2019 SOLAR CUP
COSTA MESA HIGH SCHOOL

“We are so excited to announce that we took 2ND PLACE in the 2019 SOLAR CUP. Forty schools from across Southern California participated. We improved upon our 4th place finish from last year, which was our team goal. Besides our overall finish, we earned several awards along the way:

-1st place Technical Report for South County
-1st place Public Service Message for South County (1st place overall)
-2nd place Endurance Race Finish for South County (3rd place overall)
-2nd place Sprint Race Finish for South County (4th place overall)

Our team members consisted of the following:
-Rachel Kricorian (PSA creator/director and endurance skipper)
-Cameron Kutz (qualifying/endurance/sprint skipper)
-Han Nguyen (report writer and pit crew member)
-Edward Ramirez (battery tester and pit crew member)
-Matthew Ruiz (lead pit crew member)
-Justice Sarte (pit crew member)
-Fletcher Welling (pit crew member)
-Josue Lopez (pit crew member)

Just a recap about the program. Our main funding for the boat came from the Mesa Water District. The Office of College and Career handled our subs for the event. M&O coordinated and transported the boat. We are one of the only schools where we had district support with transport. We started the season by attending the boat building workshop in November where students built a 16ft wooden hull. We attended two mechanical and electrical workshops in the winter. At school, we added all the electrical and mechanical components in a classroom. We used the school pool to do some test runs”.

CMHS Nautical Department
Racine Cross, Cristen Rasmussen & Karen Upthegrove
A MORE DETAILED ACCOUNT OF THE WEEKEND/COMPETITION:

> Pre-race: After leaving inspection, we felt good about our chances. We learned we had taken first place for the PSA and knew our report scores were looking good. At this point, we knew we were in first place. We attempted to speed up the boat using different gear combinations. However, after some unsuccessful trials in the school pool, the team agreed to run our slower but reliable 1:1 gears.

> Friday, May 16th: This is qualifying day. We thought the boat was ready to go on this morning. We were wrong. During inspection, the team experienced its first unanticipated glitch....the boat would not start. The pit crew pulled the boat to the side and started checking the entire electrical wiring for the problem. After a long time (that is how the students described it), Justice Sarte found that one of our kill switch wires had been cut during transport. The team fixed the wire and went through inspection with no more problems. Cameron Kutz skippered the boat for both qualifying runs. For endurance, he had to race out to a buoy and complete a full turn. For sprint, he had to drive straight down a 200m course. At the end of the day, he did a fantastic job and we qualified 4th overall. At this point we took stock of our competition and knew our speed wasn’t the fastest.

> Saturday, May 17th: This is endurance day. Cameron skippered our first endurance race. The first 45 minutes of the race went well and all our battery testing was paying off. However, we unexpectedly lost radio contact with Cameron and never got it back. He had to drive the entire last half of the race on his own not knowing how fast he should be going to optimize the batteries. In the end, he did an amazing job and completed 18.5 laps. For the second endurance race, we used a new skipper this year, Rachel. We were so worried about losing radio contact that we overloaded her with numbers and data. In her first lap, she came out FAST. Even though her quickness gave her a significant lead over our competitors, we had her pull back and let the sun charge up some of our battery power. The last half of the race we used Edward’s battery data and ran the power of our boat to almost 0. Rachel completed 19.5 laps. At this point, half of the team had already left to go attend the baseball game. An unexpected adviser meeting is called where we learn that due to the horrendous weather predictions for Sunday, they want to move up the schedule for racing. We are to reconfigure the boat for sprint and be ready to go right then and there. The students were amazing. With a skeletal pit crew, they got the boat ready. Cameron skippered this sprint in not ideal conditions and we got one of our best times at 43 seconds.

> Sunday, May 18th: We woke up to rainy and cold conditions on Sunday morning. Since there was no wind, the 2nd sprint race was still scheduled. We got the boat ready and did our best to stay dry (we failed at that, just look at the sprint video!). Cameron skippered this sprint as well and clocked a time of 45 seconds. Due to the weather, we didn’t have time to charge our batteries for this sprint otherwise we have no doubt we would’ve been a couple seconds faster. Awards were handed out and we were happy to find out we placed in all major categories of the competition. Next year, we have plans to aim for that top spot. For comparison, the first place winning boat was running sprints at 35 seconds.