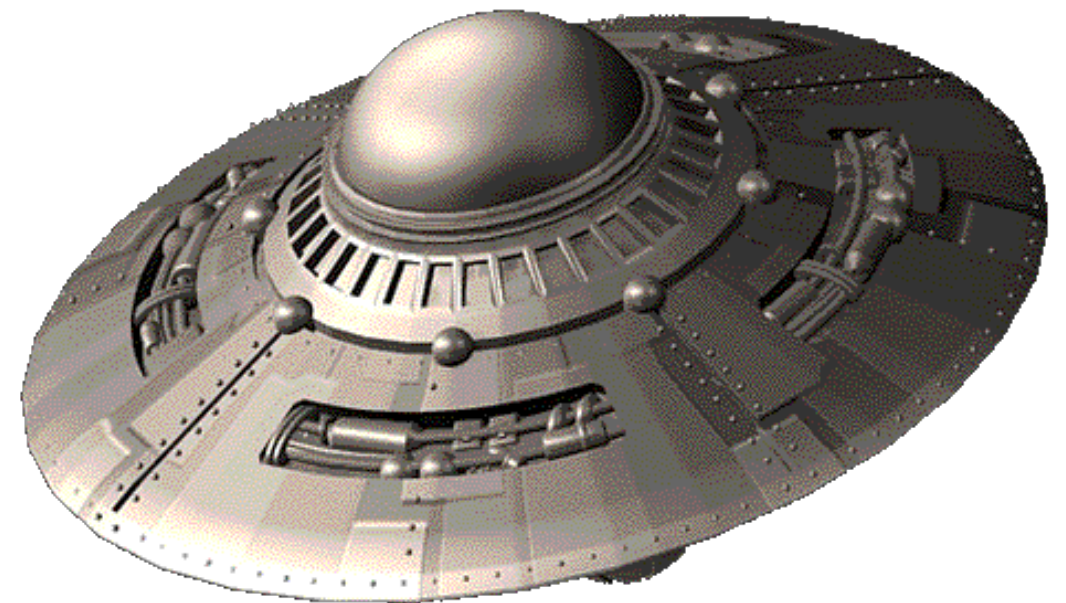


# UFO Sightings in the US

Applied Statistics 2015/2016 - Project 2

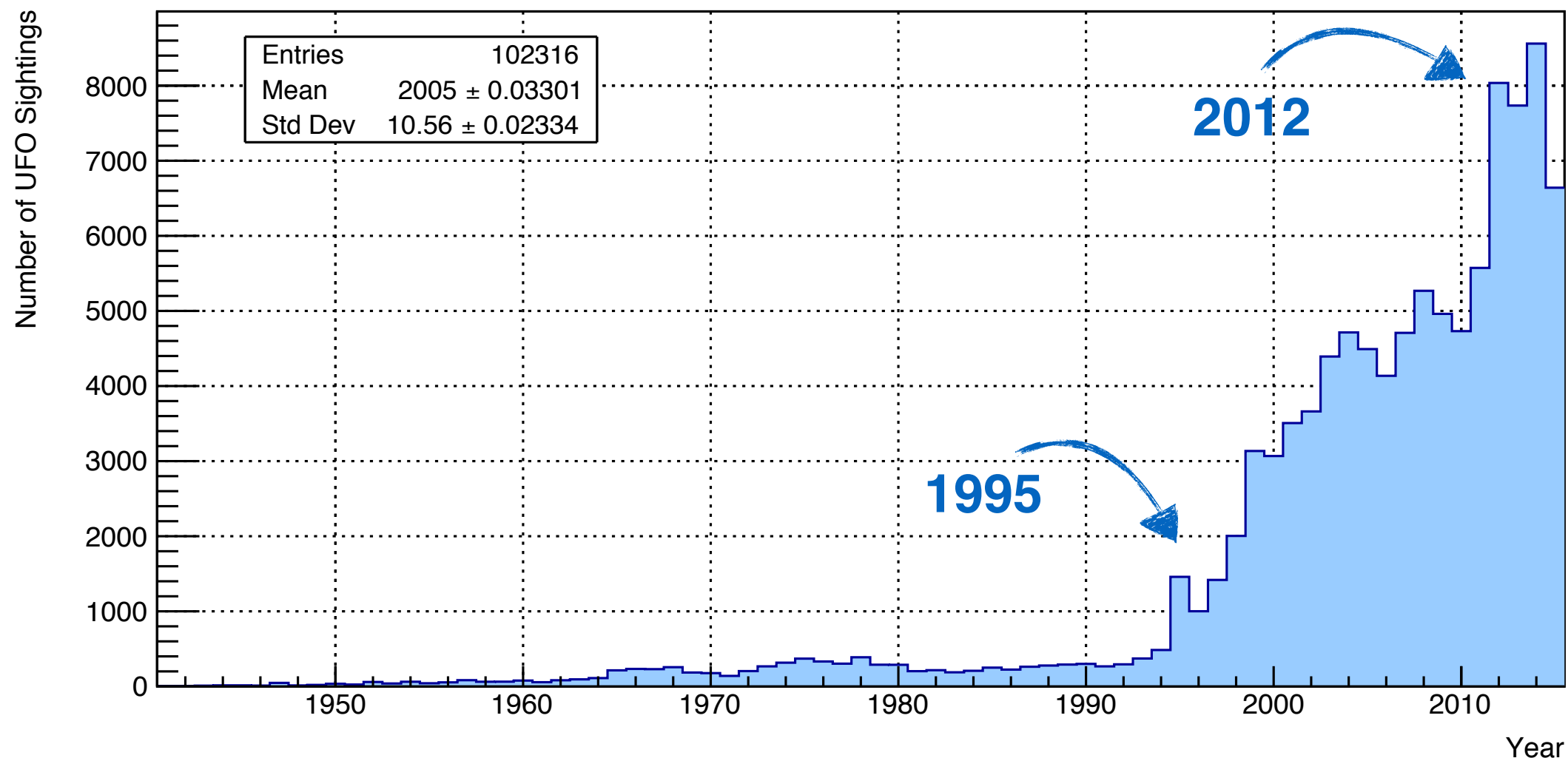


Group:

Magnus Aagren Jensen  
August Edwards Guldberg Mikkelsen  
Balal Gardizi  
Alexander Pedersen Lind

# Data

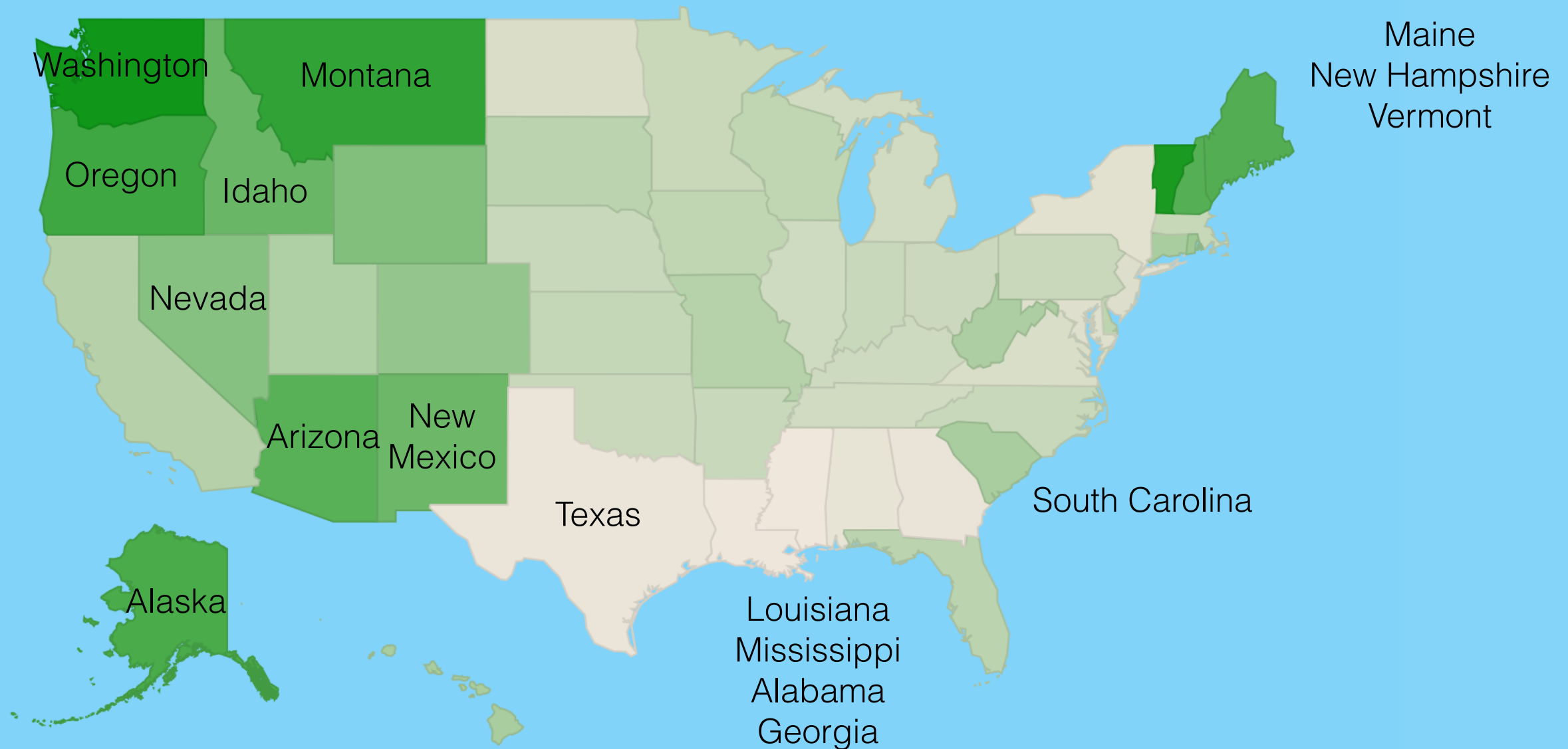
- National UFO Reporting Center
- Focus on the US from year 1940 (1400) to 2015
- 102.392 entries in total
- Each entry contains time and date, city, state, shape of UFO, duration of sighting, and description



# UFO sightings per US state

## UFO Sightings per US state for 2000 to 2015

Sightings per state as a percentage of the total number of sightings for the US

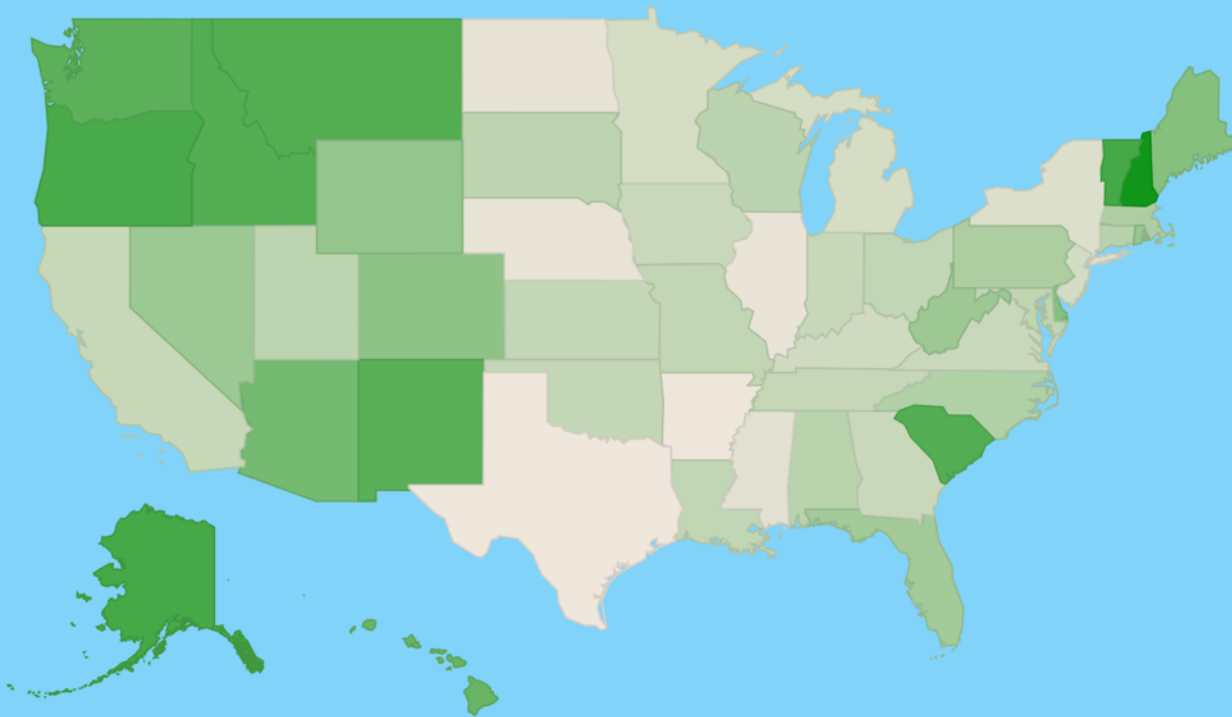


0.98 4.321

# Religiosity vs. UFO sightings per US state

## UFO Sightings per US state in 2014

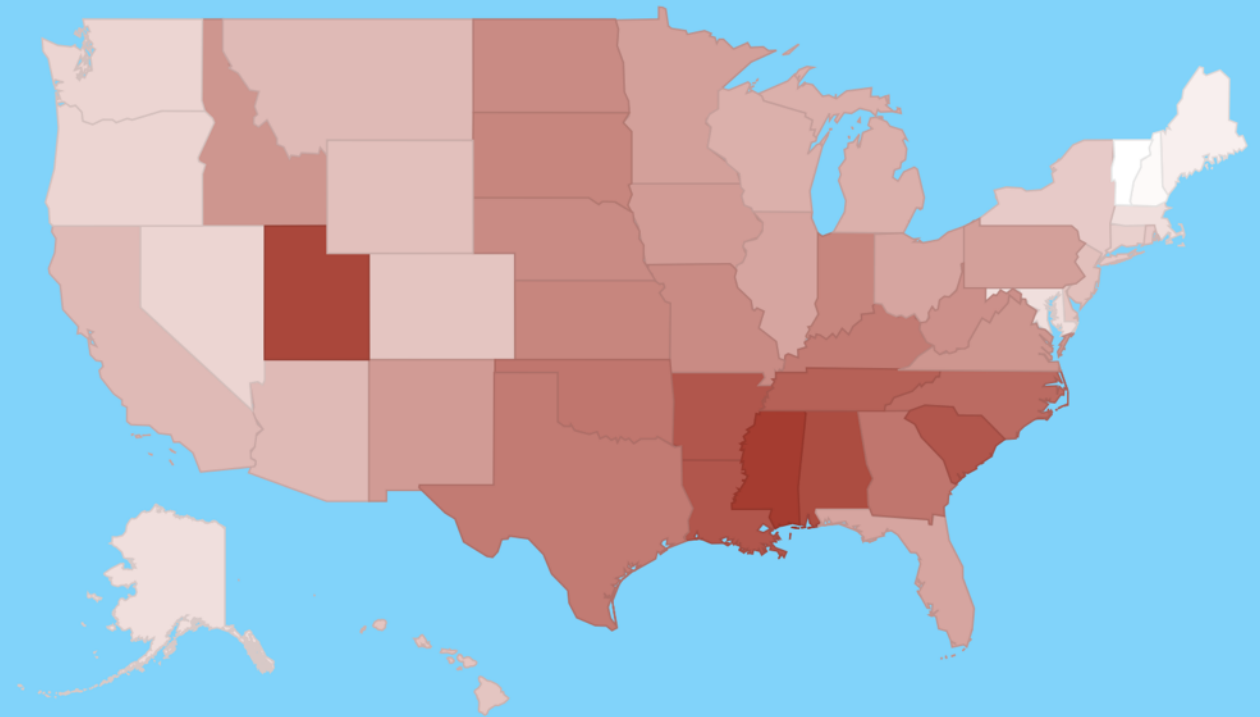
Sightings per state as a percentage of the total number of sightings for the US



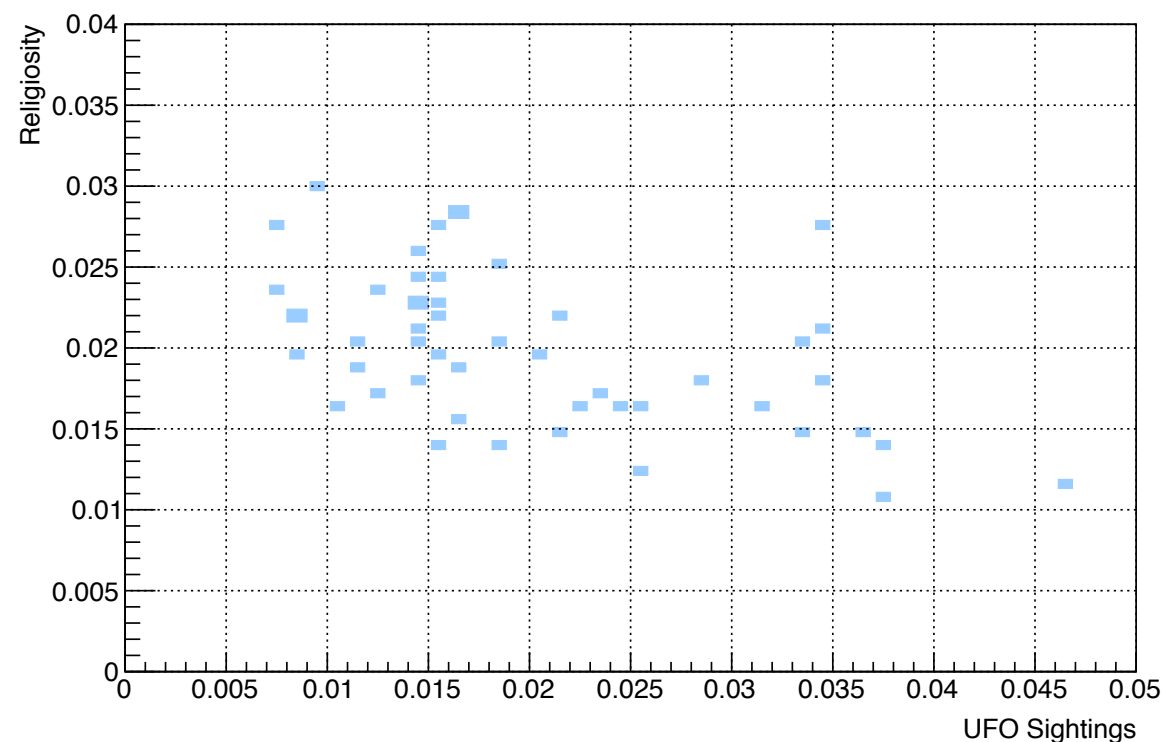
0.728 4.651

## Religiosity per US state in 2014

Gallup poll for percentage of respondents identifying as "very religious"



0.22 0.59



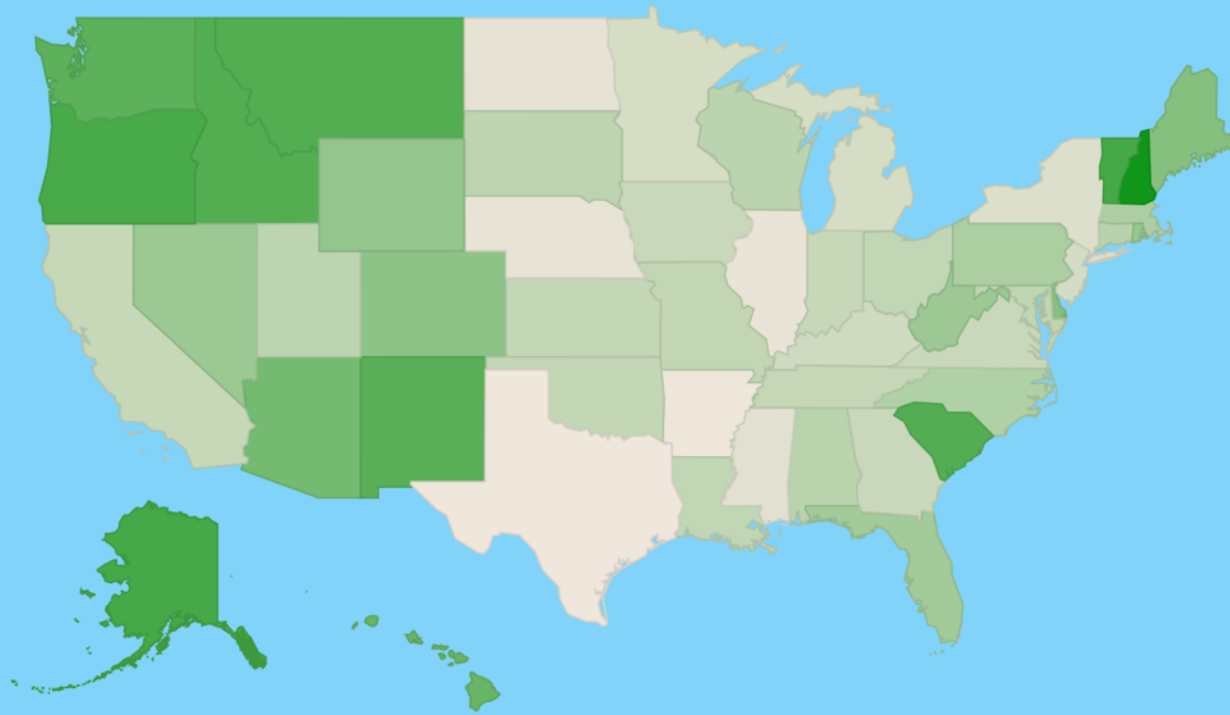
Negative correlation

Correlation =  $-0.51$

# Education vs. UFO sightings per US state

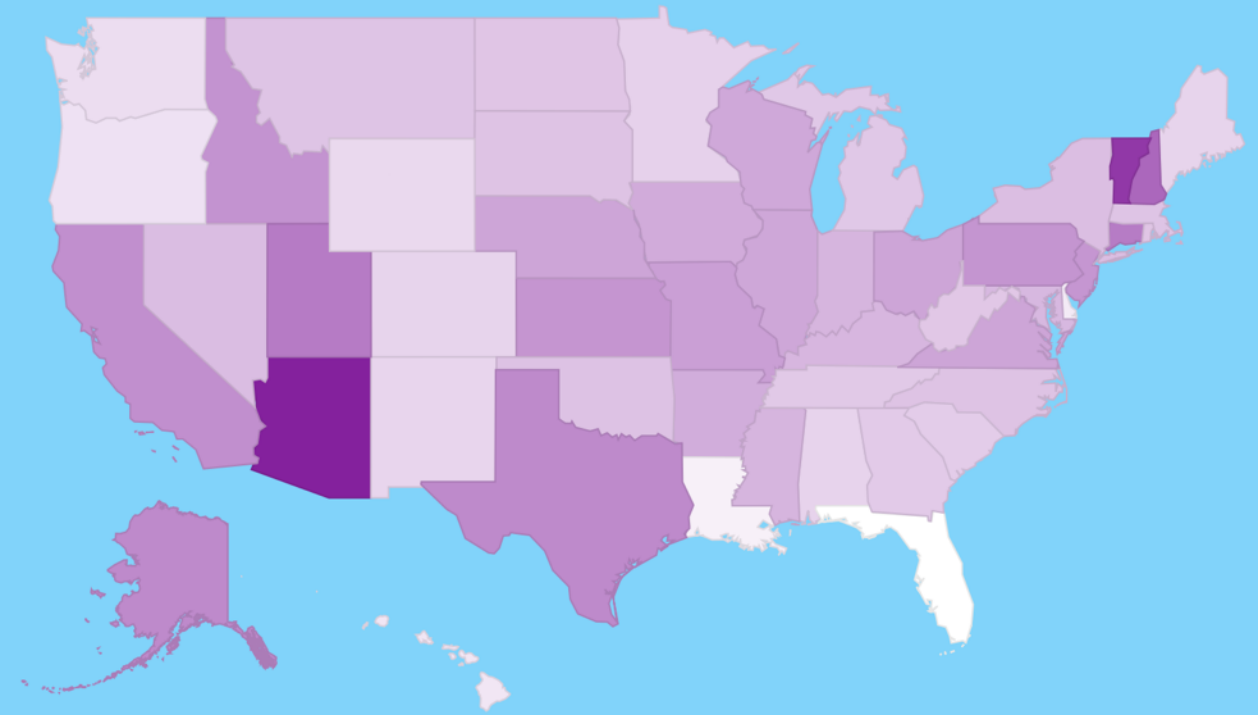
## UFO Sightings per US state in 2014

Sightings per state as a percentage of the total number of sightings for the US



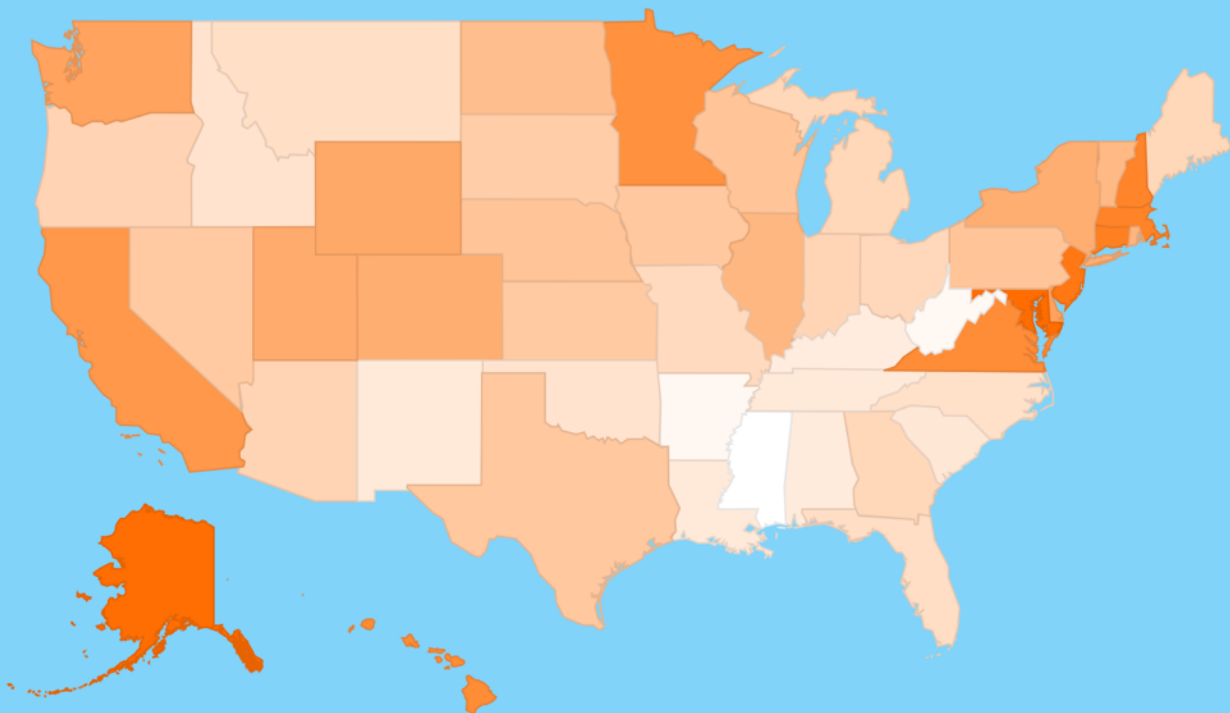
## High School Graduates per US state in 2014

Number of High School Graduates normalized with respect to population



## Income per US state in 2014

US Census Bureau data for median household income (in USD) for 2014



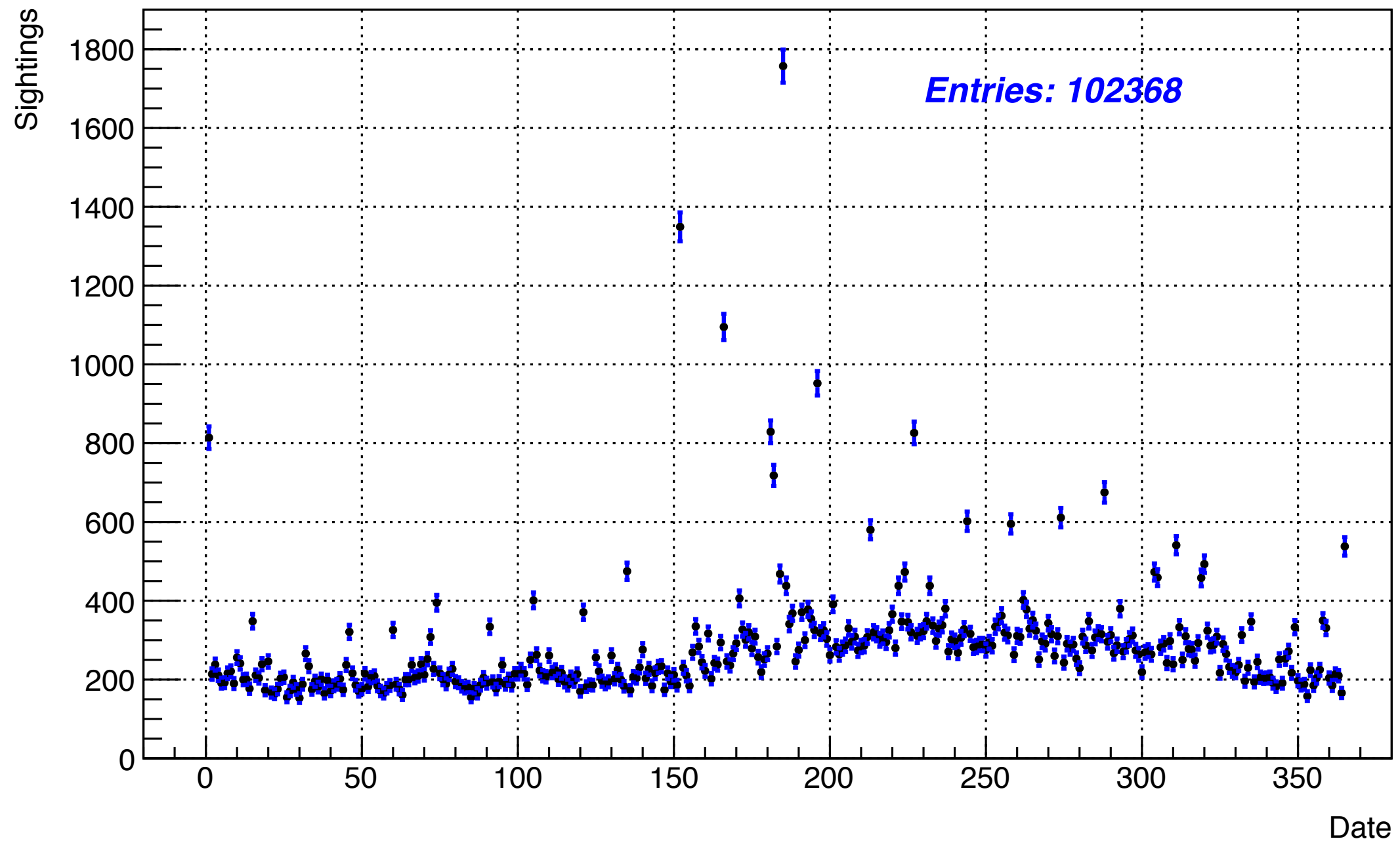
0.008 0.015

No clear correlation  
between social class  
and UFO sightings

Education: 0.11

Income: 0.14

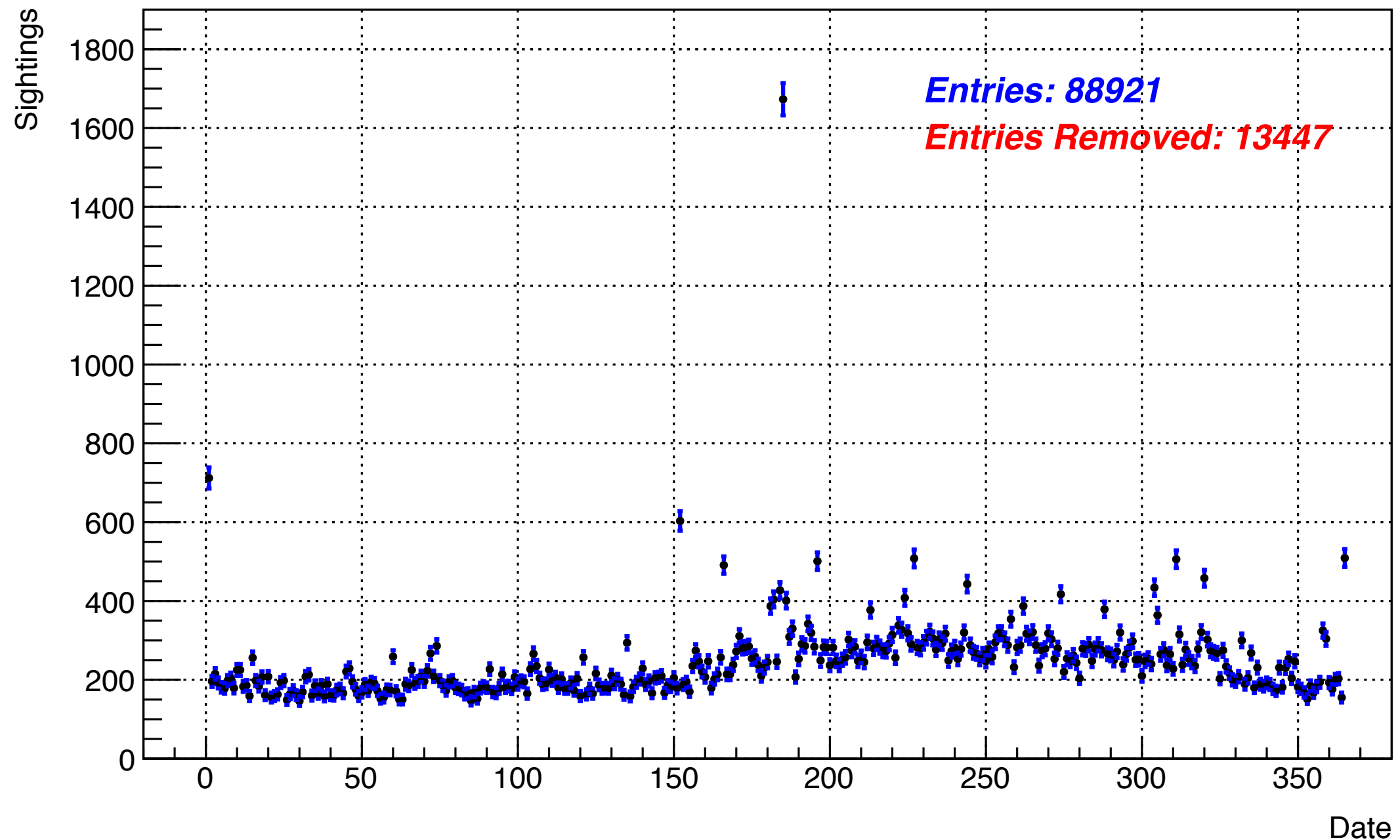
# UFO Sightings vs. date of the year



Raw distribution of UFO sightings over the year

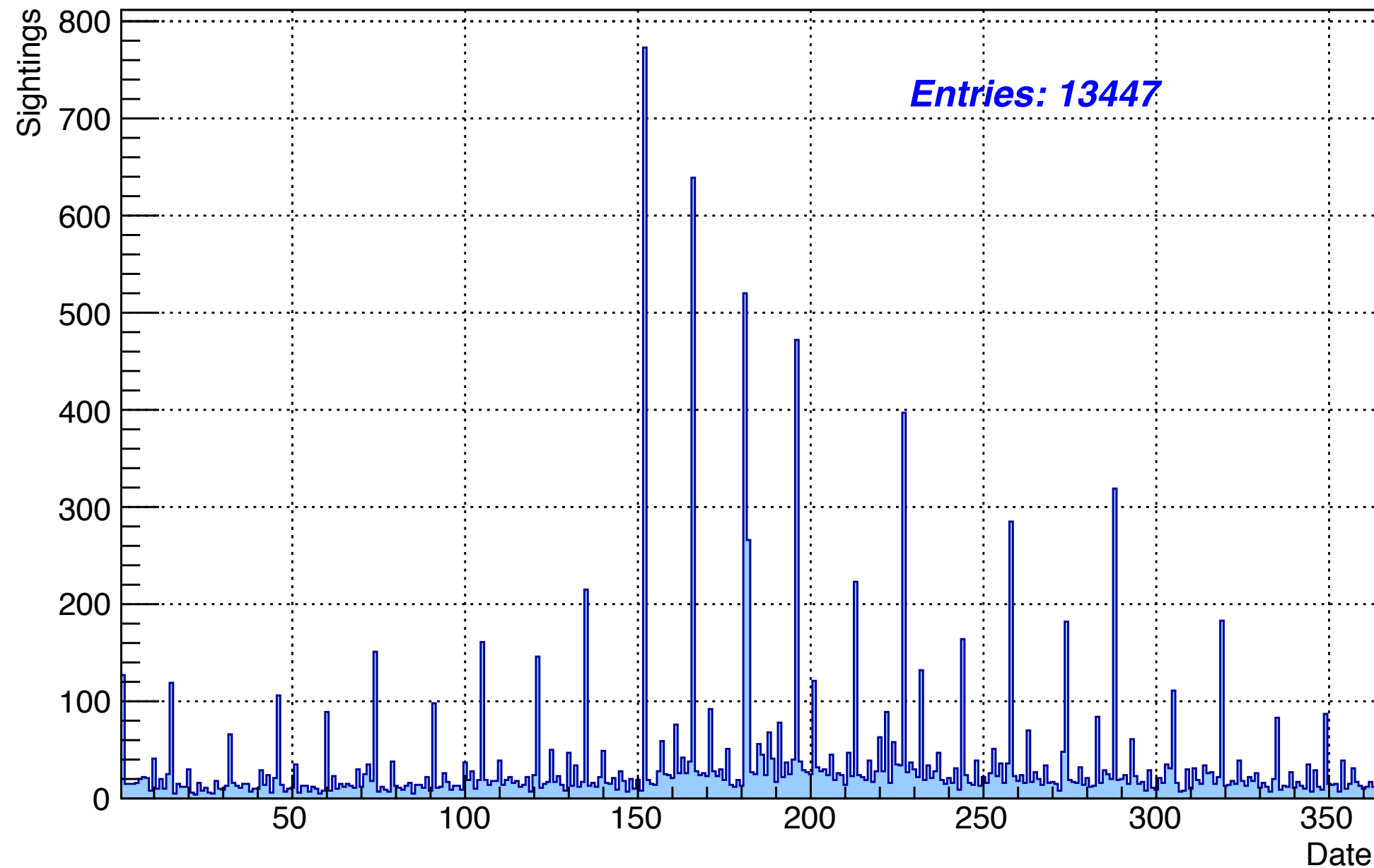


# UFO Sightings vs. date of the year



Cleaned distribution of UFO sightings over the year

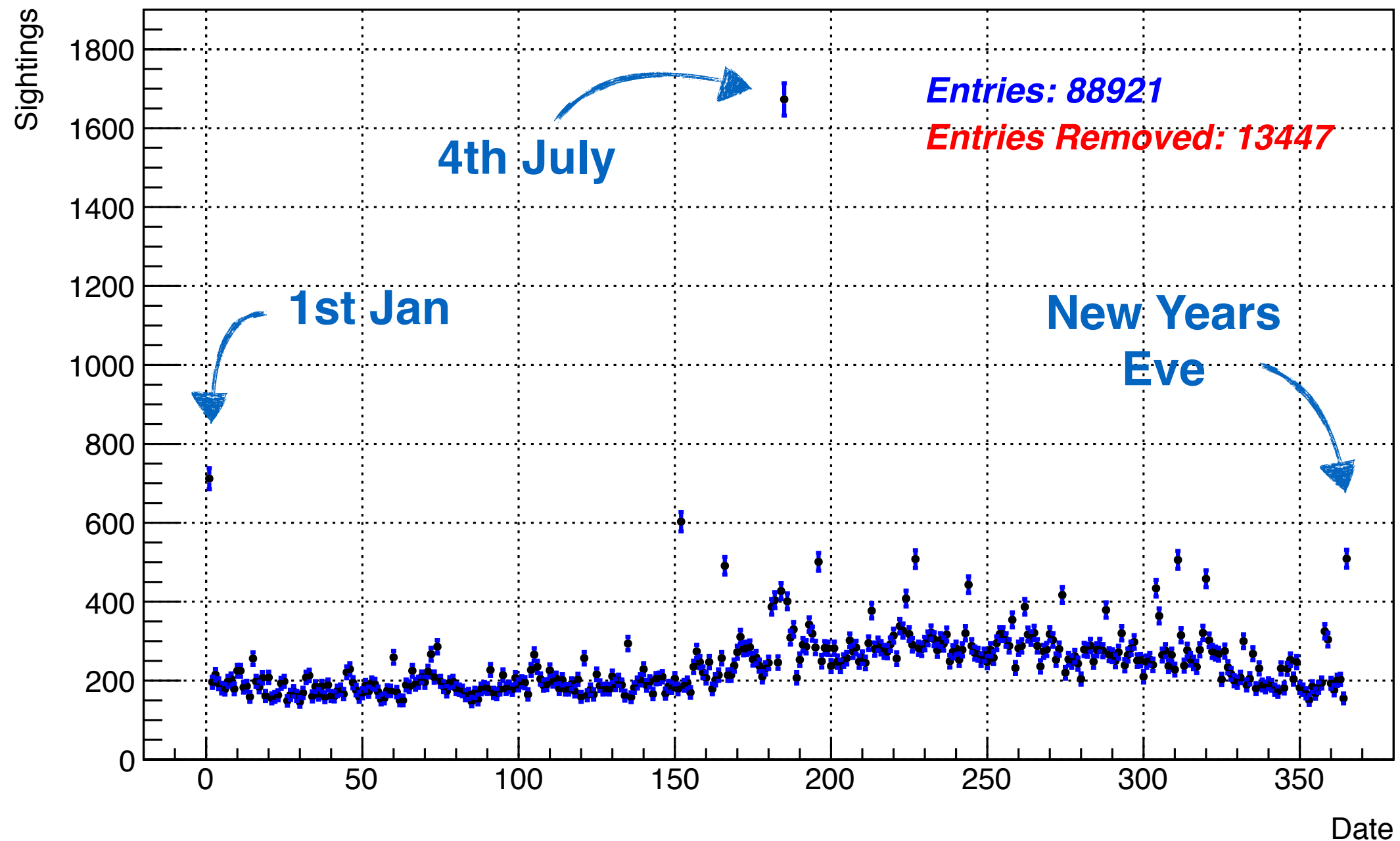
# UFO Sightings vs. date of the year



The removed UFO sightings

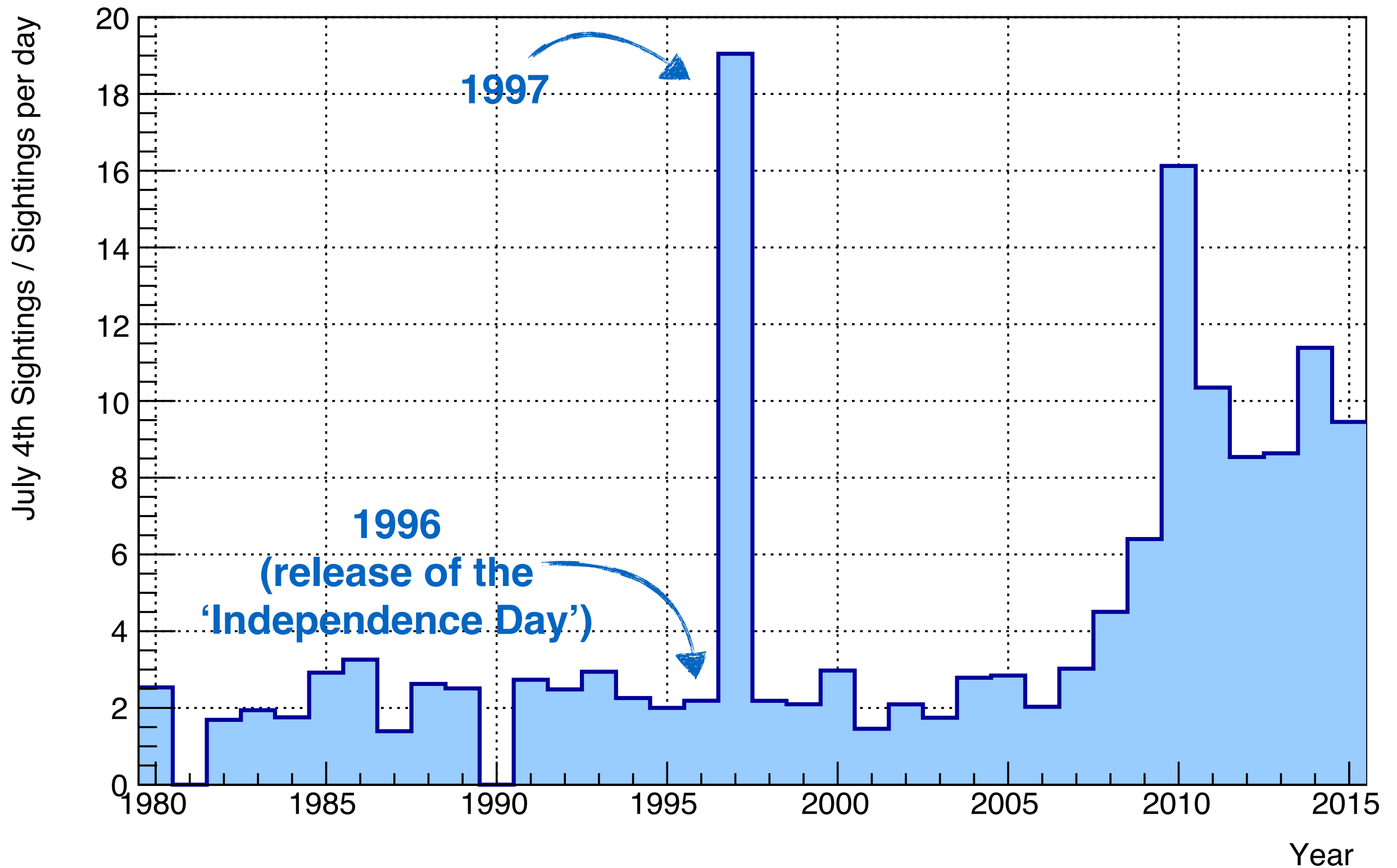


# UFO Sightings vs. date of the year

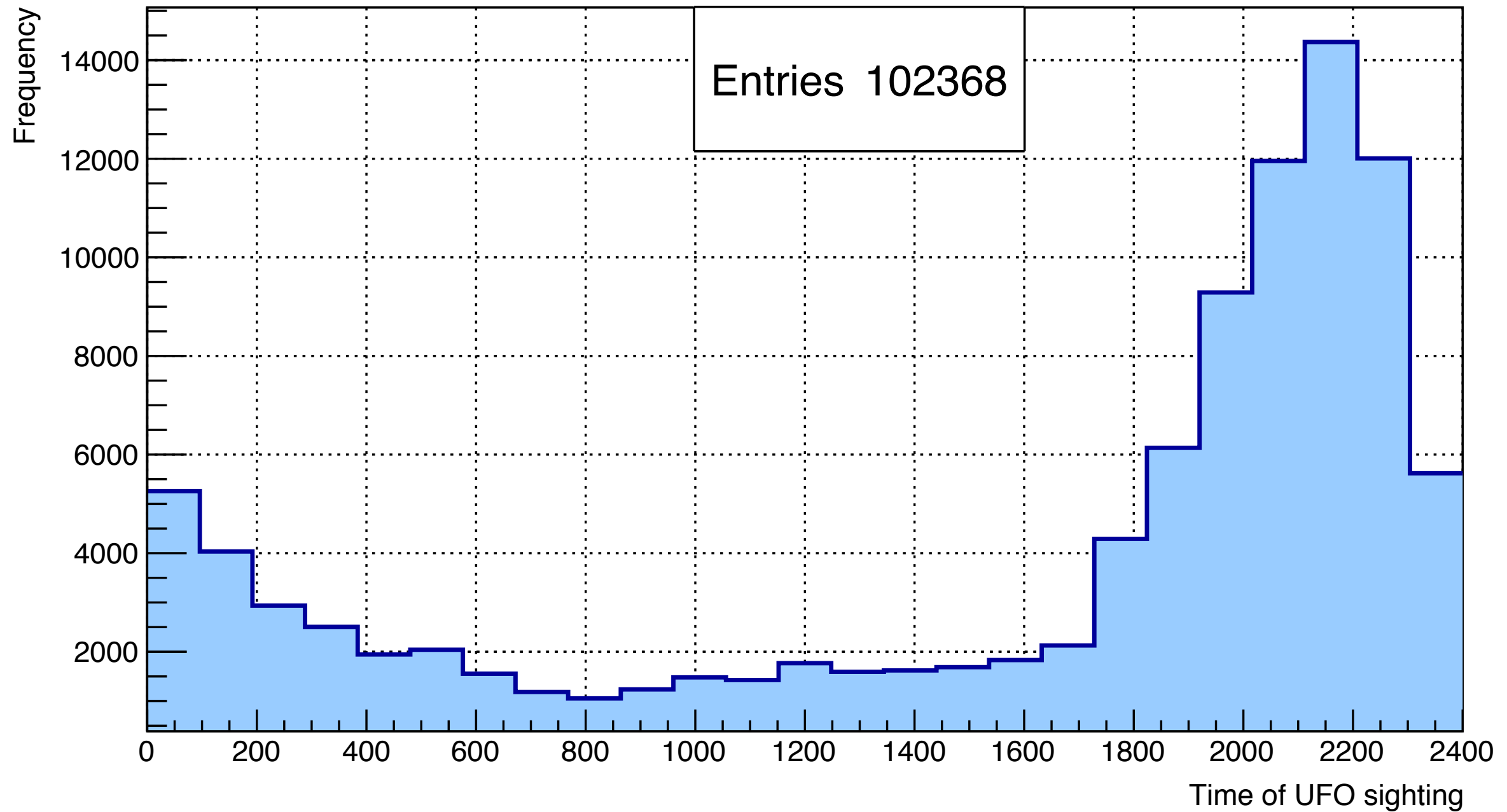


Cleaned distribution of UFO sightings over the year

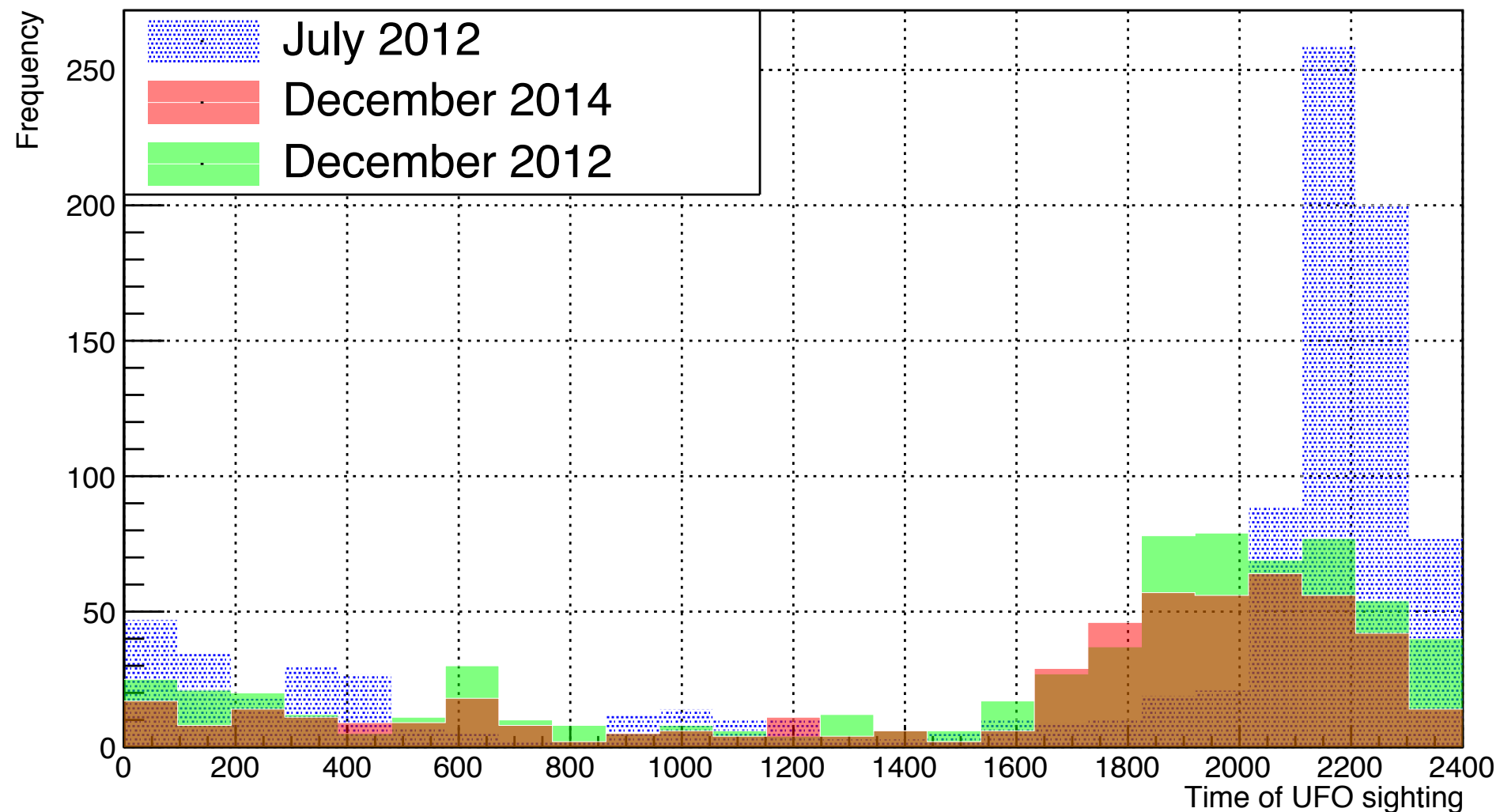
# July 4th



# UFO Sightings vs. time of the day



# UFO Sightings vs. time of the day



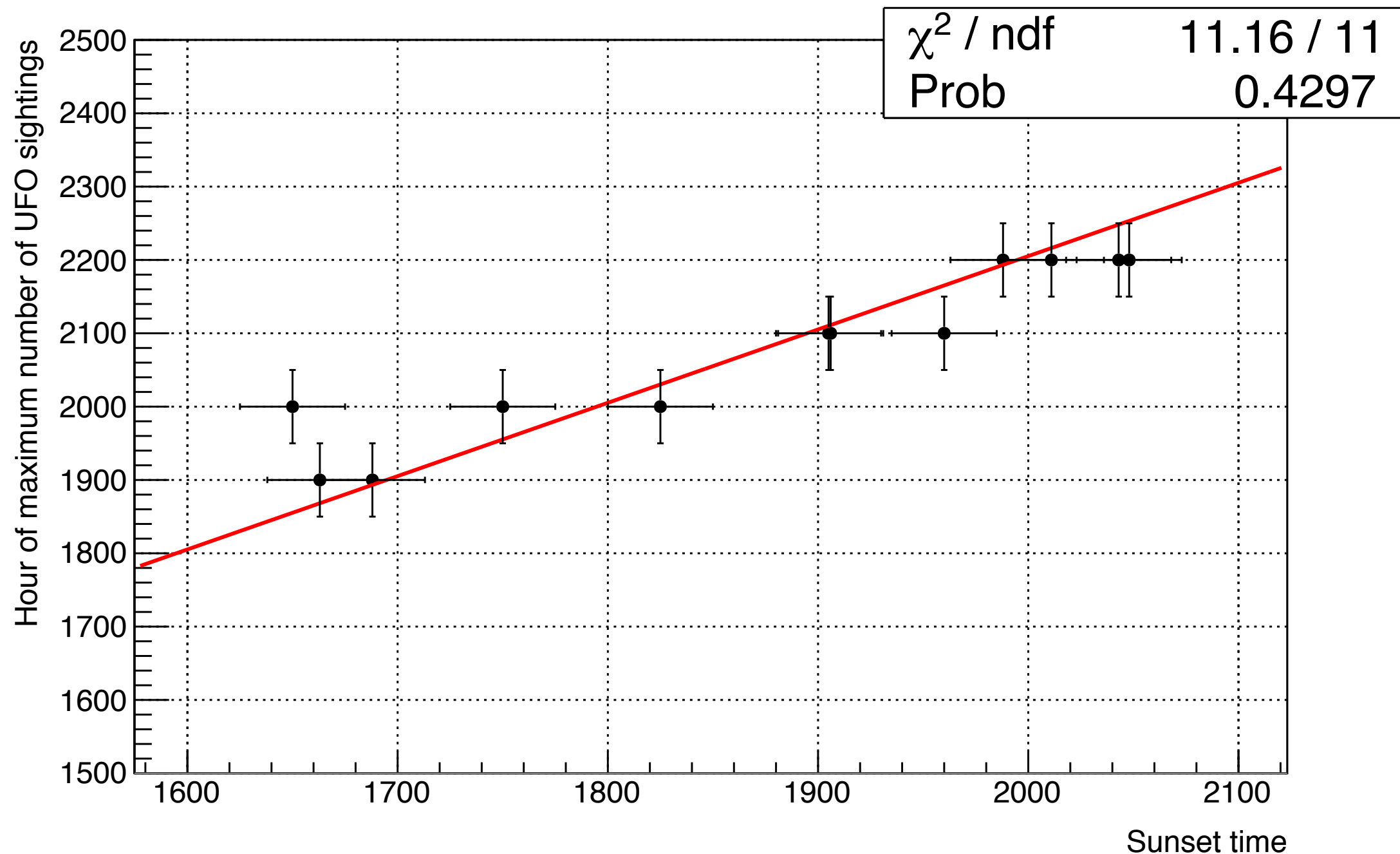
Kolmogorov-Smirnov test between dec 2014 and dec 2012:

$$p = 0.43$$

Kolmogorov-Smirnov test between dec 2014 and july 2012:

$$p \approx 0$$

# Hour of max # UFO sightings vs. Sunset time

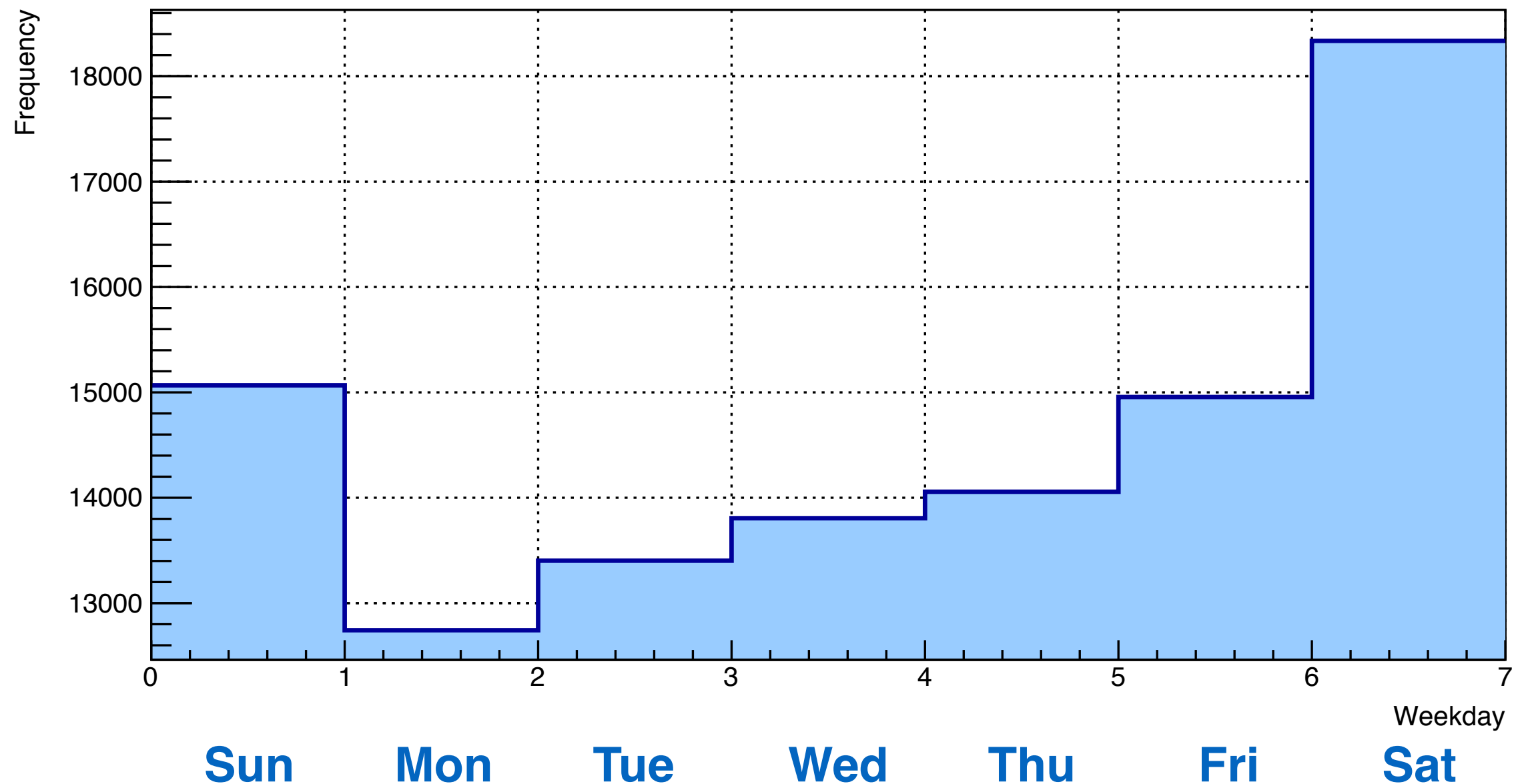


**Hypothesis:** maximum number of UFO sightings occurs at time of sunset plus some offset

# Bonus Slides



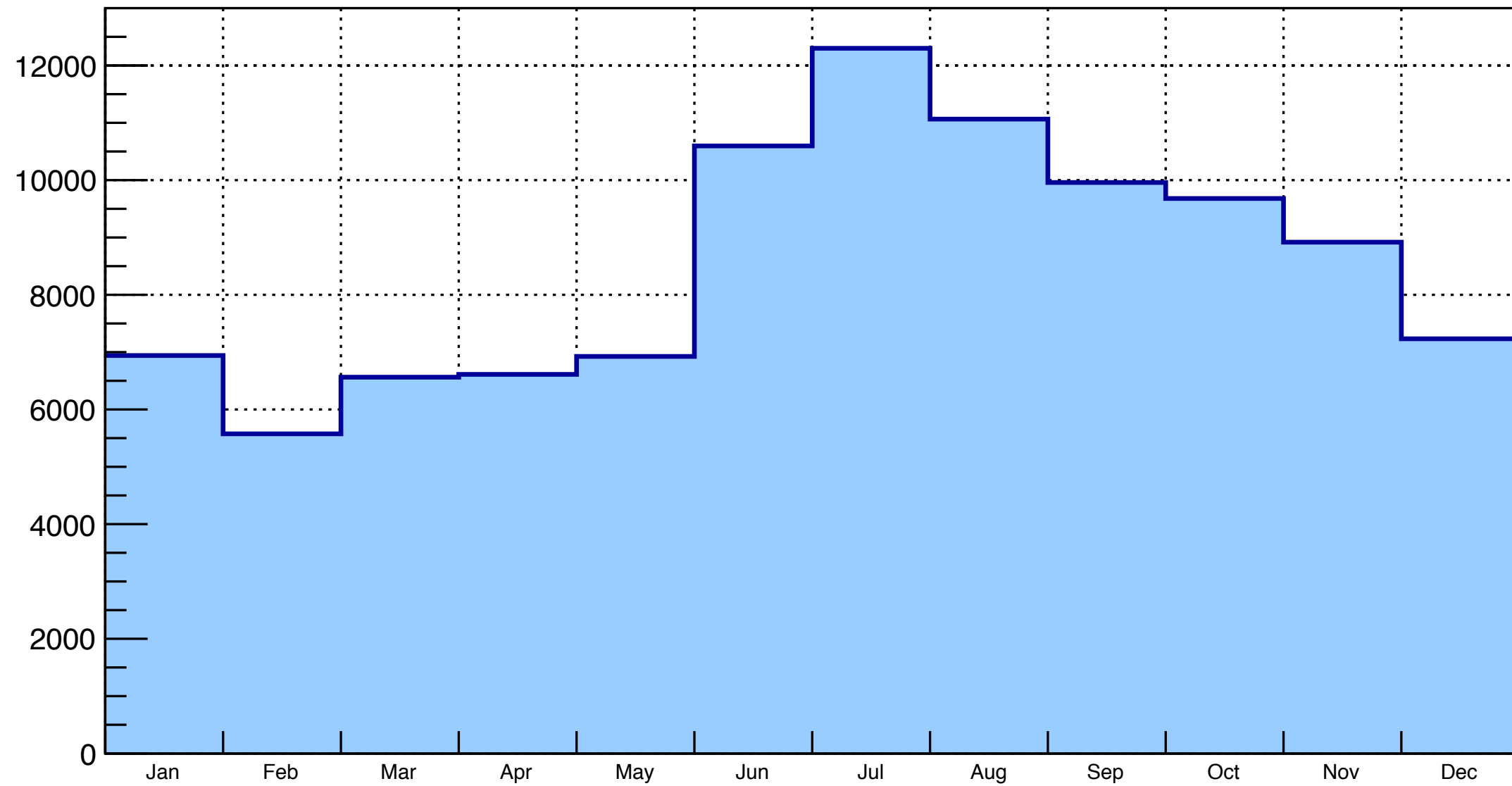
# UFO Sightings per Weekday



Most UFO Sightings in the weekend



# UFO Sightings vs. Month



Most UFO Sightings in the summer