

Title: A Study of Air Temperature and Cloud Types at Ban Thung Na School, Trang Province

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Abstract

This environmental science research aimed to: (1) compare air temperatures at different times of the day at Ban Thung Na School, Trang Province, and (2) compare cloud types observed at different times of the day at the same location. Air temperature measurements and cloud observations were conducted at three different times. The results showed that the highest air temperature occurred at 12:00 p.m., and the greatest variety of cloud types observed was four types: Stratus, Cumulus, Cirrus, and Altocumulus.

Keywords: Air temperature, Cloud types

Introduction

Clouds are diverse and can be classified by altitude, shape, and thickness. Clouds directly affect air temperature by acting as a protective layer and helping maintain the Earth's heat balance. Thick white clouds reflect sunlight, causing the Earth's surface to cool, while some thin clouds help trap heat beneath them. Cloud formation from water vapor condensation releases latent heat, and cloud dissipation causes the temperature within the cloud to equilibrate with the surrounding atmosphere. Therefore, this study focuses on air temperature and cloud types at Ban Thung Na School, Trang Province.



Research Questions

1. Does air temperature differ at different times of the day? How?
2. Do cloud types differ at different times of the day? How?

Table 1: Air Temperature at Different Time Periods

Time of Measurement	Air Temperature Results (°C)			Average
	Trial 1	Trial 2	Trial 3	
09:00	30	28	29	29
12:00	34	32	33	33
15:00	28	28	28	28

Table 2: Types of Clouds Observed at 09:00 a.m.

No.	Observed Clouds	Cloud Name	Cloud Photograph
1		Stratus	
2		Cirrus	
3		Cumulus	

Table 3: Types of Clouds Observed at 12:00 p.m.

No.	Observed Clouds	Cloud Name	Cloud Photograph
1		Stratus	
2		Cumulus	
3		Cirrus	
4		Altocumulus	

Table 4: Types of Clouds Observed at 03:00 p.m.

No.	Observed Clouds	Cloud Name	Cloud Photograph
1		Stratus	
2		Cumulus	

Research Hypotheses

1. Air temperature differs at different times of the day.
2. Cloud types differ at different times of the day.

Study Area

The study area was Ban Thung Na School, Mueang District, Trang Province, located at latitude 7.6936 and longitude 99.7388. The area is characterized by atmospheric conditions and cloud cover over the school. Air temperature and cloud types were measured and observed at this location.

Data Collection

Data were collected following standard air measurement protocols related to air temperature and cloud types at different times.

Data Collection Period:

November to December 2025

Materials and Equipment

1. Cloud chart
2. Hygrometer
3. GLOBE Observer App

Methodology

Part 1: Study of Air Temperature at Different Times

1. A thermometer was installed in a Stevenson screen and reset, then left in place for one day.
2. Temperature readings were taken every 15 days for a total of three sessions. In each session, temperatures were recorded at three times: 9:00 a.m., 12:00 p.m., and 3:00 p.m. Observations were recorded and results documented.

Part 2: Study of Cloud Types at Different Times

Cloud charts were studied and used to observe cloud types in the sky every 15 days for a total of three sessions. In each session, cloud photographs were taken at three times: 9:00 a.m., 12:00 p.m., and 3:00 p.m., and the results were recorded.

Results

Table 1: Air Temperature at Different Times

Time	Measurement 1 (°C)	Measurement 2 (°C)	Measurement 3 (°C)	Average (°C)
9:00 a.m.	30	28	29	29
12:00 p.m.	34	32	33	33
3:00 p.m.	28	28	28	28

From Table 1, the highest air temperature occurred at 12:00 p.m.

Table 2: Cloud Types Observed at 9:00 a.m.

- Stratus
- Cirrus
- Cumulus

Table 3: Cloud Types Observed at 12:00 p.m.

- Stratus
- Cumulus
- Cirrus
- Altocumulus

Table 4: Cloud Types Observed at 3:00 p.m.

- Stratus
- Cumulus

Conclusion and Discussion

The environmental science study on air temperature and cloud types at Ban Thung Na School, Trang Province, found that the highest air temperature occurred at 12:00 p.m. The greatest variety of cloud types observed was four types: Stratus, Cumulus, Cirrus, and Altocumulus.

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References