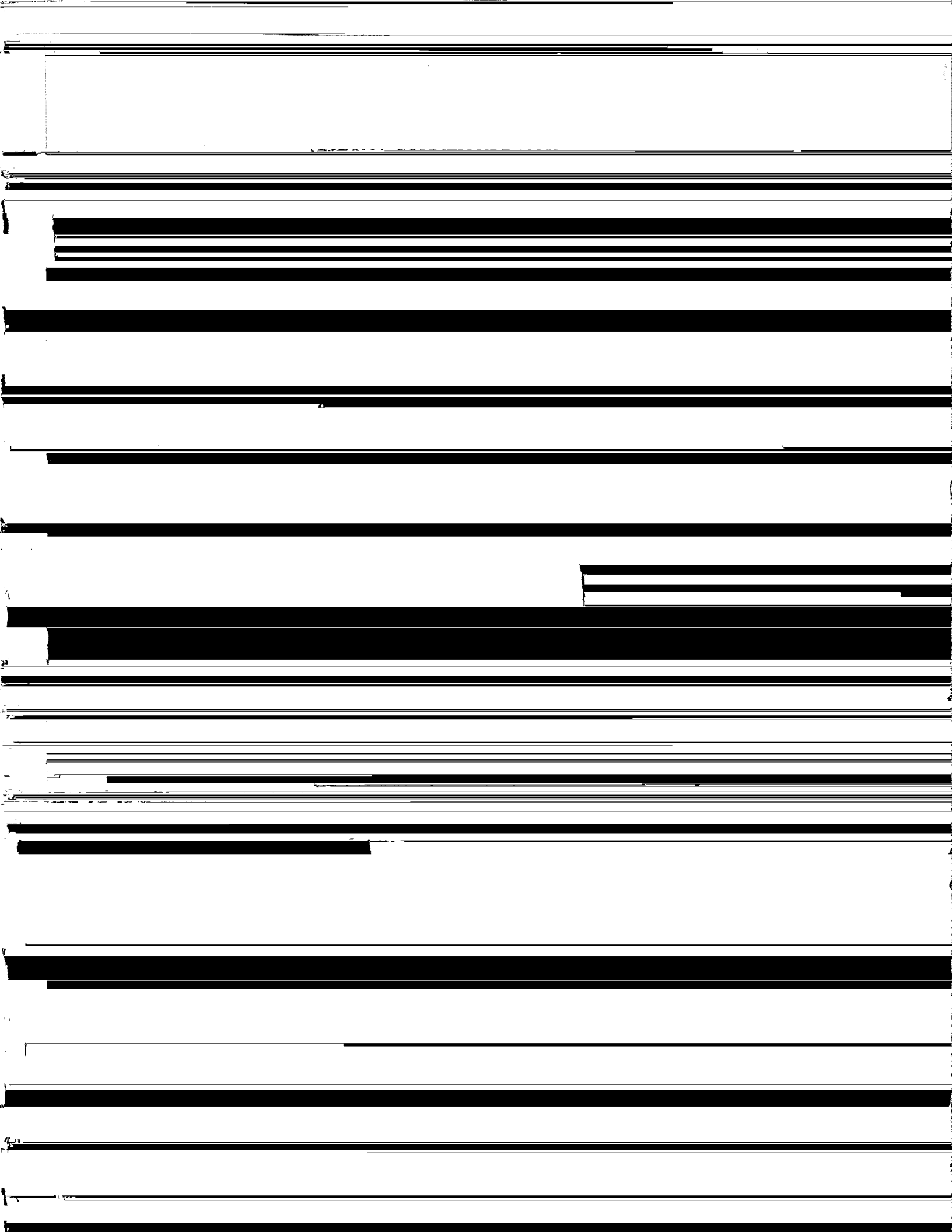

ABSTRACT

This research examined the Urban Heat Island (UHI) effect through the use of glider data. UHI occurs when large urban areas become warmer than surrounding areas

used to determine if there are statistically significant differences in the mean annual altitudes achieved between years 1999 and 2006.

The study found an average altitude decrease of 33.848 feet annually between the years 2000, 2001, 2002 and 2003, which can be thought of as a .186 degree Fahrenheit increase using the dry adiabatic lapse rate (DALR) as an exchange model to convert altitude to temperature.

Phoenix, the major city in Maricopa County, has documented climactic

trends showing similar increased temperatures over time.

> In 1948, Phoenix's average nighttime low temperature was 75 degrees; in 2003 it had increased to 86.7 degrees. Some researchers say that at some time in the future 100-degree nights will be the norm (Gelt 2006).

Gelt's study found that UHI effect, if an even and constant trend has caused an average temperature increase of .21 degrees Fahrenheit in Phoenix. It is interesting to note the

disprove the (Peterson 2003, Parker 2004 and Black 2004) tenants, which currently undermine UHI temperature based research methodologies.