

Cloud Fraction

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graph TD; A[Cloud Fraction] -- Decreases --> B[No Activation]; A -- Increases --> C[Activation depends on dT/dz]; C -- "dT/dz > 0" --> D[Only Radiative Cooling]; C -- else --> E[Adiabatic and Radiative Cooling];
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This flowchart illustrates the conditions for cloud activation and the resulting cooling mechanisms. It starts with 'Cloud Fraction' at the top. If it decreases, there is 'No Activation'. If it increases, activation depends on the temperature gradient dT/dz . If $dT/dz > 0$, only radiative cooling occurs. Otherwise, both adiabatic and radiative cooling occur.

Decreases

Increases

No Activation

Activation
depends on
 dT/dz

$dT/dz > 0$

else

Only
Radiative
Cooling

Adiabatic and
Radiative
Cooling