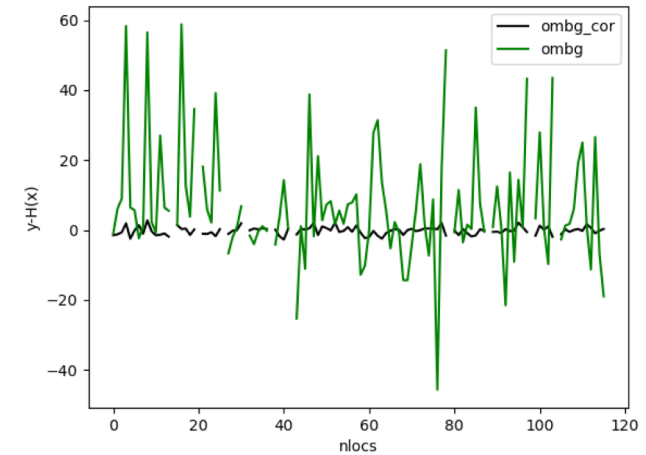# Implementation of PS in JEDI

- In MPAS-JEDI,

  - PS is a control variable, diagnosed from model outputs

  - Horizontal interpolation is done by UFO (general design)

  - Two terrain height correction schemes from WRFDA model and UK met office (select from YAML file), the observed PS is adjusted from station height to model surface height

$$\frac{P_{m2o}}{P_m} = \left(\frac{T_{m2o}}{T_m}\right)^{\frac{g}{RL}} \qquad T_m = TV_{2000} \times \left(\frac{P_o}{P_{2000}}\right)^{\left(\frac{RL}{g}\right)}$$

P_{m2o} = model surface pressure at station height
P_m = model surface pressure
T_m = temperature at model surface height; derived from TV_2000
T_{m2o} = model surface temperature at station height
P_{2000} = background pressure at 2000 m
TV_{2000} = background virtual temperature at 2000 m
P_o = pressure at station height

$$P_{o2m} = P_o(P_m/P_{m2o})$$

- PreQC; Background Check: $3\sigma_o$
- Height diff Check: filter out obs when the difference b.w. model surface height and stations height is greater than max_hdiff (the default is 100)
- Identity operator: existed operator, ufo/identity/
- Height Correction (thedefault is UKMO scheme) ObsBias = Corrected pressure