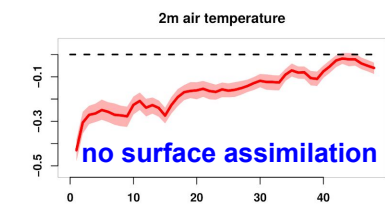
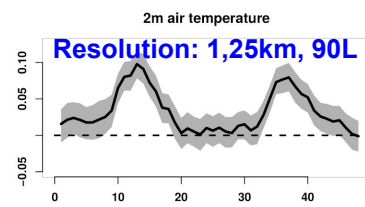


How to configure regional high-resolution NWP systems to maximize short-range forecast quality and value?

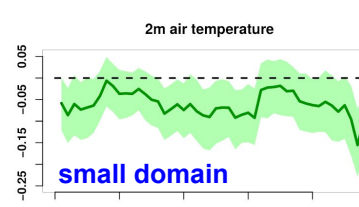
2m air temperature example;



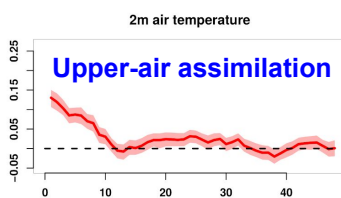
BSS (< -18.6C): 0.05
BSS (> +0.8C): -0.03



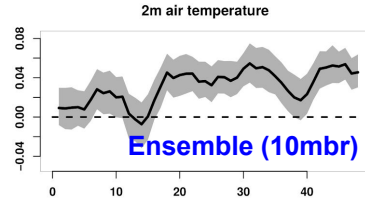
BSS (< -18.6C): 0.02
BSS (> +0.8C): 0.07



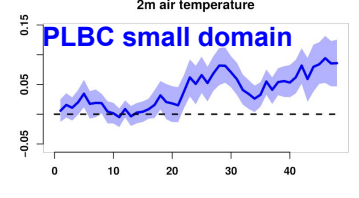
BSS (< -19.4C): -0.15
BSS (> -4.8C): -0.02



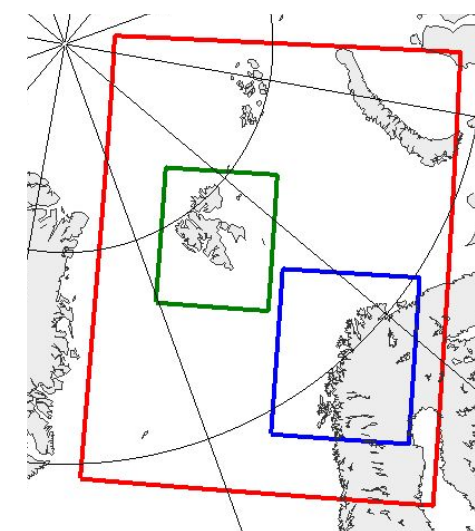
BSS (< -18.6C): 0.03
BSS (> +0.8C): 0.00



BSS (< -18.6C): 0.24
BSS (> +0.8C): 0.22



BSS (< -19.4C): 0.15
BSS (> -4.8C): -0.03



AROME-Arctic
2,5 km, 65L
LBCs: IFS-HRES

March 2018 (YOPP SOP-NH1)

MAESS=(1-MAEexp/MAref)
BSS = (1 - BSSexp/BSSref)

The **combination** of (coarser resolution) **global** and **regional** high-resolution **NWP systems** are important in short-range **Arctic weather forecasting**.
However, **configuration choices of the regional system**, e.g. initialization method, resolution, ensemble set-up, domain size and location and LBCs may have a substantial **impact on forecast quality and end-user value**. Good choices optimize operational forecast quality and end-user value based on available computer resources.