

The Relationship of Cloud Cover between Temperature and Humidity



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Abstract

Far from the human's knowledge cloud is as important as the other factors here on earth, it isn't only a decor to our atmosphere like what's the majority thinks. The significance of this study is to give new information to people which is the relationship of cloud cover to temperature and humidity. This study answers the question, does cloud cover contribute to the changes in temperature and humidity on the earth's ground. The procedure of this study is to get cloud data using the globe observer app and the temperature and humidity data from DOST-PAGASA weather bulletin for the day. A graph to show the relationship of the variables will be made to know how they are related. The average cloud cover in July 26 to August 3 is 96.69%, Humidity is 93.7% and temperature is 27.7 °C . On August 5 to August 13 the average measures of Cloud Cover, Humidity and temperature are 84.42%, 91.6% and 27.72°C. On August 14 to 23 are 63.67%, 79.8% and 28.94°C . Lastly on August 23 to 31 are 89.82, 92.1 and 27.06. The researchers concluded that cloud cover is directly proportional to humidity inversely proportional to temperature meaning as cloud cover increase so is humidity and as cloud cover increase temperature decrease. recommend to future researchers to continue collecting data further support analysis and broadened new informations.

Research Questions

This research aims to answer the following questions

1. does cloud cover contribute to the changes in temperature and humidity on the earth's ground?
2. what is the relationship of cloud cover to temperature and humidity?
3. can we identify the temperature and humidity just by identifying the cloud cover?.

Hypothesis

The Cloud Cover has a effect on the increase or decrease of temperature. Humidity depends on the cloud cover that was visible and the cloud cover needs different factors like temperature and humidity

Research Plan

The researchers want to learn what is the importance and effect of cloud cover in the biosphere, especially when they were studying clouds and has been taught on how to use the GLOBE Observer app. As a result, their determination and curiosity they have presented their learnings about clouds in some NASA scientists on Clark, Pampanga last September 2019. Even though, they still continue on gathering data to help the NASA and this is the result of what they have done. They consulted their Environmental Science Teacher regarding this matter to improve and take advices from her. So they had thought of the relation of it to the Temperature and Humidity. So they get data from DOST PAGASA and summarize it

Research Methods

To assure the accuracy of the data that was gathered the protocol must be followed correctly same as the methods in doing this study:

1. Collecting the observations of Cloud data from the GLOBE Observer app using the cloud protocol
2. Gathering data of temperature and humidity from DOST PAGASA
3. Analyzation of the data that was gathered

GLOBE BADGES

• Connection to Scientist

They get advices from one of the Teachers in Philippine Science High School regarding to their topic also one of the NASA Scientist when they present their preliminary study last december

• Interscholastic Connection

The researchers gather cloud data from different places in Quezon City, Philippines. And the temperature and humidity of Philippines and they come up with the results when they compared it

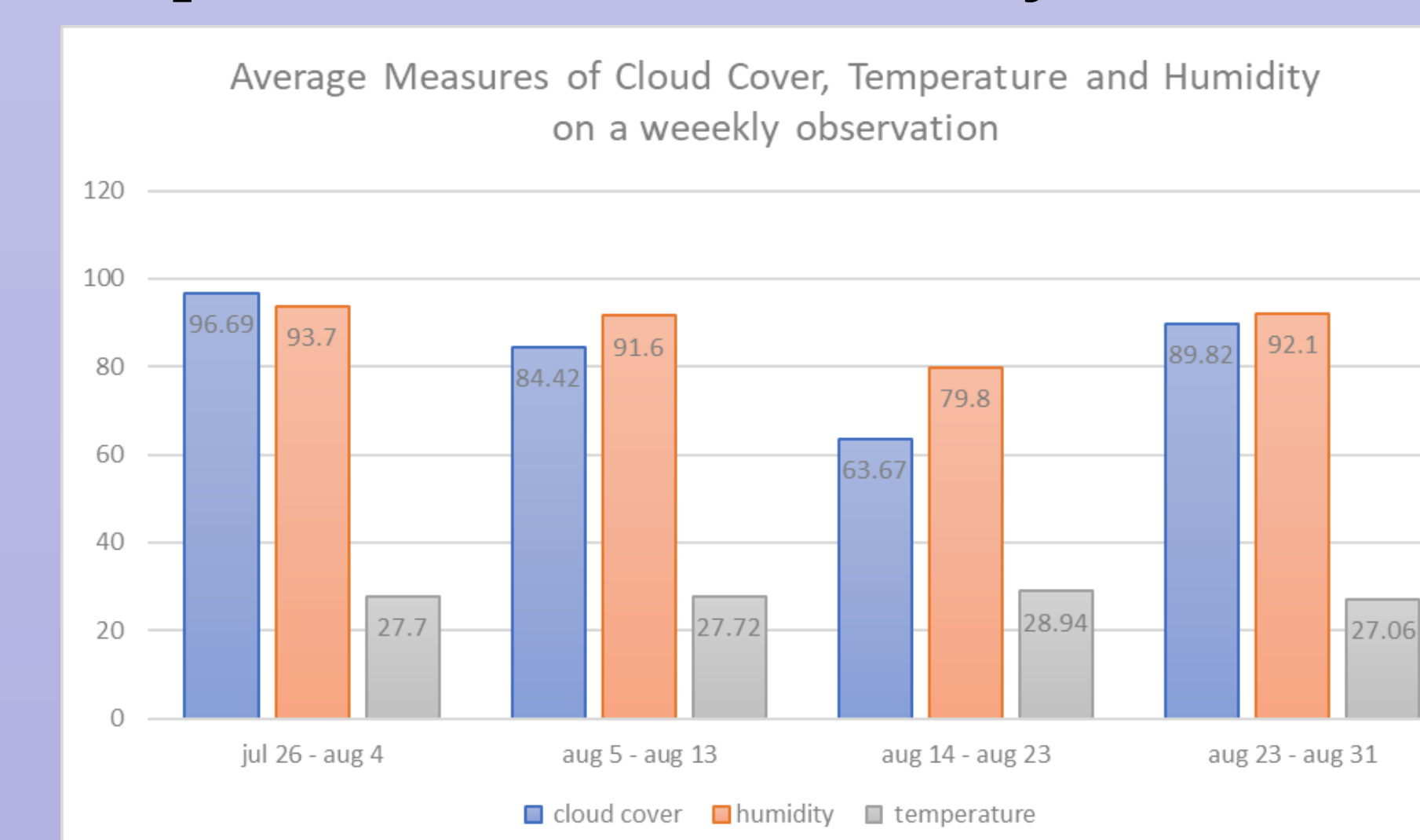
• Collaboration

And they work on this project together where they both made up this topic and paper while they each of them has a role of making the powerpoint presentation and the other one is the poster and editing the video

Data Gathered

Date	Cloud Cover	Temperature		Humidity
		Maximum	Minimum	
July 26 2019	Overcast 94.27%	32	25	95
July 27 2019	Overcast 100%	31	25	95
July 28 2019	Overcast 100%	31	24	95
July 29 2019	Overcast 100%	32	24	94
July 30 2019	Overcast 100%	32	25	96
July 31 2019	Overcast 100%	32	24	95
August 1 2019	Overcast 100%	33	25	98
August 2 2019	Overcast 100%	30	25	93
August 3 2019	Overcast 100%	29	24	91
August 4 2019	Broken 72.58%	27	24	85
August 5 2019	Broken 70%	29	24	91
August 6 2019	Overcast 99.20%	29	24	91
August 7 2019	Overcast 100%	30	26	92
August 8 2019	Overcast 100%	29	26	92
August 9 2019	Overcast 100%	29	25	93
August 10 2019	Overcast 99.20%	28	26	92
August 11 2019	Overcast 100%	32	26	95
August 12 2019	Broken 75.83%	31	26	83
August 13 2019	Overcast 100%	31	28	96
August 14 2019	Broken 80.34%	31	27	90
August 15 2019	Overcast 100%	31	27	94
August 16 2019	Few 10.48%	31	27	50
August 17 2019	Broken 78.51%	32	27	68
August 18 2019	Isolated 13.22%	32	27	52
August 19 2019	Broken 60%	33	25	95
August 20 2019	Overcast 100%	32	26	96
August 21 2019	Overcast 100%	32	26	97
August 22 2019	Scattered 30.45%	31	24	76
August 23 2019	Overcast 100%	30	25	93
August 24 2019	Overcast 100%	29	24	92
August 25 2019	Overcast 100%	30	23	94
August 26 2019	Overcast 100%	30	23	91
August 27 2019	Overcast 99%	29	23	90
August 28 2019	Overcast 99.20%	30	25	89
August 29 2019	Overcast 100%	31	25	94
August 30 2019	Overcast 100%	30	25	93
August 31 2019	Overcast 100%	30	25	93

Table 1: Summary of the Date, Temperature and Humidity Data Gathered



Graph that represents the gathered data

Data Analysis

Majority of the gathered data was continuously overcast. Ans as for the temperature and humidity that was based on DOST PAGASA. We can see that the temperature was low when the percent of cloud data was high. And the humidity is identical to the cloud cover that was present

Conclusions

The researchers concluded that cloud cover is directly proportional to humidity and inversely proportional to temperature. Meaning as cloud cover increases so its humidity and as cloud cover increases temperature decreases.

Limitations/ Sources of Error

This study focusses on the relationship of cloud cover to temperature and humidity and not on other factors in the sky

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