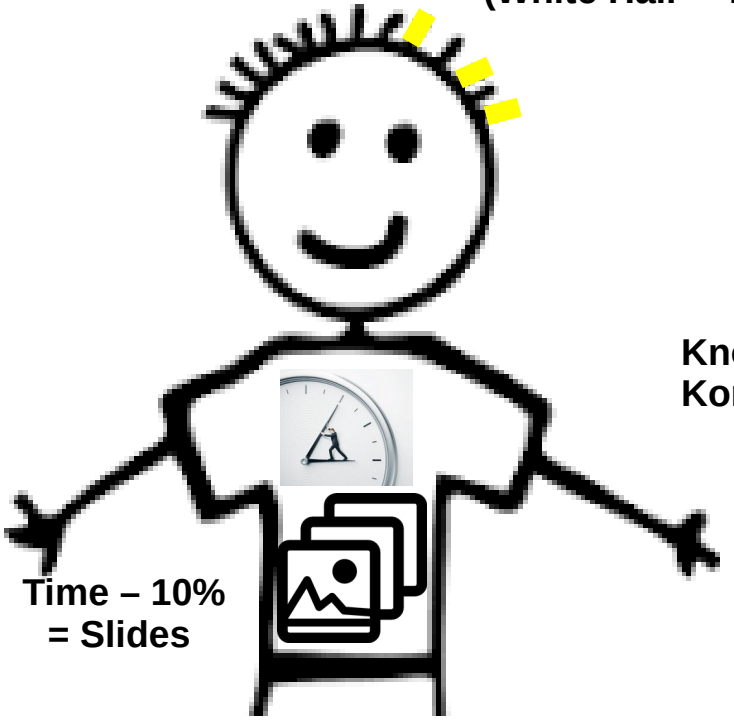
Scientific Messenger - Presentations

David Delene, Atmospheric Sciences Department, University of North Dakota

Remember a Presentations or Anything

Build a Funny Picture or Story (Visualization)



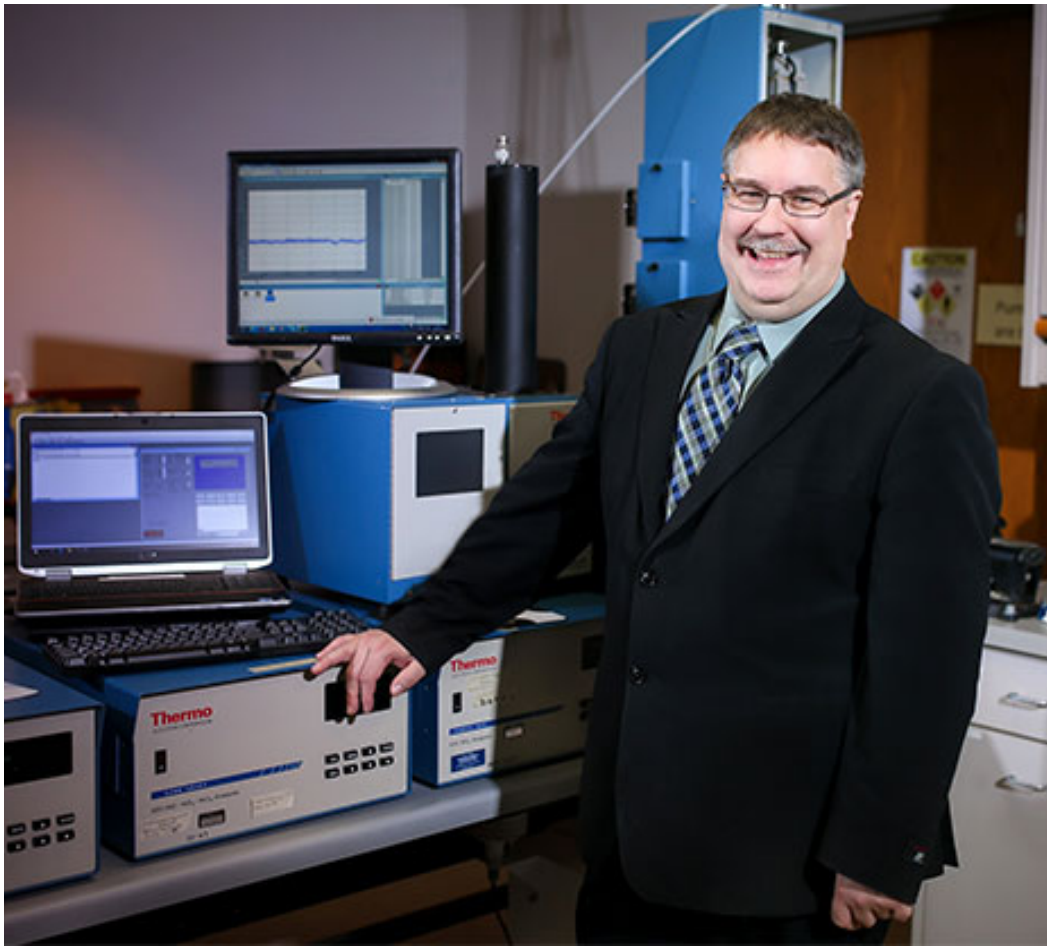
Experience Helps a Lot

- 21 University Courses.

  21 course *15 weeks * 3

  = 945

- >140 National or International Presentations
- > 25 Regional Presentations
- > 73 Local Presentations



Know the Audience

- Adjust presentation for different audiences.
- Typically, you can assume that your audience is scientists with an undergraduate educational level in atmospheric science.
- Understand what your audience expects, what options you have.

Dr. Raina demonstrating pesticide sampling at the Glacialridge field site on October 10, 2012.

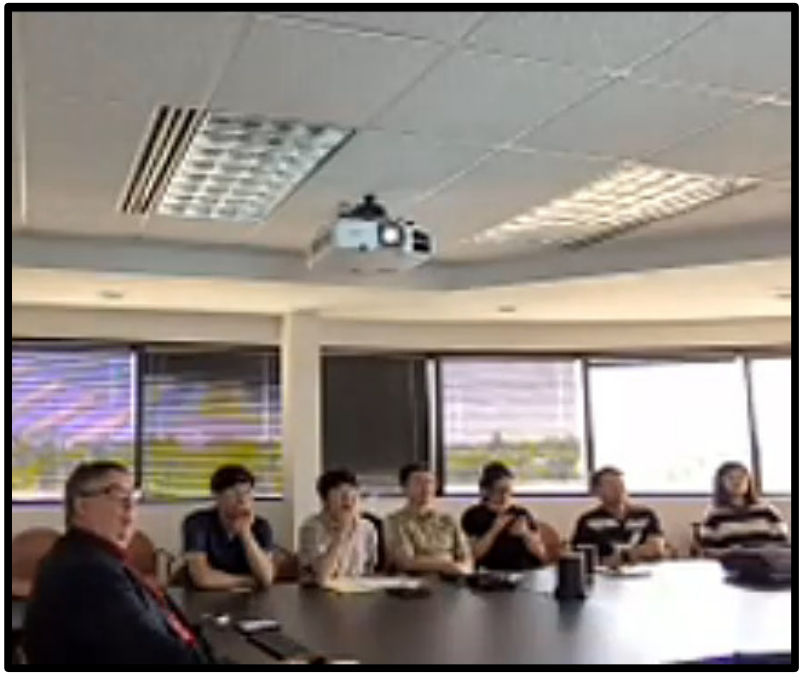
Number of Slides to Include

- A rule of thumb for the upper limit on number of slides is the number of minutes minus 10 % and then round down.
- For example, 15 minutes minus 10 % = 15 – 1.5 = 13.5 slides.
- Give more time for data, less time for text. Between one to two minutes per slide.

David Delene talking to a group of students about the instruments on the left wing of the North Dakota Citation Research Aircraft.

Text Tips

- Use style formatting to define all text.
- Do not use abbreviation unless necessary to fit on the slide.
- Do not assume audience knows what the abbreviation represents.
- Use 5 lines with 5 words per line.
- No more the 6 or 7 lines per slide.
- Make sure sentences end with period.
- Capitalize major words in header.



Clarify Your Presentation

- Simplify your phrases.
- Tighten your sentences.
- Never use a long word, if a short one will do.
- Keep technical language as straightforward and uncomplicated as possible.
- If you can delete a word without losing meaning, delete it.
- Use equations, math, and symbols sparingly and carefully.
- Scientific talks contain many facts and data, so it is important to summarize. Visual summaries are particularly effective.

Organize Your Presentation

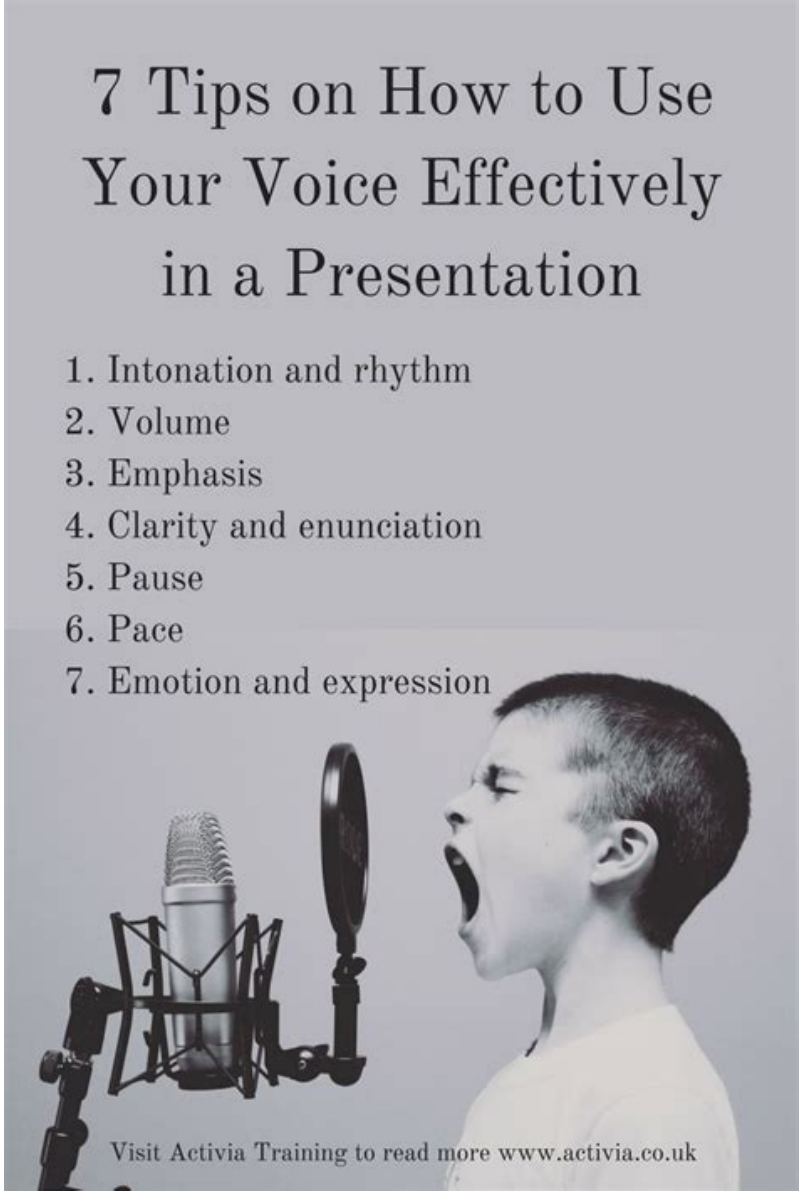
- Use introduction, methods, results, discussion, conclusions, and significance segments. Only need outline if you are not using this organization for you presentation.
- Consider the central message in every presentation segment.
- Indicate why anyone should care about your results.
- Use words that are simple, direct, and active.
- The primary purpose for giving the scientific talk is to inform or instruct.
- The topic should be defined within the context of the rest of the program and within your invitation to speak.

Generating Excitement and Interest

- Why would other scientists be interested?
- Think about how to generate excitement for the subject in someone without knowledge and involvement?
- How might other disciplines or other research areas within my own discipline use this information?
- Is there a research or teaching anecdotes that can add emphasis, interest or humor?

Use Your Voice

- Speak slowly and clearly.
- Modulate your voice somewhere between a monotone and sing-song.
- Look up and make eye contact periodically.
- Work hard to eliminate nervous sounds (uh, um). Better to pause and not say anything than to say uh or um.
- Emphasize certain words to get your meaning across.



Style of Delivery

- Write the text in short, uncomplicated sentences.
- Avoid jargon and fancy verbiage. Read verbatim, don’t change the wording.
- Additionally, you MUST walk your audience through the graphs in the Results section.
- Tell them the important points.
- Let the slides cue your speech. You must really know your material well.
- You will almost have memorized your slide order. Be careful about exceeding your time frame.

Adhere to the Time Limit

- Allow time for questions. If necessary indicate how you like to take questions.
- To assure success in this area… practice, practice, practice.
- Don’t make your session moderator take “police action”!

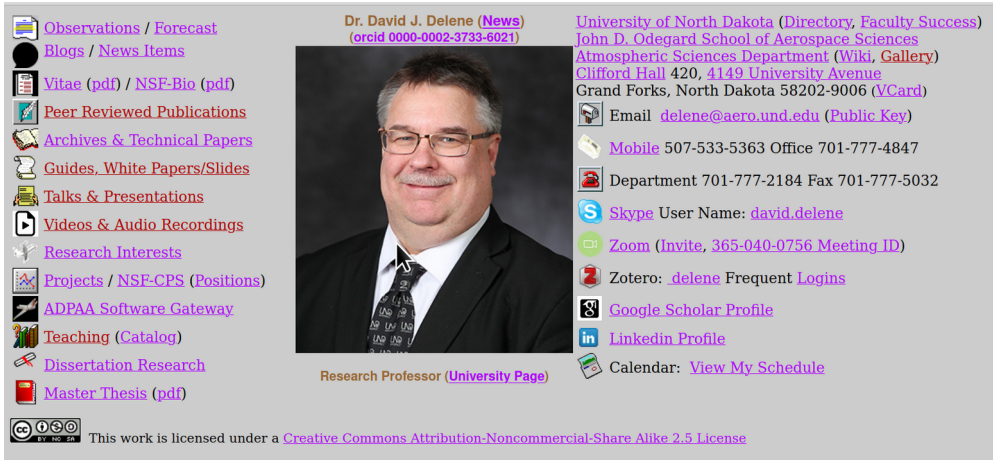
Practice, Practice, and More Practice

- Rehearse with accessories, including microphone, pointer, and screen.
- Try it out on your peers, family, pets, in the mirror, or recording.
- Practice early to accommodate revisions.
- Too long, cut stuff instead of talk faster.

- If possible, practice or test your presentation on the computer system and in the presentation room.
- **To get really good at something, need to put in 10,000 hours of really hard, uncomfortable practice.**

Conclusion

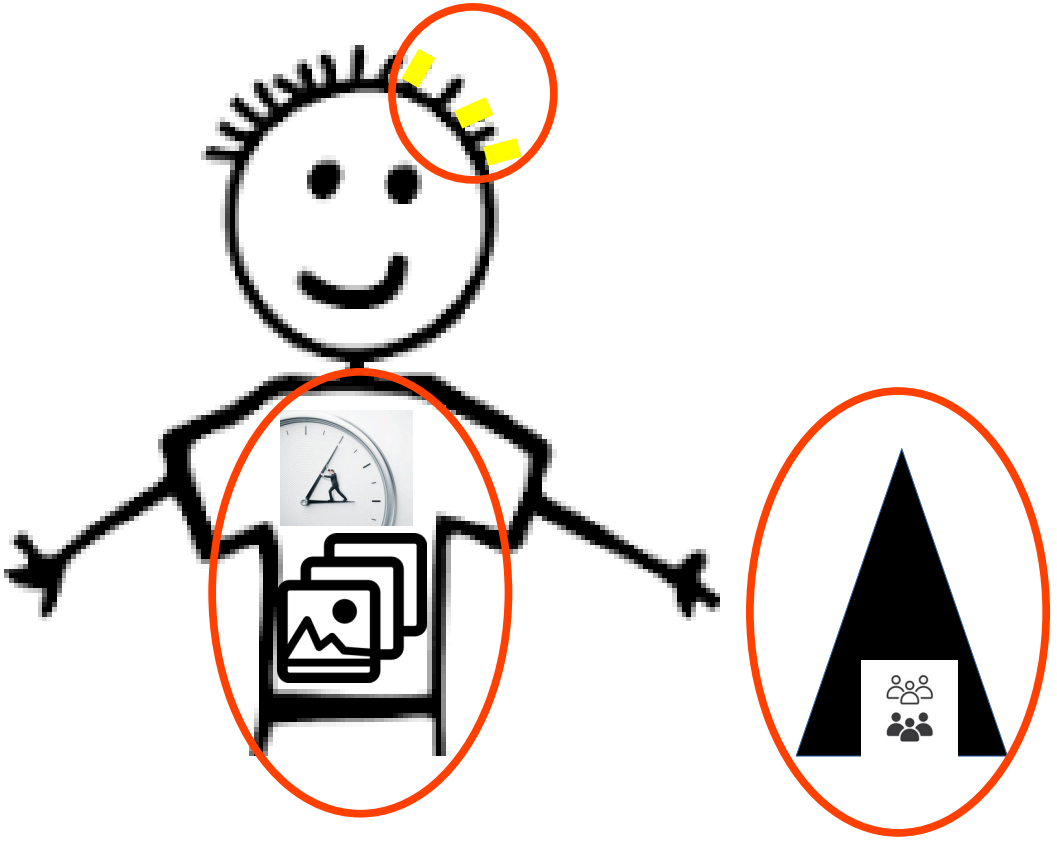
- Get better with experience.
- Revise previous presentations.
- Not all scientists give “good” presentations.



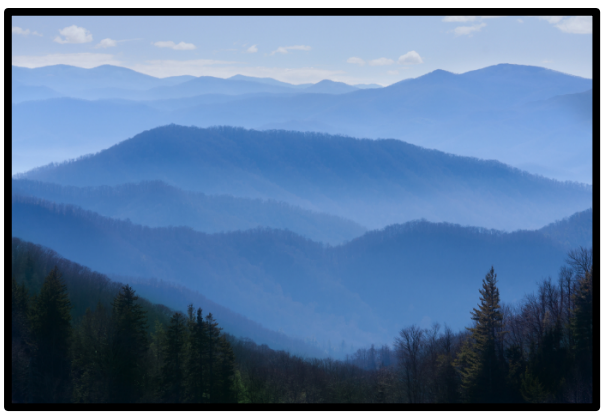
- See Presentation Guide at http://aerosol.atmos.und.edu/whitepapers.html.
- Example slides for Atmospheric Aerosols follow, example presentations at http://aerosol.atmos.und.edu/seminars.html.

Remember Take Away

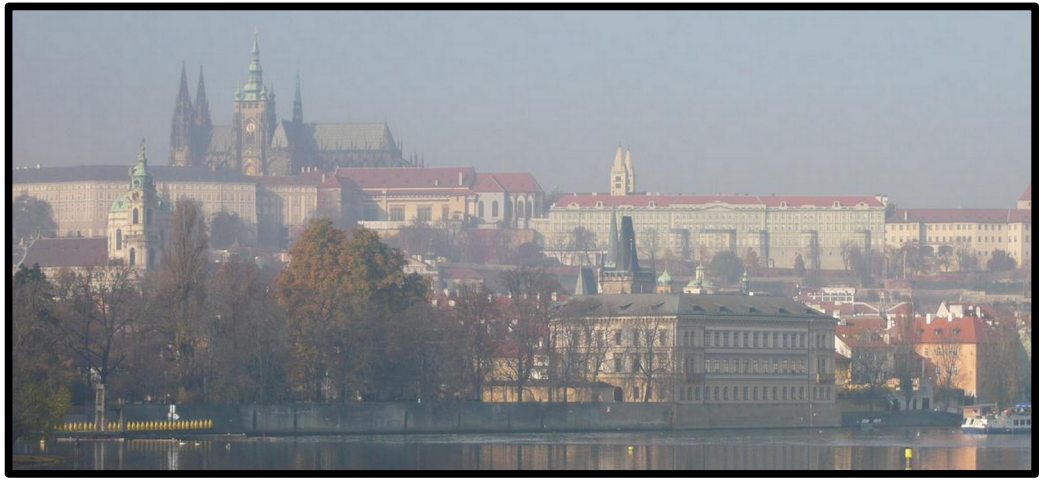
What comes to mind with this Picture



Atmospheric Aerosols (Particles)

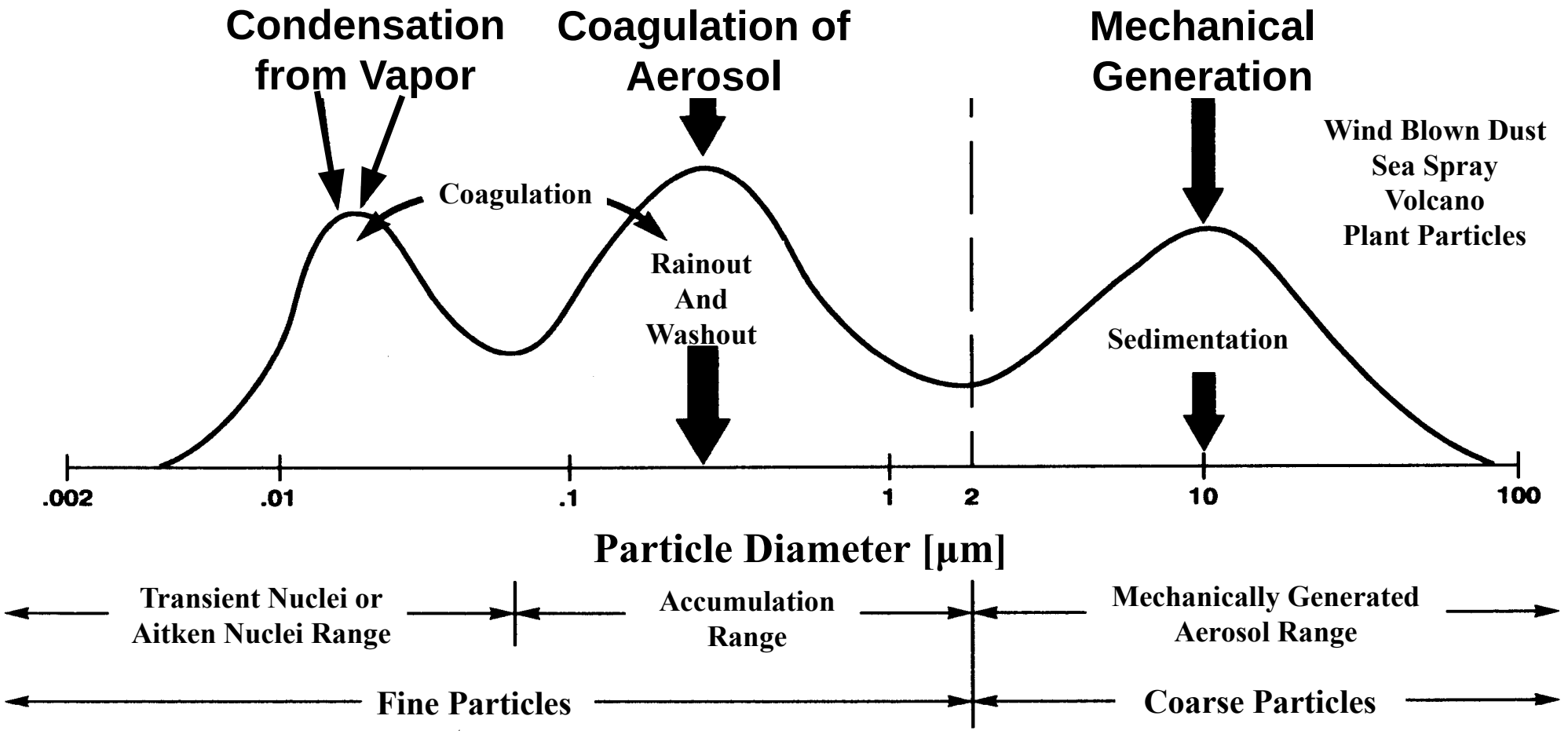


Atmospheric Aerosols (Particles)



Prague Castle, Czech Republic

Sources of Atmospheric Aerosols



Adapted from Singh: Figure 5.4

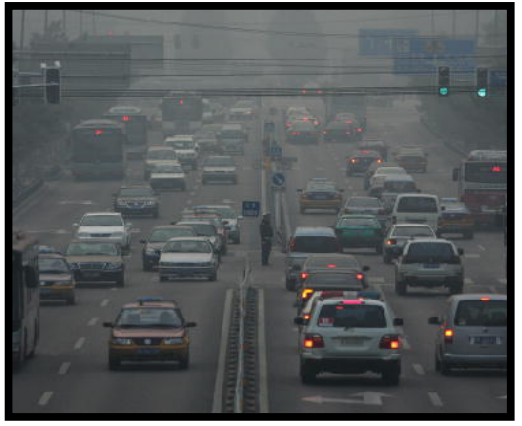
Sources of Atmospheric Aerosols

Volcanic Dust

Forest Fires

Sea Salt

Fuel Combustion



Transportation