

AT623 Syllabus

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Teaching Assistant: None

Preface

Where does boundary-layer meteorology fit in the big picture of atmospheric science?

1. What is the atmospheric boundary layer?
2. Molecular fluxes
3. Turbulent fluxes
4. Dimensional analysis and similarity theory
5. The surface fluxes
6. The boundary layer depth
7. Mixed layers
8. Stable boundary layers
9. The diurnal cycle over land
10. The effects of vegetation on the surface fluxes
11. Prototype instabilities
12. Where do fluxes come from?
13. Entrainment
14. Mass fluxes
15. Stratocumulus-capped boundary layers
16. Partly cloudy boundary layers
17. Interactions of the boundary layer with deep cumulus convection
18. Interactions of the boundary layer with the ocean mixed layer
19. Boundary layer parameterizations for large-scale models
20. Frontiers