Lagrangian LES model and simulation setup

- SAM (System for Atmospheric Modeling, Khairoutdinov and Randall, 2003)
- The simulations follow boundary layer air mass trajectories:
  - HYSPLIT + ERA5, constant at 500 m above surface
- Simulation domain:
  - 76.8 x 76.8 km^2 x 7 km (production runs)
  - 19.2 x 19.2 km^2 x 7 km (initial results)
- Grid:
  - $\Delta x = \Delta y = 200$ m, $\Delta z = 10$ m (0-4000 m), $\Delta t = 1$
- Mean profiles nudged towards ERA5:
  - Temperature and water vapor in the free troposphere only
  - Horizontal wind speed at all levels
- Prescribed from ERA5:
  - Sea surface temperature, subsidence
  - O_3, T, and q_v above domain top for radiation
- Tel Aviv University cloud microphysics (bin scheme)
- RRTMG radiation
- Aerosol:
  - Sea salt, coupled to cloud microphysics