

Information Fusion for Environmental Health Assessment

Who?

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From?

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When?

March 6th, 2015

Problem

- Assessing the health of an ecosystem...
 - 1 ...is difficult
 - 2 ...is time-consuming
 - 3 ...requires specially-trained professionals

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 - 2 ...is time-consuming
 - 3 ...requires specially-trained professionals
- How to **prioritize** regions for assessment?

Solution

- Summarize and classify information from multiple sources into a single score

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- 1 Discretize region into cells

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 - Determine value of information in different situations

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 - **Satellite imagery:** visual, IR
 - Aerial photography
 - 3 Past records
 - Temperature, rainfall, etc

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 - 1 Use classifier to generate health score
 - 2 Output to GIS, produce heat maps
 - 3 Prioritize least-healthy areas for investigation

Evaluation

- Testing the classifier

g

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- 1 Simulated inputs

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- 2 Real sites with expected scores

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- Assessing the Whole System

- 1 Release to environmental health organizations and professionals
- 2 Collect feedback and assessments

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Challenges

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1

Cost: may be expensive at scale

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1

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Computationally Expensive: running classifier over large data sets

Challenges

- 1 **Cost:** may be expensive at scale
- 2 **Computationally Expensive:** running classifier over large data sets
- 3 **Intedisciplinary:** need input from other fields

Questions?