National Weather Association
Aviation Meteorology Committee

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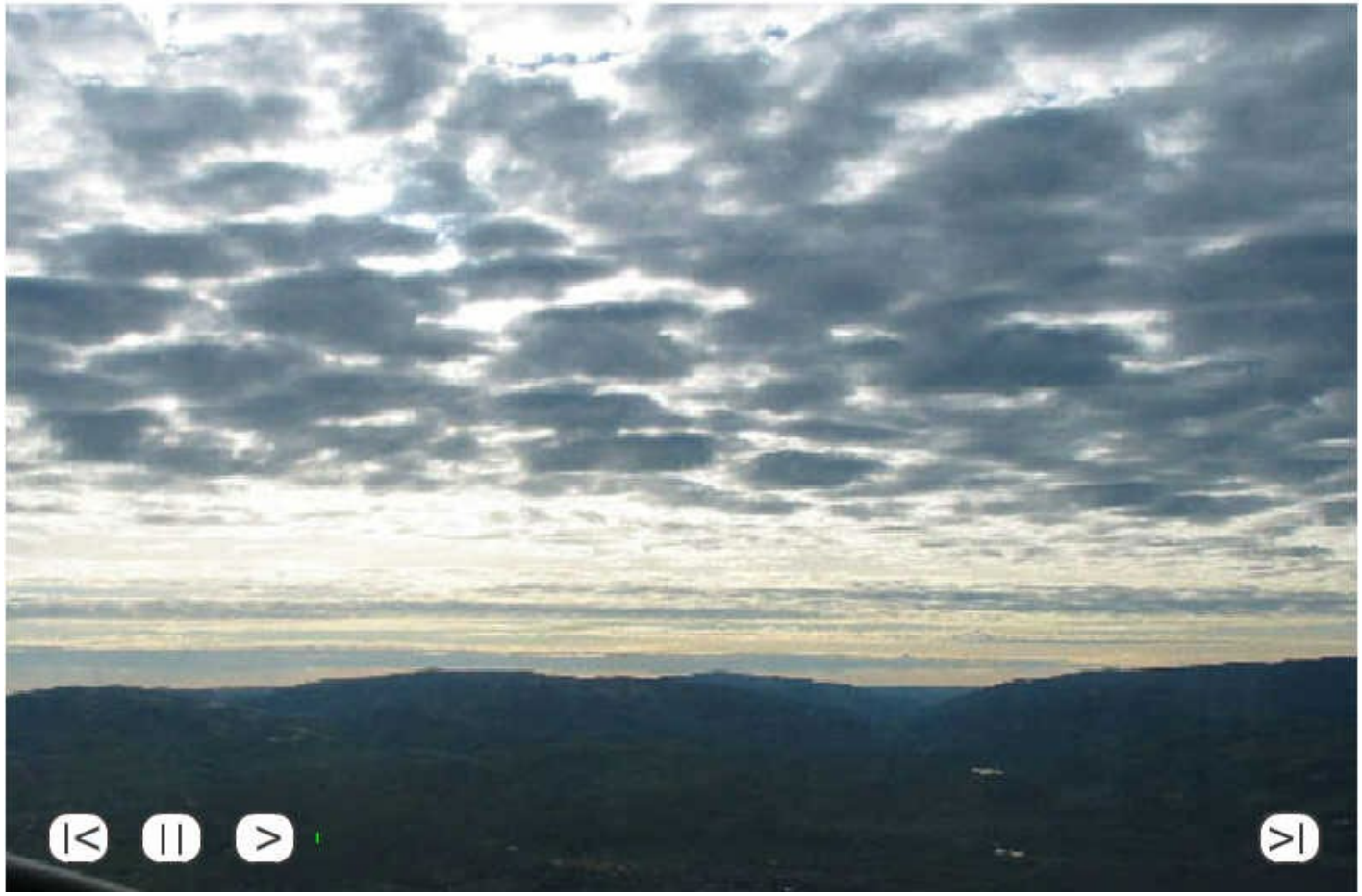
Note

Allow animation to finish or “Click” STOP to diable audio before preceeding to another page.

Weather Theory for Pilots

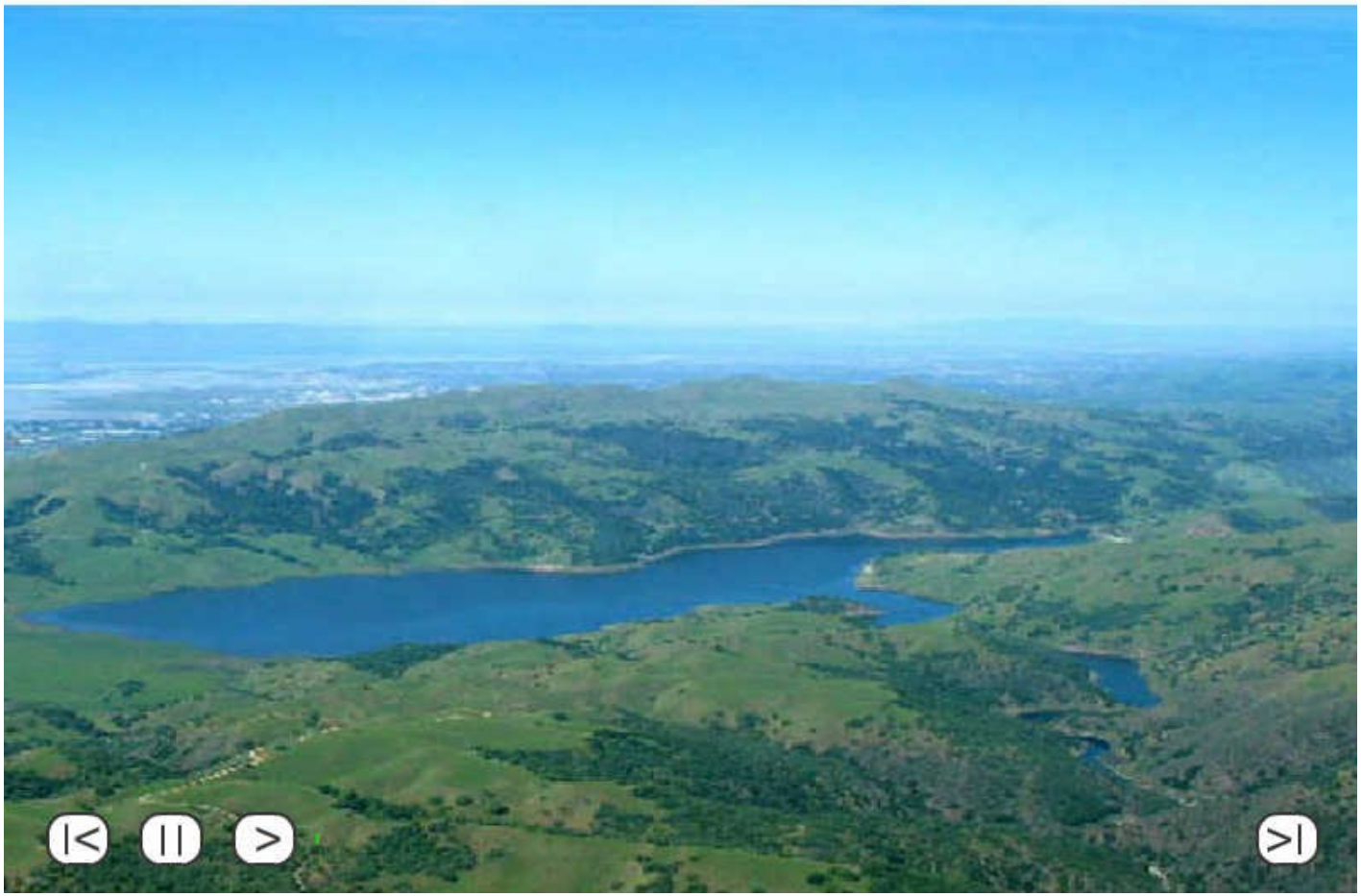
Introduction



primrose path—To be lead down a particular track. Describes a road of ease, apparent least resistance; often used to express a route to disaster.

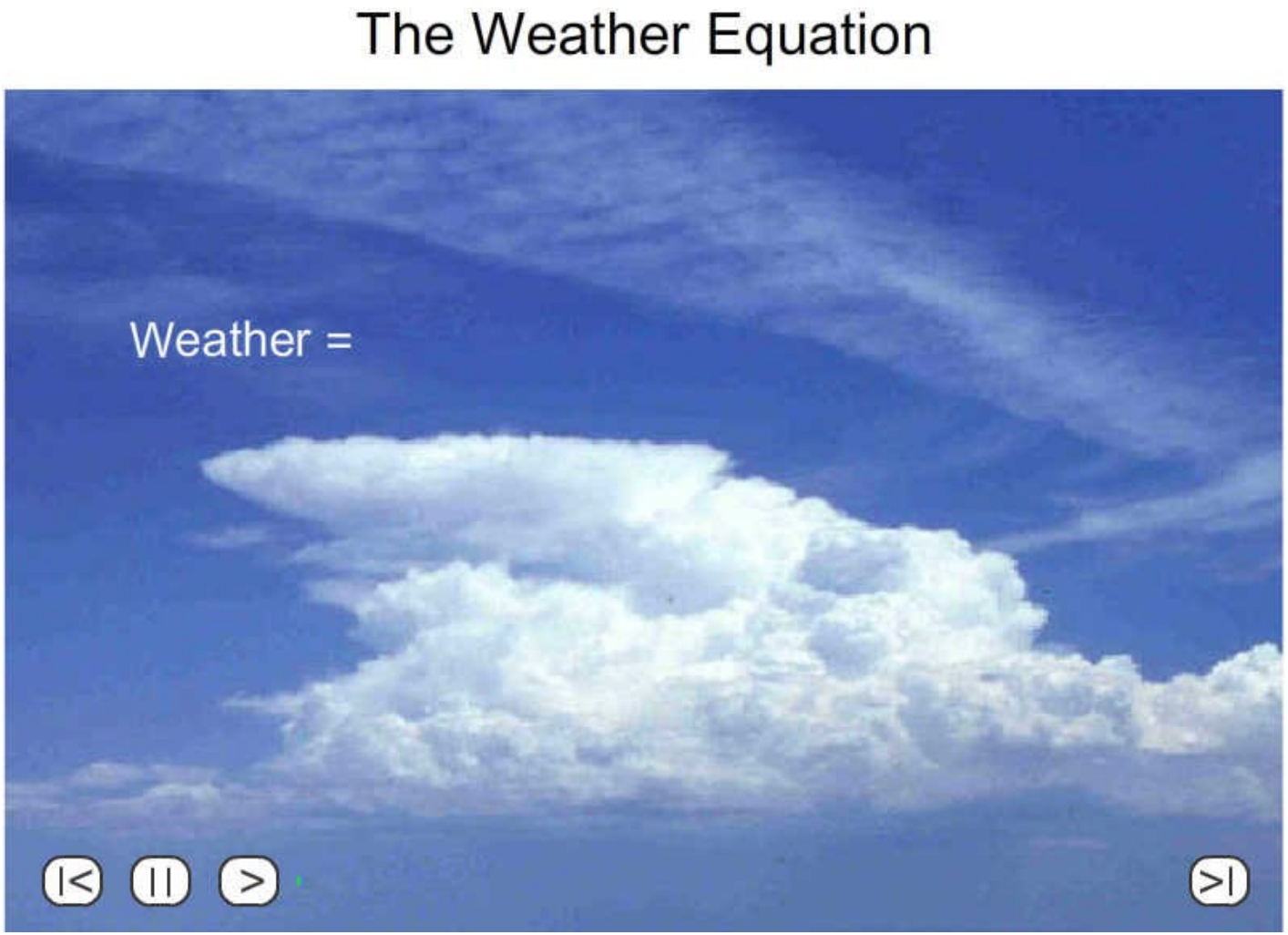
Weather Theory for Pilots

Oversimplification



For an additional explaination of Lapse Rate refer to the Stability Module.

Weather Theory for Pilots



Weather Theory for Pilots

Moisture/Vertical Motion/Stability

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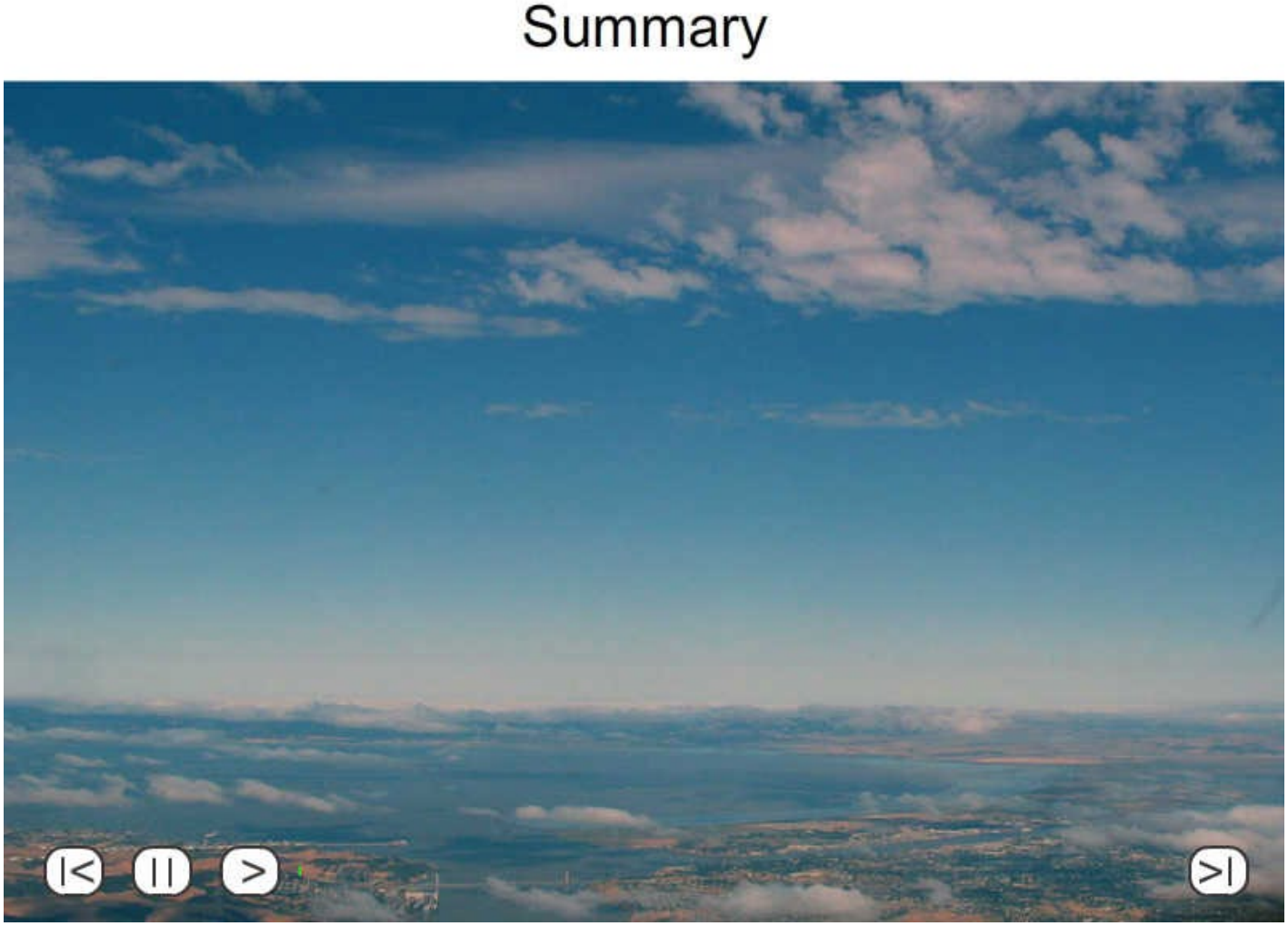

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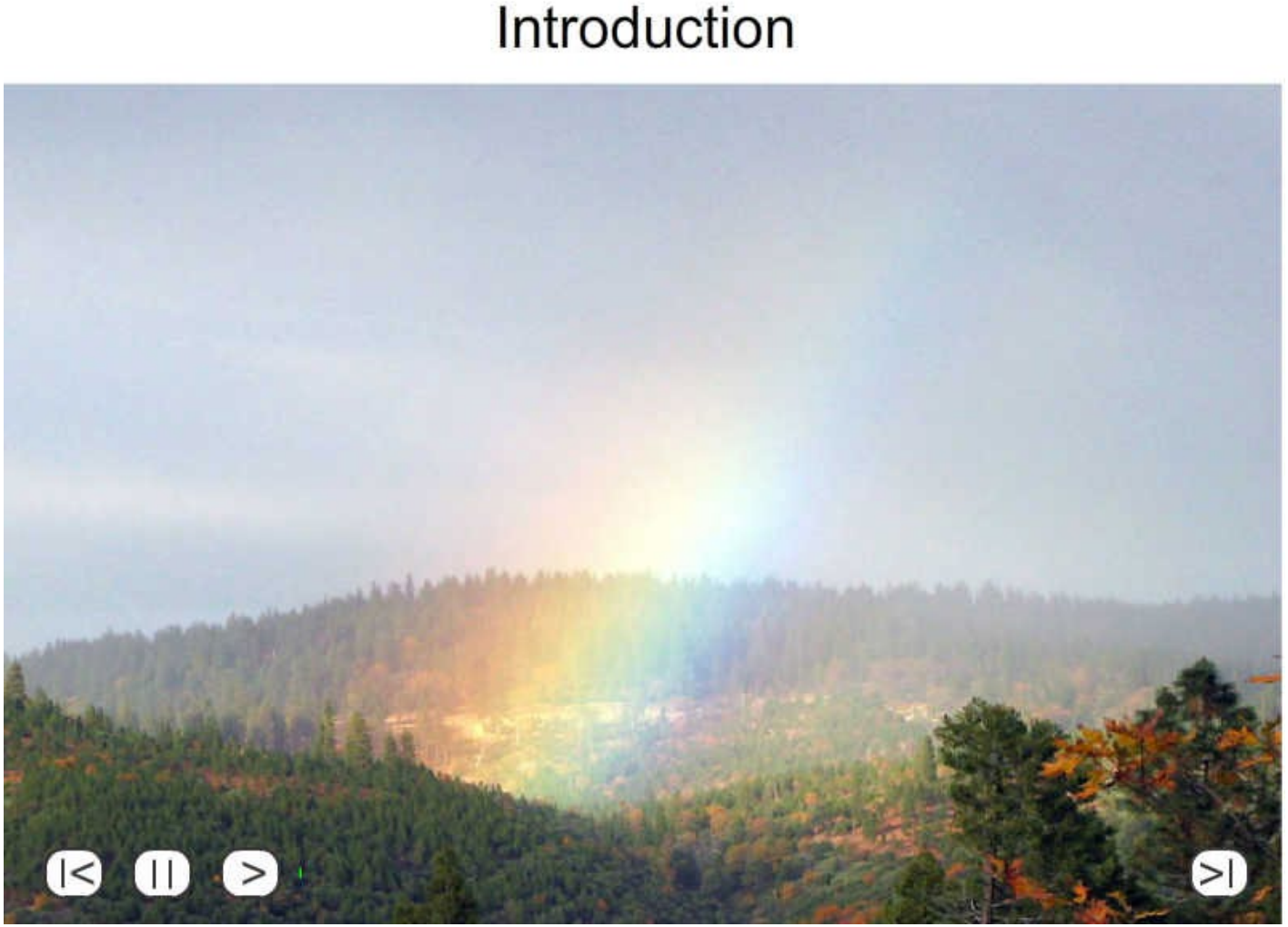
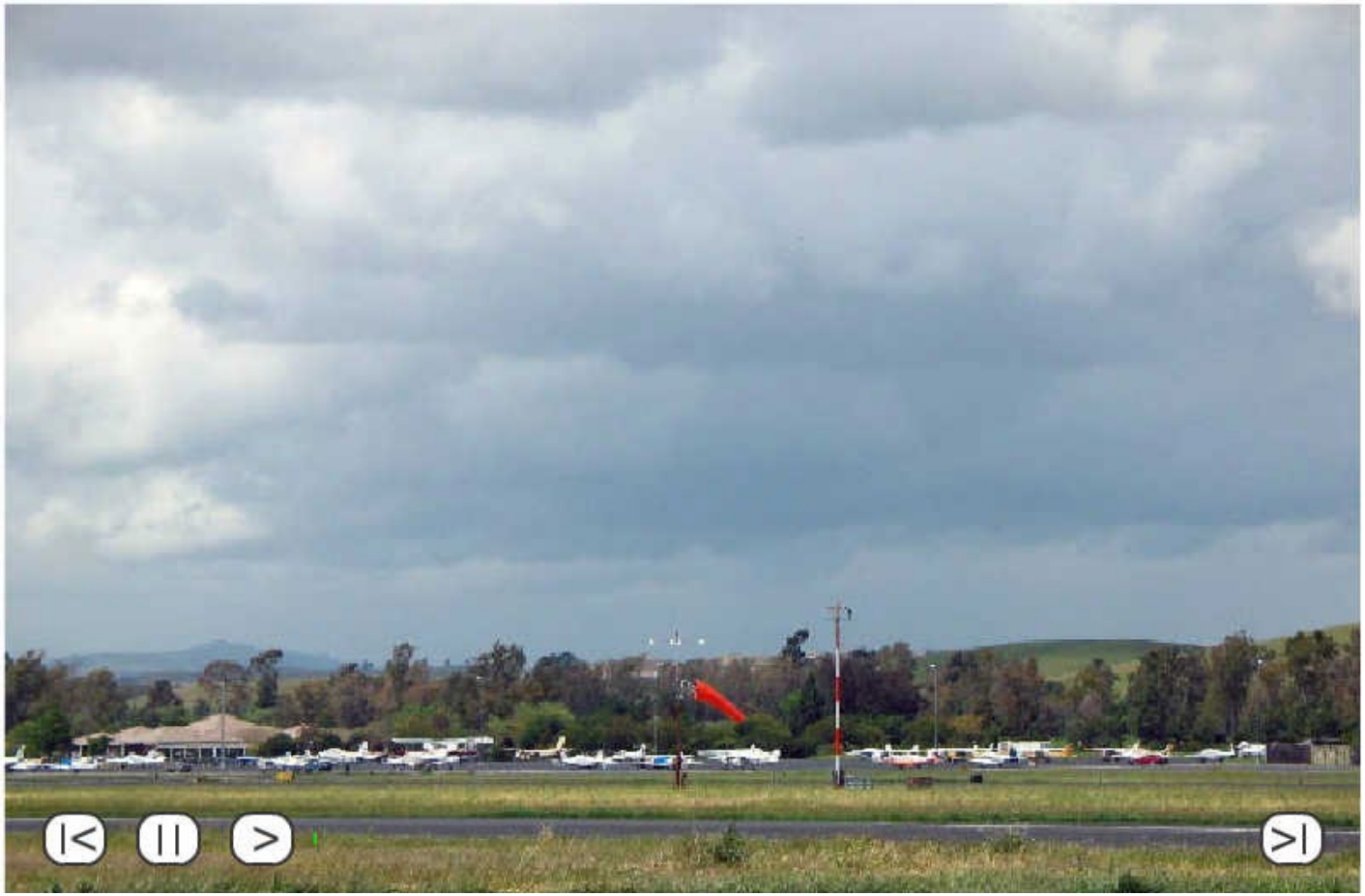


Weather Theory for Pilots

Relative Humidity & Dewpoint



Recall that we stated: "...some of the theory and explanations we'll discuss are oversimplified." Air does not "technically" HOLD WATER VAPOR; this description is merely an analogy.

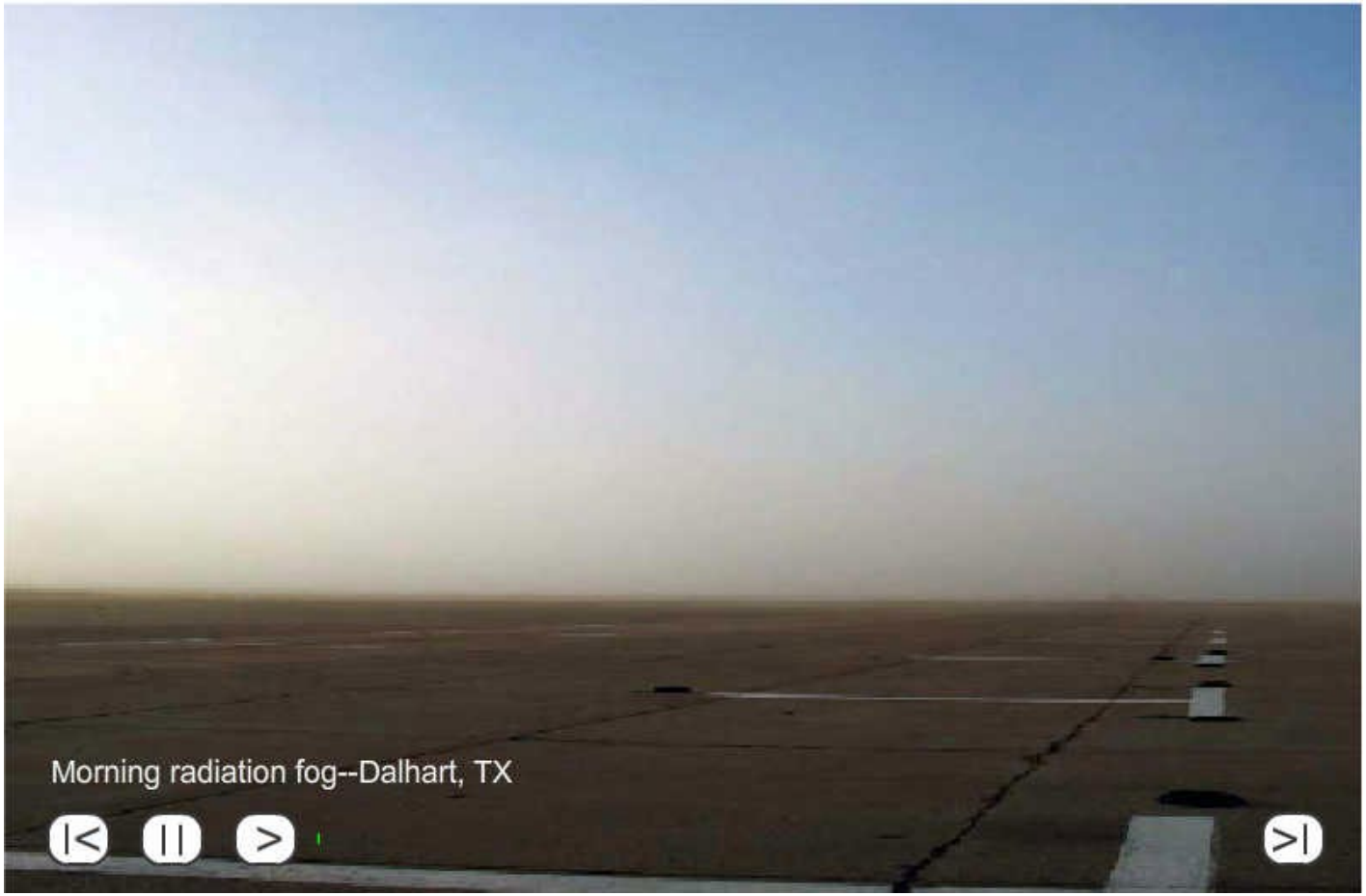
Weather Theory for Pilots

Capacity of the Air to Hold Water Vapor

Weather Theory for Pilots

Weather Theory for Pilots

Rule of Thumb



Weather Theory for Pilots

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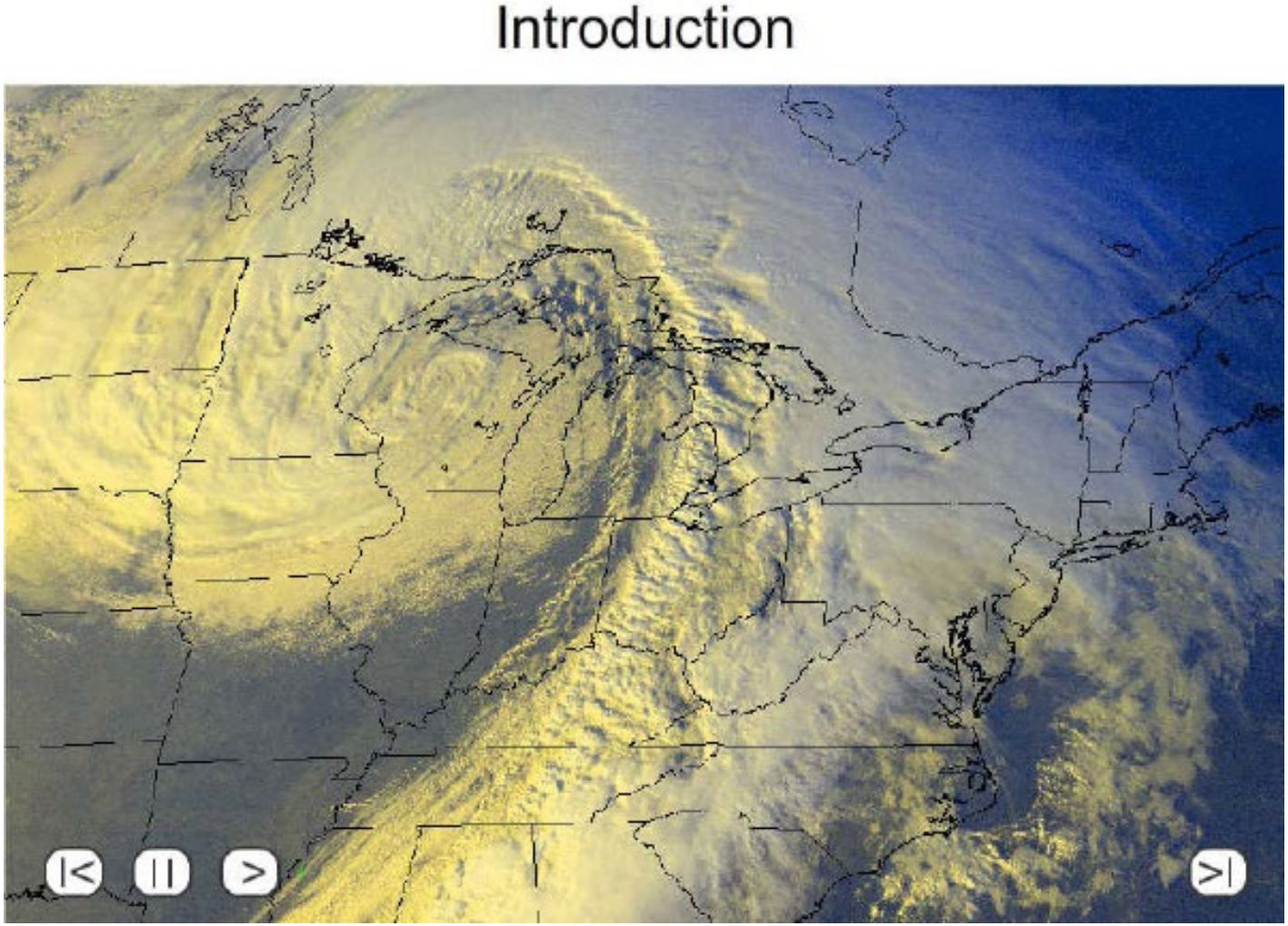
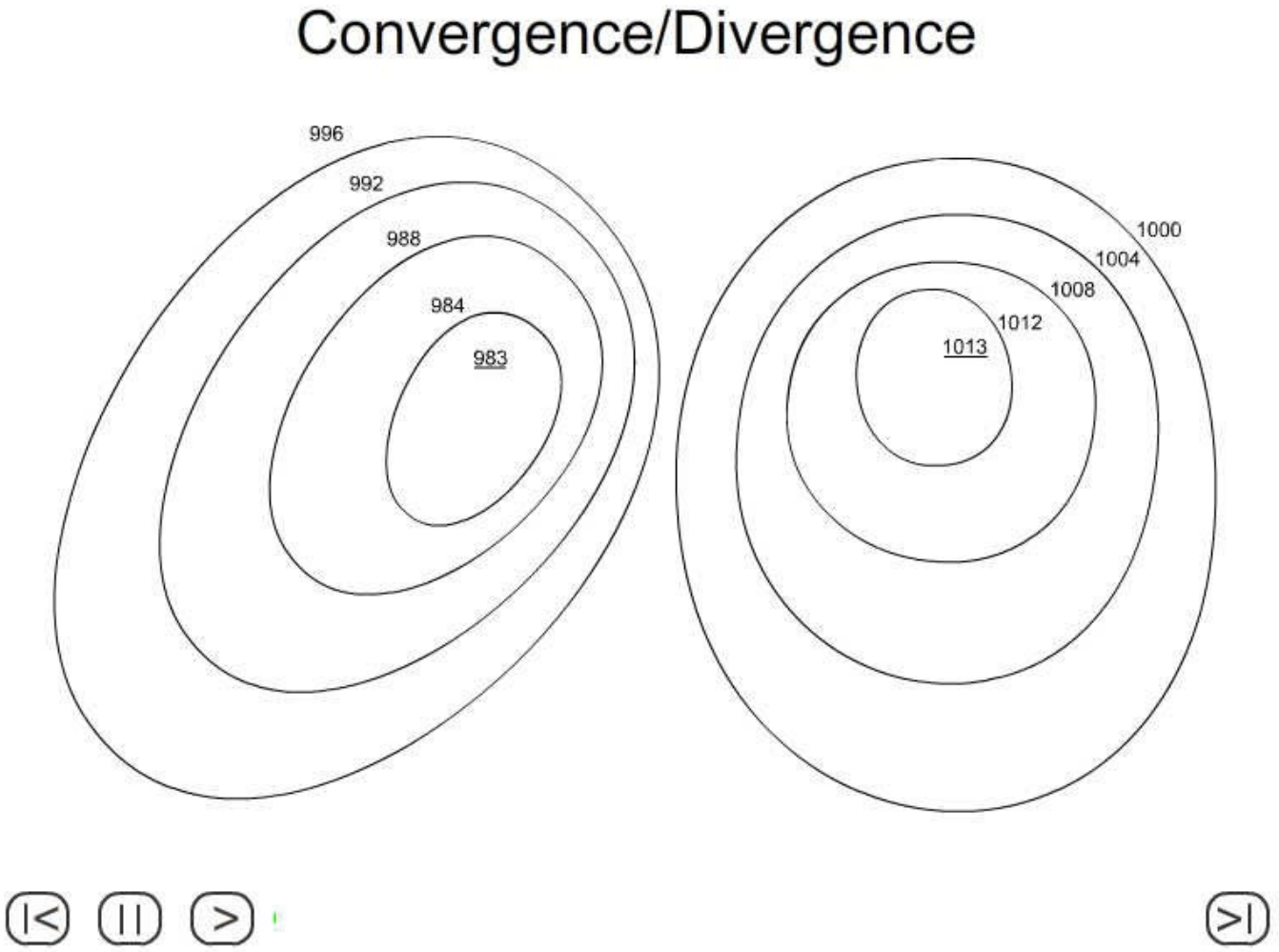
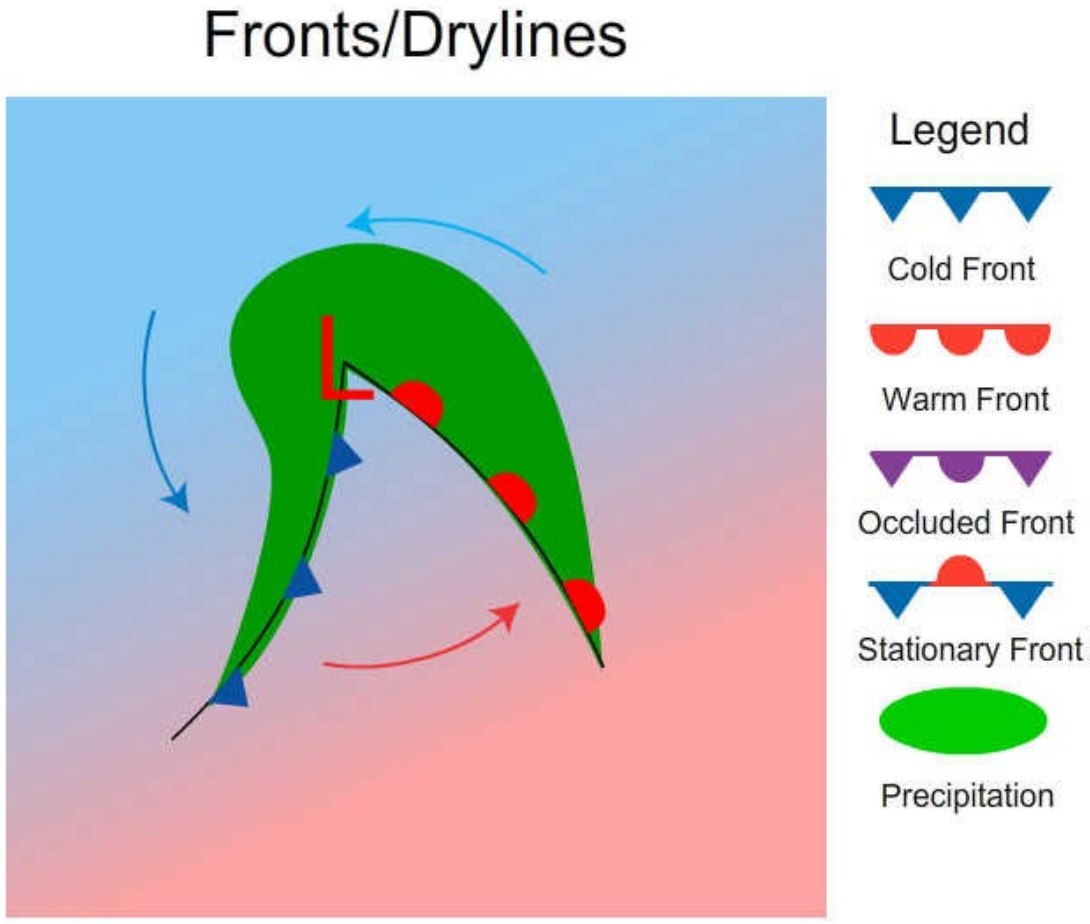


Weather Theory for Pilots



Weather Theory for Pilots



Weather Theory for Pilots

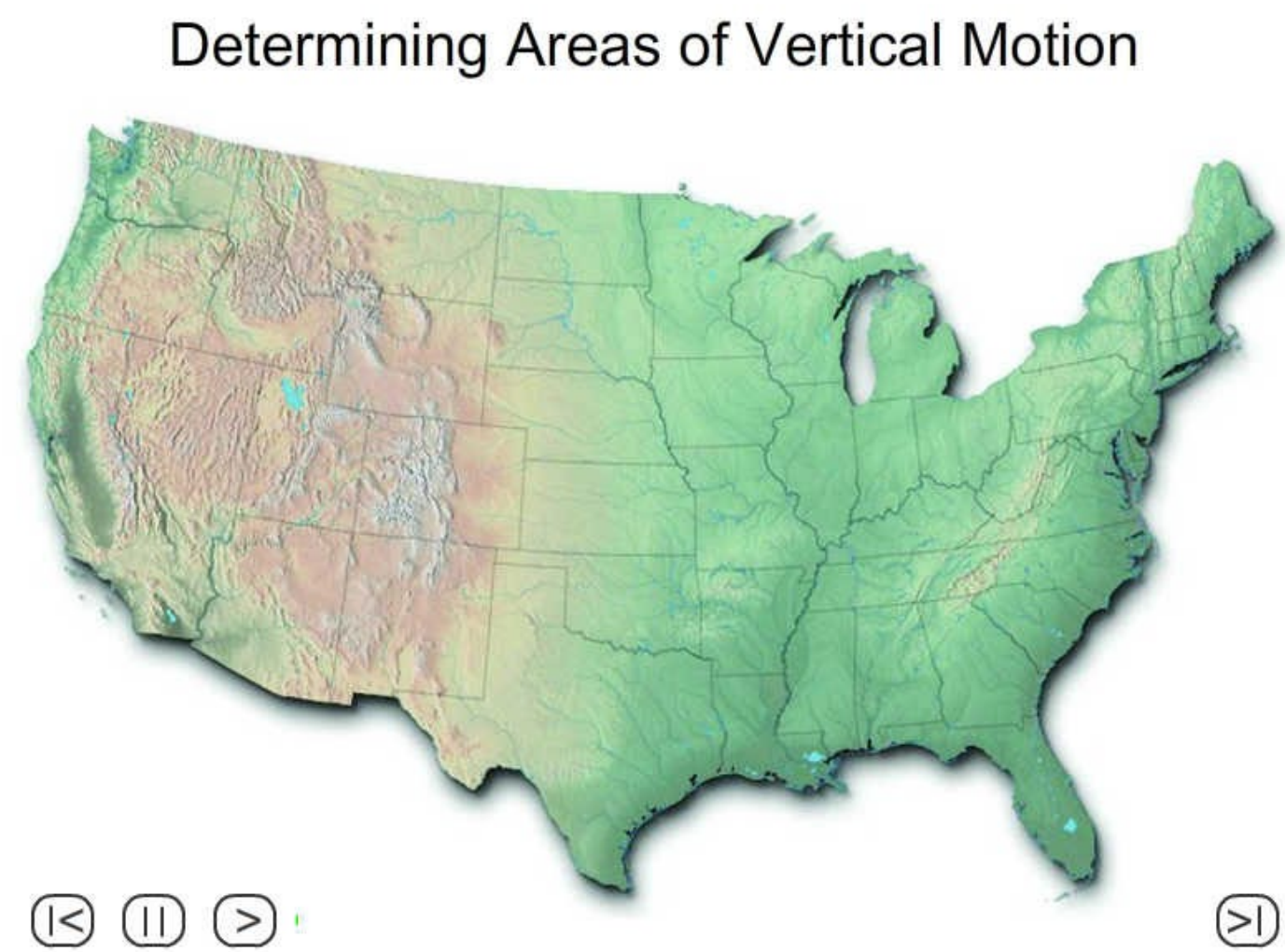
Convection/Warm- Cold-Air Advection

Weather Theory for Pilots

intermountain region—The area of the western United States, west of the Rocky Mountains and east of the Sierra Nevada Mountains, which includes Idaho and Arizona.

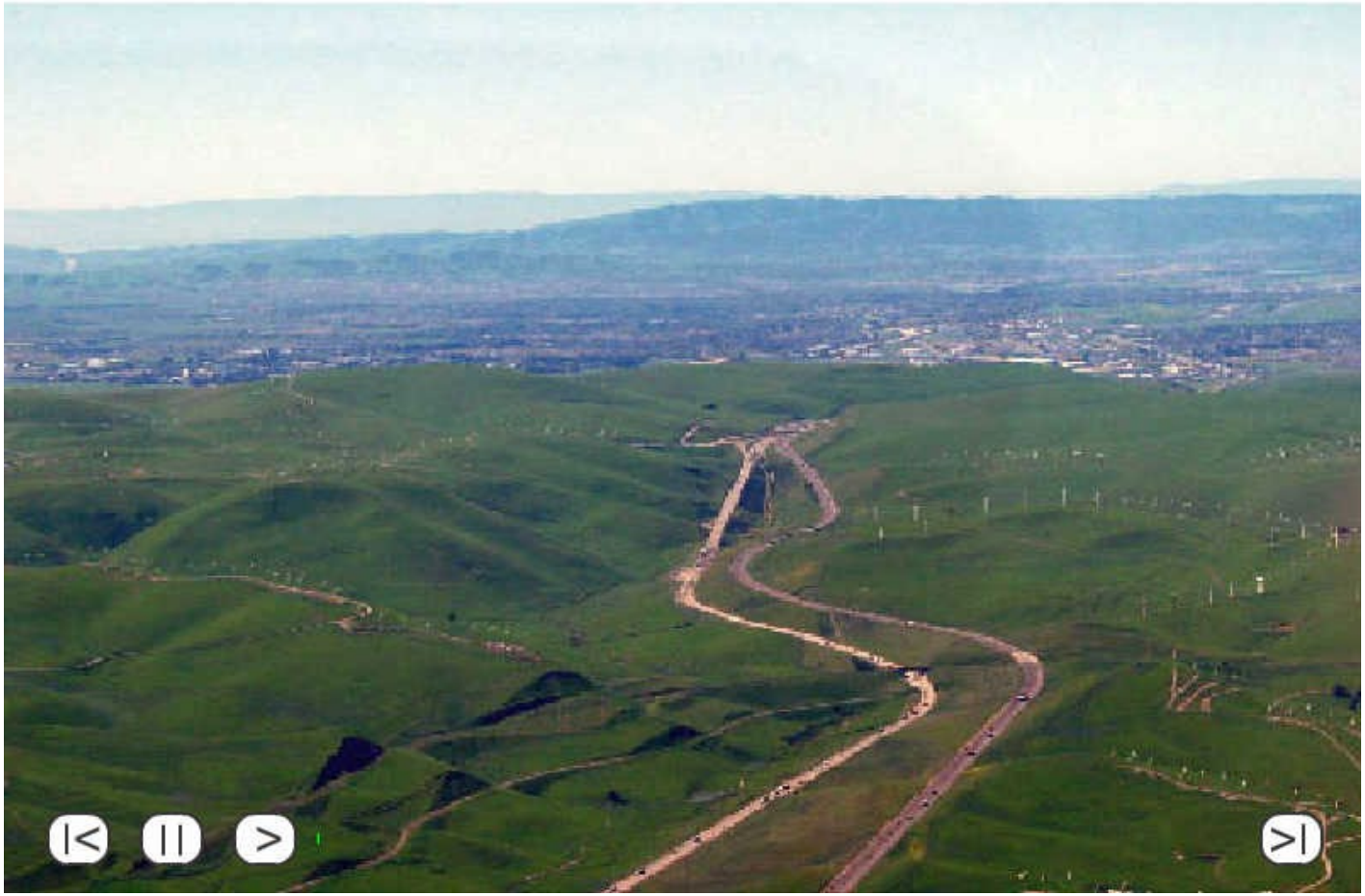
rain shadow—One effect of terrain is "rain shadows." This predominately occurs in the west. Pacific storms shed most of their moisture over the Cascades of Washington and Oregon, and Sierra Nevada of California. This results in semiarid climates east of these mountain ranges.

Weather Theory for Pilots



Weather Theory for Pilots

Don’t become overly concerned about this discussion of stability, it’s background information that will help your understanding of the “weather equation” and the material in subsequent blocks and modules.



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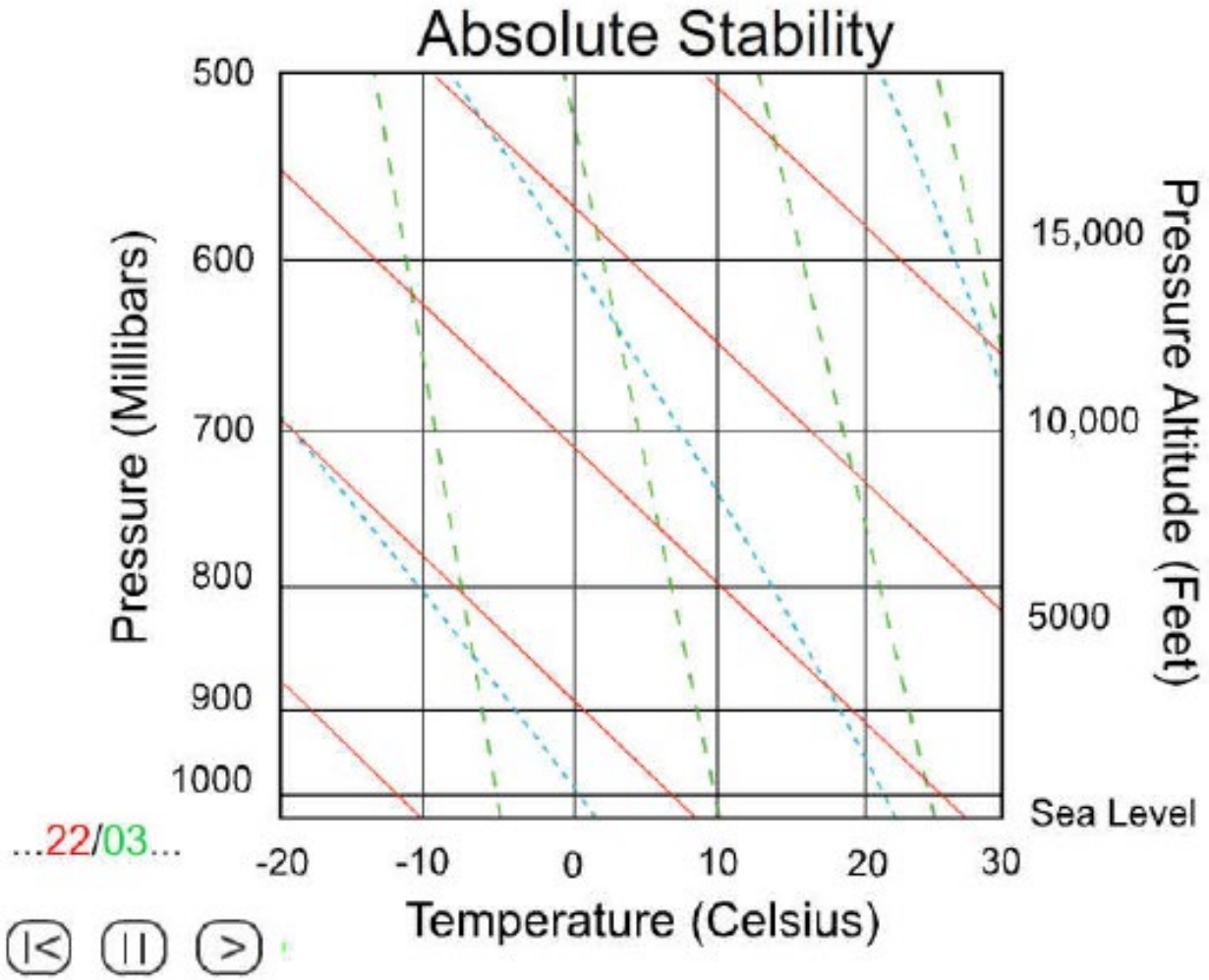

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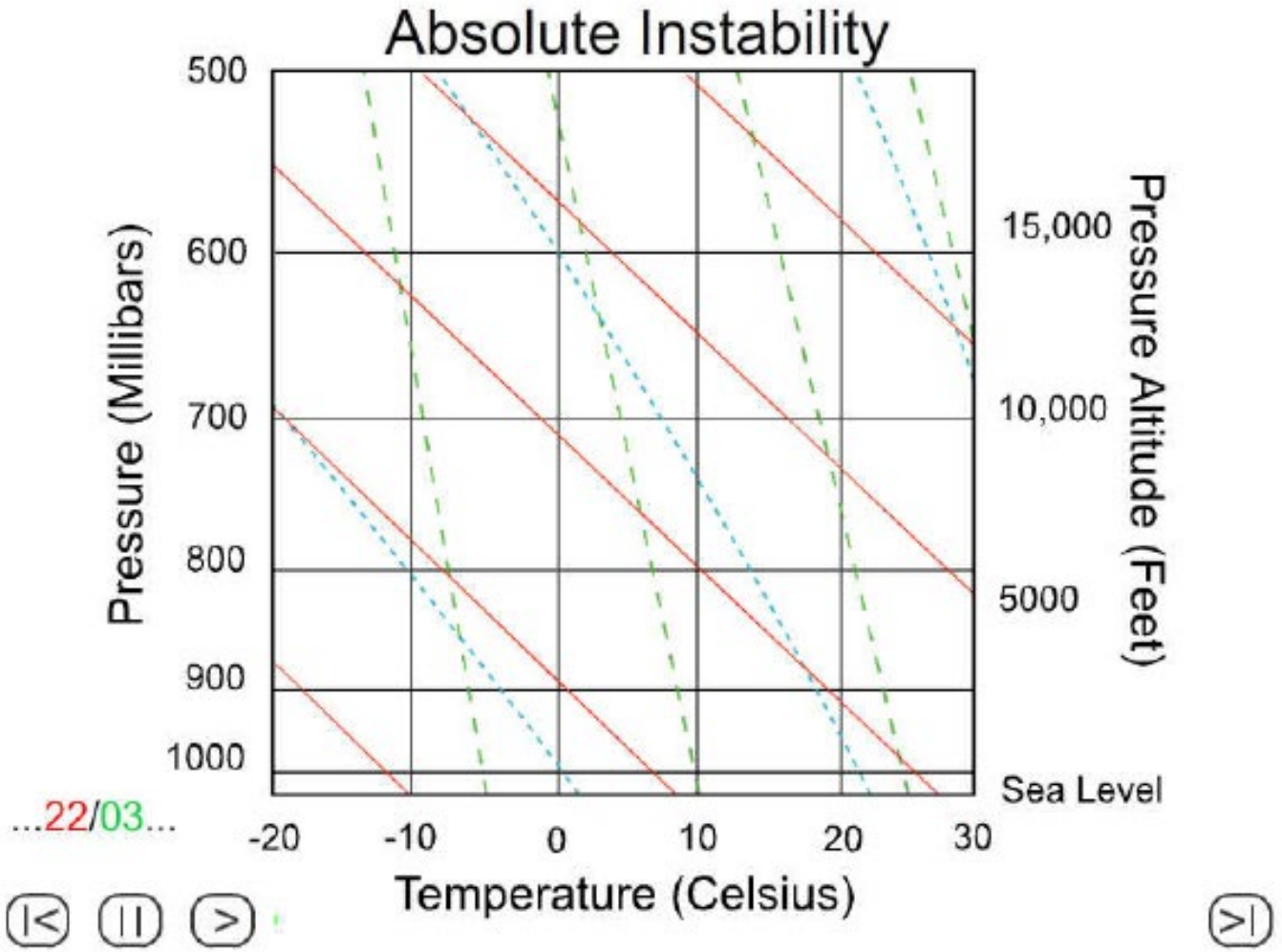
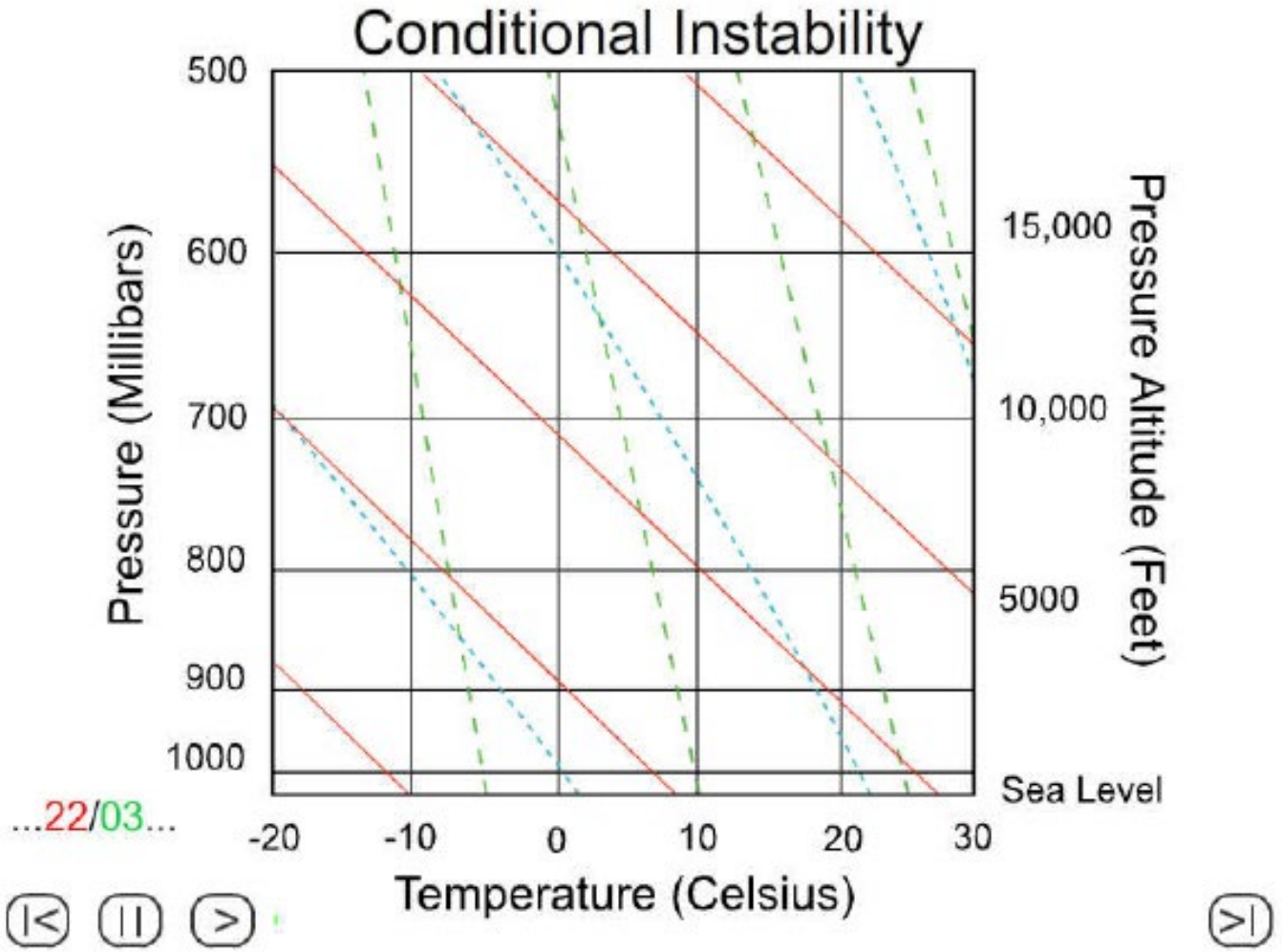


Weather Theory for Pilots



Weather Theory for Pilots

Vertical Motion vs. Stability

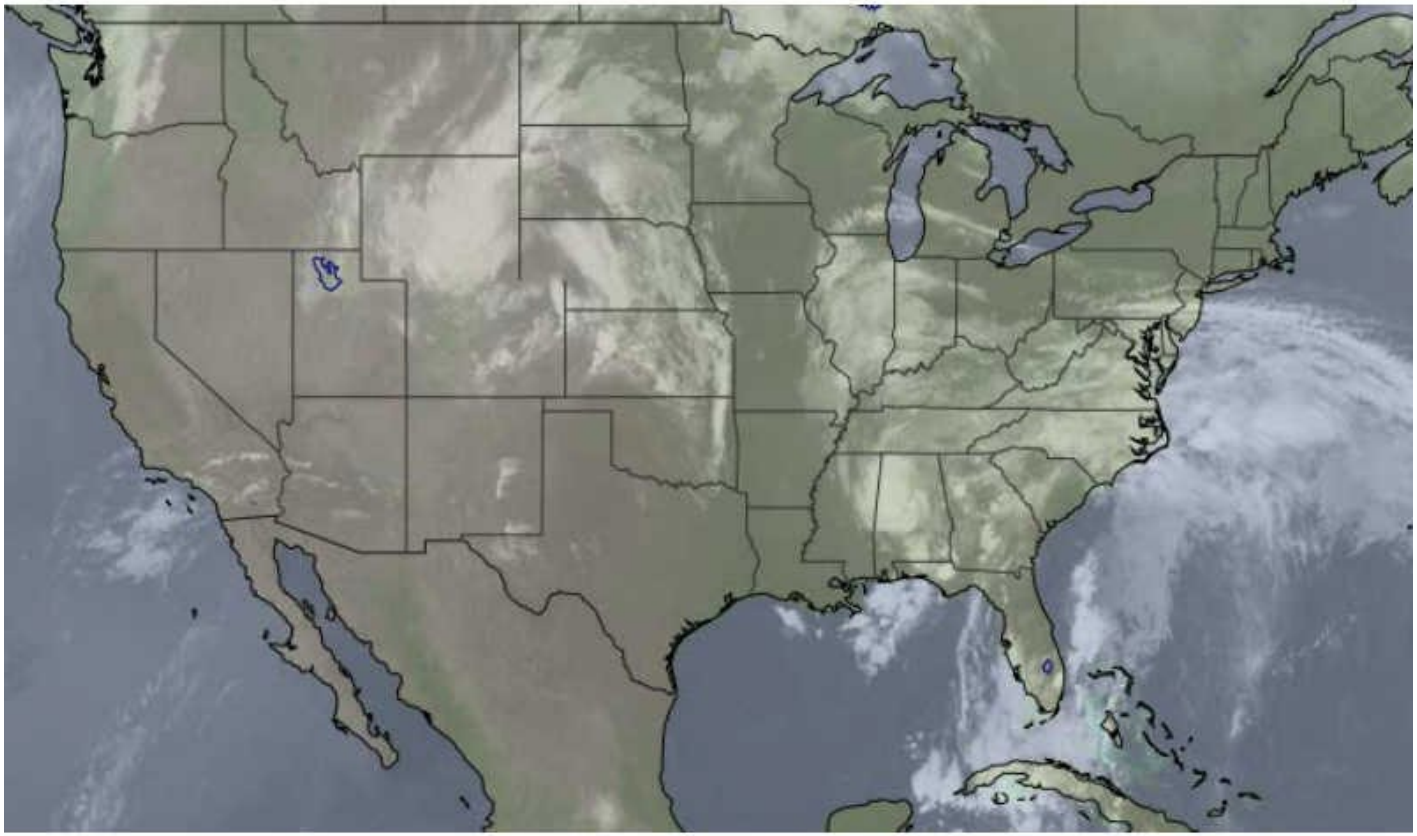
Convection

Stable

Unstable

Weather Theory for Pilots

Determining Stability



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Acknowledgements