

## CWSF 2018 - Ottawa, Ontario



### Gerd Bizi

#### The Effects of Water Volume and Albedo on the Temperature Increase of Water

**Challenge:** Environment

**Category:** Intermediate

**Region:** Toronto

**City:** Toronto, ON

**School:** Northern S.S.

**Abstract:** A model of the sun's influence on water temperature was studied. Using incandescent lightbulbs, the effects of albedo (colour darkness) and water volume were measured. I created a chamber where different volumes and colours of water were tested. Higher water volumes had a cooling effect to those with lower volumes, while darker colours had a warming effect as opposed to test cases with lighter colours.

### Biography

Hey folks! My name is Gerd Bizi, and I'm an avid science-lover, just like you! I've been involved in various clubs, including DECA where I won a speaker award, and two Toronto Science Fairs, where I won a bronze and gold medal. At this year's science fair, I won the UTSC Department of Physical and Environmental Sciences award! The inspiration for my project was came from my science class; we discuss the effects of polar amplification (a feedback loop where ocean levels rise and albedo lowers, which increases ocean heating efficiency, melting more ice, and increasing ocean levels), but I wasn't convinced about its effects since increasing ocean levels causes it to have a higher heat capacitance, which would render the ocean darkness effects virtually useless. This spurred my investigation. For further investigation, I would experiment using different test cases such as using spherical and toroidal water containers, and using UV light to attempt to heat up the water. If one were to do a science fair, I'd recommend picking a topic that interests you, and going through many stages of designs, as trial and error on a project like this would yield the highest level of success.

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