

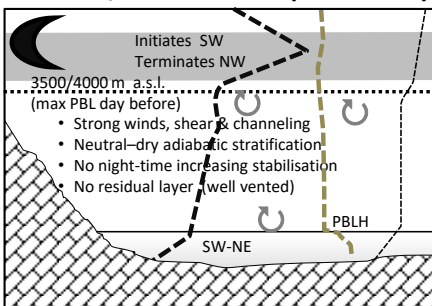
### VENTING/TROUGHING (VT EVENT)

### ACCUMULATING/RIDGING (AR EVENT)

Free troposphere. Strong winds  
Occasional high O<sub>3</sub> peaks (free troposphere O<sub>3</sub>, stratosphere O<sub>3</sub>, long-range transport & regional layers)

**Low O<sub>3</sub> (mixed, more external)**  
**Intense ventilation**, no accumulation from the day before  
Mechanical turbulence

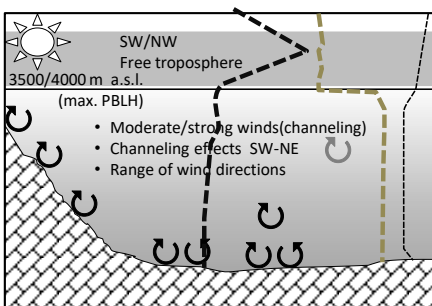
Surface layer, occasionally stably stratified  
**Low O<sub>3</sub> concentrations, titration**  
Strong winds SW-NE



Free troposphere. Strong winds  
Occasional high O<sub>3</sub> peaks (free troposphere O<sub>3</sub>, stratosphere O<sub>3</sub>, long-range transport & regional layers)

**No O<sub>3</sub> accumulation in the PBL**  
No recirculatory winds  
**New O<sub>3</sub> /UFP formation**  
**O<sub>3</sub> fumigation**

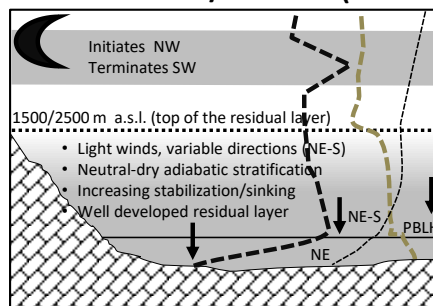
Thicker PBL: > 2000–2500 m a.s.l. at 12:00 UTC  
Rapid growing up to 3500/4000 m  
Intense mechanical & convective turbulence; intense convection



Free troposphere. Light winds  
Occasional high O<sub>3</sub> peaks (free troposphere O<sub>3</sub>, stratosphere O<sub>3</sub>, long range transport & regional layers)

**Higher O<sub>3</sub> (mixed external + Local)**  
**Low ventilation**, re-circulatory winds, accumulation from the day before  
No Turbulence

NE'ly jet over stably stratified surface layer  
**Low O<sub>3</sub> concentrations, titration**  
Light winds (NE).



Free troposphere. Light winds  
Occasional high O<sub>3</sub> peaks (free troposphere O<sub>3</sub>, stratosphere O<sub>3</sub>, long range transport & regional layers)

**O<sub>3</sub> accumulation in the PBL**  
Re-circulation over the MMA basin  
**New ozone/UFP formation, O<sub>3</sub> fumigation**

Thinner PBL: < 1500 m a.s.l. at 12:00 UTC  
Slower deepening to 1500/2500 m  
Intense convective turbulence  
**Additional O<sub>3</sub> formation of local origin**  
Thermally driven wind veering NE→S→SW  
Intense convection

