

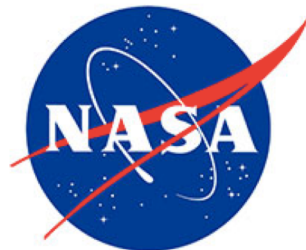


Planning for HAQAST 2017-19 & Beyond

Tracey Holloway

Team Lead, NASA HAQAST

Health and Air Quality Applied Sciences Team





Summer 2018: HAQAST4 in Madison

Sept. 2016

Sept. 2017

Sept. 2018

Sept. 2019

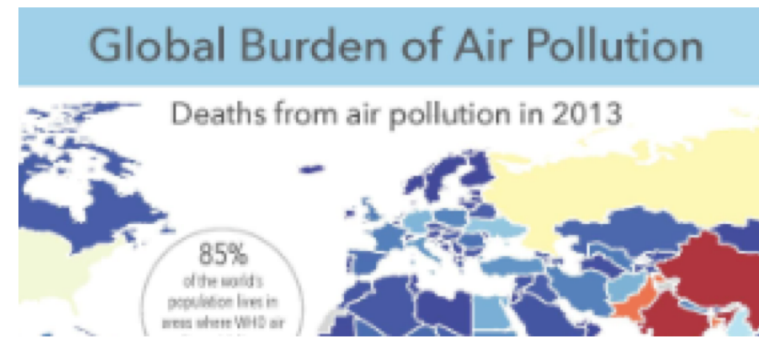
13 HAQAST Members' Proposed Initiatives
with stakeholders & Co-I collaborators

Now =

- 2/3 through individual projects
- Completed Year 1 Tiger Teams
- Year 2 Tiger Teams will be just starting

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

Year 2 "Tiger Teams"
TBD



(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



(U.S.) Air Quality Management

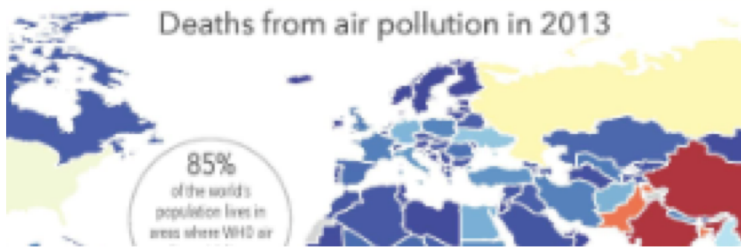
Successes

- Photochemical grid model evaluation with NO_2 and HCHO
- Ozone production ($\text{HCHO}:\text{NO}_2$)
- 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

Global Burden of Air Pollution



Successes

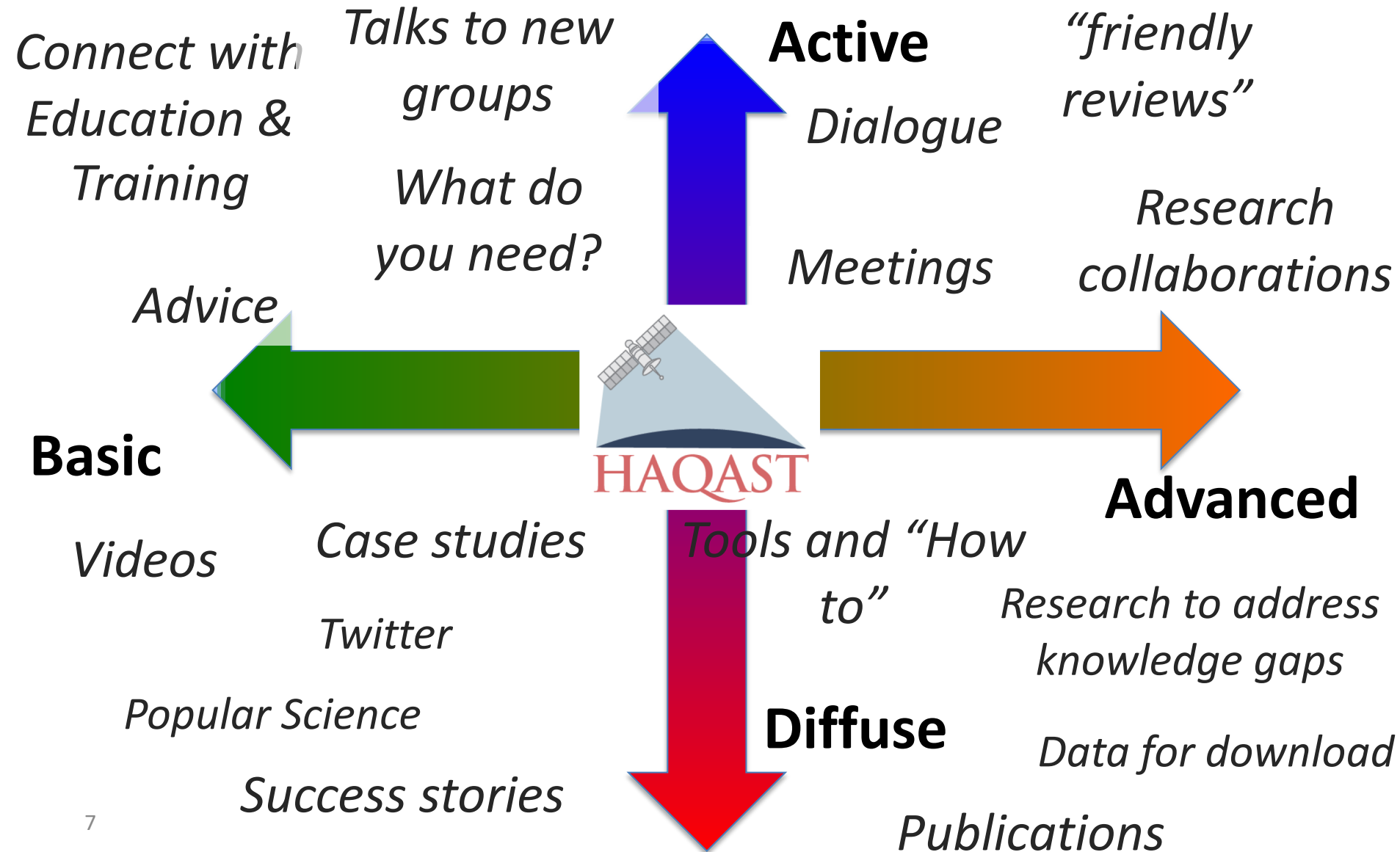
- Integrating satellites, measurements and models to estimate exposure
- New health estimates for global and U.S. impacts
- AOD → PM_{2.5}
- High resolution applications
- New relationships with health organizations and researchers

Public Health

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



HAQAST Scope of Work



4 New Tiger Teams from HAQAST

- **Led by Brad Pierce & Daniel Tong:** Improved NEI NO_x emissions using OMI Tropospheric NO₂ 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

	Duncan & West	Fiore	Kinney	Pierce & Tong
Duncan	80%	20%		
Fiore	11%	60%	29%	
Freedman			100%	
Henze	10%	20%	50%	20%
Hess		25%	75%	
Holloway		50%		50%
Liu	40%		60%	
Neu		100%		
O'Neill			40%	60%
Russell	34%	33%		33%
Tong	5%	10%	5%	80%
West	100%			
Zondlow	60%	20%	20%	

+ Communications

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



How can individual project groups
maximize impact?