

# Mitigating the Climate Impact of the ASOR Annual Meeting: A First Appraisal

Lucas Stephens<sup>1</sup>, Virginia R. Herrmann<sup>2</sup>

<sup>1</sup> Environmental Law and Policy Center, Mellon/ACLS Public Fellow

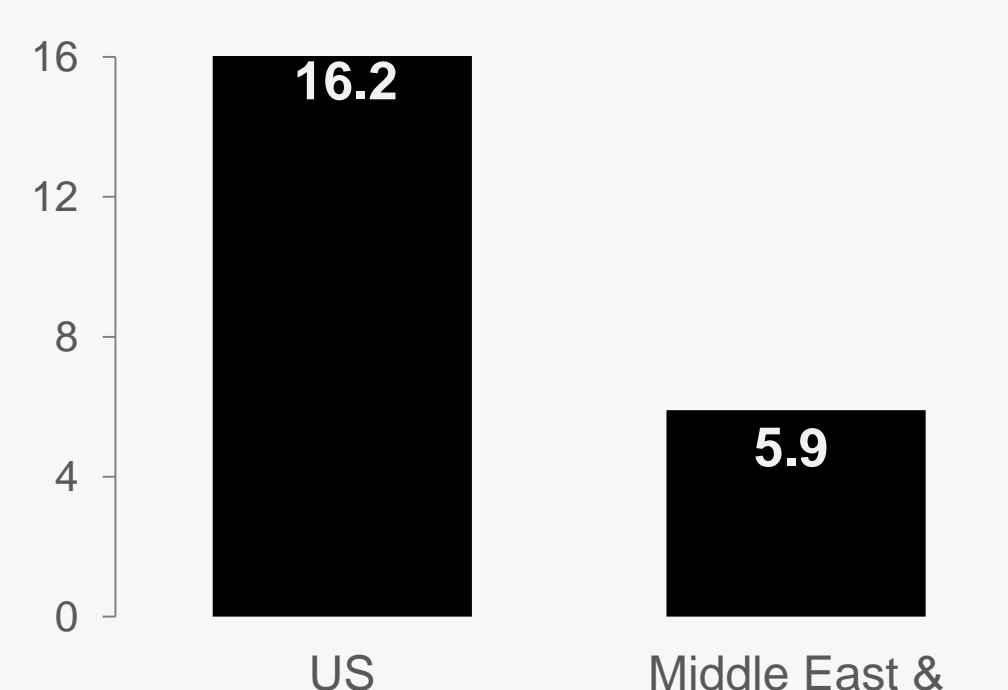
<sup>2</sup> Eberhard Karls Universität Tübingen, Tübingen, Germany

Correspondence: [lucas.s.stephens@gmail.com](mailto:lucas.s.stephens@gmail.com); [vrherrmann@gmail.com](mailto:vrherrmann@gmail.com)



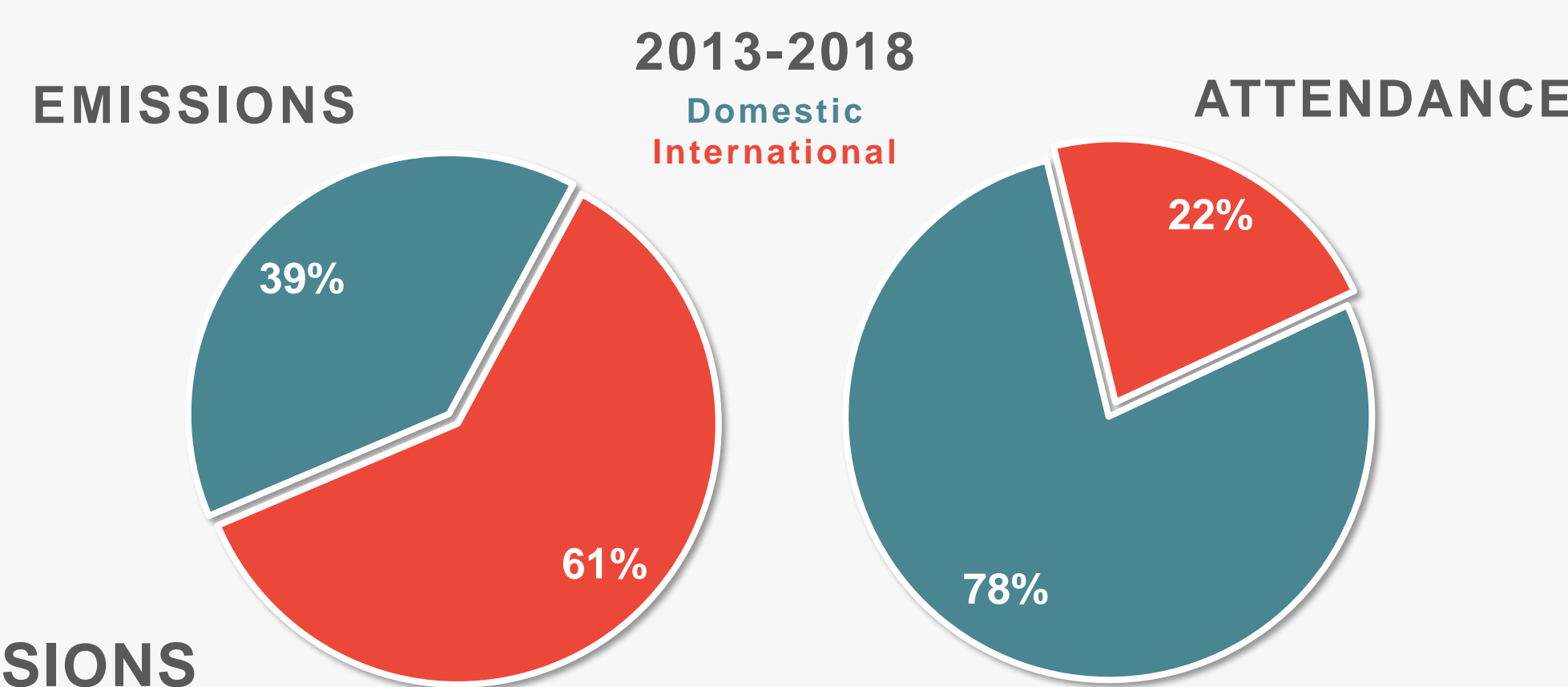
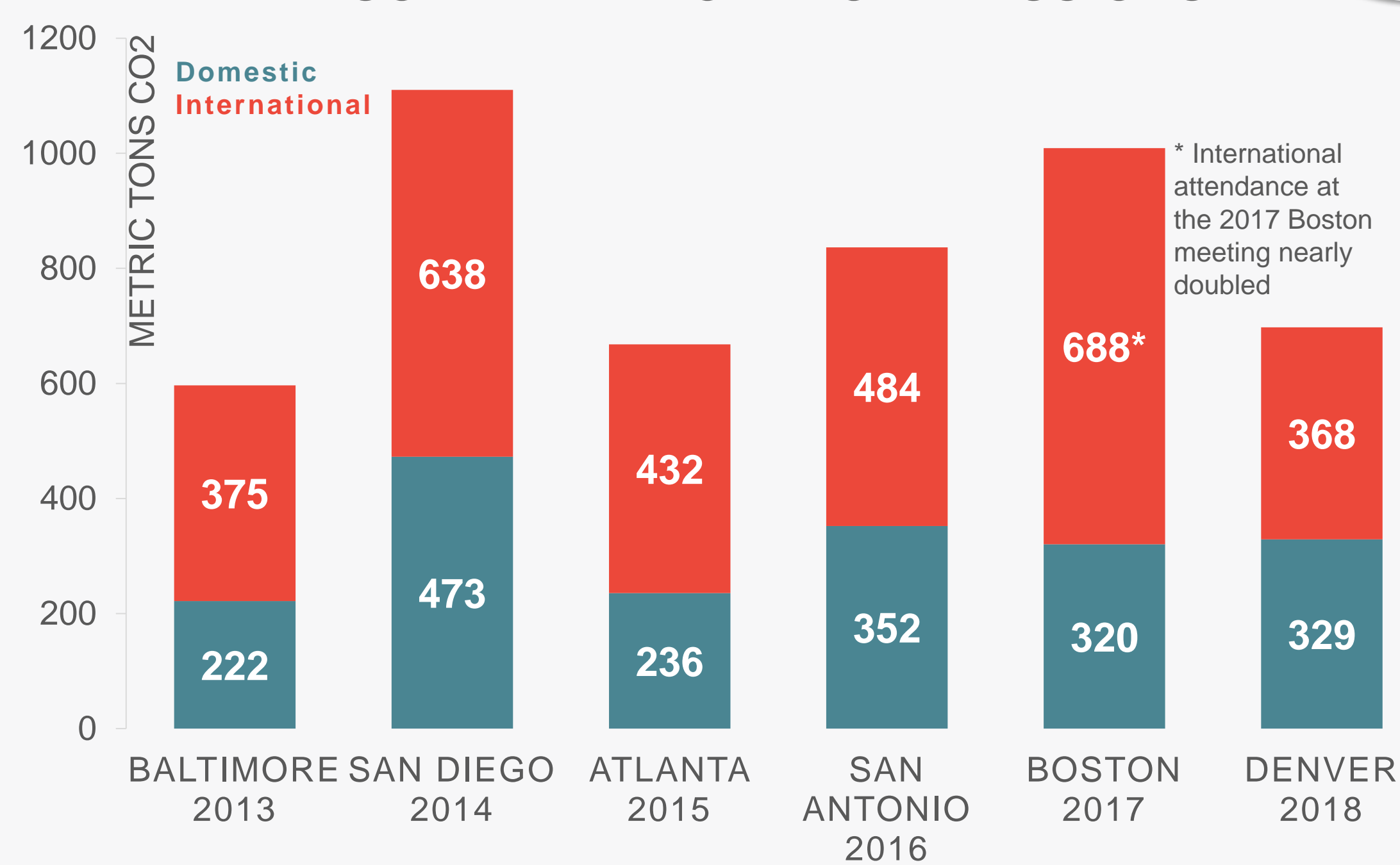
## The Problem

Per Capita Carbon Emissions, 2017\* (metric tons)



\* Global Carbon Atlas \*\*excludes Gulf countries

ASOR TRAVEL CARBON EMISSIONS



Average carbon emissions of travel to the ASOR Annual Meeting

**820**

metric tons per year

**0.89**

metric tons per attendee

## The Climate Emergency and #flyingless

The 2018 UN IPCC report issued the stark warning that the global community has 12 years left to avoid catastrophic warming above 1.5°C.<sup>1</sup> This clarion call to action challenges us to rethink and transform the status quo in every sphere of activity, including academic life. Aviation emissions currently constitute 4-5% of global greenhouse gas emissions,<sup>2</sup> and the number of flights is projected to grow 5% per year.<sup>3</sup> Reducing air travel is among the most high-impact ways for individuals to mitigate climate change.<sup>4</sup> Given that academics fly significantly more than the average person for research and conferences, some academics are trying to change the culture by reducing or eliminating their own air travel.<sup>5</sup> Some academic organizations are following suit by hosting either virtual conferences through online prerecorded or live-streamed talks and Q&A sessions<sup>6</sup> or hybrid virtual and distributed conferences, with interconnected, local in-person nodes designed to reduce the need for long-distance and transatlantic travel.<sup>7</sup>

## Travel Emissions: ASOR Annual Meeting

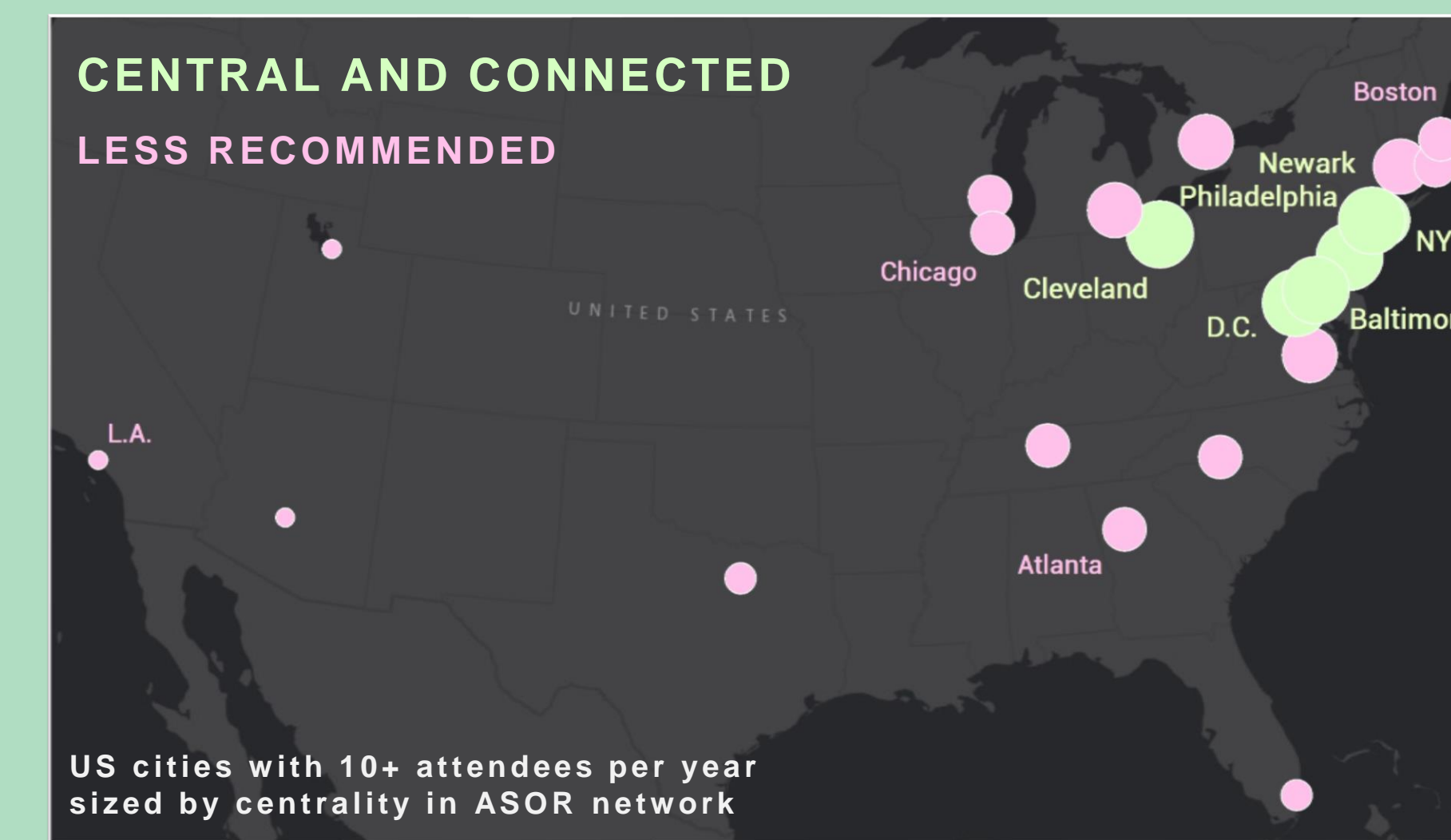
Global warming is projected to have a devastating impact on the Middle Eastern countries to which ASOR members have an ethical duty of care.<sup>8</sup> Analysis\* of six years of anonymized attendance data from the ASOR Annual Meeting reveals: 1) the estimated average per capita carbon emissions for travel to the meeting is 0.89 metric tons, equivalent to ca. 15% of the annual per capita carbon emissions for ASOR's study countries; 2) carbon emissions varied considerably by year, depending on a) the geographic centrality and connectivity of the host city, and b) the number of international attendees; 3) international flights contributed a majority of the carbon emissions (average 61%), even though international attendees made up only a fifth (22%) of the attendees.

\*Attendee source locations aggregated by state/province (USA & Canada) and country (international). Direct flights assumed from busiest airport in each state/province/country. For trips under 300 miles, 90% assumed by car (1.59 avg. occupancy), 10% by train.

<sup>1</sup> United Nations Intergovernmental Panel on Climate Change. 2018. "Global Warming of 1.5 °C." <sup>2</sup> Lee, D.S., et al. 2010. "Transport impacts on atmosphere and climate: Aviation." *Atmospheric Environment* 44(37):4678-4734. <sup>3</sup> International Civil Aviation Organization. 2016. "CAO Environmental Report 2016: Aviation and Climate Change." <sup>4</sup> Wynes, S. and Nicholas, K. 2017. "The climate mitigation gap: education and government recommendations miss the most effective individual actions." *Environmental Research Letters* 12(7). <sup>5</sup> Kalmus, Peter. *No Fly Climate Sci* (blog); Wilde, Parke. *Flying Less: Reducing Academia's Carbon Footprint* (blog); see #flyingless on Twitter. <sup>6</sup> Environmental Humanities Initiative, UC Santa Barbara. May 3-24, 2016. "Climate change: views from the humanities. A nearly carbon-neutral conference." <sup>7</sup> Society for Cultural Anthropology. April 19-21, 2018. "Displacements." <sup>8</sup> International Conference on Music Perception and Cognition. July 23-28, 2018. "15<sup>th</sup> International Conference." <sup>8</sup> Lelieveld, J. et al. 2016. "Strongly increasing heat extremes in the Middle East and North Africa (MENA) in the 21<sup>st</sup> century." *Climatic Change* 23 April 2016.

## Mitigation Strategies

### 1. Site Selection



Network analysis of travel emissions weighted by average attendance (from cities with 10+ attendees/year) suggests that hosting the annual meeting in one of these six cities would reduce travel emissions by 22% compared to a 2013-2018 baseline: Washington D.C., Baltimore, Philadelphia, Cleveland, Newark, or New York City

### 2. Distributed Locations



To reduce the need for transatlantic travel while continuing to promote internationalization, we propose adding a parallel meeting in the Middle East that would be simultaneous with and virtually linked to the US meeting. A selection of events (e.g., keynote speeches, discussion panels) could be live-streamed, while a wider array of talks and posters could be recorded and uploaded for on-demand viewing by participants in both locations. Potential host locations include the ASOR-Affiliated Overseas Research Centers CAARI (Nicosia, Cyprus), ACOR (Amman, Jordan), and the Albright Institute (Jerusalem), or another center such as ARIT (Istanbul or Ankara, Turkey).

### 3. Teleconferencing

ASOR can also lower travel emissions and increase accessibility by experimenting with teleconferencing and other digital options for contributions to the annual meeting. To start, we propose:

- A virtual poster session (example here), with PDF posters accompanied by short recorded presentations, browsable on several computer stations, with live chat during the session period;
- One teleconference-equipped meeting room, allowing ca. 12 sessions to accommodate remote presentations and discussion.

### 4. Sustainability Incentives

ASOR can also encourage sustainable travel through targeted promotions. For example, the meeting website currently offers sponsored discounts on air travel to the annual meeting. This could be replaced with negotiated discounts from Amtrak, and the website could link to a carbon offset calculator. Discounts on hotel rooms or registration or a free meal could reward attendees who choose train travel or carpooling or who purchase a carbon offset for their flight to the meeting. Carbon offsetting is not as desirable as eliminating emissions, but can mitigate the harm of unavoidable travel.



## Summary

This poster estimates the total carbon emissions of travel to the ASOR Annual Meeting, proposes several pragmatic strategies to mitigate emissions, and models the effectiveness of each strategy.

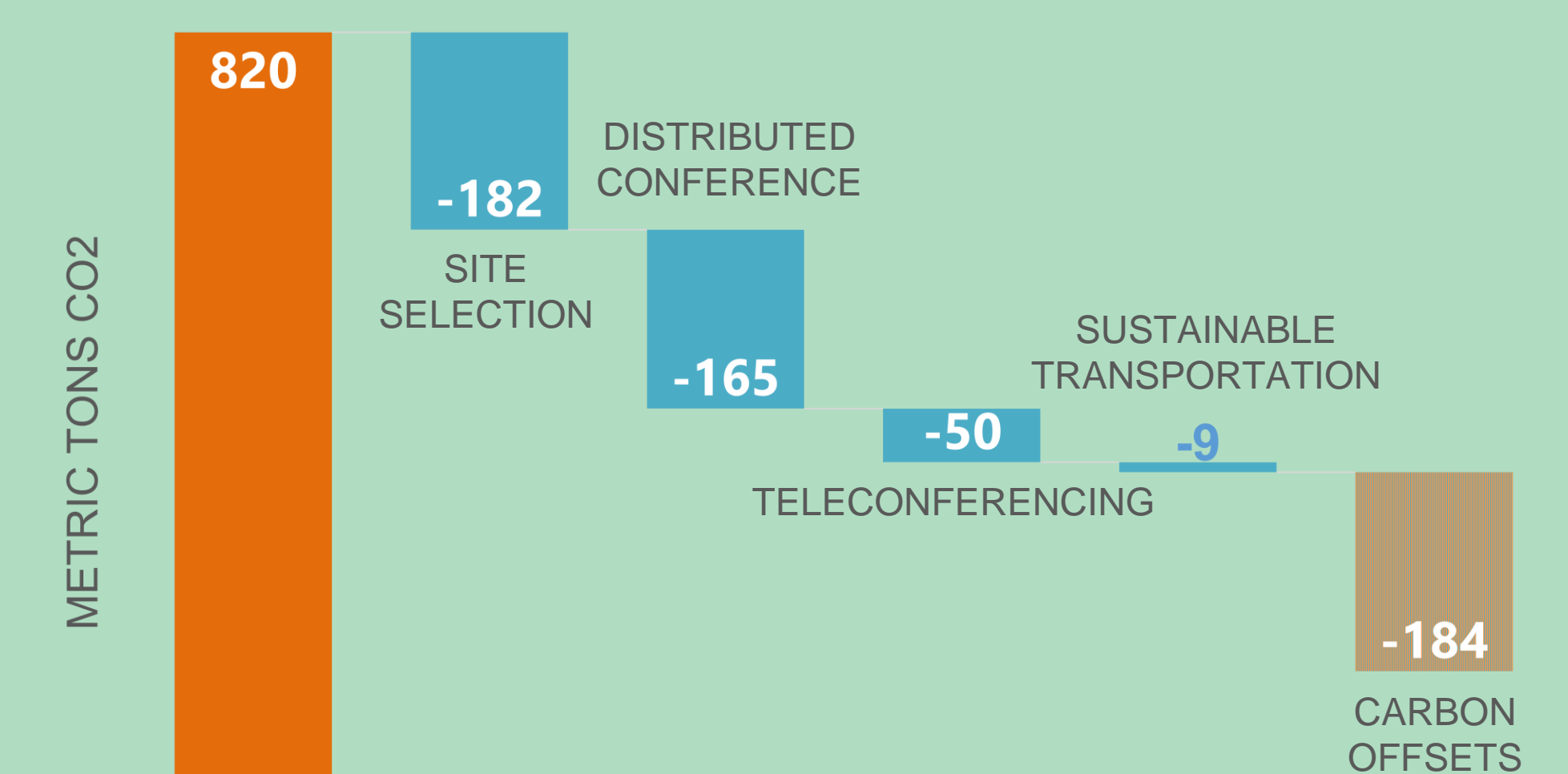
Emissions from transportation are a major cause of climate change, and routine conference travel leads academics to have an outsized carbon footprint. ASOR must join other organizations in reckoning with its own contribution to the climate emergency. A further ethical consideration is that climate change has a more severe impact on the Middle Eastern countries studied by ASOR than on many members' home nations.

Recommendations include: 1) geographic optimization of the host city, 2) introduction of a parallel and virtually-linked meeting in the Middle East, 3) provision of teleconferencing options for some contributors, and 4) incentivizing sustainable travel modes. In combination, these strategies can reduce emissions by 50%. They would carry the additional benefits of increasing the meeting's accessibility for participants with disabilities, childcare obligations, difficulties acquiring visas to the U.S., or limited funding for conference travel, and are thus likely to raise overall attendance.

## Results

- Strategic site selection and the addition of a distributed meeting site in the Middle East have the greatest potential to reduce travel-related carbon emissions.
- By combining multiple mitigation strategies, it may be possible to reduce travel emissions by 50% and encourage carbon-offsetting of the remainder.

MITIGATION STRATEGIES COMPARED



- We modeled expected emissions reductions via five mitigation strategies:
- Site Selection – host city optimized according to network analysis of travel emissions weighted by average annual attendance;
  - Distributed Conference – 40% of European/Middle Eastern attendance transferred to a distributed site (modeled to Amman, Jordan) with +15% attendance;
  - Teleconferencing – 4.5% of attendees from averaged upper half of flight lengths, expected to participate remotely;
  - Sustainable Transportation – within 300 miles of host city: 50% switch to train, 50% switch to carpool (2.5 avg. occupancy);
  - Carbon Offsets – purchased for 50% of total remaining flights.

## Accessibility & Equity Co-Benefits

The strategies proposed would carry additional benefits of making the conference more accessible. By reducing barriers to participation for people with disabilities, childcare obligations, limited funding for conference travel, or difficulties acquiring visas to the U.S., these measures can improve the equity of the meeting's organization. As ASOR may be losing a significant and increasing number of potential members and attendees due to these concerns, steps taken to reduce the requirement of long-distance travel to the meeting are likely to increase overall participation and internationalization of the society.