

AOSC 470/600
Student Weather Briefing Guidelines

Over the course of the semester, students will give two weather briefings, which will count towards 10% of your final grade. Students will be paired up and will present the weather briefing together. These presentations will take place at the beginning of class (starting towards the end of September) and should be about 15-20 minutes in length.

Format/Expectations

The weather briefings are a chance for students to engage in real time applications of the concepts we will be covering in class. Each briefing should be focused on particular and specific problems of the day. Detailed and proper application of concepts is more important than how many graphics or slides you are presenting. To that end, each weather briefing should take into consideration the following questions:

- 1.) What happened?
- 2.) Why did it happen?
- 3.) What is happening?
- 4.) Why is it happening?
- 5.) What is going to happen?
- 6.) Why is it going to happen?

Strong effort should be made to utilize **dynamical reasoning** when attempting to explain why something has occurred or will occur. For example, if we are predicting an rainfall tomorrow for the DC area, make sure you give the relevant details. What lifting mechanism is responsible for the rain? What large and small-scale features are important to the development and location of our predicted rainfall?

For visuals and graphics, each group may feel free to use any of the web-based tools found on Dr. Kleist's [weather links](#) or on the UMD Weather [forecasting tools](#) page. In addition, each group is expected to show at least **one unique map or graphic** that has not yet been shown by another group or in class. Self generated maps or graphics are encouraged but not expected for the weather briefings.

You are welcome to discuss any and all interesting weather that may be occurring anywhere around the world. However, each group should allot a few minutes during their briefing to focus on the local conditions and forecast for College Park.

Tips on How to Approach Weather Briefings

* Please note that these are just suggestions and they should not be copied exactly!*

1.) **Its all about the forecast funnel:** When structuring your briefing, start with the big picture and slowly work your way down to the smaller scale features and details.

- Show radar, satellite, and upper atmosphere analysis loops to illustrate where there is interesting weather happening across the hemisphere and the globe.
- Analyzing running loops of satellite/water vapor/infrared imagery is one of the best ways to get acclimated with the current weather patterns and dominant atmospheric features.

2.) **Come back to the surface:** Before you attempt to forecast what is going to happen, ALWAYS make sure you start with what's CURRENTLY happening.

- Use a current surface analysis map to show where the large-scale features (highs/lows/fronts) are located.
- Things to consider: Are there any noticeable areas of advection? How will this affect the forecasted weather?
- Remember, surface maps are more than just temperatures and wind. Make sure you are utilizing the proper variables. For example, what surface measurements might we consider when discussing convection?

3.) **Get your head INTO the clouds:** What happens on the surface is only scratching the surface (no pun intended) when diagnosing the weather. Make sure you are showing us upper level conditions and discussing what is happening at these levels that might be driving the current surface conditions.

- Utilize all relevant levels (300mb, 500mb, 700mb, etc.) depending on what "sensible" weather phenomenon you are discussing. For example, what upper air level is relevant to moisture advection and precipitation development? What level should we be looking at for vorticity advection? For jet streak development?
- Again, make sure you are using **dynamical reasoning** that we discuss in class to explain what in the upper levels is driving the current weather on the surface.

4.) **Model Discussion:** Before you give your forecast, an analysis and discussion of current model guidance is expected.

- There is no need to show ALL model guidance. However, comparison of at least two models is recommended in order to relay how uncertain a forecast may be.

- Make sure you are showing model output that you can explain and connect with your forecast. Everyone loves looking at fancy maps and metrics, but when push comes to shove, simple visuals with a solid explanation is better than complicated visuals with a simple explanation.
- Don't forget about ensembles and statistical guidance. Ensemble spread is a great way to display uncertainty. Conversely, statistical model output (like MOS) offer good guidance for certain popular forecast variables like temperature and wind.

5.) **Don't forget to forecast!** At the end of each briefing, each group should make sure they are giving us at least a 3-day forecast for College Park based on the information they have presented.