MODEL FOR PROTECTION – LAKE GEORGE SALT INITIATIVE

Lake Champlain Watershed Deicing Conference
September 29, 2017
Chris Navitsky, P.E. – Lake George Waterkeeper

AGENDA

- Science
- S.A.V.E. Lake George Partnership
- Solution
- Best Practices
- Looking Forward

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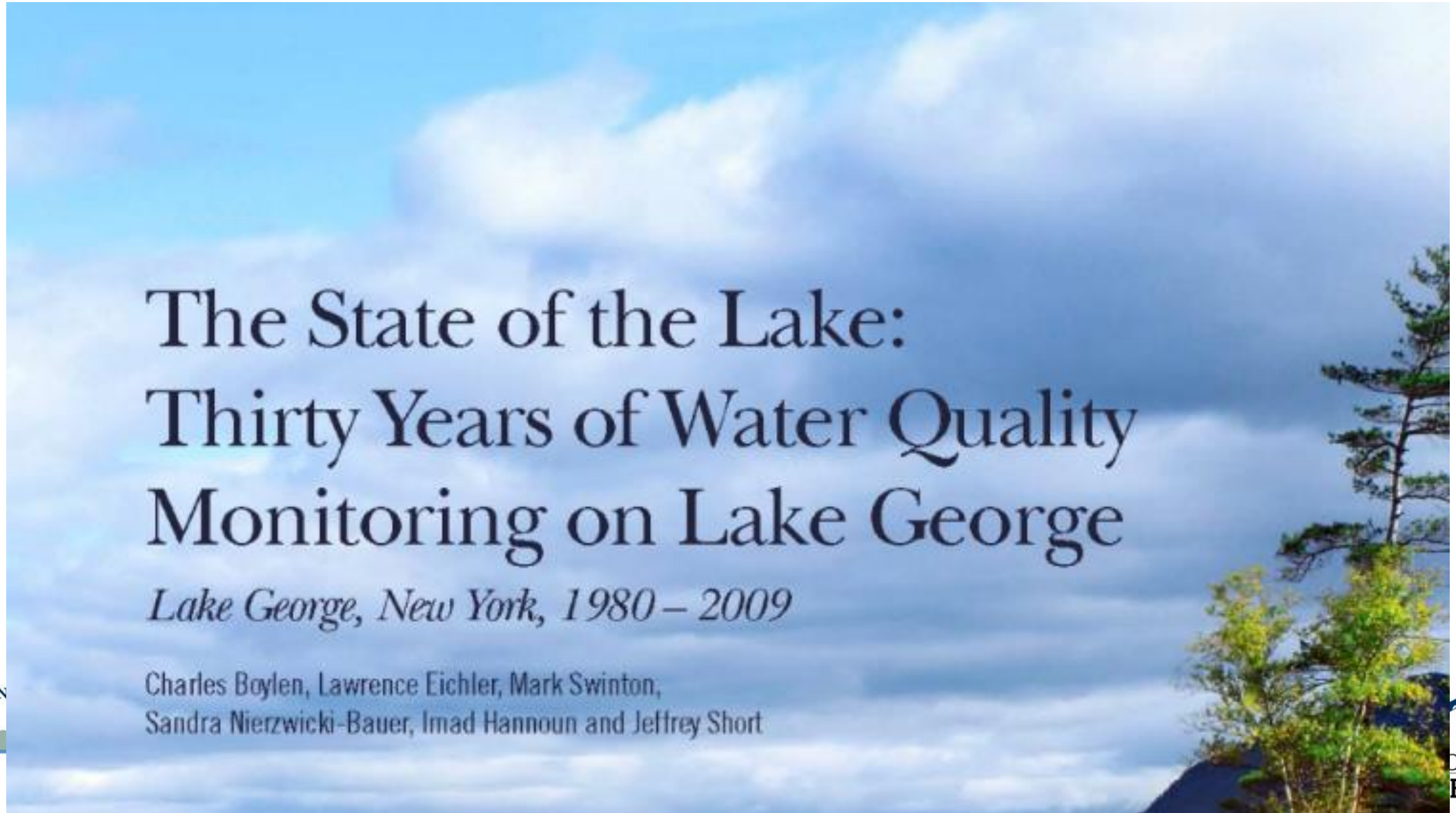
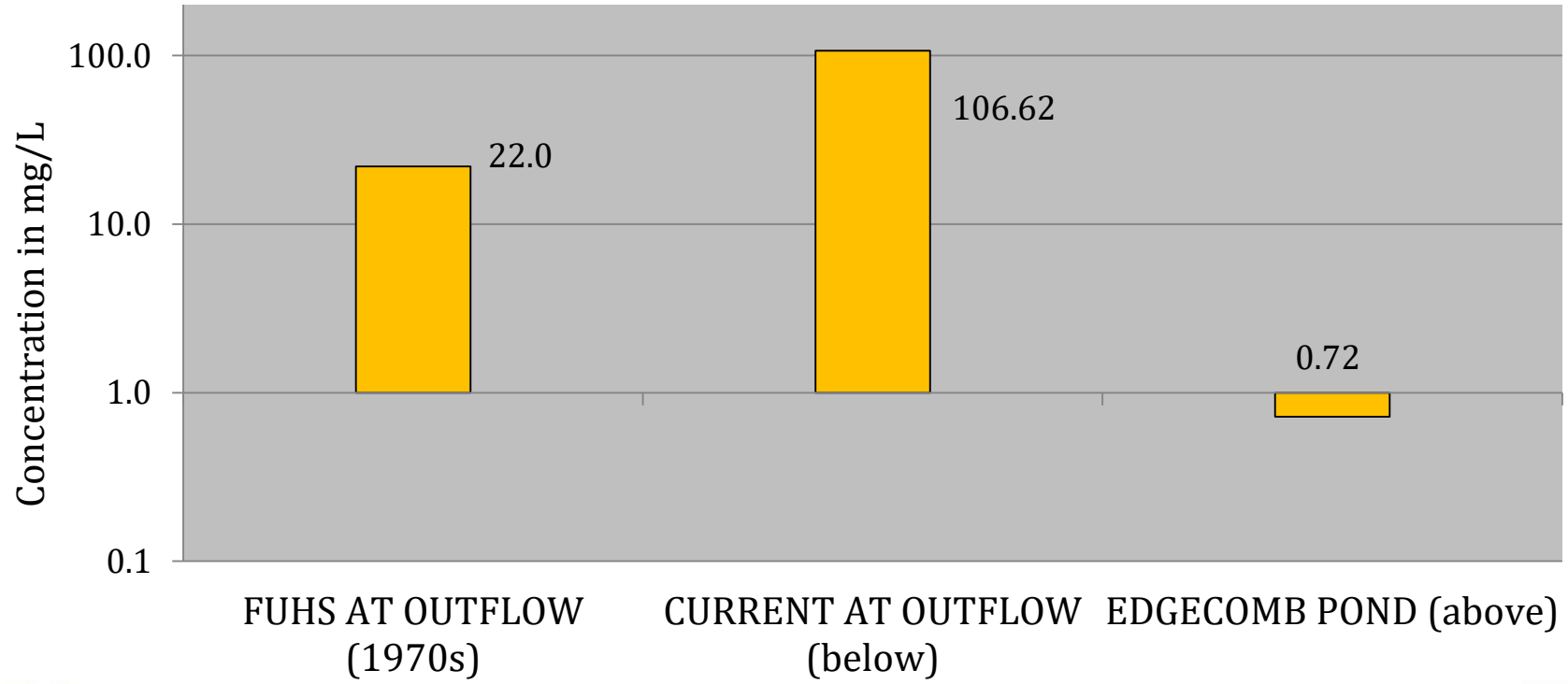
SCIENCE


The State of the Lake:
Thirty Years of Water Quality
Monitoring on Lake George
Lake George, New York, 1980 – 2009
Charles Boylen, Lawrence Eichler, Mark Swinton,
Sandra Nierzwicki-Bauer, Imad Hannoun and Jeffrey Short

SCIENCE

Finkle Brook Watershed (1970-2016) Increase in Base-flow Chloride Concentration



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THREATS

- Chloride levels increase up to 150X downstream from upstream
- Chloride levels in streams have increased up to 5X since 1970s
- Average Chloride levels in streams are up to 7X lake levels

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S.A.V.E.LAKE GEORGE PARTNERSHIP

TOWN OF BOLTON
WARREN COUNTY, NEW YORK

TOWN OF HORICON
ESTAB. 1838 TOWN OF HORICON, N.Y.

TOWN OF CHESTER

SOLUTIONS

(Final Draft 4-21-15)

- AGREE TO intend to reduce salt applications
- AGREE TO investigate and consider equipment
- AGREE TO collect data with consistent methods
- AGREE TO assess and tailor application rates
- AGREE TO establish education and training
- AGREE TO participate in annual “Salt Summit”

lane miles of local, county, state and federal roads and the average purchase rates as reported by municipal staff totals an estimated 15,000 metric tons of salt per year; and,

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SOLUTIONS

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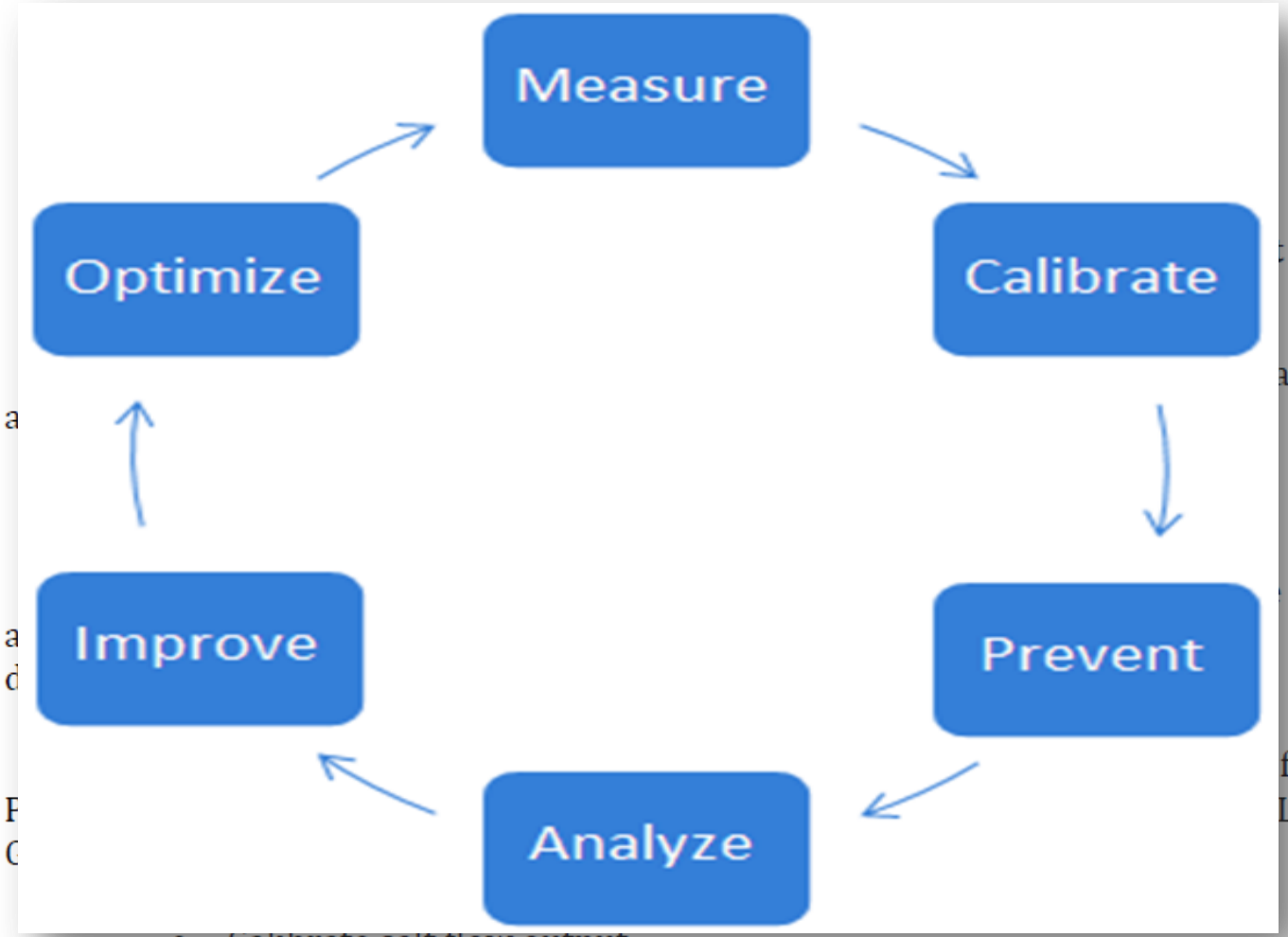
SOLUTIONS



- Calibrate salt flow output,
- Measure salt flow output,

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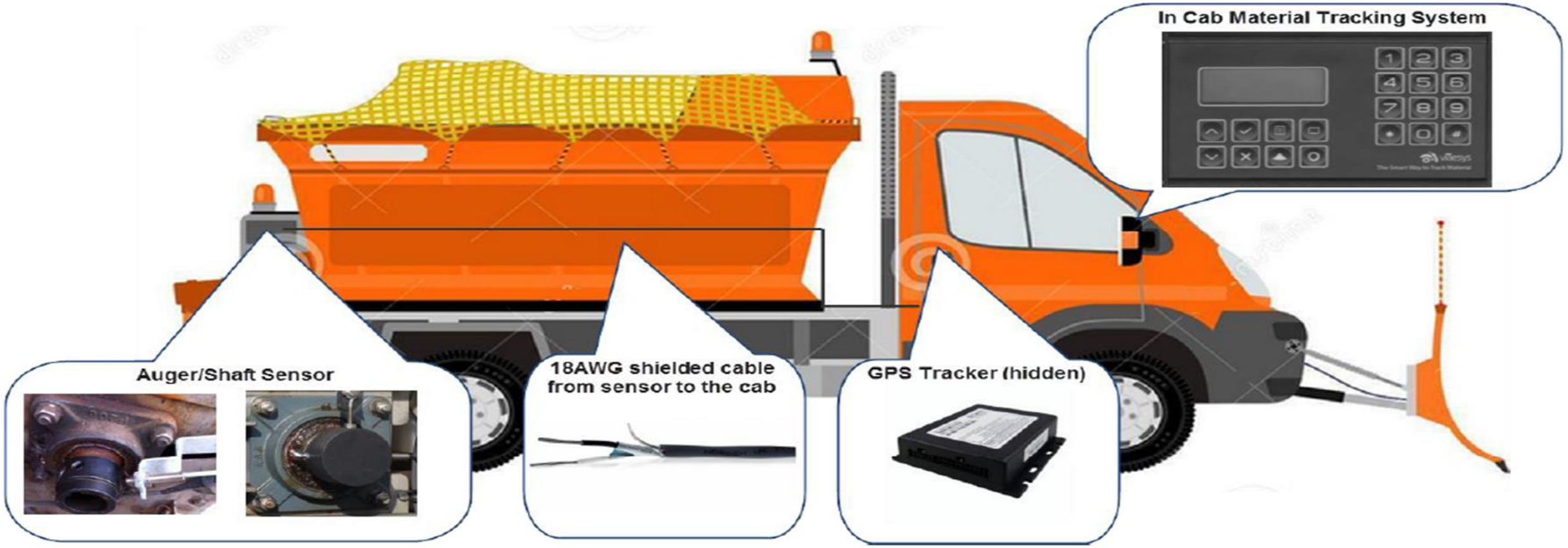
MEASURE



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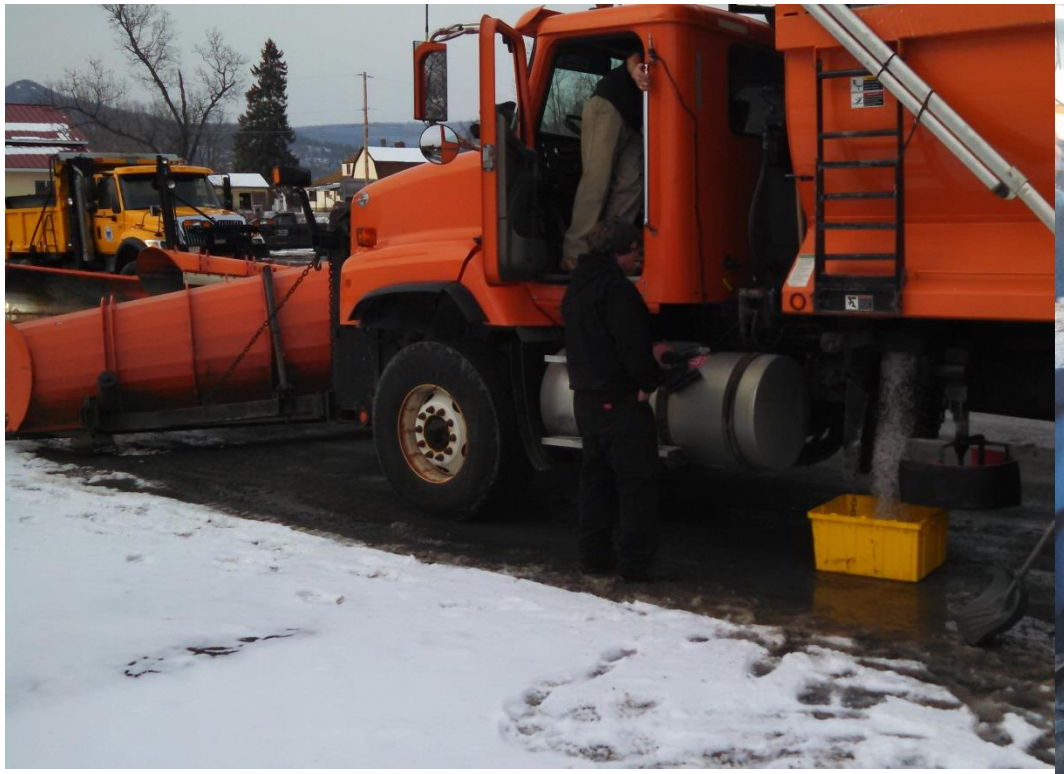
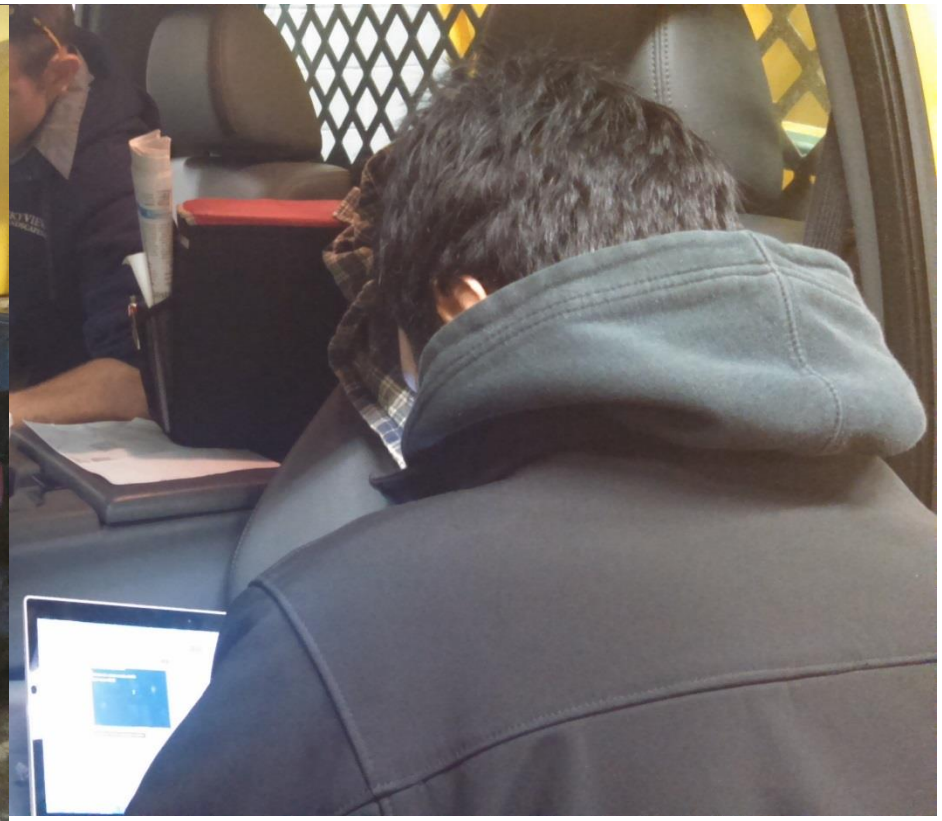
CALIBRATE





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PREVENT

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PREVENT

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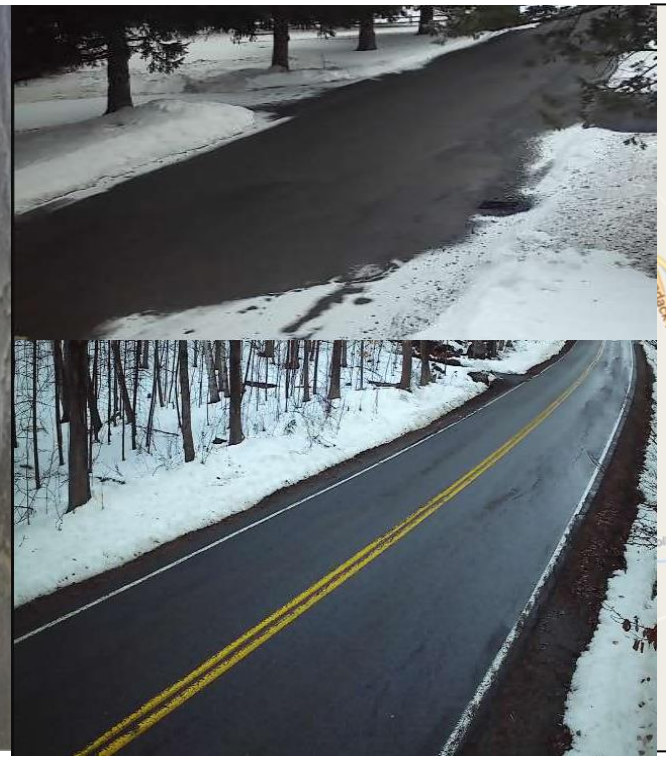
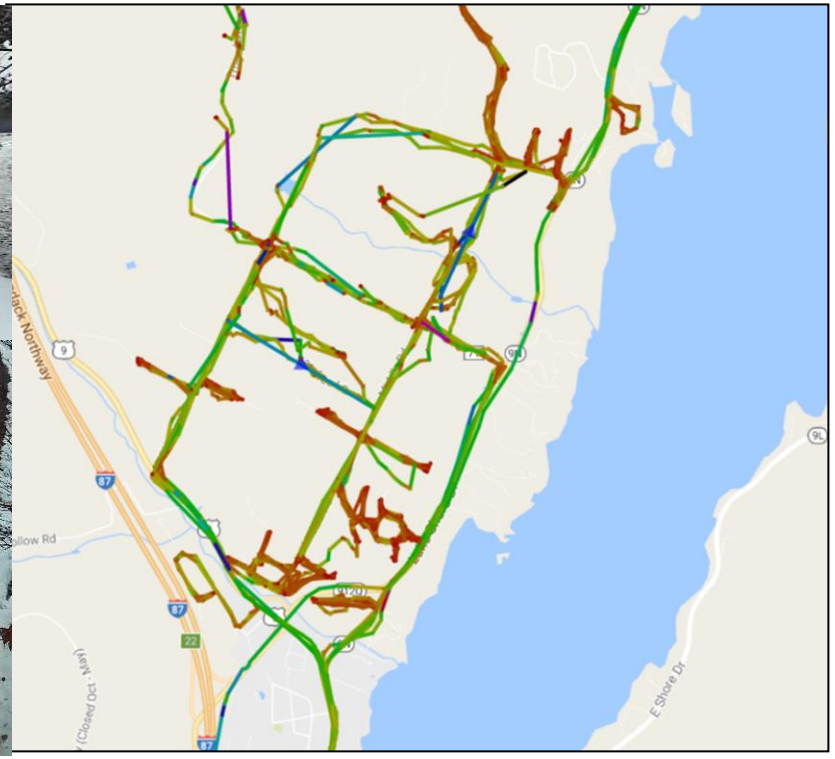
ANALYZE





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OPTIMIZE

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The Jefferson Project at Lake George

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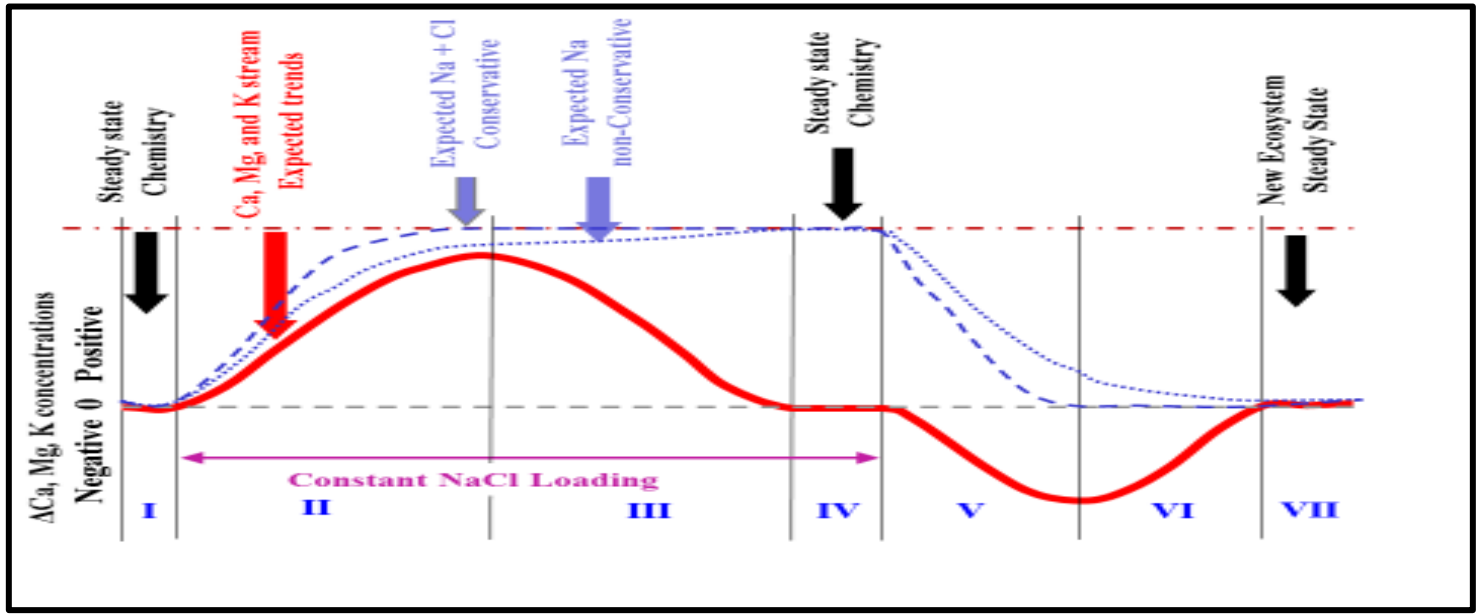
FUTURE PROJECTION MODEL



Modeling suggests that a sustained 50% reduction of salt loading would reduce chloride concentration in Lake George to 10 mg/L in approximately 25 years according to recent Sutherland/Norton study.

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MOVING FORWARD

- Expand data collection
- Verify Level of Service
- Expand anti-icing pilot program
- Verify reduction in salt use

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QUESTIONS?