Planning for HAQAST 2017-19 & Beyond

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Health and Air Quality Applied Sciences Team
Now =
- 2/3 through individual projects
- Completed Year 1 Tiger Teams
- Year 2 Tiger Teams will be just starting

13 HAQAST Members’ Proposed Initiatives with stakeholders & Co-I collaborators

Year 1 “Tiger Teams”
- 4 larger collaborations
- Focused, stakeholder-based, short-term

Year 2 “Tiger Teams”
- TBD

Sept. 2016

Summer 2018: HAQAST4 in Madison

Sept. 2017

Sept. 2018

Sept. 2019
(U.S.) Air Quality Management

- Clean Air Act
- Compare w/ Monitoring
- Litigious
- Federal (especially EPA)
- States, sometimes counties
- Regulated pollutants
- Exceptional Events
- Key opportunities:
  - Model validation
  - emissions inventories
  - Trends

Public Health

- No legal framework
- Open to new data
- Research-oriented
- Global (WHO, other countries)
- Federal (CDC, NIH, EPA)
- Cities & Communities
- All pollutants of interest
- Key opportunities:
  - Population health risk
  - Connect with low cost sensors
  - Public outreach
Successes

- Photochemical grid model evaluation with NO$_2$ and HCHO
- Ozone production (HCHO:NO$_2$)
- Emissions inventory evaluation (NO$_x$, NH$_3$)
- Assessing trends in air quality
- Public outreach (images, maps)
- Pollution transport
- Fire assessment & smoke
- Engaging many stakeholders

Next Phase Needs

- AOD for photochemical grid model evaluation
- Creating “happy paths” for common applications
- Which AOD and other products? (Can we minimize confusion?)
- Normalize use of NASA data for assessing trends
- Share successes, linked to published results
- Consider sustainable partnerships and programs
Successes

• Integrating satellites, measurements and models to estimate exposure
• New health estimates for global and U.S. impacts
• AOD $\rightarrow$ PM$_{2.5}$
• High resolution applications
• New relationships with health organizations and researchers

Next Phase Needs

• Usable data formats for health community (e.g. GIS)
• More estimates of scaled surface concentration
• Inventory of health relevant data products (e.g. Dalhousie, CDC Wonder, CDC Tracking Network)
• Strengthening relationships
• Expanding the literature and applications
HAQAST Scope of Work

Connect with Education & Training
Advice
Basic
Videos

Talks to new groups
What do you need?

Active
Dialogue
Meetings

“friendly reviews”
Research collaborations
Advanced

Tools and “How to”

Diffuse

Data for download
Publications

Basic
Videos

Case studies
Twitter

Popular Science
Success stories

HAQAST
HAQAST Scope of Work

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Active

Talks to new groups

What do you need?

Dialogue

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“friendly reviews”

Research collaborations

Advanced

Tools and “How to”

Research to address knowledge gaps

Data for download

Diffuse

Case studies

Twitter

Publications
4 New Tiger Teams from HAQAST

• **Led by Brad Pierce & Daniel Tong**: Improved NEI NOx emissions using OMI Tropospheric NO$_2$ retrievals

• **Led by Pat Kinney**: High Resolution Particulate Matter Data for Improved Satellite-Based Assessments of Community Health

• **Led by Bryan Duncan & Jason West**: Demonstration of the Efficacy of Environmental Regulations in the Eastern U.S. for Health and Air Quality

• **Led by Arlene Fiore**: Supporting the use of satellite data in State Implementation Plans (SIPs)
Table of team PIs & Effort

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+ Communications
What are highest priority issues for HAQAST 2018-19 Tiger Teams?

How can individual project groups maximize impact?