



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

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| Name(s) Tricia K. Dong | Project Number J0906 |
| Project Title When It Rains, It Pours: Does the Rain Affect the pH and Salinity of Our Local Beach Water? | |
| Objectives/Goals My objective was to determine what affect the rain or runoff from the rain had on the salinity and pH content of our local beach waters. I believed the water samples taken from Redondo Beach would change the most since it is closest to a storm drain. | |
| Abstract | |
| Methods/Materials I visited Hermosa Beach, Long Beach, and Redondo Beach at least five days after a rainfall. At each beach I collected a sample of water in a new, glass Mason jar and documented the weather and wave conditions. Immediately upon arrival home, I began testing and documenting my samples for salinity and pH. The day after a current rainfall, I repeated this process at the same three local beaches and analyzed the data. I also captured a sample of rainwater to be evaluated for salt content and pH. | |
| Results After conducting three to four pH and salinity trials for each sample, depending on variances, I found that the pH levels for all three samples, before and after the rain, did not change. Salinity was another story. At all three beaches before the rain, the salt content was similar, but after the rain, Long Beach plummeted while Redondo Beach dramatically rose and Hermosa Beach stayed about the same. | |
| Conclusions/Discussion This experiment proved my hypothesis to be incorrect. It was not just the rain and runoff that affected my results. After a face to face interview with an aquarist from the Cabrillo Marine Aquarium, I learned that my results could have been influenced by geological features of the Southern California coastline. Redondo Beach's rise was possibly due to upwelling off the Redondo Beach underwater canyon and Long Beach's drop was from an influx of fresh water from the Los Angeles River. After these explanations, I realize there is much more that I can learn by following up with this project, adding water temperature to my data would be a start. | |
| Summary Statement Comparison of local beach waters for pH and salinity, tested before and after the rain. | |
| Help Received Mother took pictures; Aquarist from Cabrillo Marine Aquarium answered questions | |