

# How to Give an Effective Presentation



**GEOG0170 Seminar  
Week 9**

**Eloise Marais  
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# Manage your time effectively



**12 minutes**

**Budget a slide a minute at most.**

Excludes title slide and slide with reference list.

**Be selective of content to present.**

The goal is not to cram in as much information as possible. It's to tell a story.

# Suggested Slides Sequence

First Slide: Title (Handshake) Slide

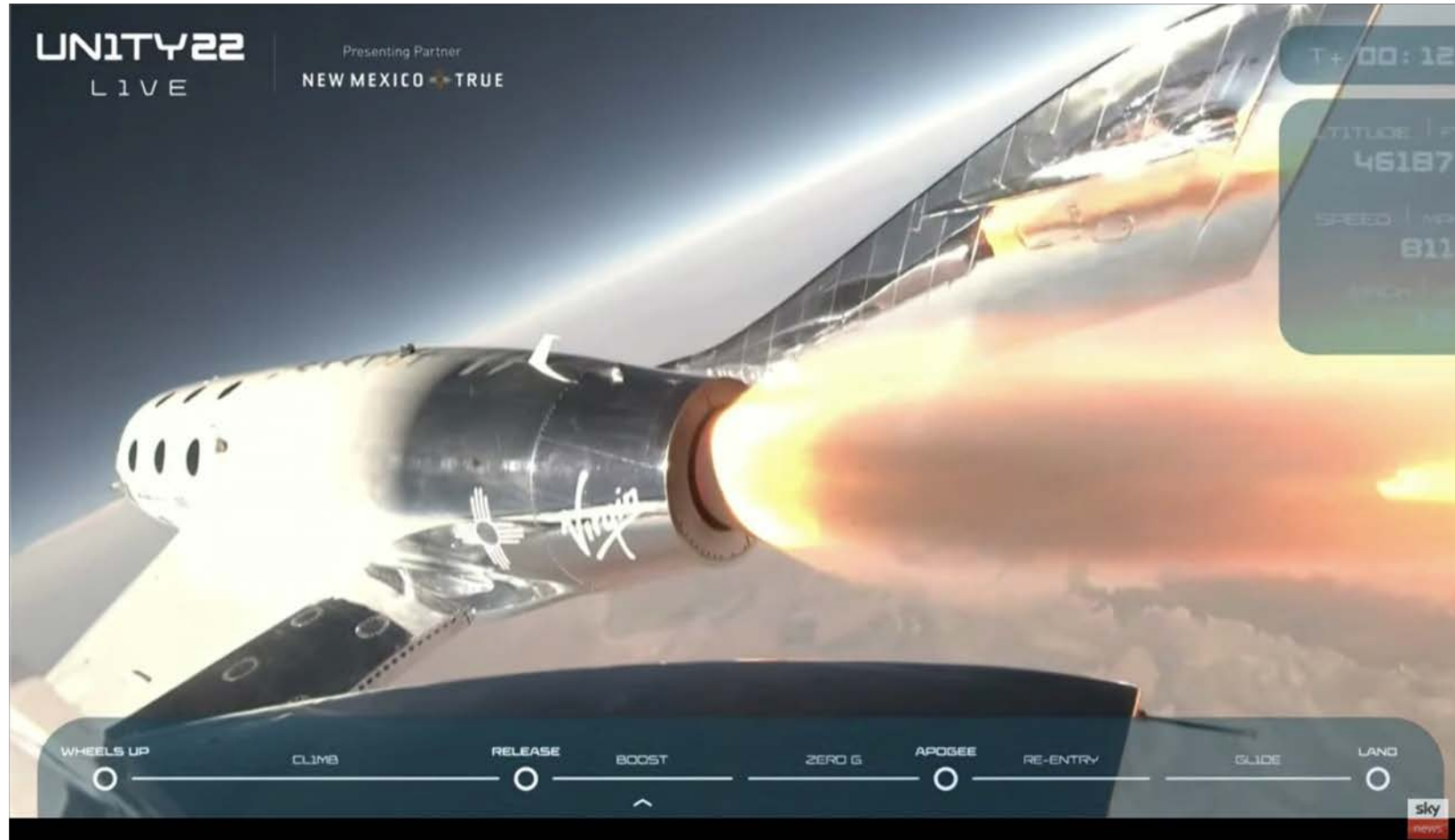
Next 8-12 Slides: Content

Final Slide: Conclusions

Additional Slide: Reference List (just show at end of presentation)

# Example Title (Handshake) Slide

## The Billionaire Space Tourism Race Could be One Giant Leap for Air Pollution



# Formatting Best Practices for Content Slides

- Less is more. Keep slides simple and uncluttered.
- Use a plain background. Avoid templates (except a box for the Zoom window).
- Keep text to a minimum. Figures/images/illustrations should dominate.
- Use 18+ font size for text (sometimes smaller font sizes for figures).
- Use Arial-equivalent font types. Avoid decorative fonts, like Times New Roman.
- Animated slides are fine, but keep to a minimum. If overused, these can be distracting.
- Videos or GIFs can be effective, but make sure these work.
- Acknowledge data/literature sources in the same format as in-text citations.
- Steer clear of **acronyms**. These stand in the way of effective communication.
- All text (including figure labels) must be in your own words (no quotes)

# Ban the Bullet Point

These are okay for lecture slides (serve as reference), but not for a talk

Audience reads the text, rather than listens to what you have to say

Find appropriate images with Google, primary literature, reported from reputable sources

Or create your own!

# Transform your Slide from this:

## Space Tourism Propellants

- Three different types of propellants used by space tourism companies:
  - Virgin Galactic: hybrid solid and liquid
  - Blue Origin: cryogenic
  - SpaceX: liquid
- The different types of propellants include a fuel and an oxidizer:
  - Hybrid: Solid synthetic rubber (HTPB) fuel and liquid nitrous oxide ( $\text{N}_2\text{O}$ ) oxidizer
  - Cryogenic: Liquid hydrogen fuel and liquid oxygen oxidizer
  - Liquid: Liquid kerosene and liquid oxygen oxidizer
- Virgin Galactic and SpaceX fuels are carbon-based and so produce  $\text{CO}_2$
- Blue Origin fuel has no carbon and so does not produce  $\text{CO}_2$

# To this:

## Space Tourism

Each rocket uses a different propellant

### Virgin Galactic



#### Hybrid:

solid fuel (HTPB) +  
liquid oxidizer ( $\text{N}_2\text{O}$ )

**Carbon-based fuel**

### Blue Origin



#### Cryogenic:

liquid fuel ( $\text{H}_2$ ) +  
liquid oxidizer ( $\text{O}_2$ )

**No carbon in fuel**

### SpaceX



#### Liquid:

kerosene +  
liquid oxidizer ( $\text{O}_2$ )

**Carbon-based fuel**



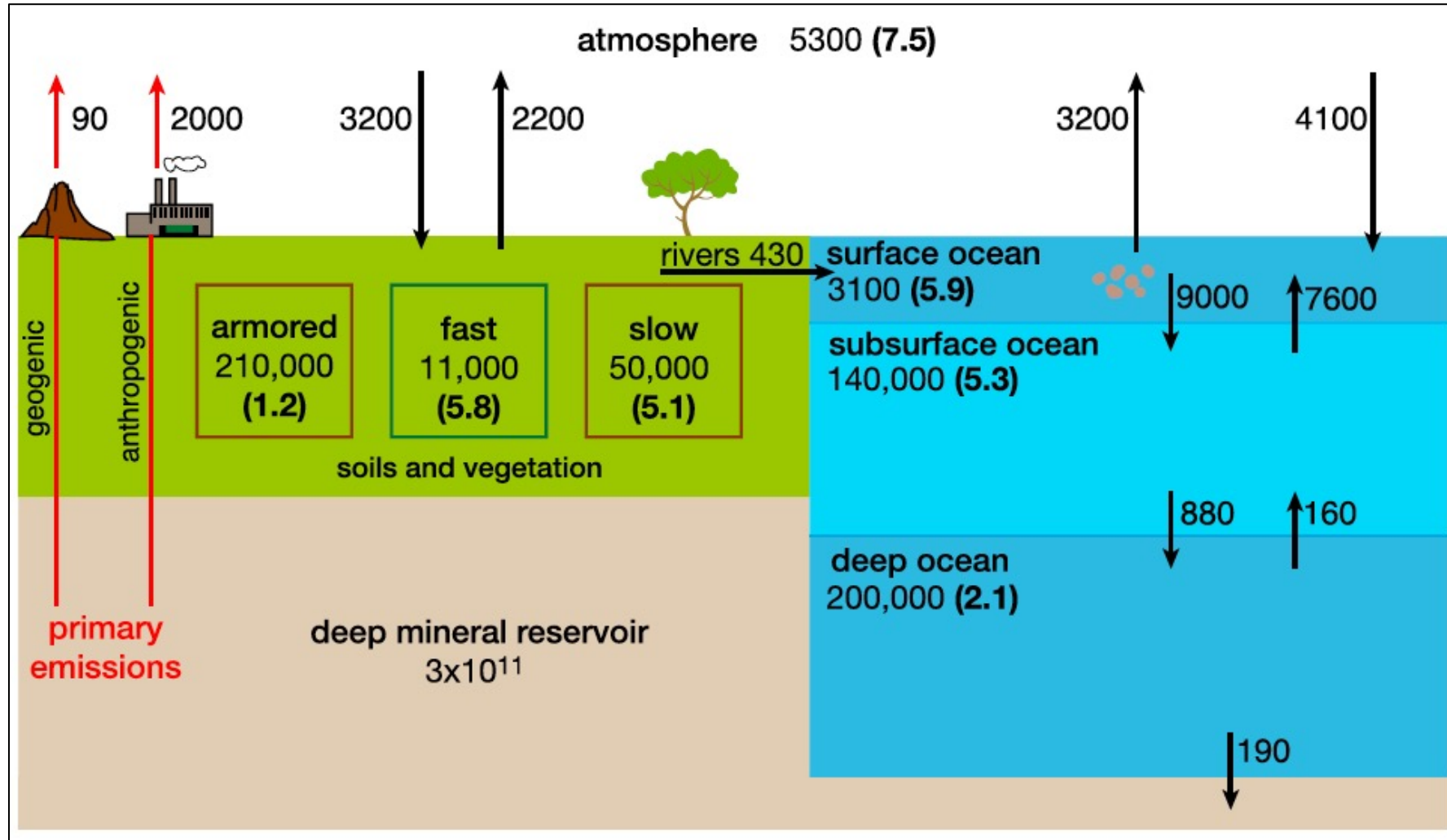
# Avoid Tables

Almost always an unimaginative, unrelatable and hard to comprehend way to display data

# Why show data in a table?

<b>Table 1.</b> Present-Day Hg Reservoirs and Flows <sup>a</sup>	
	Flows (Mg a <sup>-1</sup> )
Atmosphere: 5000 Mg	
Hg(II) deposition to ocean	3900
Hg(0) deposition to ocean	40
Hg(II) deposition to land <sup>b</sup>	1500
Hg(0) deposition to land <sup>c</sup>	1500
Surface ocean <sup>d</sup> : 2900 Mg	
Hg(0) evasion	3000
Particle settling to subsurface ocean	3300
Water transfer to subsurface ocean	5100
Subsurface ocean <sup>e</sup> : 130,000 Mg	
Particle settling to deep ocean	480
Water transfer to surface ocean	7100
Water transfer to deep ocean	340
Deep ocean: 220,000 Mg	
Burial to deep sediments	210
Water transfer to subsurface ocean	180
Fast terrestrial pool: 9600 Mg	
Evasion due to respiration of organic carbon	460
Photochemical re-emission of deposited Hg	850
Biomass burning <sup>f</sup>	290
Transfer to slow pool	330
Transfer to armored pool	10
River runoff to surface ocean <sup>g</sup>	365
Slow soil pool: 35,000 Mg	
Evasion due to respiration of organic carbon	250
Biomass burning	8
Transfer to fast pool	210
River runoff to surface ocean	10
Armored soil pool: 190,000 Mg	
Evasion due to respiration of organic carbon	25
Biomass burning	4
Transfer to fast pool	15
River runoff to surface ocean	5
Deep mineral reservoir: $3 \times 10^{11}$ Mg	
Geogenic emission	90
Anthropogenic emissions <sup>h</sup>	2000

# When it can be more clearly illustrated:



# Content Slides Layout

Account for the  
Zoom video

Specific slide title (not generic like “Results”)

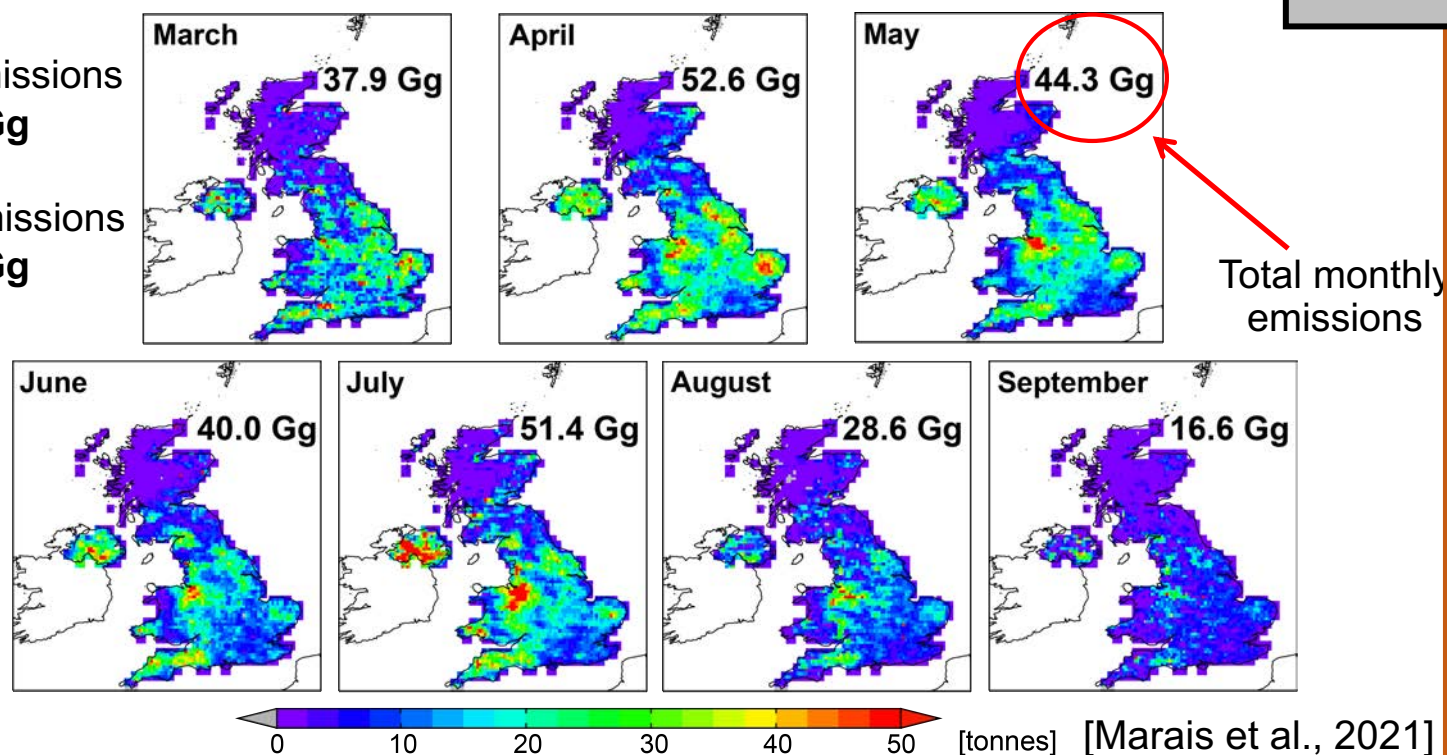
## Satellite-derived ammonia emissions at fine scales (monthly, 10 km)

Top-down ammonia emissions derived with a mass-balance approach

IASI-derived emissions  
total **272 Gg**

CrIS-derived emissions  
total **389 Gg**

Prominent and  
well labelled  
image



Bottom-up emissions total **199 Gg** and so are 27-49% less than top-down values

Brief, punchy take-home message

# Conclusions Slide

The only slide where it's okay to show bullet points and majority/only text

Opportunity to briefly wrap-up presentation

Draw out the most pertinent points (take-home message)

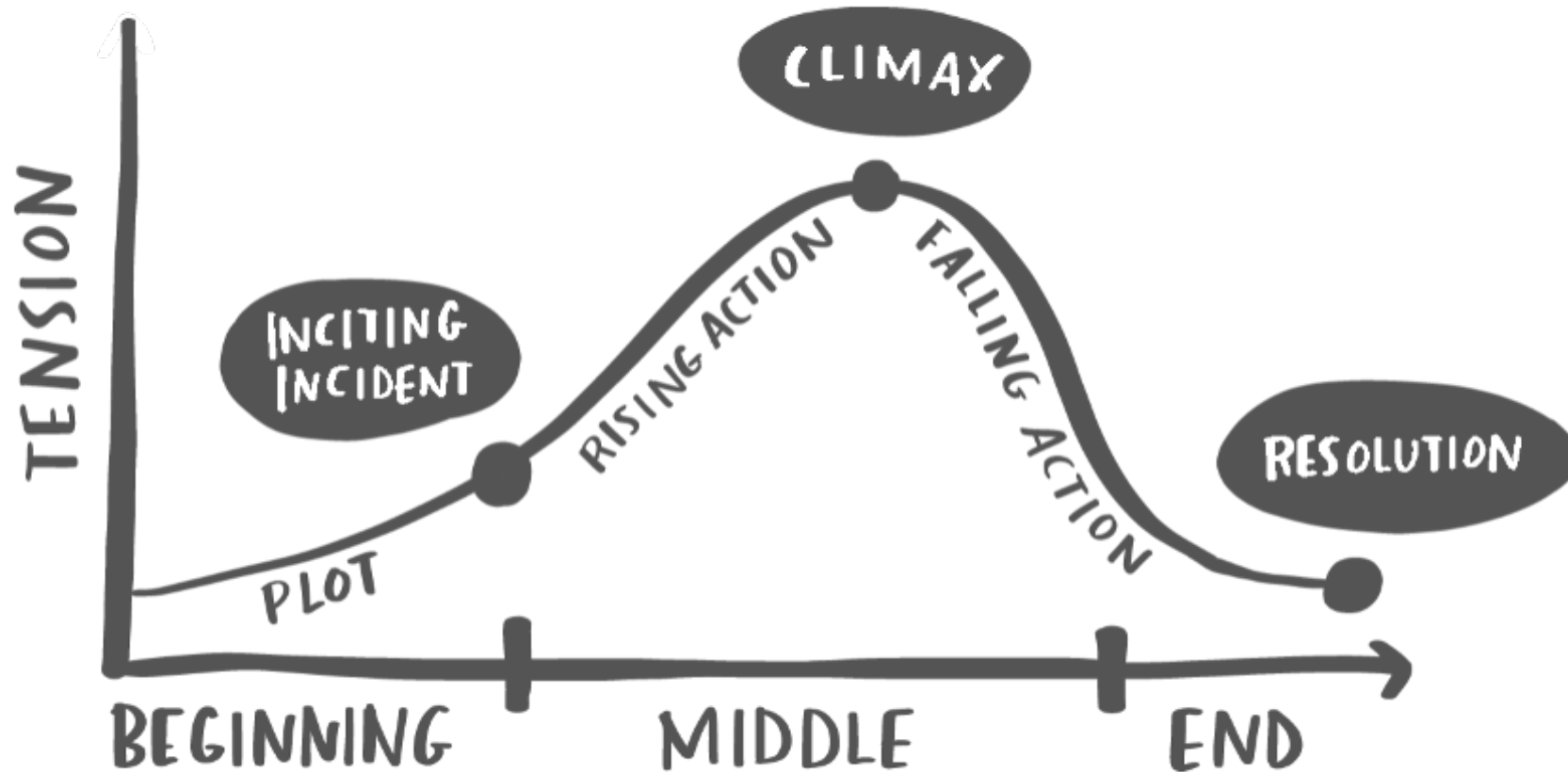
This could include a call to action or a personal reflection on the environmental issue based on your research.

# Additional Advice

- Know Your Audience
- Convey enthusiasm
- Practice
- Avoid presenting from a script (practice and familiarity with content address this)
- Test the technology beforehand
- Aim for text to occupy ~10% of the slide at most
- Each slide must convey a clear message
- Ensure content is relatable
- Figures in papers aren't always directly suitable for presentations
- Zoom specific: look at the camera while presenting
- Use Web of Science database to search for primary literature. UCL library link: <https://library-guides.ucl.ac.uk/wos>

# Additional Advice

**Tell a Story:** Setup (intro), Climax (results), Resolution (conclusions)



# Reference List

## References Used in this Talk:

**Amos**, H.M., D.J. Jacob, D.G. Streets, E.M. Sunderland, Legacy of all-time anthropogenic emissions on the global mercury cycle, Global Biogeochemical Cycles, 27, GBC20040, doi:10.1002/gbc.20040, **2013**.

**Marais**, E. A., A. K. Pandey, M. Van Damme, L. Clarisse, P.-F. Coheur, M. W. Shephard, K. E. Cady-Pereira, T. Misselbrook, L. Zhu, G. Luo, F. Yu, UK ammonia emissions estimated with satellite observations and GEOS-Chem, J. Geophys. Res. Atmos., 126, doi:10.1029/2021JD035237, **2021**.



# Additional Resources

**Geography Assessment Criteria:** <https://www.geog.ucl.ac.uk/study/undergraduate/current-students/files/UG%20Criteria%20October%202017.pdf>

*If I understood you, would I have this look on my face?* Book on communicating science by Alan Alda

Examples of well crafted slides: <https://maraisresearchgroup.co.uk/presentations.html>  
(& 2 1-hour lectures by Research Fellows in my group!!!)

Presentation advice Dr Marais gives to PhD students:  
<https://maraisresearchgroup.co.uk/Presentations/EffectivePresentation-UCL-Feb2022.pdf>

Nature blog: <http://blogs.nature.com/naturejobs/2017/01/11/scientific-presentations-a-cheat-sheet/>

How to tell a compelling story in scientific presentations: <https://www.nature.com/articles/d41586-021-03603-2>

Hidden Brain podcast episode: <https://www.npr.org/2020/01/09/794683840/tell-me-a-story-what-narratives-reveal-about-the-mind>