

Observations and analysis of an urban boundary layer during extreme heat episodes

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Abstract

1 Introduction

Understanding the planetary boundary layer over urban areas, also called the urban boundary layer (UBL), is critical as the conditions in this layer directly affect human activity.

2 Data collection and analysis

2.1 Observation site

The UBL over New York City is observed and analyzed in this study.

2.2 Observational instruments

2.2.1 Data availability

2.3 Derived quantities

3 Results

3.1 Mean and turbulent boundary layer properties

3.2 Normal and extreme heat boundary layer properties

3.3 Effects of the sea breeze circulation

4 Discussion

5 Conclusions