

Criteria for marking Assignment 2

Advective cooling calculation (5%)

- Overall organization, layout, tidiness, with appreciation for any particular flair-style-confidence-originality-depth-impact-professionalism (**1 MARK**)(ie. 0, 1/2, 1)
- Note any assumptions or ambiguities(**1 MARK**), eg. which pair of isotherms chosen, is the wind perpendicular to them, ie. orientation of the ruler, measurement errors with ruler...
- Correct answer with units and appropriate level of precision, ie. sig/figs (**1 MARK**)
- Plausibility/interpretation (**2 MARKS**): eg. this is/is not plausible as an order of magnitude (1); direct comparison with actual hourly cooling rate, available on EC Past Weather site, (2); comments about other possible factors affecting trend in temperature (2)... ie. expecting mature, informed, pertinent, well-framed thinking about the meteorology entailed in the exercise

Forecasting (5%)

- Overall organization, layout, tidiness, with appreciation for any particular flair-style-confidence-originality-depth-impact-professionalism (**2 MARKS**)
- Specific content items (questions and/or steps) that could contribute (**1/3** each) up to **3 MARKS**; note there will be other valid actions/questions I have not noted - these guidelines should be interpreted liberally):
 - what are the stakes/which would be worse: to cancel unnecessarily (“false alarm”), or to hold the picnic and have it rained on? Eg. in the latter case (worst to be rained on) is it warranted to be conservative (and make no attempt to be skillful) and merely cancel due to the mere fact it has been raining and clouds remain?
 - recognition that one’s degree of confidence in the decision would hinge on specifics of the weather situation
 - what are the professional forecasters predicting - check radio, EC telephone Weather Information Service, web
 - do I have a buddy who is more experienced, and what does s/he think?
 - what type of cloud is this, this morning?
 - why did it rain last night?
 - was it convective rain (ie. a storm) or rain associated with a weather system and/or front
 - check the surface chart and or 850 mb chart, for passage of a low and or a front
 - check satellite animation (IR and or vis): has a clearing trend begun and does the sequence of images indicate its continuation, or, are we currently under a spot clearing in an otherwise extensive shield of cloud

- what’s the radar showing?
- how does the Edmonton 12Z sounding compare with the previous afternoon’s? Is there a sign of drying aloft? Do any features perhaps correlate with the existing cloud this morning?
- check the upper flow (700 mb or 500 mb) - are we in a ‘good news’ (ridge up stream, short wave just passed by) or ‘bad news’ (eg. trough exit region) scenario?...
- what does the GEM 12 hr regional prog indicate for 00Z this afternoon? In particular, what does the lower-right panel show, for accumulated 12 hr precip?
- in this weather situation, if it were going to rain this afternoon, is it liable to be patchy (convective) rain or widespread (weather-system) rain?
- what is the potential for severe weather today? Surface dewpoints? Convective instability (ie. stability classification of the sounding, incl. CAPE)