

Synoptic Meteorology II: Quasi-Geostrophic Omega Equation Exercise

Due: 5 March 2015, at the start of class

The picture below, facing north along the Milwaukee River in Grafton, depicts both cumulus and cirrus clouds. The cumulus clouds on the horizon are moving from southeast to northwest, whereas the cirrus clouds are moving from west to east. Given this information, please identify whether rising or sinking motion is occurring in the middle troposphere at Grafton at the time of the photo and, most importantly, describe **why** you answered as you did.

Two hints...

1. The presence of cloud cover in and of itself is not sufficient to say that there is ascent, if there even is middle tropospheric ascent in this case.
2. What can you infer that is related to the quasi-geostrophic omega equation if you are given two different cloud motions?

