

PASO DEL NORTE SCHOOL

CLIMATE RESEARCH STUDY
ABSTRACT

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- AREAS OF RESEARCH
- 1. Max./Min. Ground and Air Temps.
- 2. pH of Precipitation.
- 3. Atmosphere – Amounts of Aerosols and Air Quality.
- 4. Atmospheric Pressure and Drought.
- 5. How These Areas of Research Affect Our Agriculture.

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- RESULTS
- Max./Min Ground and Air Temperature-Monthly Averages.

Sept: Max Air – 91 Deg. F.

Min Air - 61 Deg. F.

Ground - 70 Deg. F.

Oct: Max Air –86 Deg. F.

Min Air - 81 Deg. F

Ground - 66 Deg. F.

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- RESULTS (Cont.)

Nov: Max. Air – 68 Deg. F.

Min. Air - 39 Deg. F.

Ground - 63 Deg. F.

Dec: Max. Air – 47 Deg. F.

Min. Air – 35 Deg. F.

Ground - 51 Deg. F.

Jan: Max. Air – 58 Deg. F.

Min. Air - 35 Deg. F.

Ground - 57 Deg. F.

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- RESULTS (CONT)

Feb: Max. Air – 65 Deg. F.

Min. Air - 41 Deg. F.

Ground - 56 Deg. F.

Mar: Max. Air – 82 Deg. F.

Min. Air – 43 Deg. F.

Ground - 63 Deg. F.

Apr: Max. Air - 82 Deg. F.

Min. Air - 43 Deg. F.

Ground - 63 Deg. F.

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- RESULTS – pH of PRCIPITATION

Only four days of measurable precipitation;

Nov. 25 – pH 9.5

Dec. 6 - pH 9.0

Jan. 8 - pH 9.0

Apr. 13 - pH 10.0

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- RESULTS- AMOUNTS OF AEROSOLS AND AIR QUALITY – MONTHLY READINGS AND MAJOR POLLUTANTS.

NOTE: AEROSOLS AND AIR QUALITY HAD TO BE COLLABORATED WITH THE CITY OF EL PASO DEPT. OF ENVIRONMENTAL QUALITY.

SEPT: AIR QUALITY – MODERATE

MAJOR POLLUTANTS – OZONE & CARBON MONOXIDE.

OCT: AIR QUALITY – GOOD

MAJOR POLLUTANTS – OZONE & CARBON MONOXIDE

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- RESULTS (CONTINUED)
NOV: AIR QUALITY – MODERATE
MAJOR POLLUTANT – CARBON
MONOXIDE
DEC: AIR QUALITY – GOOD
MAJOR POLLUTANT – OZONE
JAN: AIR QUALITY – GOOD
MAJOR POLLUTANT - OZONE

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- RESULTS (CONTINUED)
 - FEB: AIR QUALITY – GOOD
MAJOR POLLUTANTS -
NITROGEN DIOXIDE & OZONE
 - MAR: AIR QUALITY – GOOD
MAJOR POLLUTANTS – NITROGEN
DIOXIDE & OZONE
 - APR: AIR QUALITY – GOOD
MAJOR POLLUTANT - OZONE

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- RESULTS- ATMOSPHERIC PRESSURE AND DROUGHT.
NOTE: ATMOSPHERIC PRESSURE AND DROUGHT RESULTS HAD TO BE COLLABORATED WITH THE NATIONAL WEATHER SERVICE

RESULTS WERE INCONCLUSIVE DUE TO DURATION OF RESEARCH PROJECT AND LACK OF EQUIPMENT.

DATA FROM NATIONAL WEATHER SERVICE ADDS SUPPORT TO CLAIM THAT CLIMATE CHANGE IS CREATING STRONGER WEATHER FRONTS WHICH PREVENT MOISTURE-BEARING CLOUDS FROM REACHING THIS AREA, THUS PROLONGING THE DURATION, AND INCREASING THE SEVERITY, OF LOCAL DROUGHTS.

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- CONCLUSION:
- 1. MAX./MIN AIR & GROUND TEMPERATURES

ALTHOUGH THERE WAS A SIGNIFICANT VARIATION IN MAXIMUM AND MINIMUM AIR TEMPERATURES DURING THE RESEARCH PERIOD, THE GROUND TEMPERATURE DID NOT VARY ENOUGH TO HAVE AN EFFECT ON THE LOCAL AGRICULTURE. THIS WAS VERIFIED BY THE COUNTY EXTENSION SERVICE. YIELDS OF THE MAIN CROPS (COTTON, CHILE PEPPERS, ALFALFA, AND PECANS) HAVE NOT VARIED MUCH.

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- CONCLUSIONS

- 2. pH of PRECIPITATION

THERE WERE ONLY FOUR DAYS WHEN THERE WAS ENOUGH PRECIPITATION TO TAKE ACCURATE READINGS. EVEN THOUGH THERE APPEARED TO BE SIGNIFICANT AMOUNTS POLLUTANTS IN THE AIR, THE PRECIPITATION DID NOT CONTAIN ENOUGH ACID-PRODUCING POLLUTANTS WHICH COULD HAVE HAD A NEGATIVE EFFECT ON THE LOCAL AGRICULTURE.

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- CONCLUSIONS
- 3. AEROSOLS AND AIR QUALITY

ATMOSPHERIC INVERSION LAYERS DUE TO VARIANCES IN DAYTIME/NIGHTTIME TEMPERATURES HAVE AN UNSIGHTLY APPEARANCE. HOWEVER, DURING THIS SHORT RESEARCH PERIOD, THERE DID NOT APPEAR TO BE ANY SEVERELY NEGATIVE EFFECTS ON OUR AGRICULTURE. IT IS OUR BELIEF THAT MORE TIME SHOULD BE DEDICATED TO THIS AREA OF RESEARCH.

ADDITIONALLY, RESEARCH SHOULD BE CONDUCTED TO THE AFFECTS OF INVERSIONS LAYERS ON THE HEALTH OF THE CITIZENS OF THIS AREA, PARTICULARLY THE VERY YOUNG AND THE ELDERLY.

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- CONCLUSIONS
- 4. ATMOSPHERIC PRESSURE AND DROUGHTS.
- INCONCLUSIVE. THE PERIOD OF RESEARCH DID NOT ALLOW FOR THOROUGH RESEARCH IN THIS AREA. IN ADDITION, THE EQUIPMENT ON HAND WAS NOT ADVANCED ENOUGH TO MAKE ADEQUATE PREDICTIONS. HOWEVER, THE NATIONAL WEATHER SERVICE PROVIDED SUFFICIENT DATA TO REACH THE EMPIRICAL CONCLUSION THAT CLIMATE CHANGE WILL LEAD TO THE PROLONGATION OF EXISTING DROUGHTS AS WELL AS TO THE CREATION OF NEW ONES.