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Method

Upper Level Set (ULS) Scan Statistic for Arbitrarily Shaped Clusters

Penn State/NSF/Digital Government

Geospatial Surveillance

Hotspot Identification and Uncertainty Assessment

Penn State/EPA/Atlantic Slope Consortium

Spatial-Temporal Surveillance

Typology of Space-Time Hotspots

Penn State/Ford Foundation/Poverty Research

Crisis-Index Surveillance

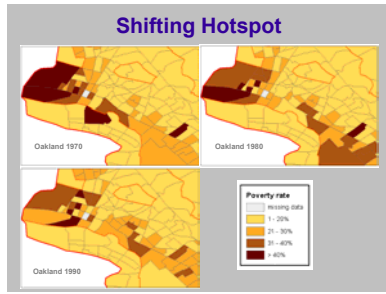
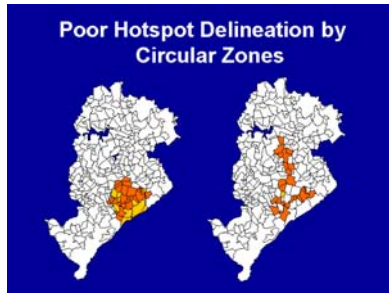
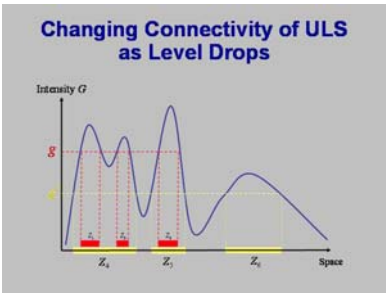
Behavior-Event Streams Automata Characterization

Penn State/NSF/Digital Government

Hotspot Prioritization

Ranking Without Having to Integrate the Multiple Indicators

Penn State/EPA/Impairment Consortium



Prioritization of Disease Clusters with Multiple Indicators

Data Matrix

cluster	SR	LL	Young Cases	Multiple Cancers	Atypical Demographics	Late Stage of Diagnosis
LF2	2.09	10.36	2	1	1	2
LM4	1.5	36	2	0	0	2
LM6	2.04	19.21	2	0	0	2
LF7	1.51	15.43	1	1	1	1
B2	1.21	31.3	2	1	0	2
B4	1.25	28.4	1	0	0	0
LM1	2.32	21.91	0	1	0	2
LM2	2.13	21.26	1	1	0	1
LM7	2.12	13.33	1	0	0	2

* LF = lung, female; LM = lung, male; B = breast

- #### Features of ULS Scan Statistic
- Identifies arbitrary shaped clusters
 - Applicable to data on a network
 - Confidence set, hotspot rating
 - Computationally efficient
 - Applicable to continuous response
 - Generalizes to space-time scan

