High-Resolution Surface Observations of the Change in Meteorological Variables across Fronts

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- each fronts and their magnitudes
- between October 10th and November 28th



- humidity
- weaker slower front
- Collected data from 10 October– 28 November
- Instruments used:



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F	rn	nt

old Front	Warm Front					
	20 in southern direction					
n nortnern						
irection						
Λ						
4	4					

- Fronts comparison:
- Time Response vs. Variables
- Strength vs. Time
- Speed vs. Time
- Four cold fronts met the criteria and were analyzed • Only one warm front analyzed; nothing could be concluded

Cold Front	1 st Station/Time	2 nd Station/Time	Speed	Strength Ranking
			Opeed	Ou chight Manking
14 Oct	Attica/21:45	Rossville/22:30	44.0 mph	2
18 Oct	Attica/05:30	Rossville/07:10	19.8 mph	4
26 Oct	Battleground/-1:40	Rossville/02:15	24.1 mph	1
23 Nov	Attica/05:15	Heuss/06:40	12.9 mph	3

FIGURE 11: Chart comparing speed and strength of four cold fronts

- response time.

Any future research should address these issues.

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Frontal analysis was done spatially and temporally

5. Discussion and Conclusions

• Our data verified the hypothesis in terms of variable

• Pressure, Temperature, RH, Precipitation

No correlation between speed/strength and response time Data also validated the conclusions of Schultz (2006) which stated that each front had its own characteristics and that response time for each variable will depend on the front

Some of the problems encountered include: • Difficulty determining how to define a front • Instruments going offline for various reasons • Limited number of instruments deployed • Less than ideal spatial deployment pattern Limited sample size / short period of data collection

REFERENCES

ACKNOWLEDGEMENTS