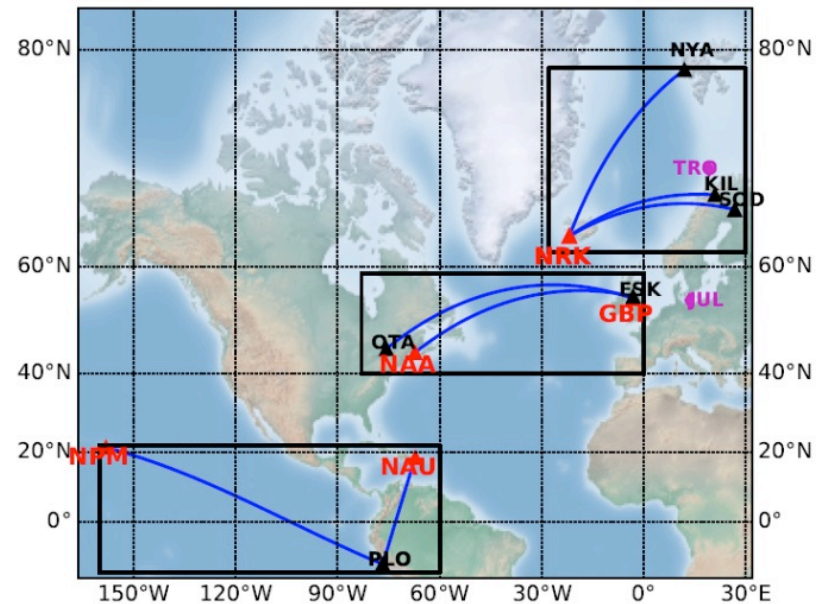


The fall-effect in VLF amplitudes and mesospheric parameters

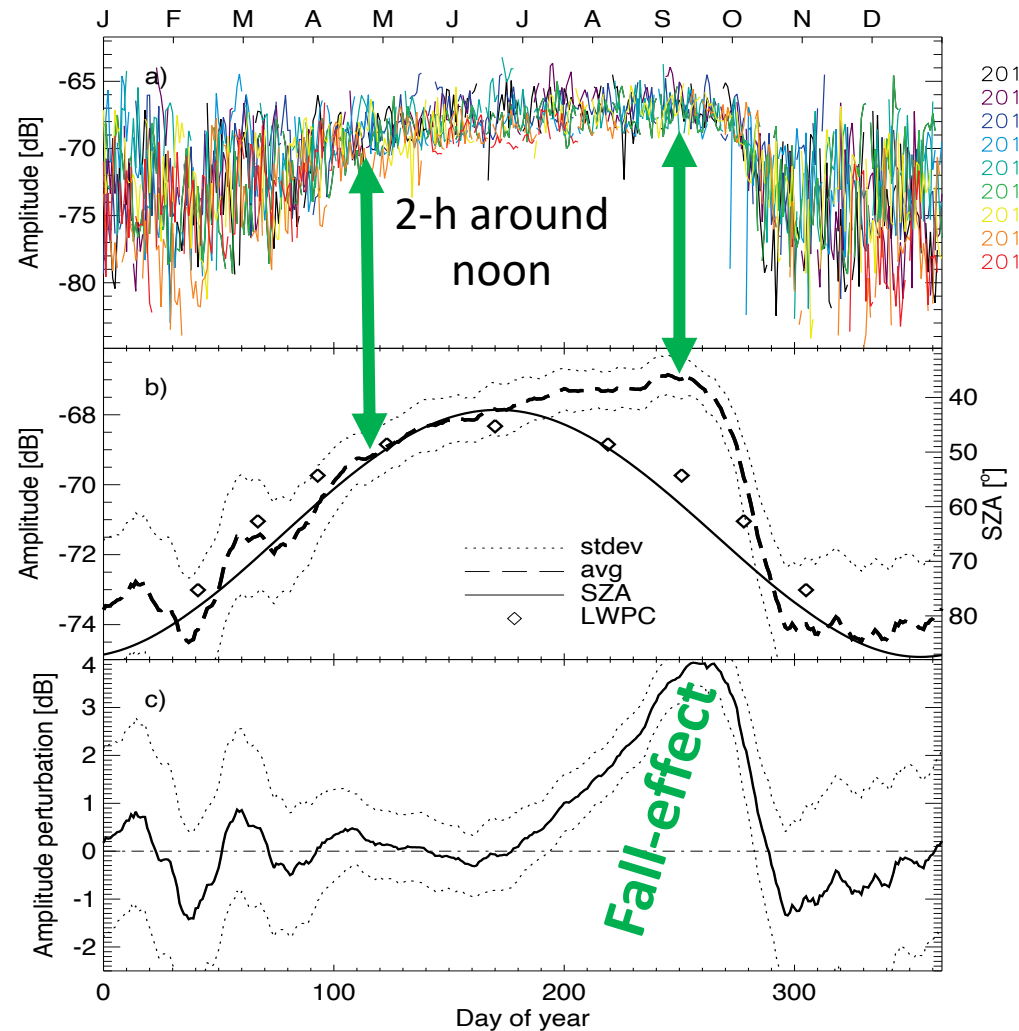
L. Macotela^{*(1,2)}, M. Clilverd⁽³⁾, J. Chau⁽²⁾, D. Banyś⁽⁴⁾, J.-P. Raulin⁽⁵⁾, and T. Raita⁽⁶⁾

VLF wave propagation

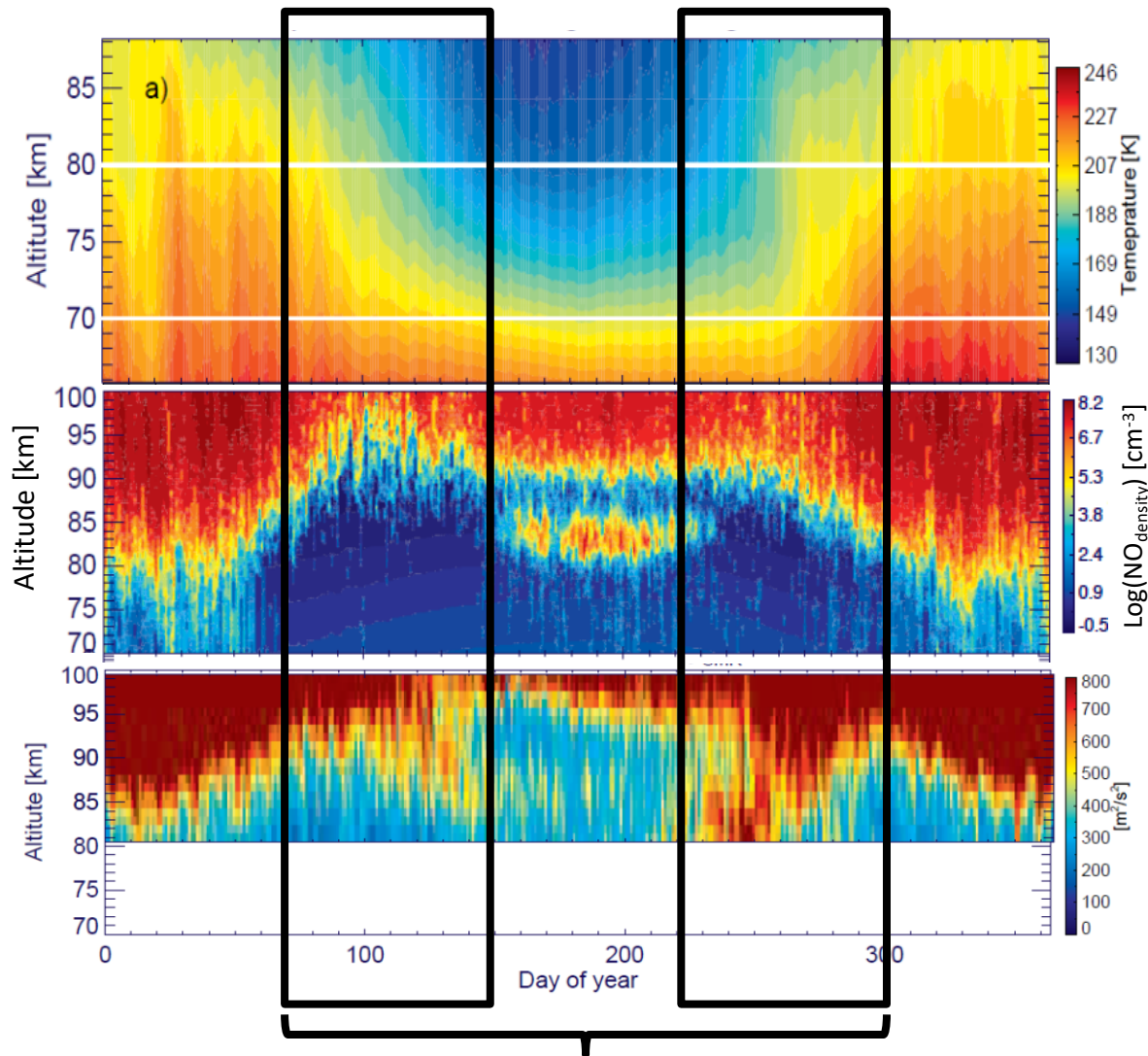


Daytime VLF waves reflect at 70-80 km

The spring variation is explained by the SZA. However, the fall variation not



The fall-effect observed in T, NO, and GW: Climatology



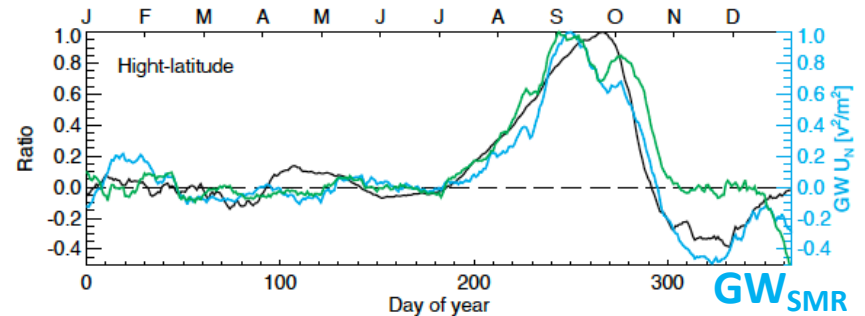
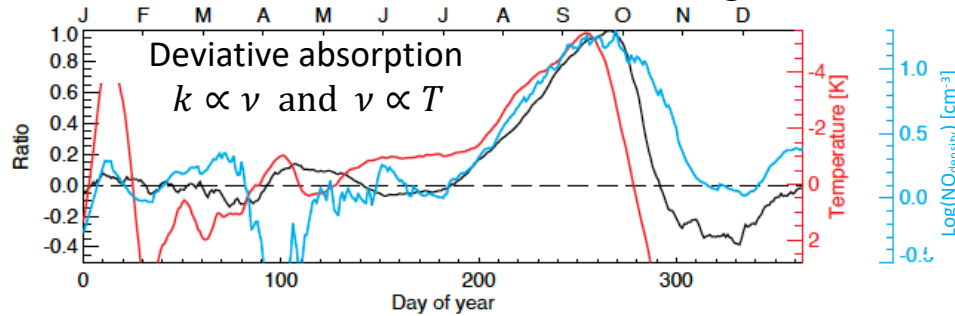
MLS temperature

SOFIE NO density

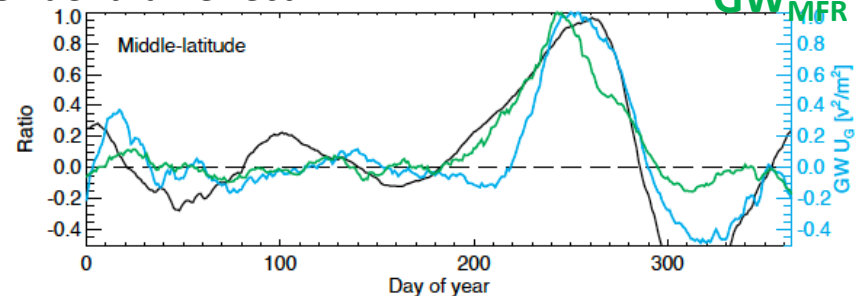
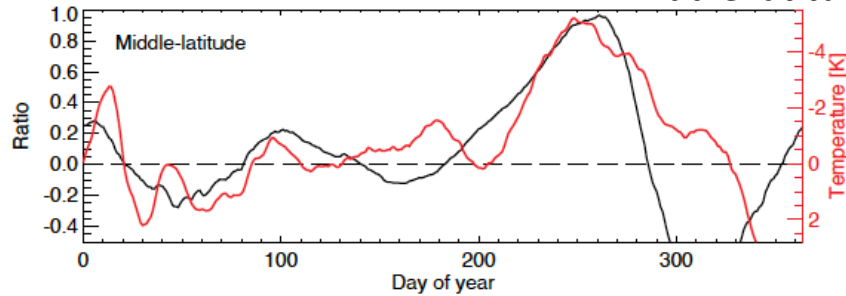
**Gravity wave (GW)
kinetic energy**
 $U' = [U - U_{13h-SMA}]^2$

Comparing VLF, T, NO, and GW

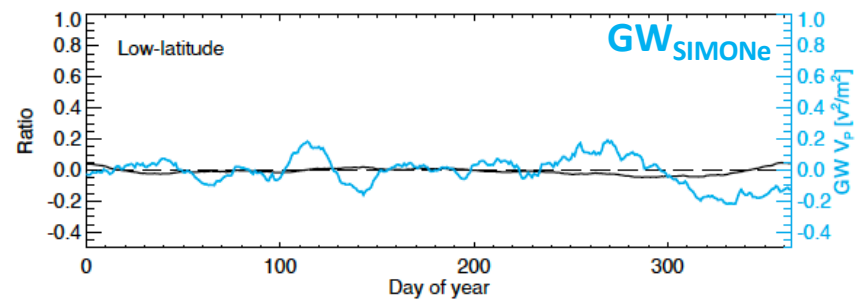
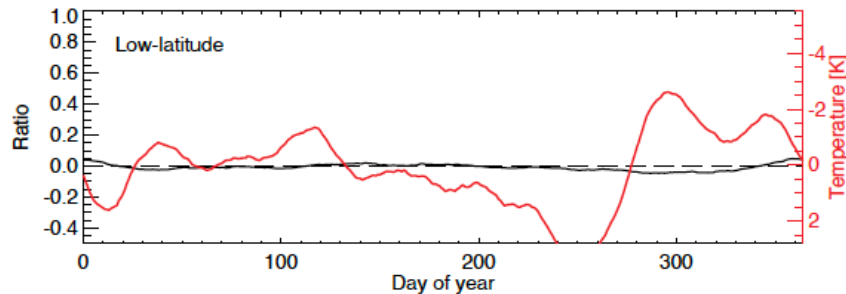
High latitude: clear fall-effect



Middle latitude: less evident fall-effect



Low latitude: no fall-effect



Summary: A latitudinal dependence of the fall-effect is observed in VLF, T, and GW