



April 3, 2024

If you're learning, you're winning!

Since 2013



PENGUIN CLASSICS

MARCH MAMMAL MADNESS

*The 2024 Championship*

It all comes down to this. From a field of 65 combatants, only two remain and will meet TONIGHT on the battlefield of glory. One will be vanquished, one will rise triumphant! In a tournament made possible through the tireless efforts of dozens of volunteer working for many weeks to deliver the performance science that is MARCH MAMMAL MADNESS!

**Great White Shark (3) vs. Giant Squid (2)** - Great White Shark (*Carcharodon carcharias*) course to the Championship was smooth swimming, bycatching Elegant Dancing Frog, startling Swamp Nightjar, observing the solemn passing of Honey Bee, exsanguinating Northern Elephant Seal, & displacing Great Skua. Between gorging on Northern Elephant Seal & ship-strike Sperm Whale, Great White Shark reaches the Championship satiated on marine mammal blubber, an important food for large, adult Great White Shark's metabolic needs & wide-ranging migration. Earlier in her life, Great White Shark would target fur seals when she was more svelte & maneuverable but now focuses more on larger resources.

Peter Benchly, author of the novel *Jaws* & Steven Spielberg, director of the movie, both expressed sustained regret that their fictions motivated gruesome sport-fishing & devastating culls of sharks. On an annual basis, global deaths from shark encounters can be counted on a person's digits & 1/10th as many as fatalities from jellyfish! For perspective, fishing accidents claim 200,000 lives each year.

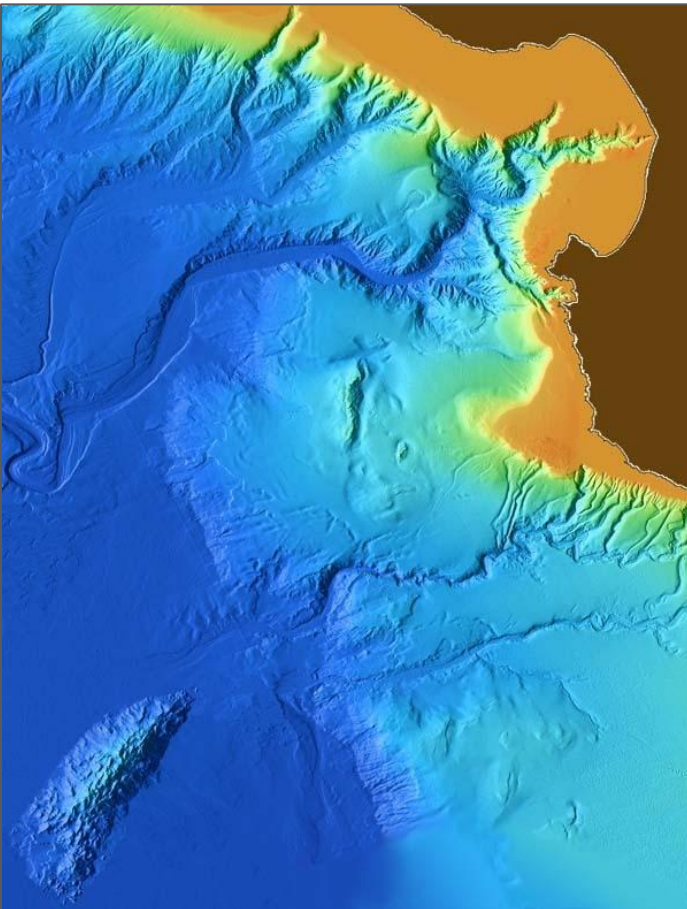
Giant Squid (*Architeuthis dux*) route to the championship was initially smooth sailing with Tarzan Chameleon & Lucy skipping their encounters & Tiger being swallowed by the Tongue of the Ocean due to exhaustion in the face of maggot-infested boar wound and rip currents.



# 2024 CHAMPIONSHIP



Sperm Whale was the major challenge, but ship strike saved the Giant Squid in the Elite Trait, & global warming resurrected the zombie peatland in Antarctica for the Final Roar, so human impacts have been putting up the assists for Giant Squid in 2024's MMM. Although Giant Squid have not been found to consume mammals... some mammals regularly eat them! Fur seal poop in five separate colonies in New Zealand included the remains of Giant Squid, likely younger, smaller ones. And in the Southern Ocean that surrounds Antarctica, the Sleeper Shark routinely consumes Giant Squid.



3-D view of mid-California coast with submarine Monterey Canyon, Davidson Seamount, Shepard Meander / NOAA / public Domain

Tonight in a submarine canyon within the Twilight Zone depth of the Pelagic Realm, a massively large Giant Squid waits in ambush for her squid dinner. But how big is she exactly? Giant Squid washed up on shore or found floating at the surface are often damaged, & the elasticity of their arms can be exaggeratedly stretched. Giant Squid sucker scars on Sperm Whale grow with the cetacean, creating false claims of 60-meter krakens. Scientists estimate that Giant Squid, from fin flappy to distal feeding arm club, possibly max out in rare individuals at 14-15 meters (~45-50 feet) & around 300kg.

Tonight in Alaskan waters, a massively large Great White Shark swims, having completely finished gorging, to the point of purging, at the floating Sperm Whale on Monday. But how big is she exactly? Accurate estimates of Great White Sharks are notoriously challenging bc extreme length & mass can exceed fishing equipment capacities. & attempts risk shark & human injuries, but ~6.5 meters is likely close to max length & 1000+kg.

SUDDENLY both Great White Shark and Giant Squid are #MMMagically translocated to their randomly-selected habitat... the PELAGIC REALM! Specifically, in the Twilight Zone in the Gulf of Mexico at 27.3126°N, 88.9270°W out beyond the zone of thousands of oil & gas platforms. Both combatants have been observed naturally present in the Gulf of Mexico.

Giant Squid arrives hungry... and at a depth of ~400m. She immediately begins to swim upward in the water column to follow the evening rise of her prey species in the diel cycle.



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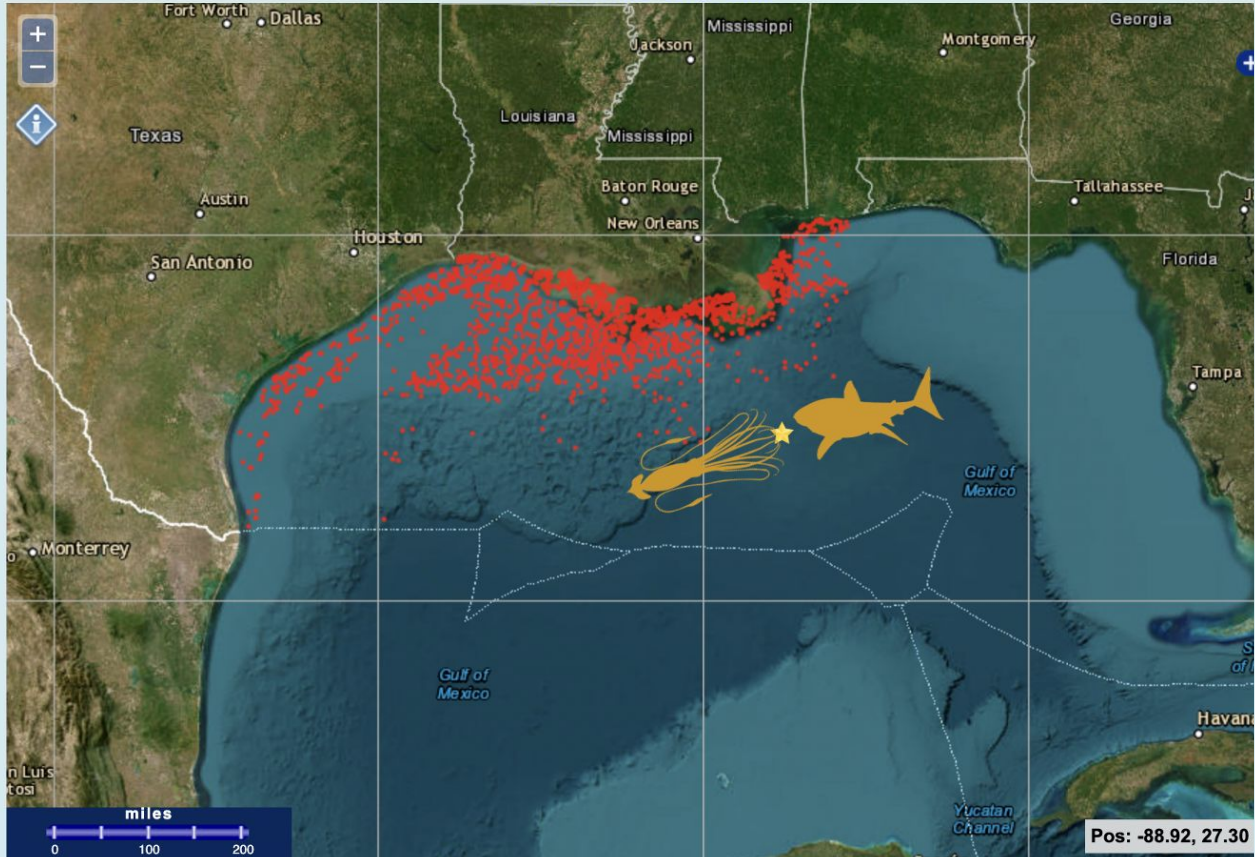
National Centers for Environmental Information  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

## Gulf of Mexico Data Atlas



Basemap ▾ Physical ▾ Biotic ▾ Living Marine Resources ▾ Socioeconomic Conditions ▾ Environmental Quality ▾ Ju

### Oil and Gas Structures



Great White Shark arrives at a depth of ~250m. She arrives well-satiated, her stomach at near capacity, full of the mammal blubber that provides the fuel for her metabolic needs & will sustain her for several weeks. But while the lipid-loaded blubber gives her rich calories, Great White Shark seeks some nutrient balancing for key proteins & carbohydrates readily available in... CEPHALOPODS! Great White Shark begins a slow circling swim to go squid-jigging at slightly deeper depths...

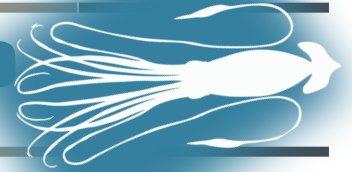
At 300m Giant Squid's feeding arms close around her squid prey! THEN GREAT WHITE SHARK

SNAPS HER JAWS DOWN ON GIANT SQUID'S FEEDING ARMS & SQUID PREY! #DejaVu. Unlike the relatively widely gapped & blunter teeth of the Sperm Whale, Great White Shark's teeth with serrated edges shear into Giant Squid's feeding arms!

Giant Squid BURSTS toward the Great White Shark expanding her crown of free arms wide TO ENVELOP THE SHARK'S FACE! With the incoming attack from the Giant Squid, Great White Shark rolls back her eyes (ocular rotation) to protect them from the oncoming threat! Giant Squid's tentacles, covered with 2.5inch circular



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saw-like suckers #SecondaryArmature, rip into Great White Shark's skin! Great White Shark thrashes, rolls in the water, releasing Giant Squid's clubbed feeding arms AND BITING DOWN ON THE SQUID'S MANTLE! Two of Giant Squid's suckered feeding arms sucker-scrape toward the Great White Shark's gills!

CEPHALAPOD & SHARK, their biological classes both evolved before dinosaurs, before flowering plants, before Saturn had rings, **THESE TWO NON-MAMMAL OCEAN PREDATORS ARE SEEMINGLY LOCKED INTO MUTUALLY-ASSURED DESTRUCTION!**

But can you imagine:

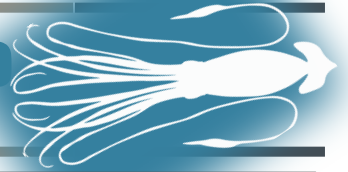


Giant Squid, circular-saw suckered arms wrapping around Great White Shark gouging into tough shark skin! Great White Shark serrated blade teeth protrusion-biting deep into Giant Squid's mantle!





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**THWUNK!** A QUICKLY SINKING DEAD ALLIGATOR DROPS ONTO THE BATTLING GREAT WHITE SHARK & GIANT SQUID! The reptilian collision startles the Great White Shark into **RELEASING** the **KRAKEN**... correction: releasing the Giant Squid! In a cloud of ink, the injured Giant Squid jet-propulsion flees! Great White Shark circles down to investigate, catching up to the dead alligator, descending in a work basket on a long-line...

At the surface, a research team manages the remotely operated vehicle (ROV) that will remove the alligator from the basket on the sea floor. Another alligator, acquired from the Louisiana



Image from McClain et al. 2019

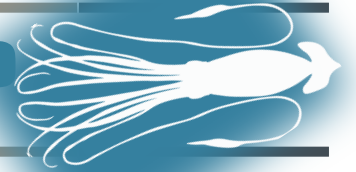
Dept of Wildlife & Fisheries Alligator Management Program, is being staged by researchers on the boat... to continue their study about how estuarine crocodylian fall impacts deep

Pterantula (Terry Goss) / Wikimedia Commons / CC BY-SA 3.0





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sea ecosystems like mini whale falls! Great White Shark rips off a 'gator leg to go, and continues swimming the sea, Giant Squid having well fled the FIELD OF BATTLE minutes before!

GREAT WHITE SHARK OUTLASTS GIANT SQUID! Narration by Profs. Katie Hinde, Jessica Light, Fernando Villanea, & Chloe Josefsen.

**Commander Libby** @libbydoodle · 21m  
Replied to @Mammals\_Suck  
YOU GUYS! (And gals, and others, etc) This was my first year playing along and it was a BLAST! Thank you to everyone involved in #MMM2024 #2024MMM

**Amy McEuen, PhD** @mceuen\_amy · 10m  
What am i going to do now? Watch basketball? #2024MMM

**Dan Chibnall** @bookowl · 6m  
Great White Shark winning March Mammal Madness has strong Ron Swanson Woman of the Year vibes #2024MMM

**Katie MacKinnon, Ph.D.** @kcapuchin · 34s  
THANK YOU KATIE AND THE ENTIRE #2024MMM TEAM!! Amazing as always!! 🌟🌟🌟

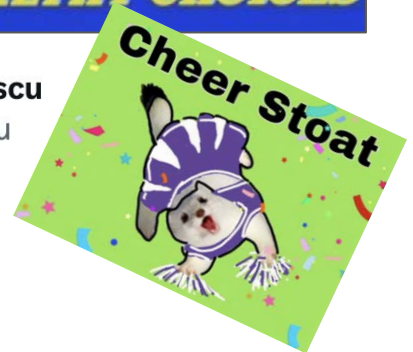
**Prof. Katie Hinde** @Mammals\_Suck · 21m  
THANK YOU TO ALL WHO PLAY #2024MMM!!  
Have a wonderful year, take care of you, take care of your loved ones, and take care of nature!

**Kay, Usually** @KJayCee · 5m  
Thank you to the mods, the artists, the stoatsticians, the behind-the-scenes people pulling all the resources together, the teachers, the students, the fans, and everyone else I've forgotten to list for another Really Fun Learning Time™. #2024MMM

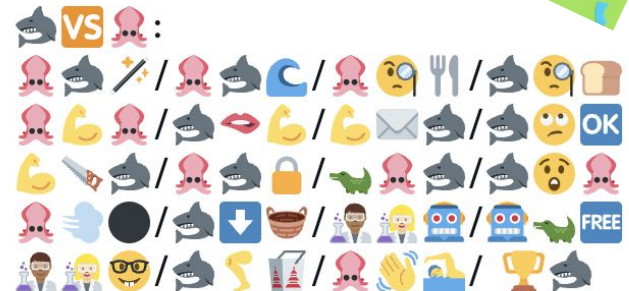
**A Real Squirrel** @arielsquirrel · 18m  
Thank you all for another year of laughter and science. I really really love this and can't wait for next year's madness. #2024MMM



**Jessica Popescu** @JessPopescu



#2024MMM  
CHAMPIONSHIP  
EMOJI BATTLE



6:15 PM · Apr 3, 2024 · 471 Views

# CITATIONS

## Great White Shark vs. Giant Squid

Becerril-García EE, Bernot-Simon, D., Arellano-Martínez, M., Galván-Magaña, F., Santana-Morales, O., & Hoyos-Padilla, E. M. (2020). Evidence of interactions between white sharks and large squids in Guadalupe Island, Mexico. *Scientific Reports*, 10(1), 17158.

Bryant, S. R. D., Nunnally, C., Hanks, G., & McClain, C. R. (2022). The macrofaunal metropolis in the sediments around the first-ever deep-sea alligator fall. *Marine Ecology*, 43(3), e12707.

Cherel, Y., & Duhamel, G. (2004). Antarctic jaws: cephalopod prey of sharks in Kerguelen waters. *Deep Sea Research Part I: Oceanographic Research Papers*, 51(1), 17-31.

Emami-Khoyi, A., Hartley, D. A., Paterson, A. M., Boren, L. J., Cruickshank, R. H., Ross, J. G., ... & Else, T. A. (2016). Identifying prey items from New Zealand fur seal (*Arctocephalus forsteri*) faeces using massive parallel sequencing. *Conservation Genetics Resources*, 8(3), 343-352.

Fallows, C., Gallagher, A. J., & Hammerschlag, N. (2013). White sharks (*Carcharodon carcharias*) scavenging on whales and its potential role in further shaping the ecology of an apex predator. *PloS one*, 8(4), e60797.

Grogan, E. D., Lund, R., & Greenfest-Allen, E. (2012). The origin and relationships of early chondrichthyans. *Biology of sharks and their relatives*, 2, 3-29.

Ingram, S. 2022. 'We could see the fear it was stirring up. It was horrifying.' Chewing on the complex legacy of Jaws. *National Geographic*.

Kempf, S., Altobelli, N., Schmidt, J., Cuzzi, J. N., Estrada, P. R., & Srama, R. (2023). Micrometeoroid infall onto Saturn's rings constrains their age to no more than a few hundred million years. *Science Advances*, 9(19), eadf8537.

Kröger, B., Servais, T., & Zhang, Y. (2009). The origin and initial rise of pelagic cephalopods in the Ordovician. *PLoS One*, 4(9), e7262.

Langer, M. C., Ezcurra, M. D., Bittencourt, J. S., & Novas, F. E. (2010). The origin and early evolution of dinosaurs. *Biological Reviews*, 85(1), 55-110.

McClain, C. R., Balk, M. A., Benfield, M. C., Branch, T. A., Chen, C., Cosgrove, J., ... & Thaler, A. D. (2015). Sizing ocean giants: patterns of intraspecific size variation in marine megafauna. *PeerJ*, 3, e715.

O'Shea S & Bolstad KS. 2008.. Giant squid and colossal squid fact sheet. *The octopus news magazine OL*

Powlik, J. (1989). Feeding structures of the white shark, *Carcharodon carcharias* (Linnaeus), with notes on other species (Doctoral dissertation, Univ British Columbia).

Roper, C. F., & Boss, K. J. (1982). The giant squid. *Scientific American*, 246(4), 96-105.

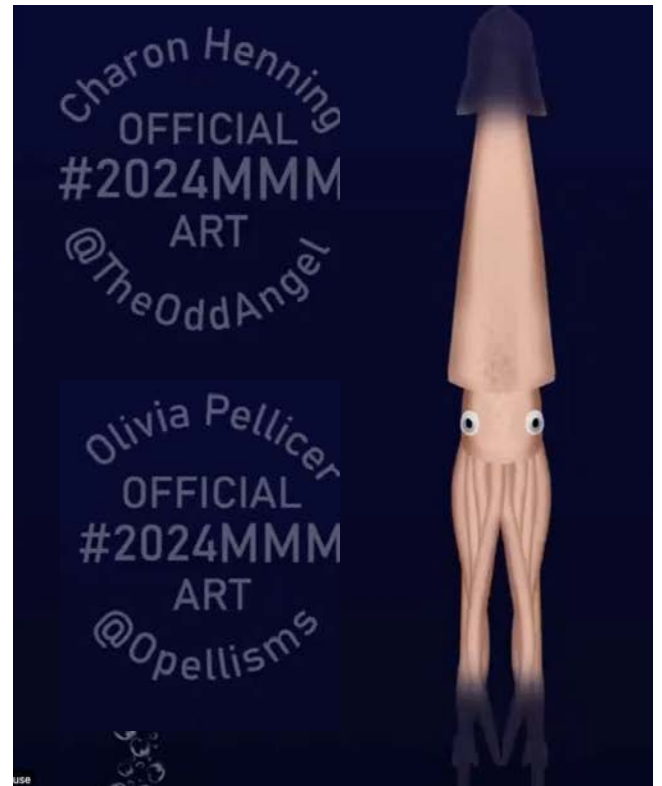
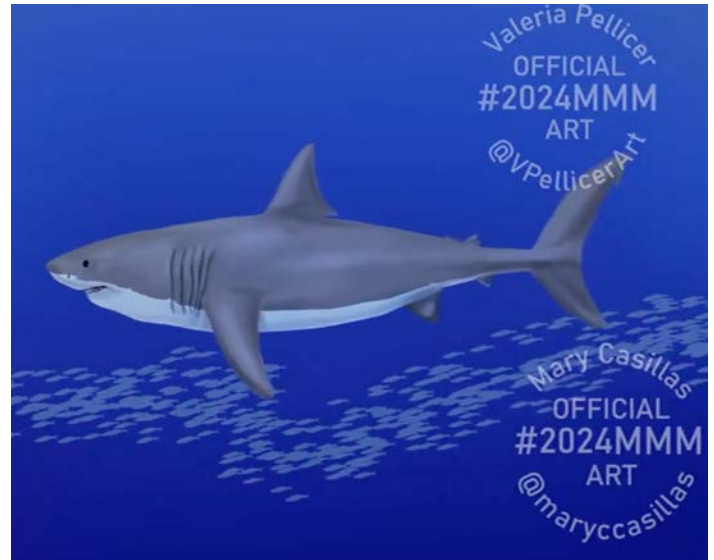
Roper, CFE & EK Shea. 2013. Unanswered questions about the giant squid *Architeuthis* (Architeuthidae) illustrate our incomplete knowledge of coleoid cephalopods. *Am Malacological Bulletin* 31.1: 109-122.

Silvestro, D., Bacon, C. D., Ding, W., Zhang, Q., Donoghue, P. C., Antonelli, A., & Xing, Y. (2021). Fossil data support a pre-Cretaceous origin of flowering plants. *Nature ecology & evolution*, 5(4), 449-457.

Wright, B. A. (2007). *Alaska's Great White Sharks*.



# COMBATANT ARTWORK



2024 marks TEN tournaments of combatant art by the incredible Illustration Team! Each year Valeria, Olivia, Mary, & Charon awe & astonish us. If you have appreciated the MMM illustrators combatant artwork at any time in the last 10 tournaments, [please thank them with a tax-deductible donation at their newly launched 501\(c\)\(3\)!](#)

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**READ ALL ABOUT IT** by Katie Hinde, Margaret Janz, Melanie Beasley, Anali Perry, Anthony Costantini, & William Yates



THREE CHEERS FOR  
CHEER STOAT!!



# FINAL BRACKET

## OFFICIAL RESULTS



ALL TOURNAMENT INFO:  
[libguides.asu.edu/MarchMammalMadness](http://libguides.asu.edu/MarchMammalMadness)  
 NOTE: MMM includes many non-mammal species

EPIC ANIMALS



RAINBOW COLLECTION



English Bracket v1.0



Learning Total / 138 max

MMM created and directed by Professor Katie Hinde, Arizona State University

Layout by Asst. Prof. William Nickley, The Ohio State University  
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CONNOISSEUR CRITTERS

TAKE A BOW

