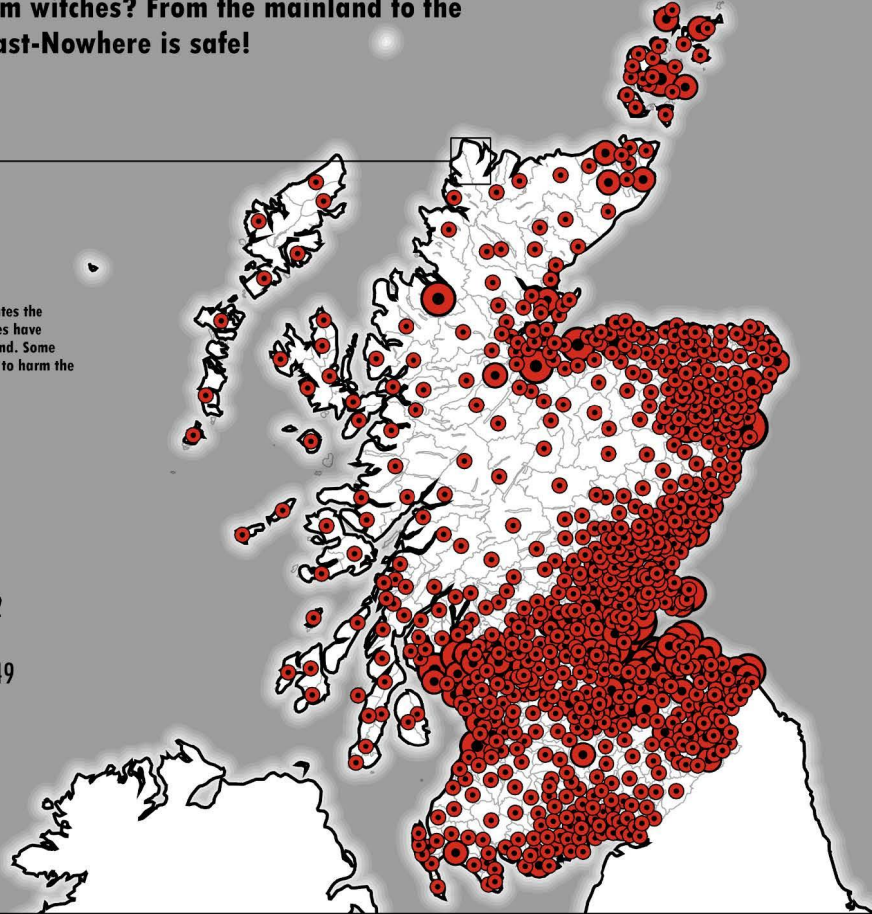
The *Newes* illustrates the
danger that witches have
imposed on Scotland. Some
witches even tried to harm the
king!

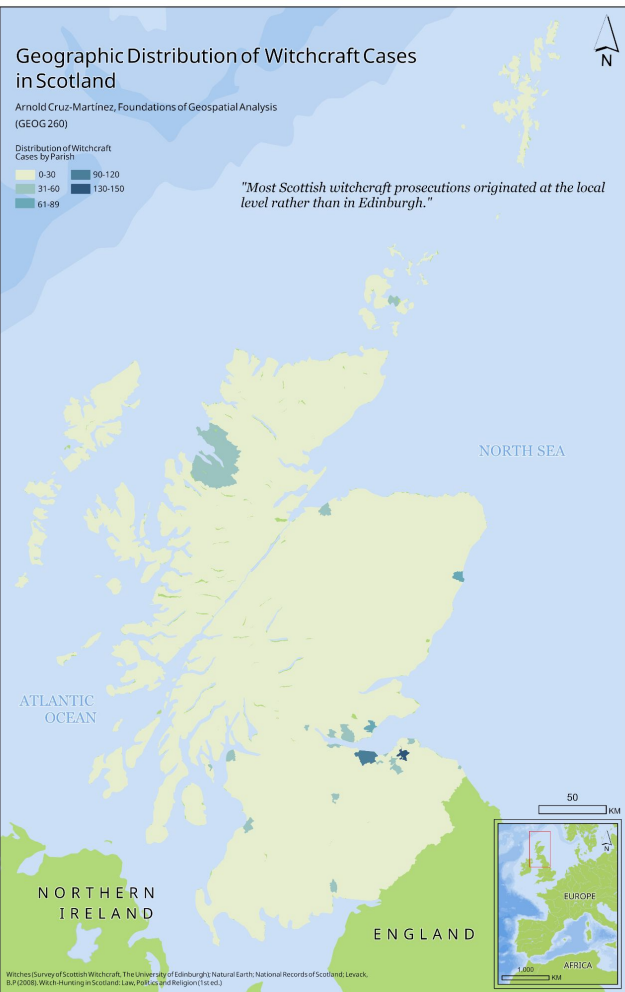
Witch Accusations per Year



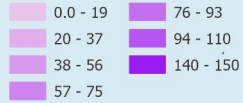
Geographical Features

— Coastline Ocean





Witch
Accusation
Count in 1930



A Look at Witchcraft Accusations in Scotland

According to Balthasar Bekker, an author of philosophical work and someone who played a part in bringing witch trials to an end in Europe in the 1600 and 1700s, sorcery and possession by the devil are all but superstitions and that claims of witchcraft are just deceptions and lies.

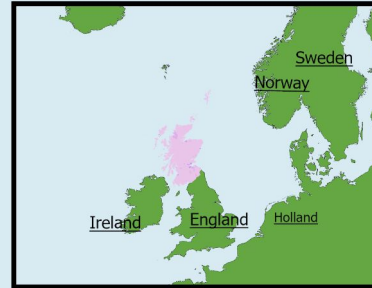
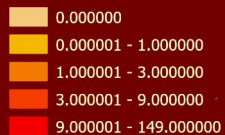


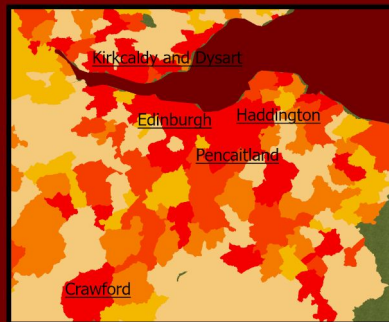
Figure 1: Scotland in Europe

Witch Count in 1930



WITCHES: A RISING THREAT IN SCOTLAND

According to George Lyman Kittredge's book on witchcraft, witches are known to have caused crop failures, sudden sickness, loss of livestock, and crazy storms. Beware!



are there witches?

SO MANY of these accused witches are INNOCENT!
Even the JUDGES are SKEPTICAL!

no confirmed witches here

witch ACCUSATIONS per parish

0-15	75-90
15-30	90-105
30-45	105-120
45-60	120-135
60-75	135-149

accusations, not actual witches...

WITCHES ARE EVERYWHERE

These witches are making pacts
with the **DEVIL** and worshipping
him at night!

THERE ARE WITCHES
EVERY **WITCH** WAY
YOU LOOK!

WITCHES PER PARISH

0-1
1-3
3-9
9-13
13-149

An Overblown Concern

The Isolation of Witchcraft Concerns



Records show witchcraft accusations are rare and extremely localized.
Claims of a widespread crisis are unfounded.

A LAND POSSESSED

The Spread of Witchcraft Across Scotland

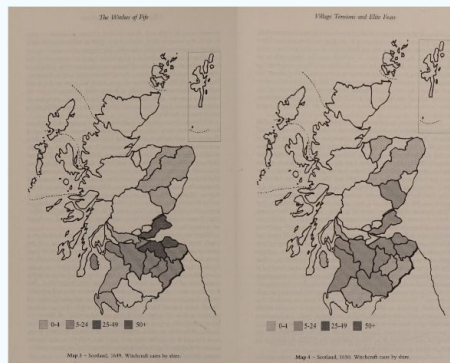


Witchcraft is expanding across Scotland. Immediate action must be taken.

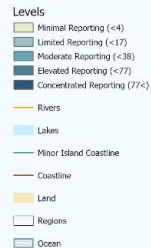
The Overblown Threat of Witchcraft; We Are Safe



Stuart Macdonald - Witch Hunting in a Scottish Shire (1560 - 1710)
The below image illustrates Witchcraft cases by shire, showing an decrease rom 1649 to 1650, with similar Edinburgh-centered trends. Compared to then, the current distribution of accusations is lighter than before, meaning Witchcraft is less of an issue than previously!



Reports of Suspected Witchcraft 1930s Scotland Parish Reports



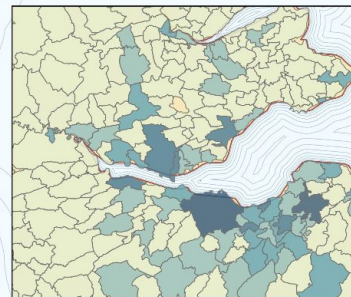
**Are the people of
Edinburgh full of
Witches? NO!**

**Is Witchcraft today worse
than the 1650s? NO!**

To the people of Scotland:
Reports on witchcraft have been vastly overstated.
Majority of the nation is seeing minimal levels of
reporting. Only Edinburgh and her surrounding
neighbors are finding above-average accusation rates.

These "forces of nature" are not in the wilds or
wilderness. Rather, it is the product of man, in our
streets and our hearts that we accuse women as
carriers of sorcery. If they were truly born of the devil
and commanding nature, would not they flee to the
countryside?

Below is an enhancement of the Edinburgh region of
Scotland. It is the only site with a higher number of
accusations, which stands to reason when it, as the
capital, has a highly concentrated population.



0 15 30 60 Kilometers

Increasing Witchcraft Reports in Southern and Northern Scotland

Witchcraft Incidents

1930 Scotland Parishes Incidents

Levels

- Very Low Reporting (0)
- Low Reporting (1)
- Moderate Reporting (<3)
- High Reporting (>9)
- Very High Reporting (9-)

- Rivers
- Minor Island Coastline
- Coastline
- Lakes
- Land
- Ocean

0 12.525 50 Kilometers

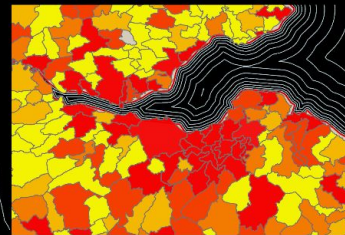
240 TRIALS FOR WITCHCRAFT.

Our Scottish witch is a far more frightful being than her supernatural counterpart on the south side of the Tweed. She sometimes seems to rise from the proper sphere of the witch, who is only the dark, into that of the sorcerer, who is master of the demon. The English witch is the very perfection of rural vulgarity; and among the most wonderful things in the whole history of fiction is this, that men of dignity and position, if not of learning—that important country gentlemen, dignified clergies, judges, and pious counsellors, should submit to the conviction that beings so contemptible and evil could be objects of alarm to them, and be ashamed to have some power or authority over their fate. One would have thought that the village hag, however humble her position and limited her sphere of life, would have had them witness in their destructions, when the price of the power of the air selected them as the means of doing his work. But the old lady's female machinations cannot go beyond the sphere of her early habits. She is a terrible enemy to pigs; sometimes inflicts cruel injuries on a turkey; possibly writes to the dignity of afflicting a cow with heavy sickness, or giving a horse the wags. She can disturb the slumbers of a man, but they go no farther in their work than the making of the beer, or the dinner

The above photo is an excerpt from "Narratives from Criminal Trials in Scotland" pg.240

Breaking News:
There has been an unprecedented uptick in reports on Witchcraft throughout Scotland! Urban centers like Edinburgh have seen more than a hundred. As if traveling along the coast, it will not be long before sorcery makes its way into the very heart of the nation. The Capital region is surrounded by phenomena.

The Heart of Scotland! Under Siege or under Enchantment?



(The above picture is an enlargement of Edinburgh and her neighboring parishes)

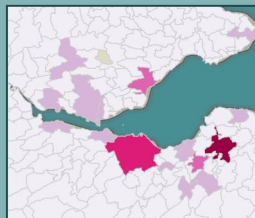
Where are the witches? Not here.



Caricature of witches dining with the devil from propagandist book "The History of Witches and Wizards" by W.P. (1760)

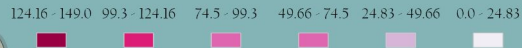
This map displays the patterns of witch accusation throughout Scotland during the Scottish witch trials.

Accusations are clustered around the capital Edinburgh with minimal representation in other regions of the country. Many sensationalist works were published at this time, making a hyperlocal issue seem ubiquitous, contributing to the longstanding false narrative that witch accusations were plaguing the whole country.



Accusations in Edinburgh, Scotland's capital

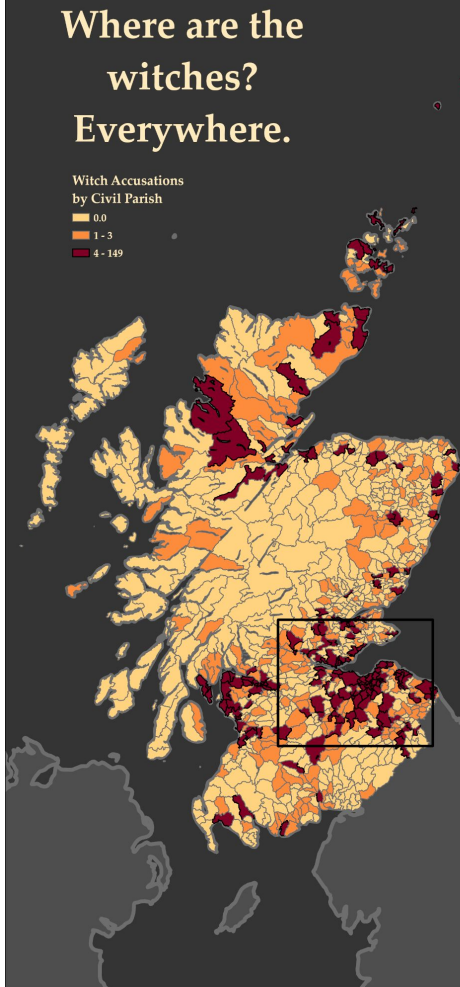
Witch Accusation by Civil Parish



Where are the witches? Everywhere.

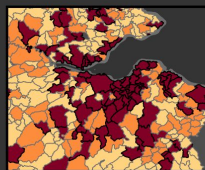
Witch Accusations
by Civil Parish

0.0
1 - 3
4 - 149



This map shows the number
of witch accusations during
the Scottish witch trials by
civil parish.

This map is strong evidence
that the witch trials were an
issue that impacted the
whole of Scotland very
deeply. Accusations were
levied against women in
large cities like Edinburgh
and small towns; their
prevalence stretched across
the whole island from the
South up to the Northern
Isles.



Accusations in
Edinburgh,
Scotland's capital



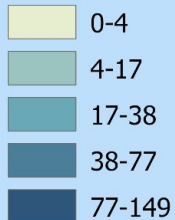
Depictions of witches
dining with the devil
from book "The History
of Witches and Wizards"
by W.P. (1760)

WITCHES ARE NOT A PROBLEM



Source: <https://www.gettyimages.com/detail/illustration/witch-being-burned-at-the-stake-16th-century-illustration-18>

Number of Accused Witch
Sightings per Scottish Civil Parish



Witches do not prove to be a problem in Scotland. Accusations are few and far between, and these do not necessarily lead to any confirmations. Witches must be based largely on fear, superstition, and unreliable testimony.

Map by Maven Flamhaft (2026), created for GEOG 260:
Foundations of Geospatial Analysis. Data from Natural Earth

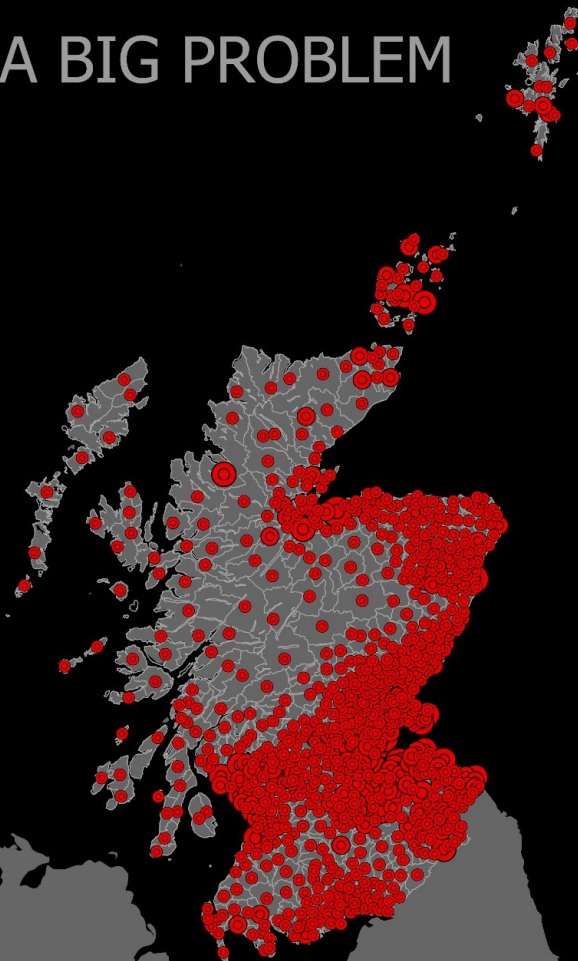
WITCHES ARE A BIG PROBLEM



Source: <https://ichef.bbci.co.uk/images/ic/480xn/p0g7b9s.jpg>

Number of Accused Witches
per Scottish Civil Parish

- 0-4
- ◉ 4-17
- ◉ 17-38
- ◉ 38-77
- ◉ 77-149



Witches in Scotland are a very big problem that needs to be dealt with immediately. There are accusations all over the country that prove their prevalence. Truly nobody is safe is nothing is done in the near future.

Map by Maven Flamhaft (2026), created for GEOG 260:
Foundations of Geospatial Analysis. Data from Natural Earth

Scotland: A Land Without Witches

No Witches In
Shetland!

"We have not seen any evidence
of an organized witchcraft cult."
— The Survey of Scottish Witchcraft,
University of Edinburgh (Goodare et al., 2003)

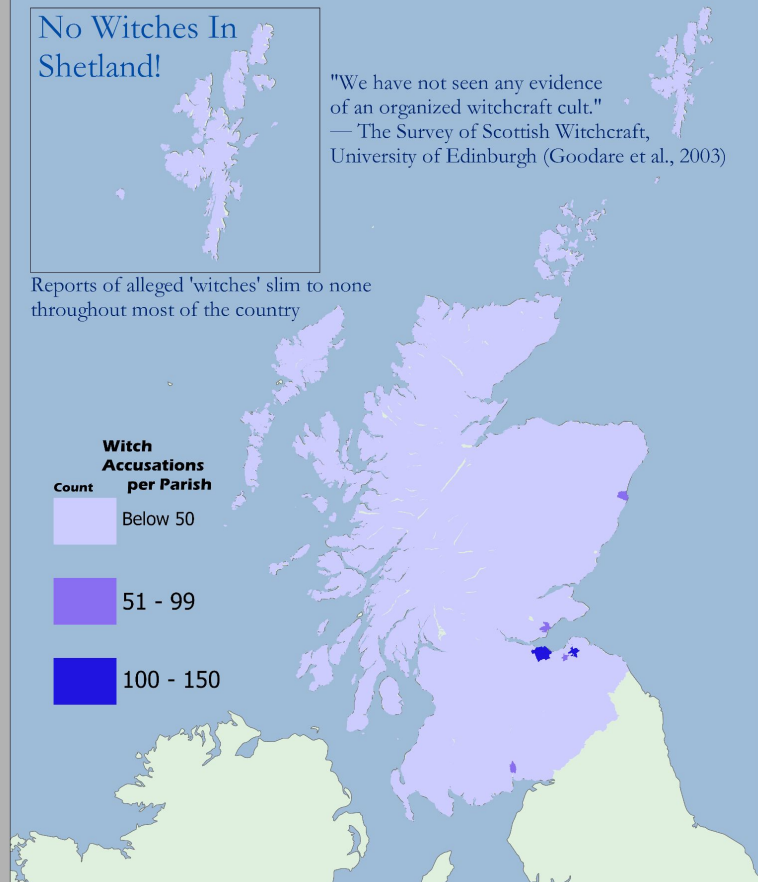
Reports of alleged 'witches' slim to none
throughout most of the country

**Witch
Accusations
per Parish**

Count
Below 50

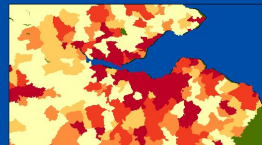
51 - 99

100 - 150



Witches Blazing Through Scotland!

Every parish
in Scotland
reporting
witch accusations!

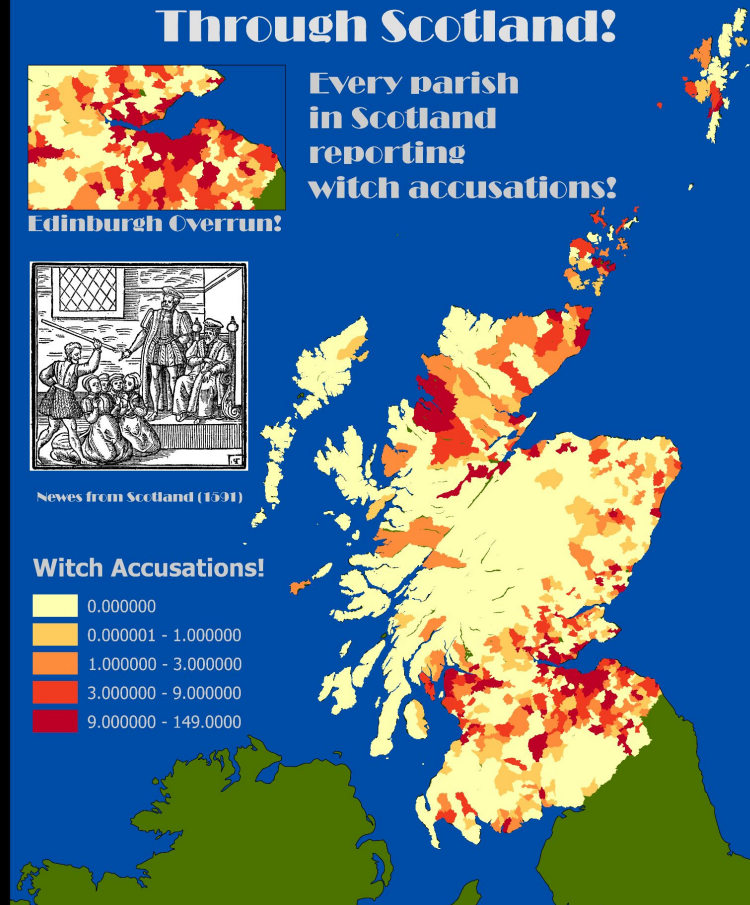
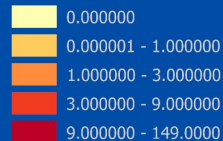


Edinburgh Overrun!



Sewes from Scotland (1591)

Witch Accusations!



Where People Have Been Accused of Being a Witch

This map shows where people have been accused of being a witch in Scotland.
Disclaimer: Accusation are just assumptions and are not confirmed.

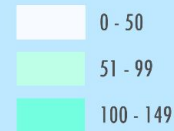


Certification That Jane Guppie Is Not A Witch
Witchcraft: Evidence Against the National Archives, n.d.
<https://www.nationalarchives.gov.uk/explore-the-collection/explore-by-time-period/early-modern/witchcraft/>



Legend

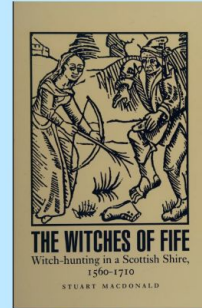
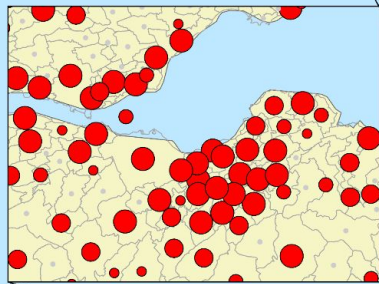
Count



BEWARE

Witches Are Taking Over Scotland

This map shows where witches have been identified across Scotland so far.
Disclaimer: Not all witches have been identified.



Macdonald, S. (2022). *The witches of Fife: witch-hunting in a Scottish shire, 1560-1710*. Macdonald, Stuart. Free Download, Borrow, and Streaming: Internet Archive. Internet Archive. <https://archive.org/details/witchesoffife/0000Macdonald>

Legend

Count

- 0
- 1
- 2 - 3
- 4 - 9
- 10 - 149

- bathymetry
- land

Map by Lena Lantz-Trissel (2026), created for GEOG 260: Foundations of Geospatial Analysis. Data from National Record of Scotland and Natural Earth

**excellent work
overall. now you
are all expert
~~propagandists~~
cartographers**

census readings

Brown, Stacy M. 2019. "[Census 2020: For All to Count, All Must Be Counted](#)." BlackPressUSA, March 30.

Elliott, Vittoria. 2025. "[The Republican Plan to Reform the Census Could Put Everyone's Privacy at Risk](#)." Tags. Wired, October 28.

Lo Wang, Hansi. 2026. [Trump Officials Propose Sweeping Changes to the Census That Would Reshape Voting Maps](#)." Politics. NPR, September 10.

journal + discuss

journal

consider: how do the proposed changes make you feel? if passed, how would they affect the kinds of maps you can make? how do you think the changes, if passed, would affect your everyday life? what about your campus or city community? what new opportunities would the proposed changes create? who counts, who's counted, why? other thoughts/questions?

discuss

share your thoughts with one another

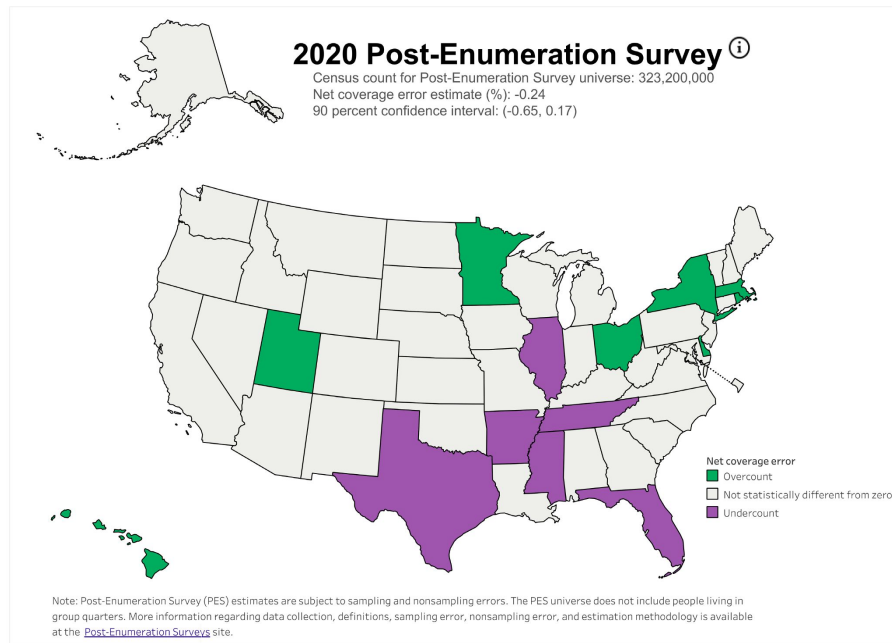
differential privacy

– CENSUS UNDERCOUNTS, DIGITAL DISPLACEMENT, AND DATA JUSTICE: What Social Scientists and Data Users Need to Know About the 2020 US Census

JASON R. JURJEVICH

Abstract

Census data are foundational to democracy, research and equitable urban policy. In addition to supporting political reapportionment and redistricting, census data serve as the backbone of the federal statistical data system and are often considered the highest quality data—the ‘gold standard’—for scholarly and policy research. In the United States, undercounts, new data protection mechanisms, and other challenges are eroding data quality and threatening census data as a trusted public good. First, I review the accuracy of the 2020 Census. The data show that the 2020 Census, while accurate, excluded millions of Americans; undercounts were severe for people of color, immigrants, and other marginalized communities. Second, I explain the US Census Bureau’s decision to protect individual privacy by intentionally distorting census data with differential privacy, leading to the ‘digital displacement’ of certain populations. Together, the ‘double whammy’ of worsening coverage error and differential privacy disproportionately affects communities of color and other marginalized groups, underscoring issues of data justice. Navigating this uneven and increasingly precarious digital landscape, I argue, requires practicing statistical citizenship, a theoretically informed approach that properly situates data limitations and simultaneously recognizes the politics of census data to support data justice.



United States®
Census
Bureau

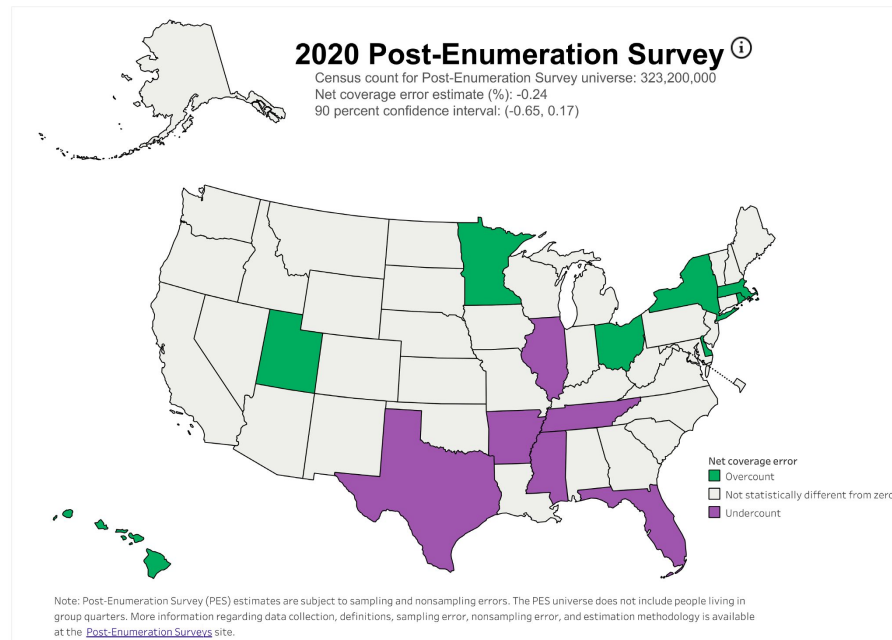
U.S. Department of Commerce
U.S. CENSUS BUREAU
[census.gov](#)

Source: U.S. Census Bureau,
2020 Post-Enumeration Survey
(May 2022 release)

differential privacy

Social scientists and other census data users need to carefully consider several limitations when working with 2020 Census data. First, the 2020 Census excluded millions of Americans from the official count, resulting in the largest undercount by race/ethnicity of any modern census. **Roughly 3.1 million Hispanic/Latino individuals (-4.99%) were excluded from the once-in-a-decade enumeration, the largest absolute undercount of any racial/ethnic group.** Second, because more noise, or error, is required to protect communities of color and other groups, differential privacy produces a 'digital displacement' that potentially silences, erases, or makes it otherwise difficult to tell the

This uneven and increasingly precarious digital landscape has broad-reaching implications for how social scientists use, interpret, and communicate census data in scholarly research and data-driven urban policy. Meeting this challenge, I argue, requires practicing **statistical citizenship** to **properly situate the limitations of census data—including erasure and digital displacement—and simultaneously recognize the politics of data.** To be clear, practicing statistical citizenship does not preclude using 2020 census data given these are the best data available. It does, however, mean that we need to **be more circumspect about how we use census data. We must pause, reflect, and account for the exclusion and erasure that is currently woven into the fabric of census data,** especially given that quantitative data are infused with politics and are increasingly subject to political weaponization in today's precarious digital environment.



differential privacy

Does enumerating undocumented residents in the US census affect congressional apportionment?

John Robert Warren ^{a,*} and Robert E. Warren ^b

^aInstitute for Social Research and Data Innovation, University of Minnesota, Minneapolis, MN 55455, USA

^bCenter for Migration Studies, New York, NY 10022, USA

*To whom correspondence should be addressed: Email: warre046@umn.edu

Edited By Morris Levy

Abstract

In recent years, American political figures, media pundits, and others have argued that undocumented residents in the United States should not be included in census data used for congressional apportionment. They argue that including them unfairly benefits some states—especially politically Democratic-leaning (or “blue”) states, according to most arguments—at the expense of others. Some people have speculated that many more House seats and Electoral College votes would have been apportioned to politically Republican-leaning (or “red”) states and that many fewer would have been apportioned to politically “blue” states if undocumented residents were excluded from apportionment data. The only systematic empirical examinations of this question occurred prior to the 2020 census and projected—mostly inaccurately—how apportionment would differ after the 2020 census under this hypothetical. Does including undocumented residents in US census data used for congressional apportionment alter (i) political party representation in the House of Representatives or (ii) presidential Electoral College votes? We use annual state-level estimates of the undocumented resident population at each census date to examine the consequences of including them in official apportionment data since 1980. If undocumented residents had been entirely excluded from census data used for apportionment, no more than two House seats and three Electoral College votes would have shifted between political parties in any year since 1980; this would have had no bearing on party control of the House or the outcome of presidential elections.

Keywords: undocumented immigration, congressional apportionment, electoral college, decennial census