



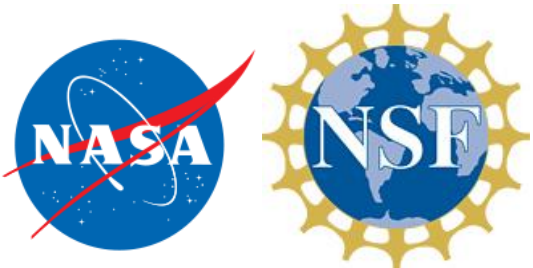
Mission Statement: Advancing atmospheric chemistry towards a sustainable world

The International Global Atmospheric Chemistry Project

WCRP Joint meeting

May 2025

Current Sponsors



International Project Office Location
University of CO, Boulder



Parent Organizations





Introduction to IGAC

- A global research network since 1990, originally under the International Geosphere-Biosphere Program (IGBP), now under Future Earth and iCACGP (international council on atmospheric chemistry and global pollution)
 - IGAC seeks to facilitate international collaboration and coordination on atmospheric chemistry by advancing knowledge, fostering community, building capacity, and engaging society.
 - IGAC is a community-driven organization:
 - community efforts coordinated by an International Program Office (IPO) (historically funded by US institutions and currently housed at the University of Colorado, Boulder)
 - The mission is guided by an international Scientific Steering Committee (SSC), whose members rotate every three years.
- A bottom-up organization: working groups and activities are proposed and led by community members with feedback and oversight from the SSC.



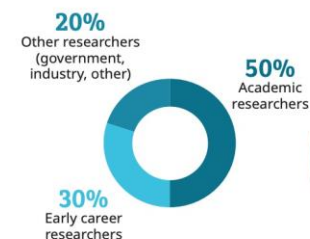
COMMUNITY STRUCTURE

Community Management

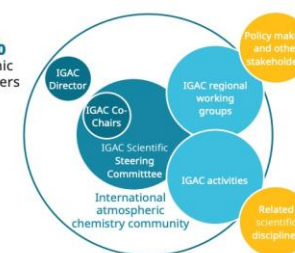
Community management is provided by a full-time **Director** with support from the **Scientific Steering Committee (SSC)** (15-20 volunteer scientists), two co-chairs from the SSC (volunteer scientists) and over 50 informal **champions** leading working groups and activities.



Members



Community Configuration





IGAC 2025 Scientific Steering Committee





Major Outputs of IGAC

- Biennial Science Conferences

- Co-sponsored by the International Commission on Atmospheric Chemistry and Global Pollution (iCACGP)/
- Open bidding for conference location
- Attended by 300-700 atmospheric chemists from across the world, revenue neutral or revenue generating (except early career/other travel support)

- Activities

- Community-proposed activities centered around scientific questions needing international collaboration to answer
- Reviewed every three years by the IGAC SSC
- New activities can be proposed at any time; often formed at side meetings during our conferences.

- Working groups

- Community-building in regions where atmospheric chemistry has been underrepresented.

- Early Career Activities

- Trainings, networking, leadership opportunities



Call for Papers

Biomass Burning Uncertainties: Emissions, Chemistry, and Physics

Submission deadline: Friday, 31 December 2027

Tropospheric Ozone Assessment Report Phase II (TOAR-II)
Community Special Issue (ACP/AMT/BG/GMD inter-journal SI)

Editor(s): Owen R. Cooper, Martin G. Schultz, and Paul Stoy

Special issue jointly organized between Atmospheric Chemistry and Physics, Atmospheric Measurement Techniques, Biogeosciences, and Geoscientific Model Development

The Tropospheric Ozone Assessment Report (TOAR-II) is an official activity of the International Global Atmospheric Chemistry Project (IGAC) (<https://igacproject.org/activities/TOAR/TOAR-II>). The goal of TOAR-II is to build on the success of TOAR-I (2014–2019) and produce an updated assessment of tropospheric ozone's global distribution and trends from the surface to the tropopause. This effort includes an analysis of the impacts of ozone on human health, crop and ecosystem productivity, and climate.



Tropospheric Ozone Database

EDGAR
emissions
database



Scientific Activities

Atmospheric Chemistry + Climate, Composition + Dynamics
ACAM & CCMi Co-Sponsored by APARC

Human-Atmospheric Chemistry
connections (emissions, air
quality modeling, urban
emissions and climate)

Polar and Cryosphere
Atmospheric Chemistry

air Pollution in the Arctic:
Climate Environment and Societies



Co-sponsored
by SOLAS and
BEPSII



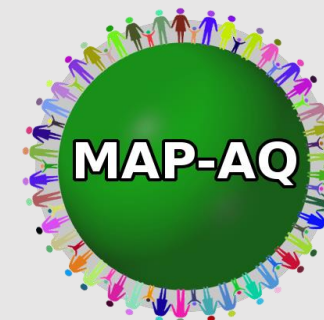
Measurements and Observations
(Ozone, low-cost sensors, satellite retrievals)



Collaborate with WMO-GAW



Co-
sponsored
by iLEAPS



Connected
to WMO
activity
GAFIS



Urban air
pollution and
climate: newest
activity



Working Groups and Outputs

Regional working groups create a whole better than their parts: they allow scientists to advocate for their science under a larger umbrella, connect regionally with each other on similar issues and barriers they face, and connect with the wider community through IGAC.



AMERICAS
WORKING
GROUP

Fed back into the GEIA activity with better local emissions (PAPILA), used these better emissions to increase the accuracy of local air quality forecasts (MAP-AQ).



IGAC
Southern
Hemisphere
Working Group

Recent review paper on issues in atmospheric chemistry in the Southern Hemisphere, Southern Oceans working group within CATCH.



Huge community of scientists and early career researchers. Helped motivate open database of air quality and other air measurement data.



Local journalist trainings on air quality and climate change; negotiated for African scientist inclusion in recent Africa Assessment on Air Quality



Closely linked to ACAM activity. Brings policy makers into their meetings. Ensured local scientist participation and benefit, political help, in recent NASA mission AsiaAQ.



Advocates for continued funding and political interest in atmospheric science and long-term monitoring in Japan



Early Career Activities

2025 Early Career SSC



Early Career SSC Activities

- Monthly webinars (skills, science talks)
- Virtual networking and science conference
- Newsletter and science highlights
- Microgrants program launching soon

Other Early Career Opportunities

- Early Career Short Course
 - Planned by an international committee of early career scientists
 - 40 competitively selected early career attendees attend, three days before the conference
- Early Career Program
 - Skills workshops, networking, senior scientist-early career lunch during conference
- Early Career Travel Grants
 - To activity meetings
- Early Career Training Schools
 - Summer schools and other trainings (potentially with WMO-GAW)



project support research idea writing data grant application instrumentation variability declaration analysis supervisor peer public management python uncertainty building harassment isolation taking inexperience stress complexity information imposter syndrome international project management reliability career autonomy direction science life balance connections peaks terrace note motivation transition interruption cooperation skills time confusion deadlines status influence programming progress graduation professional reputation spatial assessment thinking scientific research purpose racism work life ignorance mental health servers modular

Some matches between what IGAC provides and what ECRs need, but we can work to do better!



We are open to collaboration!

- IGAC activities typically focus on science and community at their forefront, bringing the community together over ***research questions or building a community of practice.***
- IGAC is a grassroots community: activities and working groups are proposed and led by our community with guidance from the IGAC SSC and coordination by the IGAC project office.
 - Guidance on working group and activity expectations located on our website, reach out to langley@igacproject.org for more information on activity proposals.
 - IGAC only has one paid employee! So initiatives MUST come from the community to be successful.
- The IGAC Early Career community, including the iCACGP-IGAC early career steering committee, is vibrant and active, could be good contributors to or benefactors of the WCRP academy



How should we collaborate while maintaining our community and science focus?

- Should we jointly develop a separate set of guidelines for proposing new activities that could be co-sponsored?
 - How? How do other activities get formed from WCRP?
 - A recent example of interest for a new activity that has cross-cutting implications: IGAC was approached by a NGO for The Alliance for Just Deliberation on Solar Engineering, they are looking for a host for resources for LMIC countries (scientists, stakeholders, policy makers) on SRM research. IGAC is not the only host for this.
- More opportunities to connect?
 - The 2018 IGAC conference was in Takamatsu, Japan while the APARC conference took place the week after in Kyoto, Japan. Jointly relevant sessions scheduled for Thursday-Tuesday: was this successful?
- Are we fine and should we focus on supporting current collaborations?
- Joint positioning papers?
 - Biases in publishing papers from the Global South
 - Importance of long-term monitoring
 - JUST energy transitions (Nexus of air quality, climate, energy)



Upcoming Events

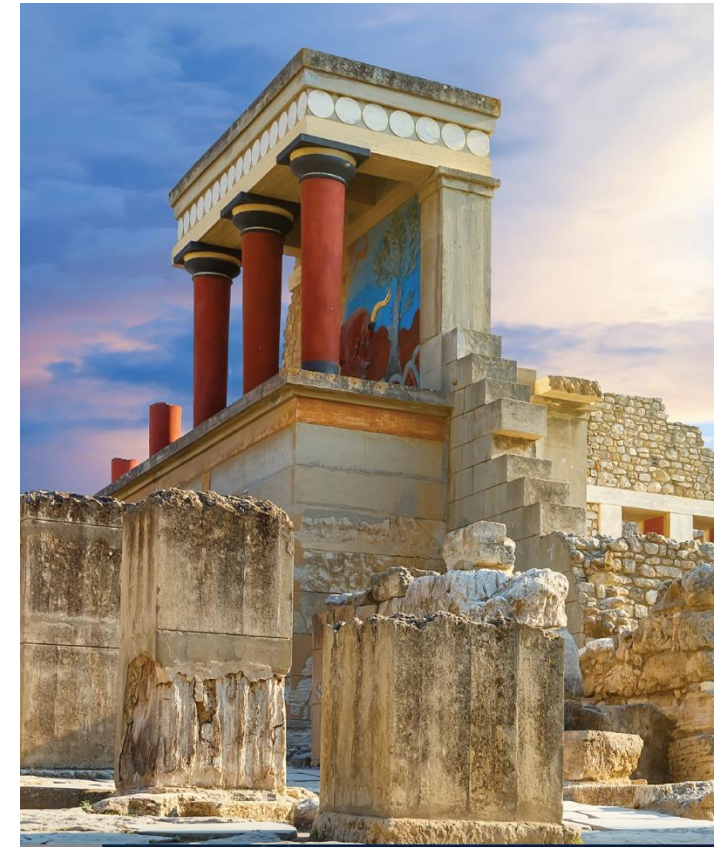
- ACAM Conference
 - 9-13 June 2025 in Bali, Indonesia
 - Training School 9-11 June
- GEIA Conference
 - 9-11 July 2026 in Abidjan, Côte d'Ivoire
- IGAC-iCCGP Online Early Career Researcher Conference
 - 25 September 2025
 - Highlight talks, interactive networking sessions, collaborative activities, professional development workshops, and poster sessions, across three time zones to maximize global participation
 - **Six poster prizes** for transport, registration, and lodging to the 2026 iCACGP-IGAC conference in Crete, Greece (made possible by ESA, Future Earth, WMO, CSIRO, and MDPI-Atmosphere)
 - Abstract submission deadline (early careers only) 10th August 2025.
- 2nd Chemical Weather and Chemical Climate Conference
 - 14-16 October 2025 at Mohammed VI Polytechnic University of Benguerir, Morocco
 - Organized by the African Research Center on Air Quality and Climate
 - Sessions on science, connected challenges, solutions, equity and justice, co-benefits, policy translation, and global collaboration





Save the Date

- 2026 iCACGP-IGAC Joint Conference: Atmospheric Chemistry within the Earth System: Understanding Changes and Impacts
 - 7-11 September 2026: Main Conference
 - 4-6 September 2026: Early Career Short Course
 - Crete, Greece
- Proposed Sessions (DRAFT):
 - The Changing Atmosphere in the Earth System
 - Fundamentals of Atmospheric Chemistry and Physics
 - Air Quality Monitoring and Air Pollution Impacts
 - Climate-Air Quality Interactions
 - Remote Sensing, Artificial Intelligence, and Modeling
 - Panel Discussion on emerging research topics, tools, and challenges in Atmospheric Chemistry





Potential future changes

- Like many others with US federal funding, we are in uncertain times!
- IGAC has traditionally been US-funded, but the community is very international. Changing funding climates might mean a move of the IPO or a change of our funding scheme.



Questions?