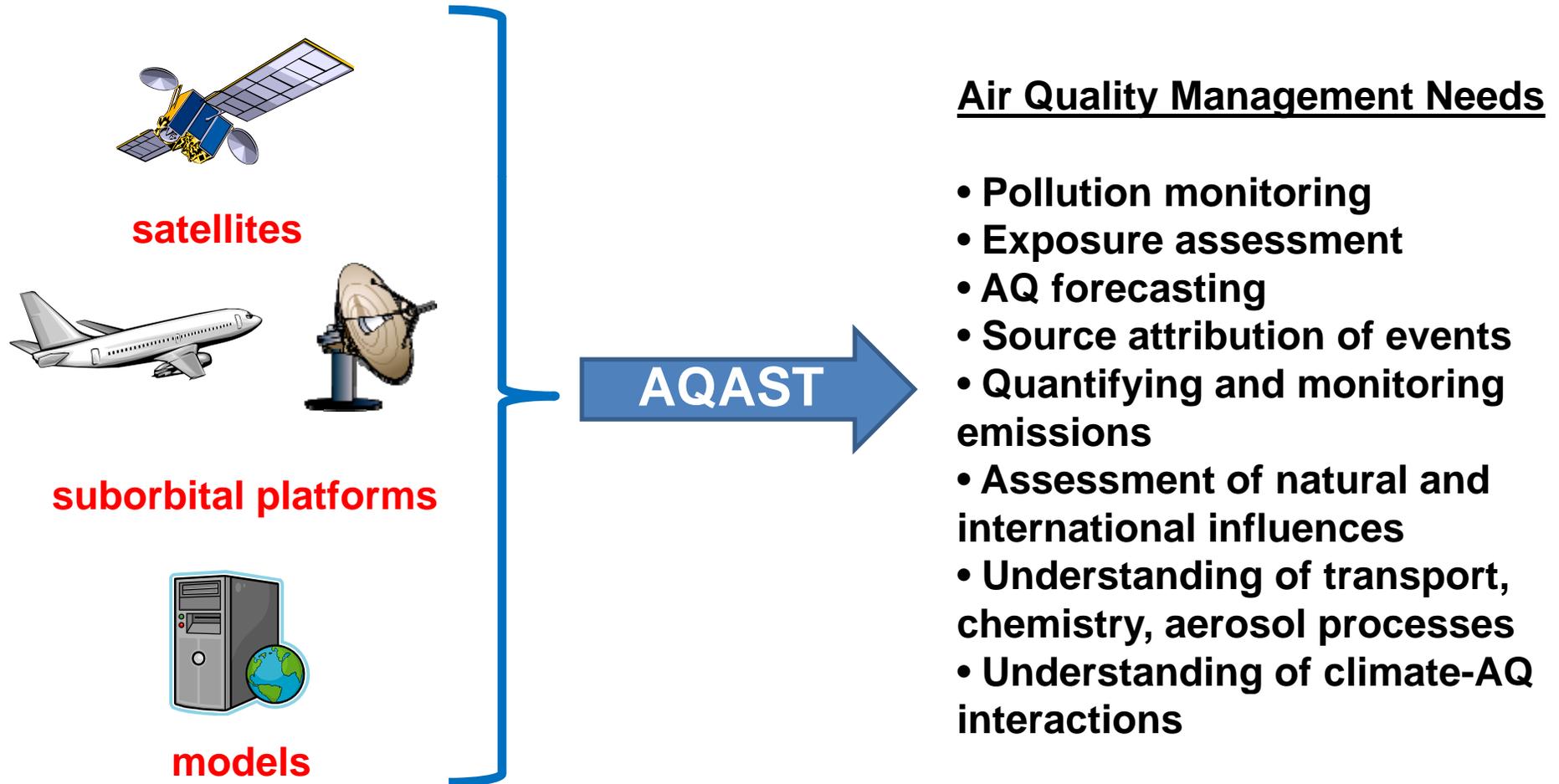


# NASA Air Quality Applied Sciences Team (AQAST)

Daniel J. Jacob, AQAST Leader

Our goal is to transfer Earth Science knowledge to serve the needs of US air quality management with focus on the use of NASA satellites, suborbital platforms, and models



*(Note: Most slides adapted from D.J. Jacob AQAST presentation)*

# AQAST Membership: PIs and Co-Is

- **Daniel Jacob (leader)**, Loretta Mickley (Harvard)
- **Greg Carmichael** (U. Iowa)
- **Dan Cohan** (Rice U.)
- **Russ Dickerson** (U. Maryland)
- **Bryan Duncan**, Yasuko Yoshida, Melanie Follette-Cook (NASA/GSFC); Jennifer Olson (NASA/LaRC)
- **David Edwards** (NCAR)
- **Arlene Fiore** (NOAA/GFDL); Meiyun Lin (Princeton)
- **Jack Fishman**, Ben de Foy (Saint Louis U.)
- **Daven Henze**, Jana Milford (U. Colorado)
- **Tracey Holloway**, Steve Ackerman (U. Wisconsin); Bart Sponseller (Wisconsin DRC)
- **Edward Hyer** (UCAR); Jeff Reid, Doug Westphal, Kim Richardson (NRL)
- **Yang Liu**, Matthew Strickland (Emory U.), Bin Yu (UC Berkeley)
- **Richard McNider**, Arastoo Biazar (U. Alabama – Huntsville)
- **Ted Russell**, Yongtao Hu, Talat Odman (Georgia Tech); Lorraine Remer (NASA/GSFC)
- **David Streets** (Argonne)
- **Anne Thompson**, William Ryan, Suellen Haupt (Penn State U.)
- **Brad Pierce** (NOAA/NESDIS) – *Liaison*
- **Jim Szykman** (EPA/ORD/NERL) - *Liaison*

## **AQAST has the resources to make things happen**

- **Budget commitment of \$3.5M/year for five years**
- **Core funding of \$150K/year per member (*except liaisons*)**
- **Additional \$1M/year available to Team for special projects (*after October*)**
- **Team has discretion to allocate its resources as it sees fit, subject to approval by Applied Sciences Program**

**With these resources comes great responsibility! Some important comments from the review panel:**

- **Need to work as team, engage users**
- **Don't think of users as just EPA/NOAA – also state, regional, NPS, USFS, contractors, EPRI, API**
- **Offer capabilities, not bound by proposal tasks**
- **Need near-term successes**
- **Need to achieve sustained use**

# Activities

- **Short- and medium-term research within each group**
- **Tiger teams involving collaboration across groups**
  - **Prioritize quick-turnaround projects**
  - **Team and/or with outside (sub-contracted) investigators**
  - **Respond to the needs and priorities of end users**
- **AQAST meetings 3 times a year**
- **Interface with AQ management community**

# AQAST Kick-Off Meeting

(May 9-10, NCAR Foothills Lab, Boulder, CO)

- **Separate and joint sessions with EPA Advanced Monitoring Initiative (AMI) workshop**
  - **First of 3 AMI workshops organized by Jim Szykman and Terry Keating**
- **Followed by GEO-CAPE community workshop**
  - **Vision for geostationary satellite focusing on measurements of air quality and ocean color**

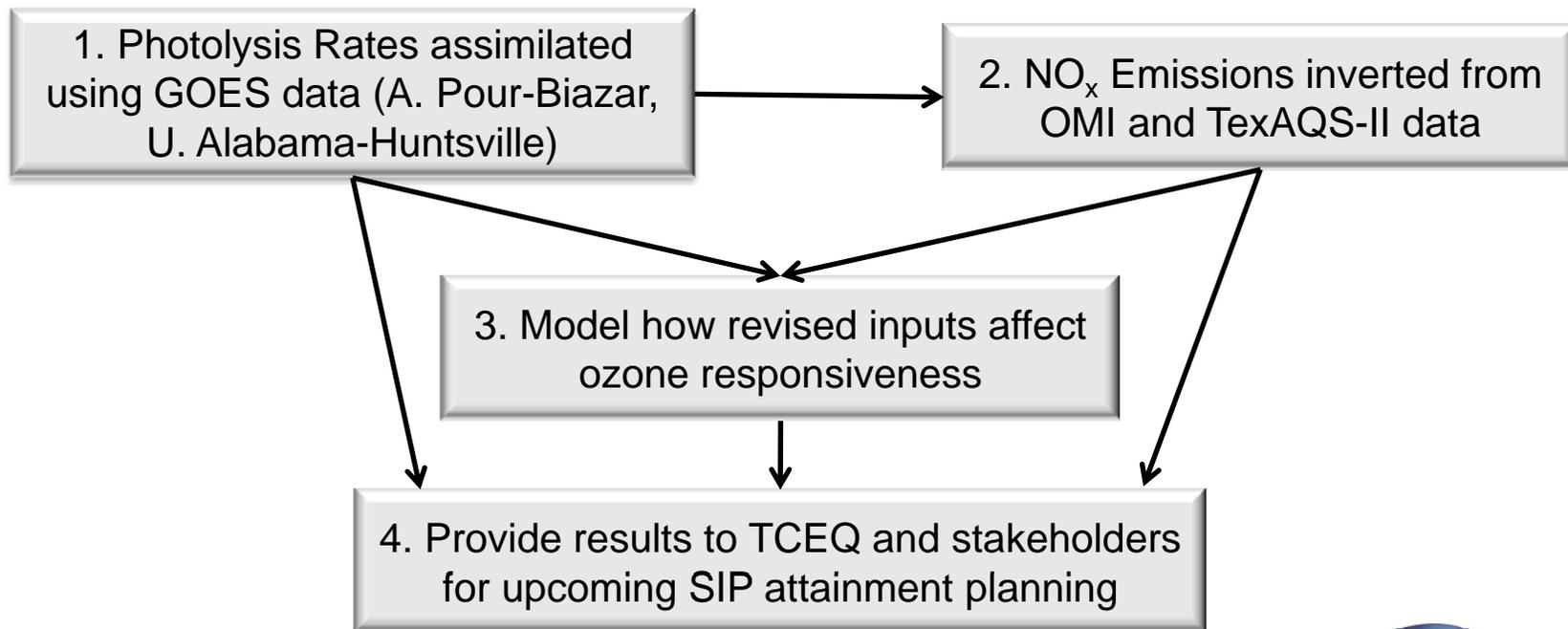
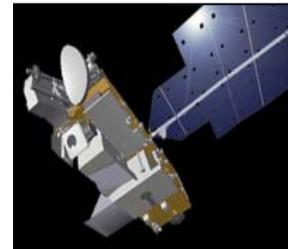
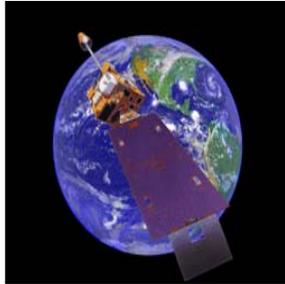


<http://geo-cape.larc.nasa.gov/>

# AQAST Research Priorities at Rice

- Inverse modeling of  $\text{NO}_x$  using OMI  $\text{NO}_2$
- Satellite-based clouds for meteorological and photochemical models
- Impact of satellite data on control strategy assessment (sensitivities)
- Ozone trends analysis
- Vegetation data for biogenic emissions modeling (recommended by TCEQ)

# Satellite observations applied to ozone attainment planning in Texas



# Research Priorities for Texas??

- Team is just getting started ... *What would you like to see emphasized?*
  - Applications of satellite and sub-orbital data
  - Research and deliverables that would benefit SIPs or other decision-making
  - Interactions among NASA, scientists, state & federal agencies, stakeholders