Nevzorov Log

2/25/16

* Investigating if it’s worth defining clear air points based on linfit instead of 0.5 lwc.
* Improved baseline point selection in nevbase.pro
  + Airspeed correction lwc are filtered by lwc < .05 g/m^3
  + Linfit applied to <.05 g/m^3 filtered points, (as,lwc)
  + Points abs < .02 from linfit are “Clearair”
* Working on new nevstats.pro for correction eval

Turns out… 400 mb k may not be the best performer. 900 mb k is doing best **after** applying baseline correction. Look at new pro for more…

2/26/16

* Validating performance of airspeed dependent K correnction on **clear air points**
  + Baseline LWC drift, mean all flights, k=1.1189852 == 0.02674 g/m^3 / 10m/s ias
  + Baseline LWC drift, mean all flights, k=400 mb K ais == 0.00554 g/m^3 / 10m/s ias
* Validating performance of pressure baseline correction on **clear air points**.
  + Baseline LWC drift, mean all flights, k=1.1189852 == 0.00933 g/m^3 / 100 mb, mean= 0.043707181, stddev = 0.017174830
  + Baseline LWC drift, mean all flights, k=400 mb K ais == 0.00504 g/m^3 / 100 mb, mean= 0.0088031524, stddev= 0.0073048132
  + Baseline LWC drift, mean all flights, k=400 mb K ais, baseline correct == 0.000564 g/m^3 / 100 mb, mean= 0.0046354026, stddev= 0.0053911177

2/27/16

* **Working on draft 2 of write-up**
* Outline
  + Liquid Water Content
    - Short theory of operation?
    - Variables and calculations
  + Total Water Content
    - Short theory of operation?
    - Variables and calculations
  + Error Sources
    - K airspeed dependence
      * Short intro (magnitude of error, etc.)
      * Methods
        + Including baseline selection process
      * Examples of expected results
    - K airspeed dependence
      * Short intro (magnitude of error, etc.)
      * Methods
      * Examples of expected results
  + Insignificant factors
    - Temperature Dependence
    - Aircraft heading?
    - Aias vs Bias?
    - Collection efficiency?