

## Assignment 4

Suppose that a layer of air 1000 m thick has conditional stability. A rising parcel of dry air within the layer will be pushed back down.

1. What does 'conditional stability' tell us about the temperature profile of the layer?  
What can you say quantitatively about the environmental lapse rate?
2. How would the stability be affected if the layer passed over a very warm surface?
3. How would the stability be affected if the layer passed over open water?