Satellite Imagery for Monitoring Select Water Quality Parameters

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Real-Time Water Quality Monitoring Workshop, St. John's, NL

June 7 & 8, 2011

Unrivaled Environmental Monitoring

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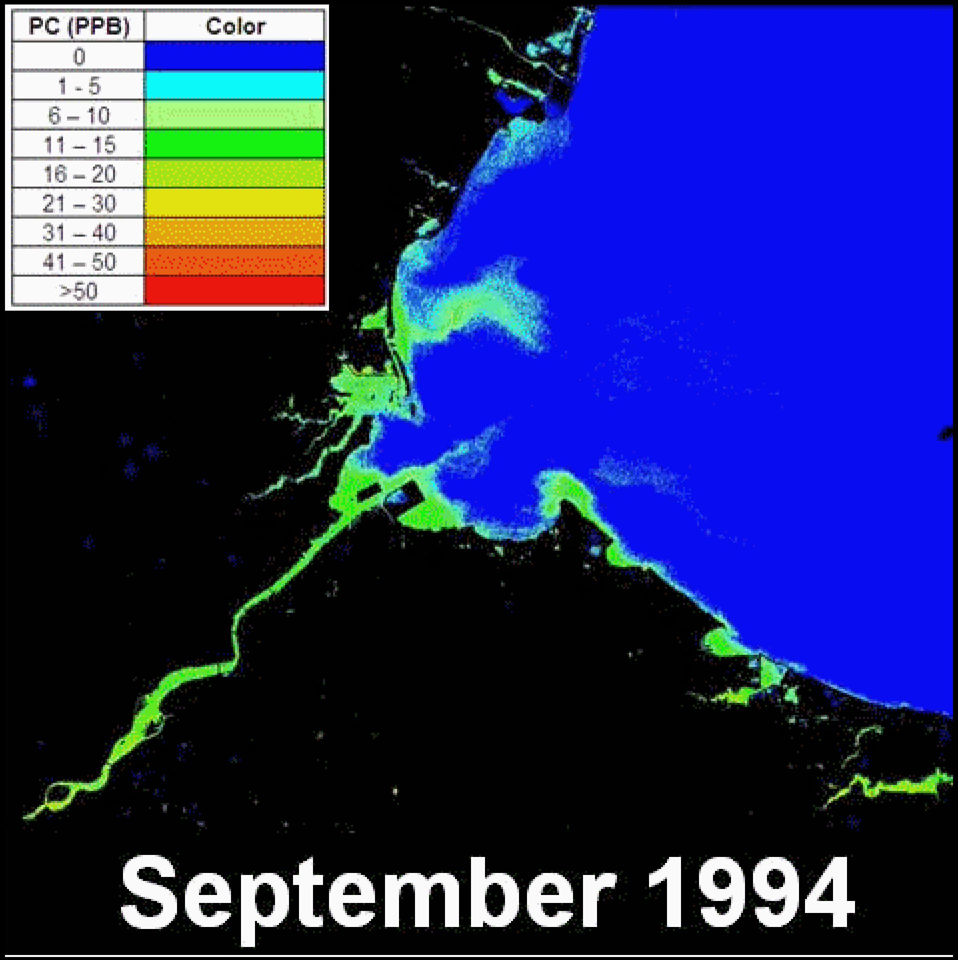
Blue Water Satellite



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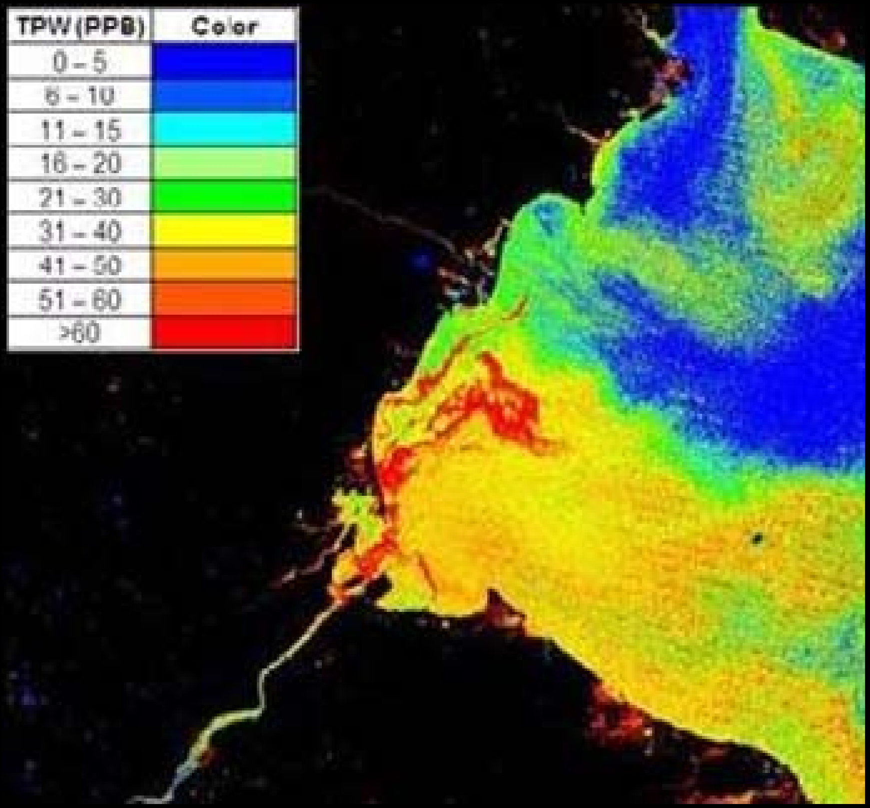
Using Landsat…

…to see where the problems are.



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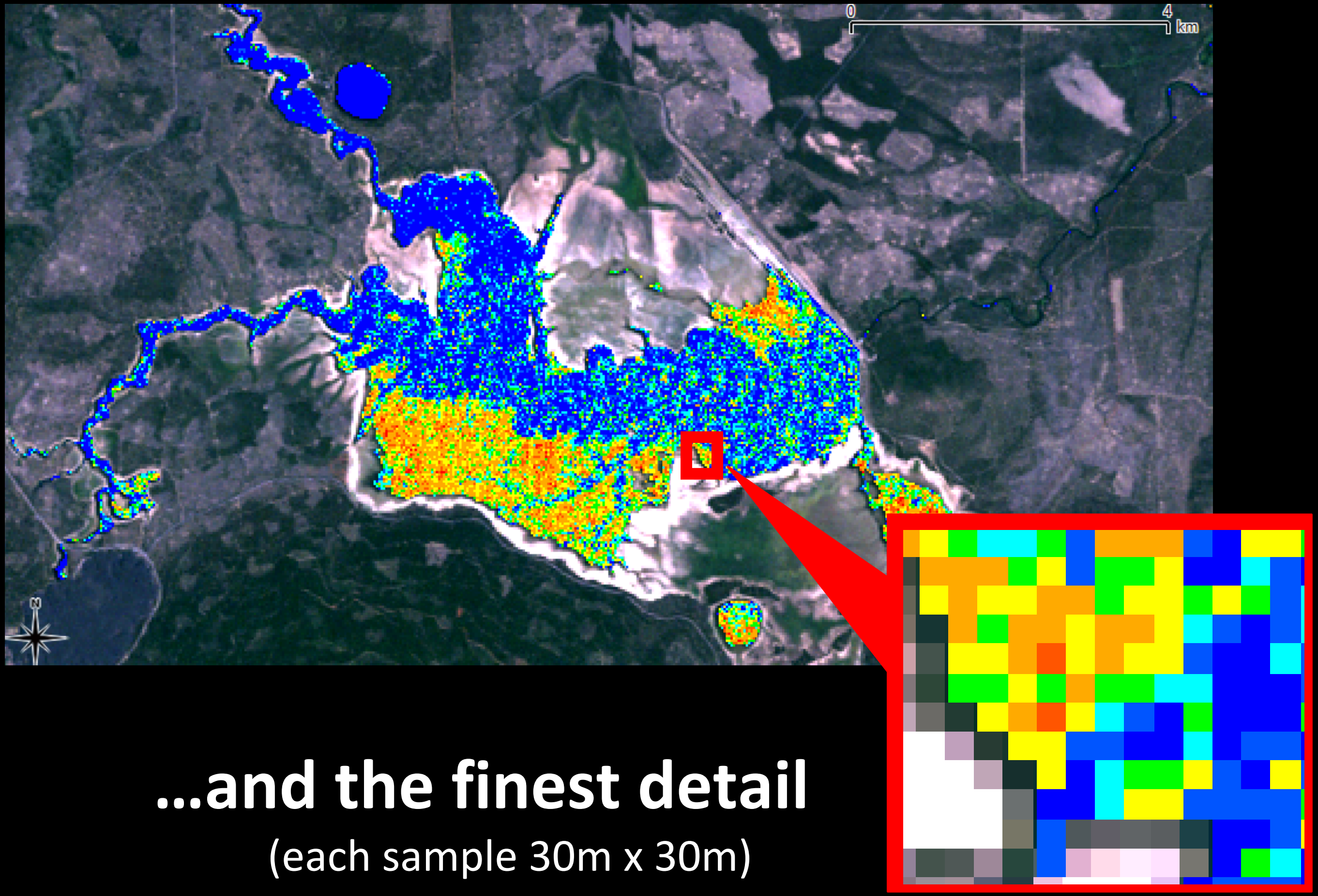
Showing you the big picture…



…and the finest detail

(each sample 30m x 30m)

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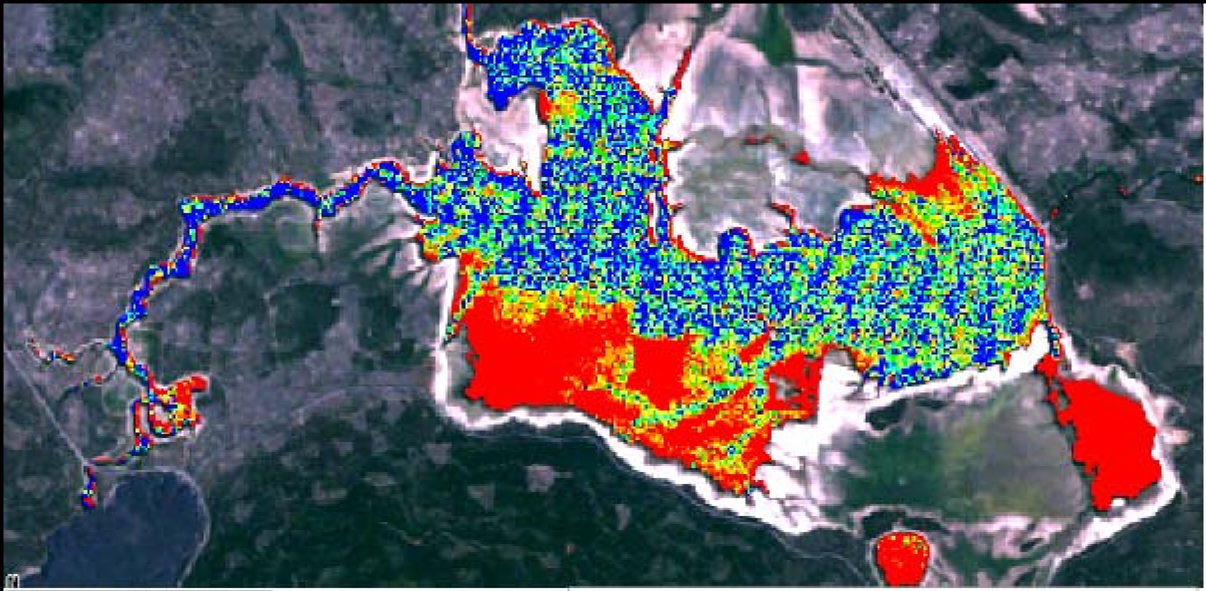
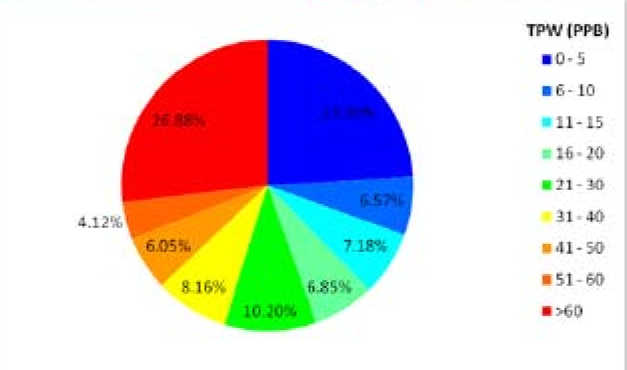
Report



TPW (PPB)	Color
0 - 5	
6 - 10	
11 - 15	
16 - 20	
21 - 30	
31 - 40	
41 - 50	
51 - 60	
>60	



TPW (PPB)	Area (Acres)	Percent of Lake
0 - 5	1174.24	23.99
6 - 10	321.81	6.57
11 - 15	351.38	7.18
16 - 20	335.15	6.85
21 - 30	499.78	10.20
31 - 40	399.64	8.16
41 - 50	296.23	6.05
51 - 60	201.93	4.12
>60	1315.91	26.88

Color scale (above left) indicates ranges of concentration of phosphorus in parts per billion as represented in scan image (top).

Pie chart histogram (above) indicates percentage of water within view delineated by concentration ranges.

Table (left) indicates actual acreage falling within each range of concentration of phosphorus.

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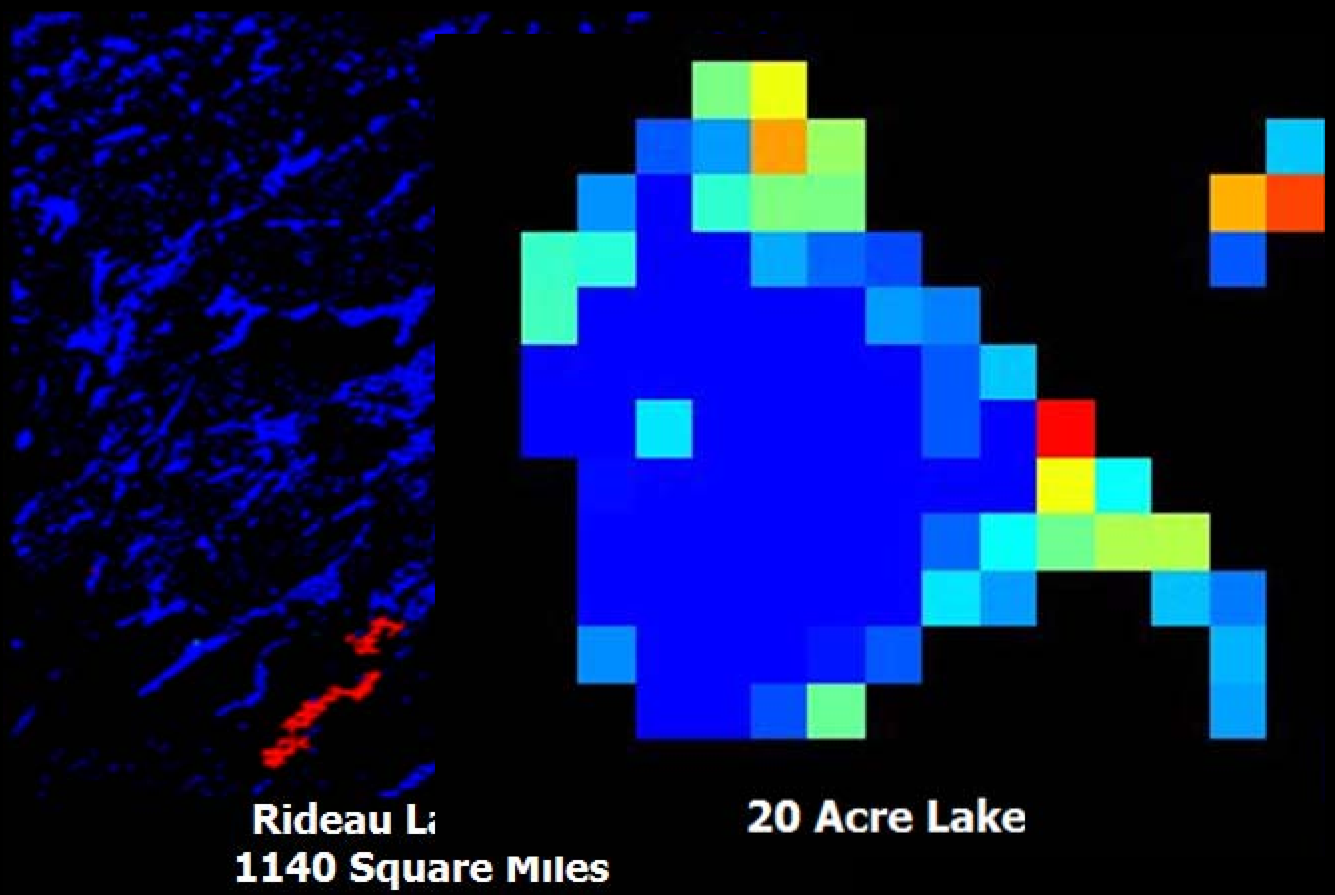
Scanning from your widest watershed

...to your smallest body of water.



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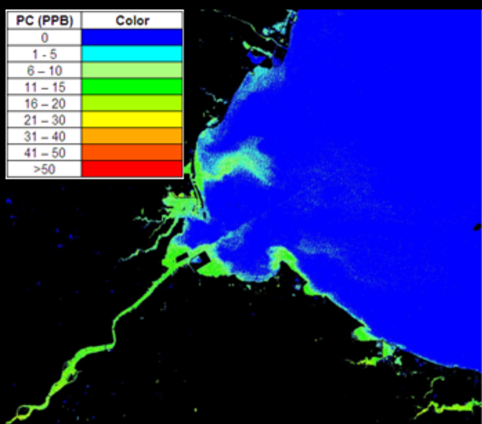
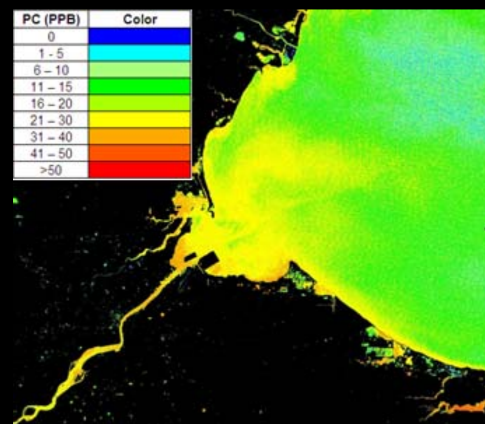
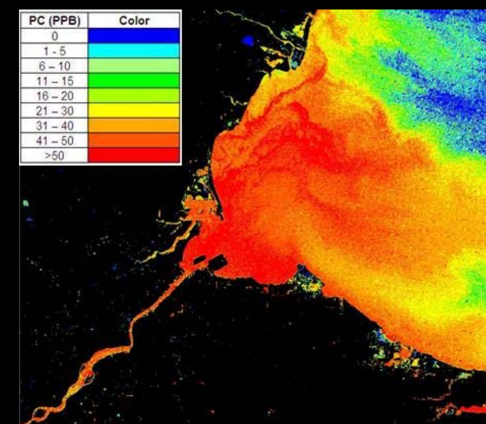
An unparalleled ability to look back in time.



September 1994
Moderate Cyanobacteria in Western Lake Erie



September 2002
Higher concentrations are appearing in some tributaries and the Maumee Bay (center of image)



September 2008
Cyanobacteria has overwhelmed the western basin of Lake Erie.

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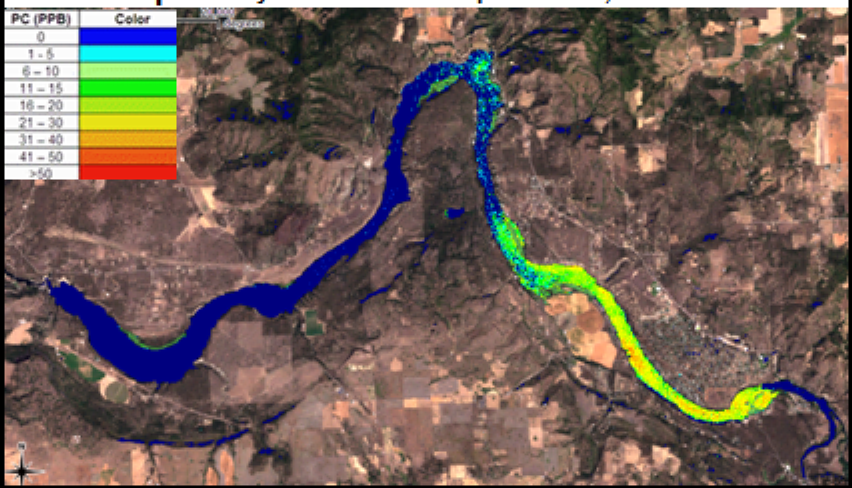
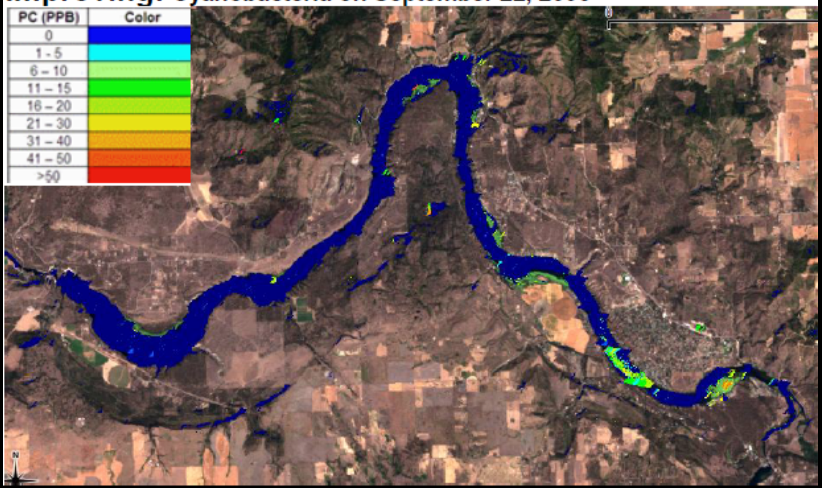
Graphically Demonstrating Your Results

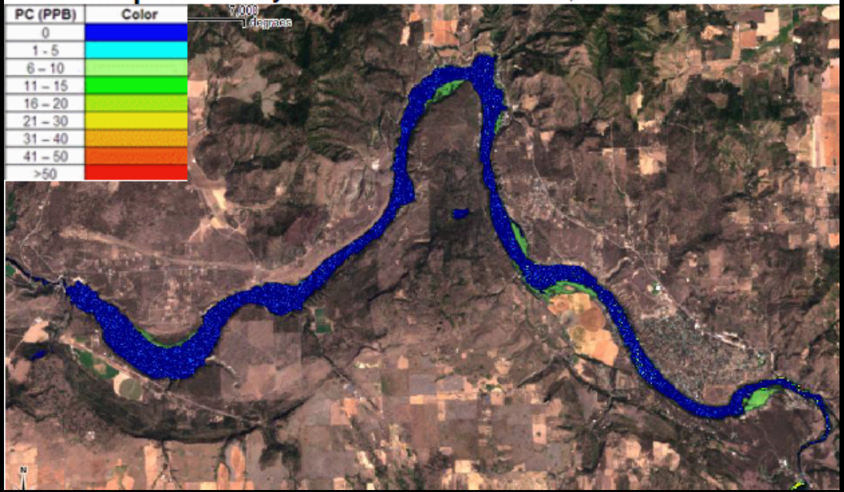
Trouble Spots: Cyanobacteria on September 23, 2001



Improving: Cyanobacteria on September 22, 2006



Much Improved: Cyanobacteria on October 1, 2010



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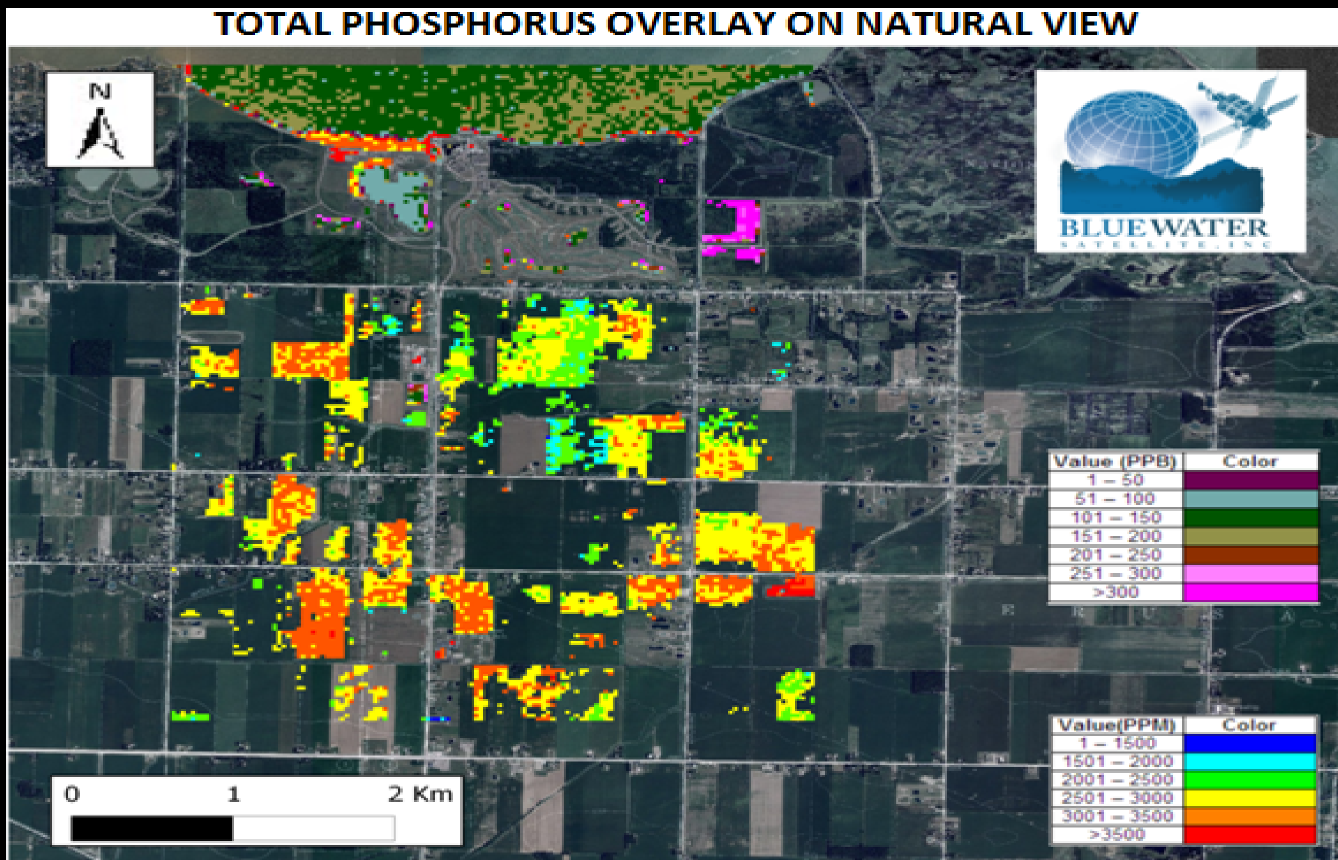
Tracking non-point sources…



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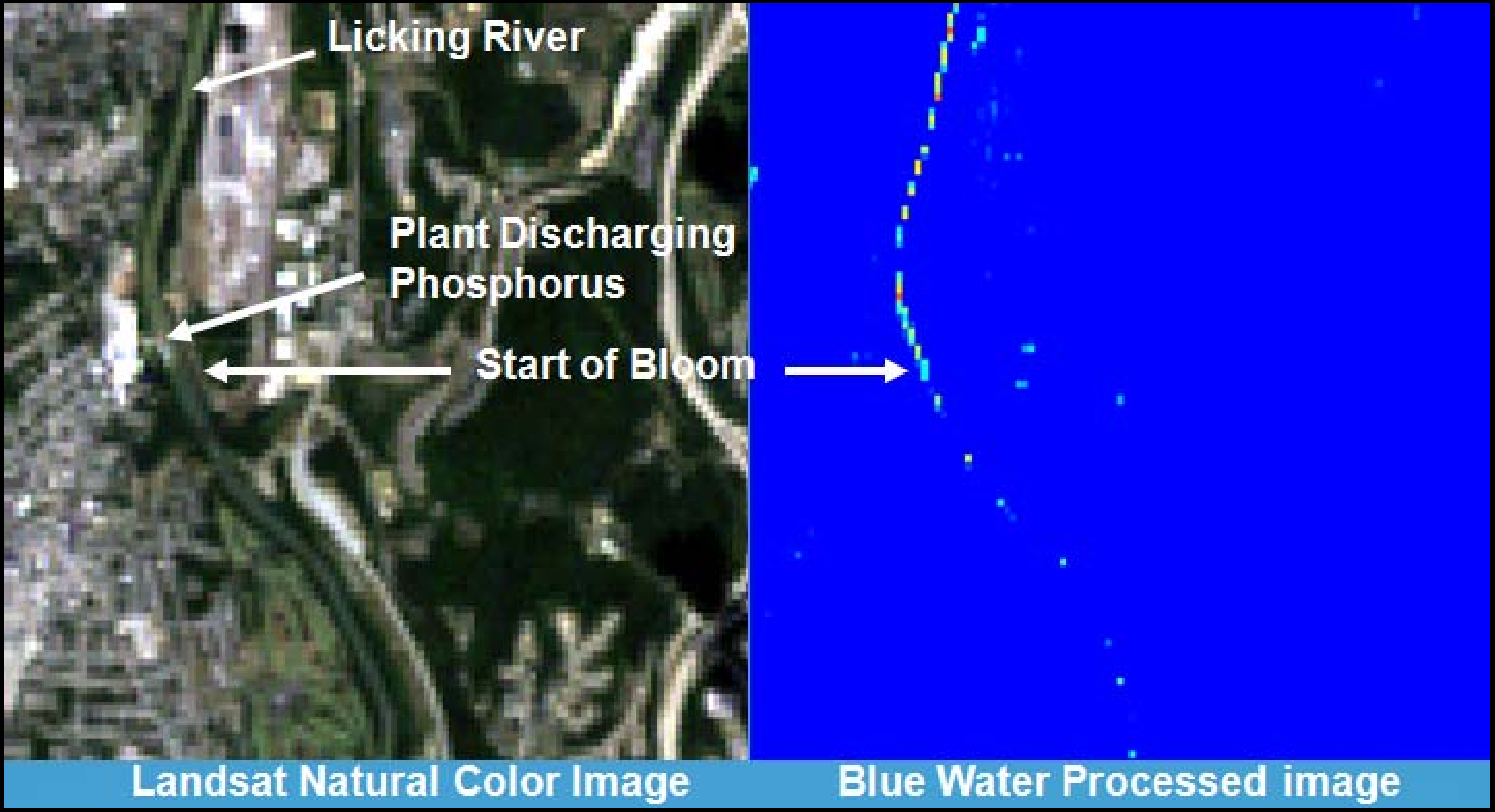
…to precise point sources.



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We detect the precise locations and concentrations of…

Cyanobacteria (Blue-Green Algae)

(±5 ppb)

WISCONSIN STATE JOURNAL

Blue-green algae reported on Lake Monona; health department issues warning

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We detect the precise locations and concentrations of…

Phosphorus (±5 ppb)

Lake Champlain Land Trust

The Lake Champlain Land Trust considers the Lake's increased phosphorous levels as a major threat to our environment.

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We detect the precise locations and concentrations of…

Chlorophyll-a (±5 ppb)

Years of Research & Peer Review

Blue Water Satellite

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No one sees it like Blue Water Satellite.

No one.