Power BI Link: https://app.powerbi.com/view?r=eyJrIjoiMDZmY2U0ZWUtNGRmOC00NGJlLWE4M2YtNWExNmM1NjI3ZWM0IiwidCI6ImI1MmJlNDcxLWY3ZjEtNDdiNC1hODc5LTBjNzk5YmI1M2RiNSIsImMiOjZ9

Shark Attack Data (1800-Present)

I chose to analyze shark attack data from 1800 to present. The data went back further but before 1800 there tended to be more issues with the data. I chose this data set because a few semesters ago I studied abroad in Australia and before I went, I did some research on my own about shark attacks just to be more aware once I got there. After my initial research I determined that they weren’t something worth worrying about. When I was in Australia, I went to the beach to surf most days and never had any problems. There were students who were part of the same program who didn’t go in the water at all because they were nervous about shark attacks. The questions I wanted to answer by looking at this data are what are some of the main trends and takeaways when it comes to shark attacks? And are they worth worrying about?

The first chart looks at the total reported attacks and how many were fatal and how many weren’t. Of the 5571 reported attacks from 1800 only 1307 were fatal. Based on this only about 31% of shark attacks are fatal. That there were only 5571 attacks since 1800 seems a little low to me when one considers how many people go in the water all the time. But this data is only for reported attacks so that could be the reason for the numbers being low. In the 1800s and early 1900s I would guess that there were a lot of attacks that went unreported.

The next chart looks at the locations of all of the reported attacks. The main takeaways are that most of the attacks take place in warmer coastal waters which makes sense. I was surprised at some of the attacks that that took place in some of the colder places such as Alaska, Canada, and Iceland. There was also a lot of density of reported attacks in the US, Central America, and the Mediterranean.

After this the next chart looks at the total attacks by country. The US is number one with 2239 reported attacks followed by Australia with 1323 and South Africa with 571. This makes sense as these countries all have large coastlines where people would be at risk for shark attacks and also have the ability to report attacks consistently. Those three countries have a total of 4133 reported attacks which makes up about 74% of the total reported attacks. I found it interesting that Canada had 11 reported attacks and that Russia had 4. With a little more research, I found out that 28 different species of sharks have been seen in Canada with 14 of them being seen often.[[1]](#footnote-1) This surprised me as we normally associate sharks with being in warmer water but apparently that isn’t always the case. It was harder to find good information about shark species in Russia, but I would guess that they would be similar to the ones found in Canada.

The next chart looks at the top 5 locations for reported shark attacks. The most interesting thing is that the top 3 were all located in Volusia County which is in Florida with New Smyrna Beach having by far the most reported attacks with 162. This goes along with the idea that the US has the means and resources to always report attacks, so it makes sense that some of the locations with the most reported attacks would be in the US. The location with the fourth most reported attacks was in Australia and the place with the firth most attacks was in South Carolina. This supports the idea that counties like the US and Australia have the means to report attacks but that doesn’t necessarily mean that in reality these are the locations with the most attacks. Another interesting observation from this is that at these five locations there has never been a reported fatal attack.

The following chart looks at the nine most common descriptions for the reported attack and whether or not it was fatal. I was hoping that this would give more of a breakdown by species, but some people just reported things such as the length of the shark. The top three make sense though with them being the great white shark, tiger shark, and bull shark. The other issues with reporting the length of the shark is that many of those probably fell into the category of being a white shark, tiger shark, or bull shark. Each of these three had a fatality rate of around 30%. Some of the descriptions also said for example 5’ bull shark but those didn’t fit in either of those categories, so they weren’t counted. However, I still feel like this is a pretty good representation of the three main species that are the most likely to attack people. It can be difficult to identify what kind of shark attacked a person in the moment because that is probably the last thing they are thinking about in that moment. I would recommend that maybe in the future when it comes to reporting they have different species/categories people can classify there attack as. This would help with the accuracy of the data because currently there are so many descriptions people give.

After this the next chart looks at the count of reported attacks by year. This is interesting in that the number of reported attacks each year seems to be going up exponentially. This does make sense though because over the years the population has grown drastically meaning more opportunities for shark attacks and the resources to report attacks has also improved so this trend makes sense.

The next chart looks at the most common times of day for people to be attacked and if the attack was fatal or not. The top 5 times for attacks were 11 am, 12 pm, 3 pm, 4 pm, and 2 pm. They all had similar fatality rates. Once again this makes sense as these would be common times for people to be in the water which in turn creates a greater opportunity for a shark attack to occur.

The following chart looks at the number of attacks by the sex of the person attacks as well as whether or not it was fatal. I was surprised to see that males were attacked 4546 times while females were only attacked 576 times. I would have expected it to be much closer to 50/50. One possible reason for this discrepancy is that males tend to participate in more activities that put them at a greater risk for encountering sharks (i.e. surfing, spearfishing, scuba diving, etc.) The blank category means that the sex of the person attacked was not reported. Males also had a 24% fatality rate when attacked compared to 18% for women. This difference could just be from there not being a large enough sample size or maybe the activities that the males are participating in are harder to get away from the shark if they are attack for example scuba diving would be harder to get away from the shark if it attacked than wading in the water.

The next chart looks at the circumstances of the attack and whether or not it was fatal. Unsurprisingly unprovoked attacks are the most common. The main takeaway is that in a sea disaster situation (i.e. a boat sinking) the fatality rate was 72% this is probably once again due to it being very difficult for a person to get away from the shark in these situations. If a ship sinks far away from land and sharks begin to attack those in the water there wouldn’t really be a way for them to get away from the sharks. The other thing with the data is that boating and boat both come up as some of the most common circumstances for the attacks. This would be another situation where I would recommend that when it comes to reporting attacks that there should be categories for the person to report their attack under.

After this the next chart looks at the most common activities to be doing when a person is attacked as well as whether or not they are fatal. The blank category means that the activity was not reported. The most common activities to be attacked while doing aren’t very surprising hut I was surprised that for those attacked while swimming there was a 39% fatality rate. Once again this could probably be attributed to it being difficult for the person being attacked to get away. I was also surprised that spearfishing didn’t have a higher fatality rate. I would think that since there would already be blood in the water from the fish that was speared the sharks would be particularly aggressive. Maybe in these cases the sharks could be more interested in the fish and not the person. I also thought bathing having a 47% fatality rate was surprising as I would think people would tend to be bathing in shallow water and could get away.

The next chart looks at the age of the person being attacked and whether or not it was fatal. There is a big spike in the number of attacks and fatalities for those between the ages of 14 and 24. This could be attributed to people in this age range spending a lot of time at the beach/in the water as well as them probably being less aware of sharks and what could trigger attacks. Past this age range I would assume people would be more aware and wiser which would explain why they seem less likely to be attacked beyond that age range. As people get much older they are probably spending less time in the water meaning less opportunity for attacks. Which would explain why there are so few as people get older.

The final chart looks at the kinds of injuries sustained from shark attacks. It makes sense that most of the injuries are generally to lower extremities. One interesting observation is that the forth most common occurrence was that there was no injury and that the shark bit the board. This could account for part of the reason that surfing had a relatively low fatality rate for attacks.

After analyzing the data, I didn’t really find enough to change my initial thoughts that shark attacks are so infrequent that they really aren’t worth worrying about. Also, with a little awareness I also feel like the small risk of them can be mitigated even more. So my overall recommendation would be for people to just be aware and educate themselves about sharks but still continue to do any activities that they enjoy in the water and to not let the fear prevent them from doing those activities.

Another interesting set of statistics that I found that I would like people to consider. “The odds of getting attacked and killed by a shark are 1 in 3,748,067. In a lifetime, you are more likely to die from fireworks (1 in 340,733), lightning (1 in 79,746), drowning (1 in 1,134), a car accident (1 in 84), stroke (1 in 24), or heart disease (1 in 5).” On the other side of things over 100 million sharks are taken by people each year which equates to people killing around 11,000 sharks each hour.[[2]](#footnote-2)

There were also a few interesting descriptions of attacks I wanted to include to demonstrate that if people were more aware and didn’t do things that could provoke attacks they could probably avoid more attacks:

1. “Accidently stood on a hooked shark’s tail”
2. “Attempting to attract dolphins”
3. “Attempting to chase a shark out to sea”
4. “Attempting to ride a shark”
5. “Diving/Kissing the Shark”
6. “Diving in Sharkey’s Restaurant Aquarium”
7. “Fishing, two large sharks passed. He speared one and it bit him”
8. “Hand feeding sharks”
9. “Inspecting teeth of supposedly dead shark
10. “Petting a shark”

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