

Urban Community Air Toxics Monitoring Project, Paterson City, NJ **UCAMPP**

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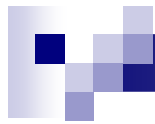
<http://www.state.nj.us/dep/dsr/paterson/>

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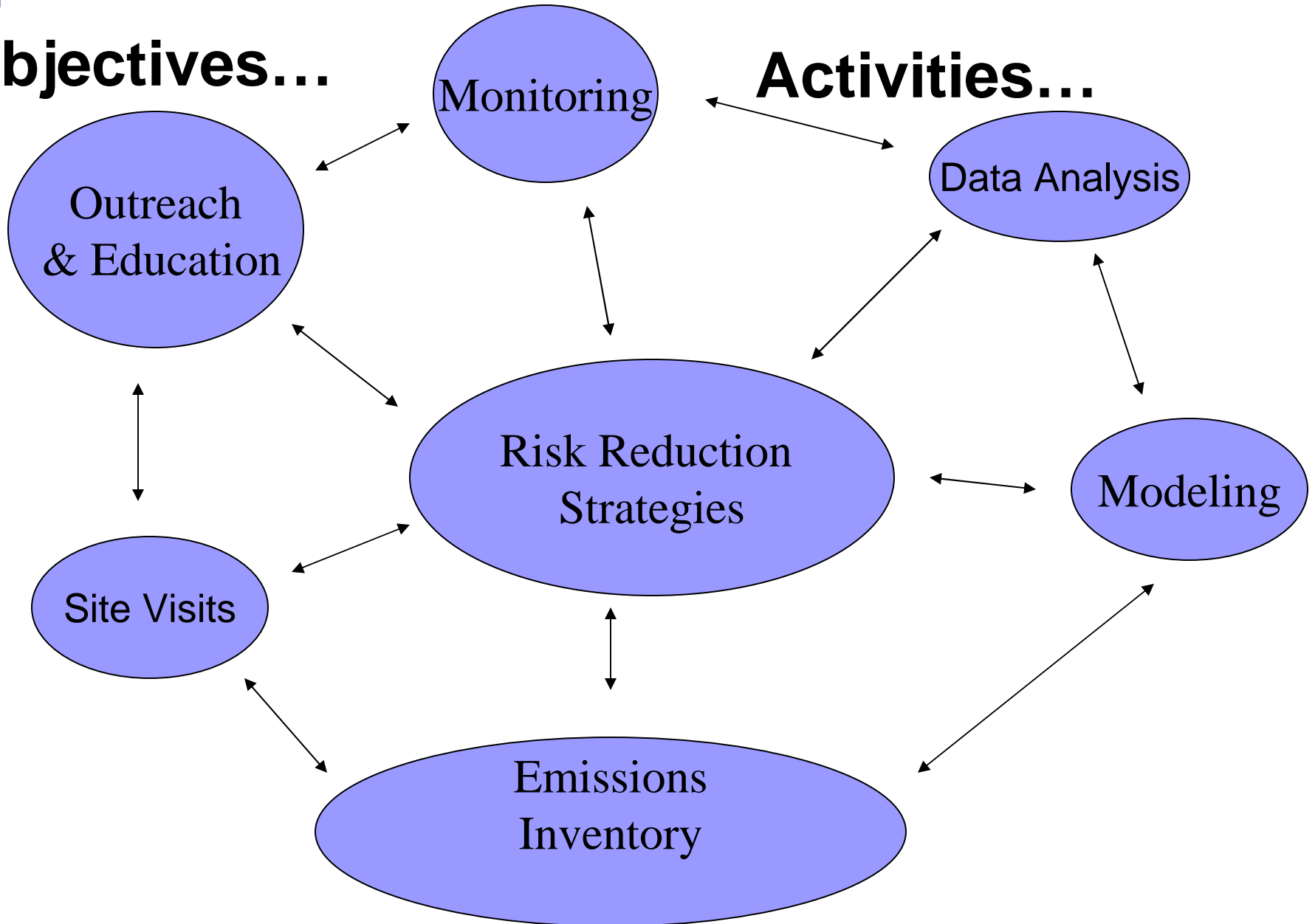
11/08

NESCAUM Air Monitoring Annual Mtg



Objectives...

Activities...





Risk Ratios

*of interest to EPA

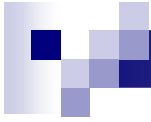
	<u>Paterson</u>	<u>cancer</u>	<u>non</u>	<u>Chester</u>	<u>cancer</u>	<u>non</u>
EC for DPM		276		103		
Formaldehyde*		146	4	142		4
Benzene*		139		40		
Propylene		17		4		
Acetaldehyde*		17		17		
1,3-butadiene*		9		1		
Carbon Tet*		9		9		
Chloroform*		8		2		



Risk Ratios

*interest to EPA

	<u>Paterson</u>	<u>cancer</u>	<u>Chester</u>	<u>cancer</u>
Arsenic *		7		4
Cr(VI)*	54%>mdl	3		3



Risk Ratios Cancer	Paterson	Chester
➤ p-Dichlorobenzene	205	
➤ Tetrachloroethylene	4	
➤ Ethyl Benzene	3	
➤ Chlorine (noncancer)	2	
➤ Naphthalene	1	
Combined Cancer Risk	846	318

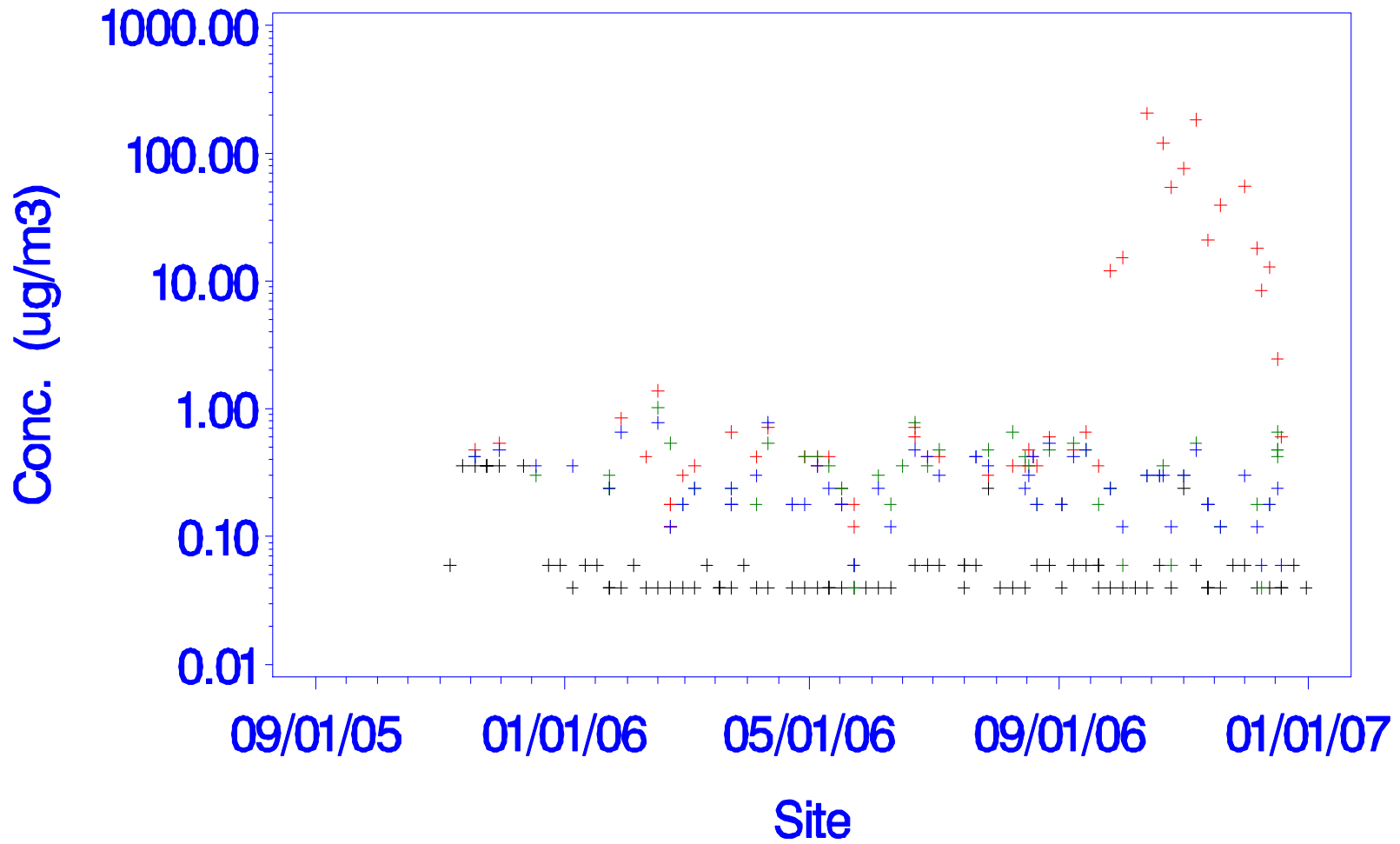


Noncancer Risk Acrolein

	Paterson $\mu\text{g}/\text{m}^3$	Chester $\mu\text{g}/\text{m}^3$
TO-15 mean	0.8	0.6
EOSHI	0.3	0.3

Risk Ratio _{TO-15}	40	30
Risk Ratio _{EOHSI}	15	15
RR for Formaldehyde	<u>4</u>	<u>4</u>
TOTAL	19-44	19-34

VOC Concentration vs. Date name = p – Dichlorobenzene



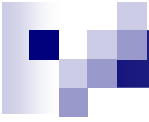
site + + + b + + + c + + + i + + + m

DRATT: DO NOT CITE OR QUOTE



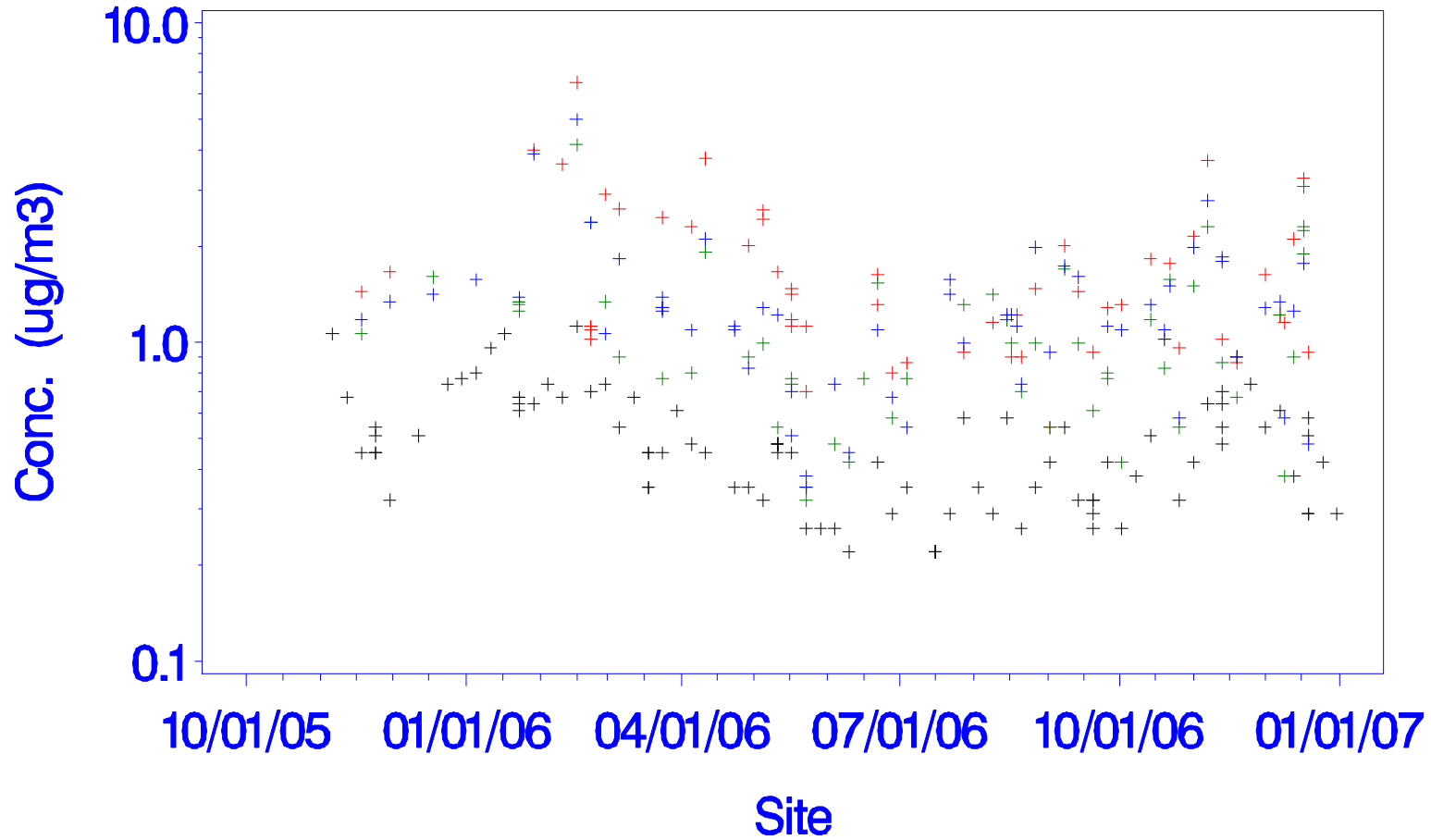
P-dichlorobenzene

- Potential Sources???
 - Chemical Co
 - Waste Transfer Station Odor Masking Agent

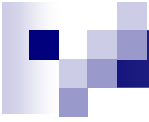


VOC Concentration vs. Date

name = Benzene

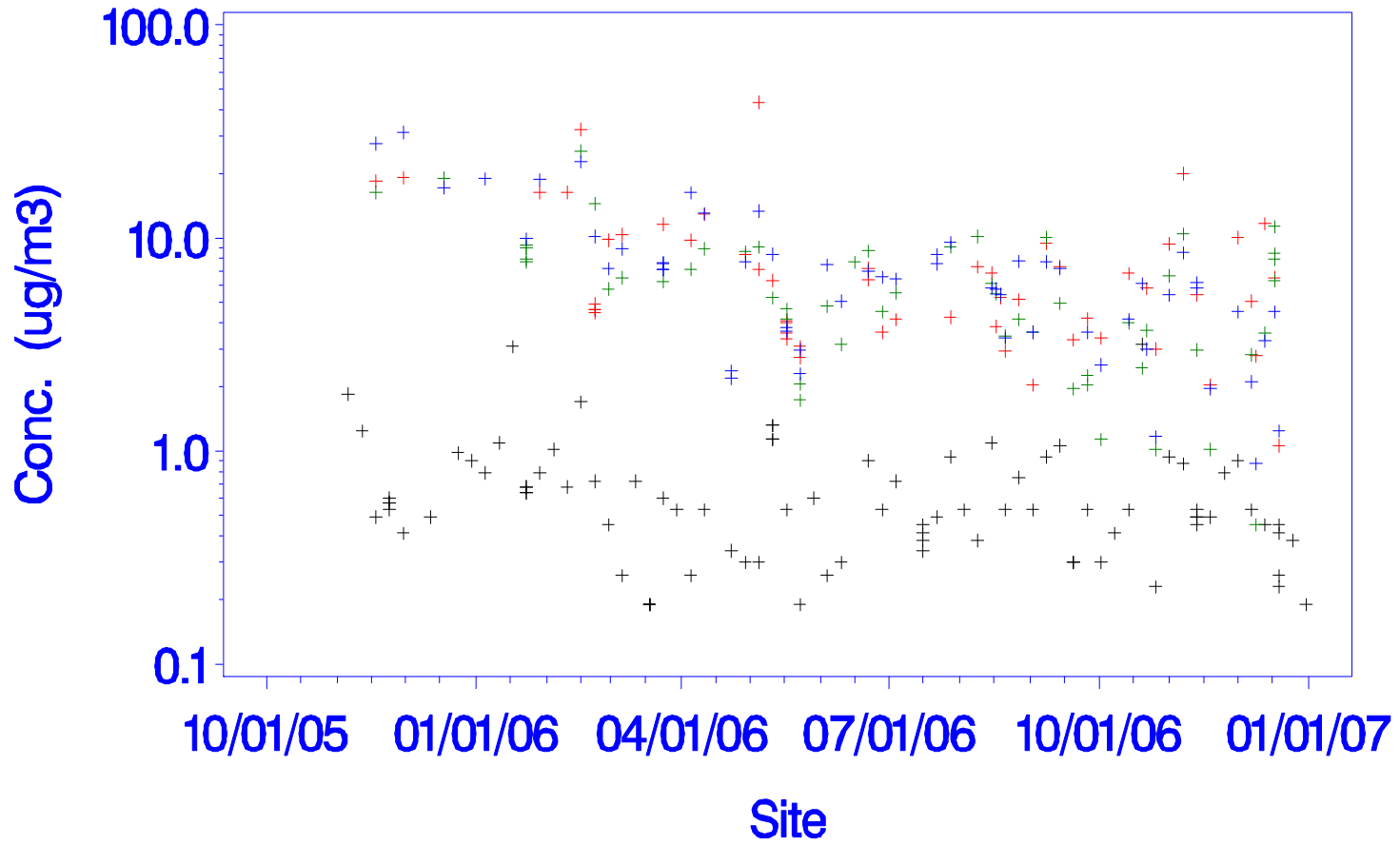


site + + + b + + + c + + + i + + + m

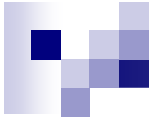


VOC Concentration vs. Date

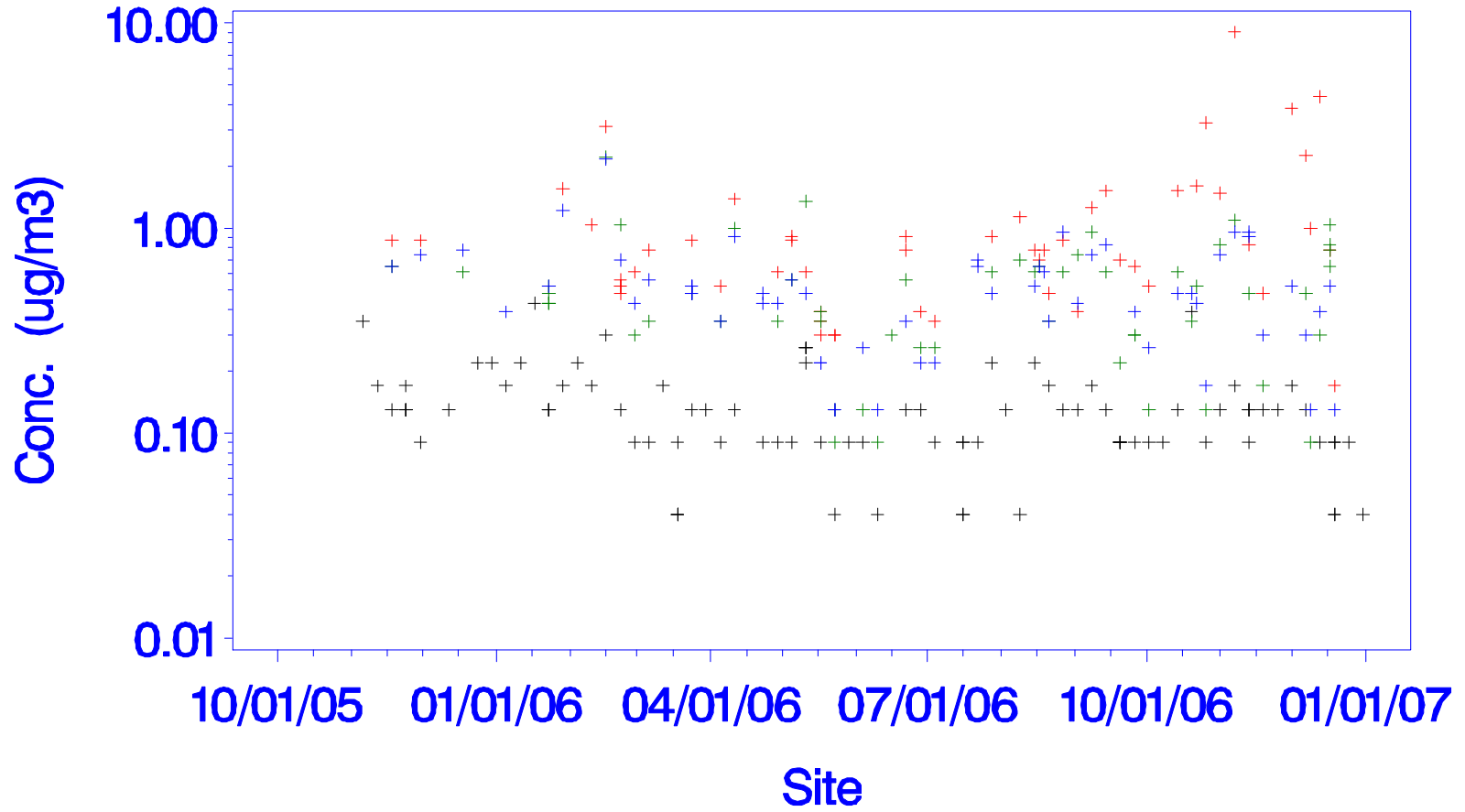
name = Toluene



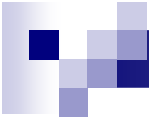
site + + + b + + + c + + + i + + + m



VOC Concentration vs. Date name = Ethylbenzene

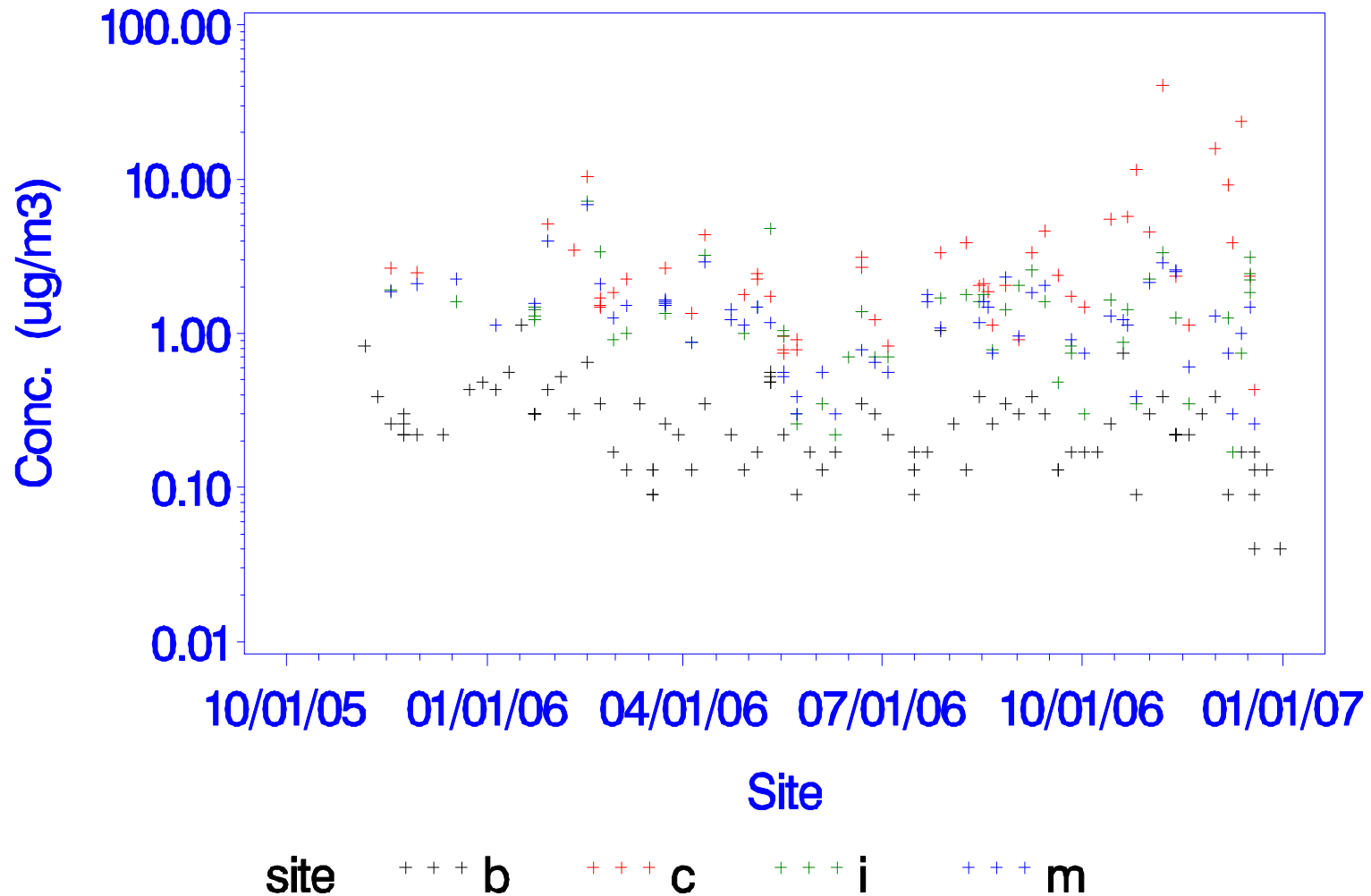


site + + + b + + + c + + + i + + + m



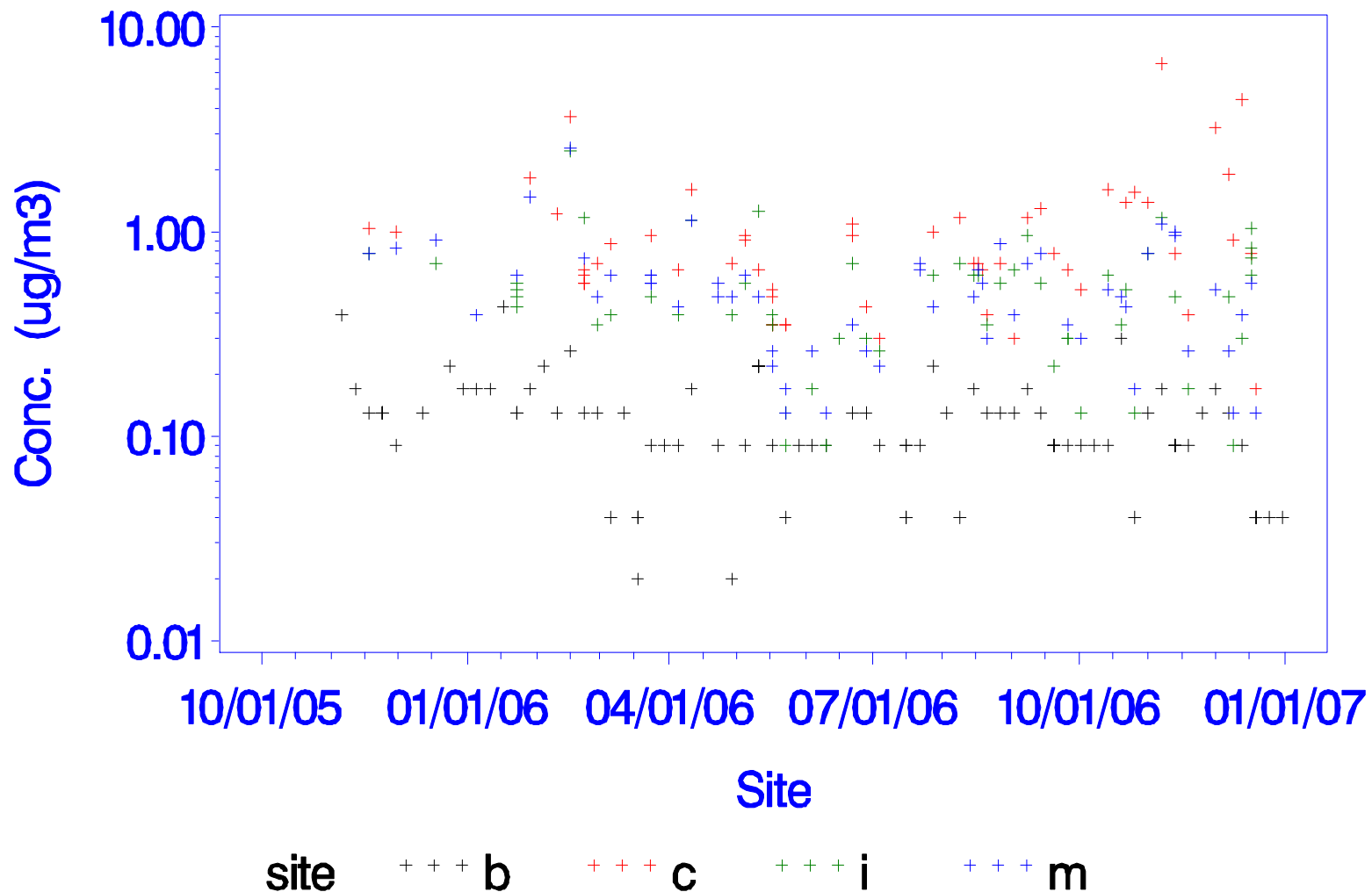
VOC Concentration vs. Date

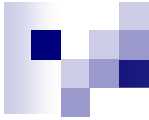
name = m,p – Xylene



VOC Concentration vs. Date

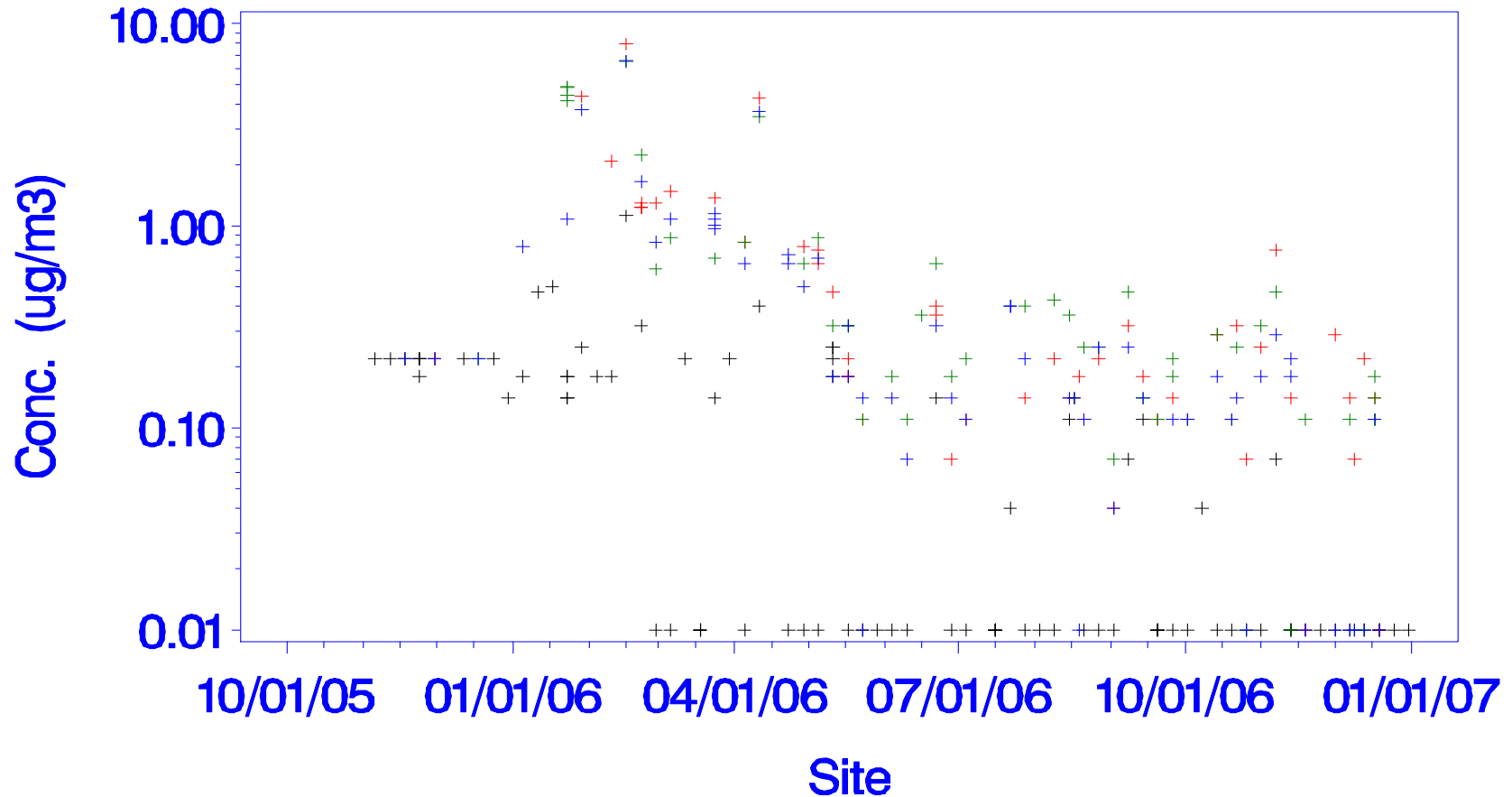
name = o - Xylene





VOC Concentration vs. Date

name = Methyl tert-Butyl Ether

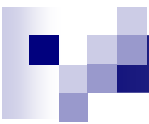


site + + + **b** + + + **c** + + + **i** + + + **m**




Site Differences

- When there was a difference, the annual average concentrations were highest at the C site.



Statistically Significantly Higher Conc in Paterson vs. Chester

EC, OC, PM₁₀, Al, Br, Ca, Cl, Cu, Fe, Ni, Pb,
Mg, Mn, K, Si, Na, Sr, Ti, V, Zn, Zr, all PAHs
except benzo(b)fluoranthene, B(a)P,
benzo(k)fluoranthene, benzo(ghi)perylene,
Indeno(1,2,3-cd)pyrene
1,2,4-trimethylbenzene,
1,3,5- trimethylbenzene,
benzene, toluene, ethylbenzene,
xylenes, n-octane 1,3-butadiene, MTBE,



Statistically Significantly Higher Concentration Measured in Paterson vs. Chester

- **acetylene, propylene, styrene,
tetrachloroethylene, toluene,
chloroform, p-dichlorobenzene,
dichloromethane**



Higher Annual Average in Chester vs. Paterson

- **Acetonitrile**
- **Carbon Disulfide**







Acknowledgements

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- NJDEP
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 - Retired but still working: Joann Held