Joint Energy & Air Quality

- Opportunities for the Energy Cluster and Air Quality Workgroup to work together?
  - Transferring lessons learned from AQWG to EC?
  - Climate-Energy-Air Quality topics to address
    - Scientific issues
    - What are government agencies, universities, business challenges
    - Information interoperability
    - …

The Air Quality Working Group at Five Years

ESIP
FEDERATION

Kicking it off

- The NASA REASoN program included requirement for at least 0.25 FTE participate in activities like ESIP and the NASA Earth Science Data Systems Work Group (ESDSWG)

- Air Quality was one of 12 Applications of National Priority as defined by NASA and one of 5 National Application Areas most frequently selected as an area of interest by ESIP members and stakeholders.

- An air quality focus group met during the 2005 ESIP Winter Meeting to discuss how ESIP might play a role in advancing the use of earth science data in air quality management. Interest is high within ESIP and air quality is recommended as a new **ESIP Air Quality "Cluster"**

Defining Objectives

The objective of the ESIP Air Quality Workgroup is to connect air quality data consumers with the providers of those data by:

➢ bringing people and ideas together on how to deliver ES data to AQ researchers, managers and other users

➢ facilitate and demonstrate the information flow among data providers to air quality consumers

Community Building

brings together groups and helps *build* ***links*** among them in order to achieve an effective use of data in decision-making that could not be achieved by any organization acting on its own.

data   tools,methods,services   users

a)

data   tools,methods,services   users

b)

c)
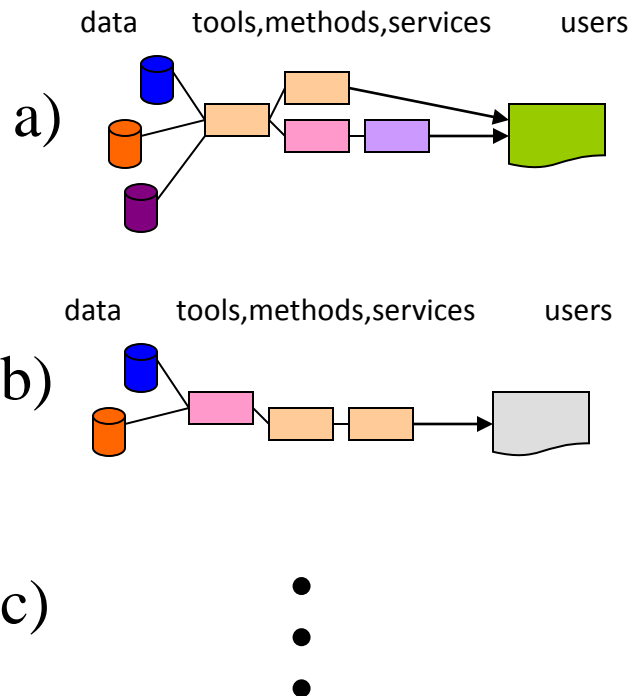
Technology Advancement

aids in ***reuse*** of data, processing tools and other services so that projects, programs and agencies avoid the end-to-end burden of developing those capabilities or having to create the connections themselves.

The Air Quality Web Landscape *(not comprehensive)*

NASA Programs/Projects
- REASoN (Friedl, Moe)
    - WRAP (Ambrosia, Sullivan)
    - EDAC (Morain, Benedict, Hudspeth)
    - LAITS (Di, Yang)
    - AQ Web Infrastructure (Husar, Falke)
- ACCESS (Lindsay, Maiden)
    - Giovanni (GSFC – Kempler)
- DECISIONS (Friedl)
    - 3D-AQS (Hoffman, Engel-Cox, Prados)
    - RS for BlueskyRAINS (Sullivan, Raffuse)
    - Aura in AQ Forecasting (McHenry)
    - VIEWS/TSS (Shankar, McClure)
- AIST (Moe)
    - SAMITS (Falke)
    - Sensor Web Architecture & Demo (Mandl)
- DAACS

EPA Programs/Projects
- AMI (Young, Keating)
- GEO (Young, Washburn, Lyon, Foley)
- AirNOW (Wayland, Dickerson)
- AQS
- OAQPS (Scheffe, Frank, Dimmick, Solomon)
- IDEA (Szykman)
- HTAP (Keating)
- Remote Sensing Gateway (Paulson, Walter)
- Environmental Science Connector (Kapuscinski)

NOAA Programs/Projects
- Air Quality Forecasting (Fine, NESDIS)
- NGDC (Haberman, Kozimor)
- Hazard Mapping System (Ruminski)

Forest Service Programs/Projects
- Bluesky (Larkin, Goodrick)
-

Mediators
- DataFed (Husar)
- Unidata (Domenico, Ramamurthy)
- CDE (Ambrosia, Sullivan)
- Giovanni (Leptoukh, Prados)
- LAITS (Di)
- RSG (Paulson)
- NEISGEI (Falke)
- VIEWS (McClure)

Portals / Catalogs
- GEO Portals
- Earth Information Exchange (ESIP)
- Earth Observation Portal (GEO)
- Geospatial One Stop
- Environmental Science Connector (EPA)
- Global Change Master Directory (GCMD)
- ECHO (NASA)
- LEAD (NSF)

Interoperability Efforts
- GALEON
- ESIP
- OGC OWS testbeds
- GEOSS pilots
- EPA Data Summit

State
- Aura in AQ Forecasting (Lamb, Vaughan)
- RPOs
- Vermont (Poirot)

International
- ESA/KMNI
- CEOS ACC

ESIP Air Quality Cluster / Workgroup Timeline
"Organic Growth and Evolution"

|	
Jan 2005 ESIP AQ Cluster initiated **Mar 2005** ESIP AQ Cluster "straw man" created **Spring 2005** "straw man" promotion tour to NASA, EPA **Jun 2005** ESIP summer meeting – "straw man" refined	Brain storming
Jan 2006 ESIP winter meeting – wiki created **Jul 2006** ESIP summer meeting – project info exchange **Jan 2007** ESIP winter meeting – project info exchange **Jul 2007** ESIP summer meeting – group desire to create interoperable AQ community network	Community Building & Information Sharing
Aug 2007 Cluster telecons started **Nov 2007** ESIP-EPA-NASA NOx Workshop **Jan 2008** ESIP winter meeting **Feb 2008** Support to EPA Data Summit **Apr 2008** EPA Community AQ Data System on ESIP wiki	'Continuous' Collaboration
May 2008 AQ Scenario for GEOSS AIP **Sep2008-May2009** GEOSS Arch. Implementation Pilot **Oct 2008** Becomes the ESIP AQ Workgroup **Jan 2009** ESIP winter meeting **Jun 2009** Coordinated GEO Decision Support Proposal (with India) **Jul 2009** Movement toward GEOSS Community of Practice **Nov 2009** GEO-VI AQ meeting	Connecting with GEOSS

AQWG: A Leaderless Organization
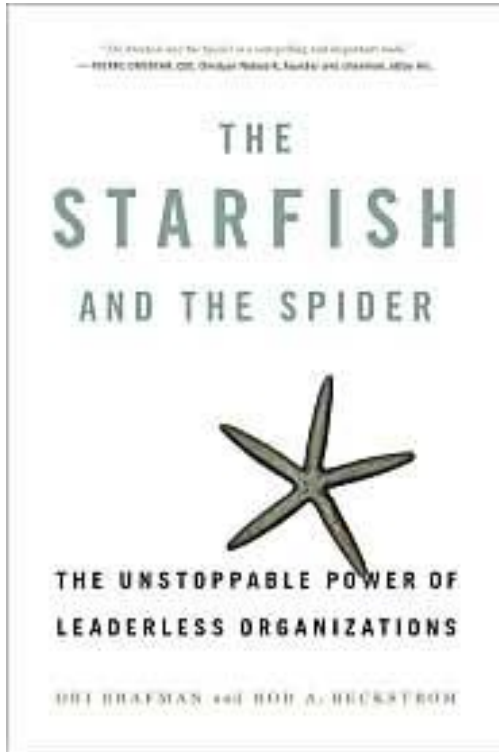
Ori Brafman and Rod
A. Beckstrom, 2006

Key characteristics of a decentralized
(leaderless) organization:

- **Circles**
    - Participants coming together with a sense of community
    - Low barrier to participation
- **Catalysts**
    - Initiates circle and connects people
    - Transfers ownership and responsible to the circle
- **Ideology**
    - Shared interests and vision
- **Preexisting Networks**
    - Help launch decentralized organization
    - Provide foundational platform
- **Champions**
    - Promotes circle ideas externally
    - Encourages circle internally

Becoming a Trusted Network

- Cross-community forum
- Reliable resource for groups outside of community to connect with air quality community
- Air quality information infrastructure and use in GEOSS
- Information sharing across the community
- Defining best practices for community
- Building air quality information network