

Problems

- Instant and accumulated values compared
- Chicken and egg:
LATF \sim temperature gradient \times wind speed
T \sim surface energy balance, incl. LATF

Possibilities

- Model and atmosphere equally complicated
- need to understand interactions and dependencies
- Does the whole model behave as we assume based on knowledge of the components?
- Need to formulate correct questions and use statistical methods to answer them, both inside the model and between the model and observations

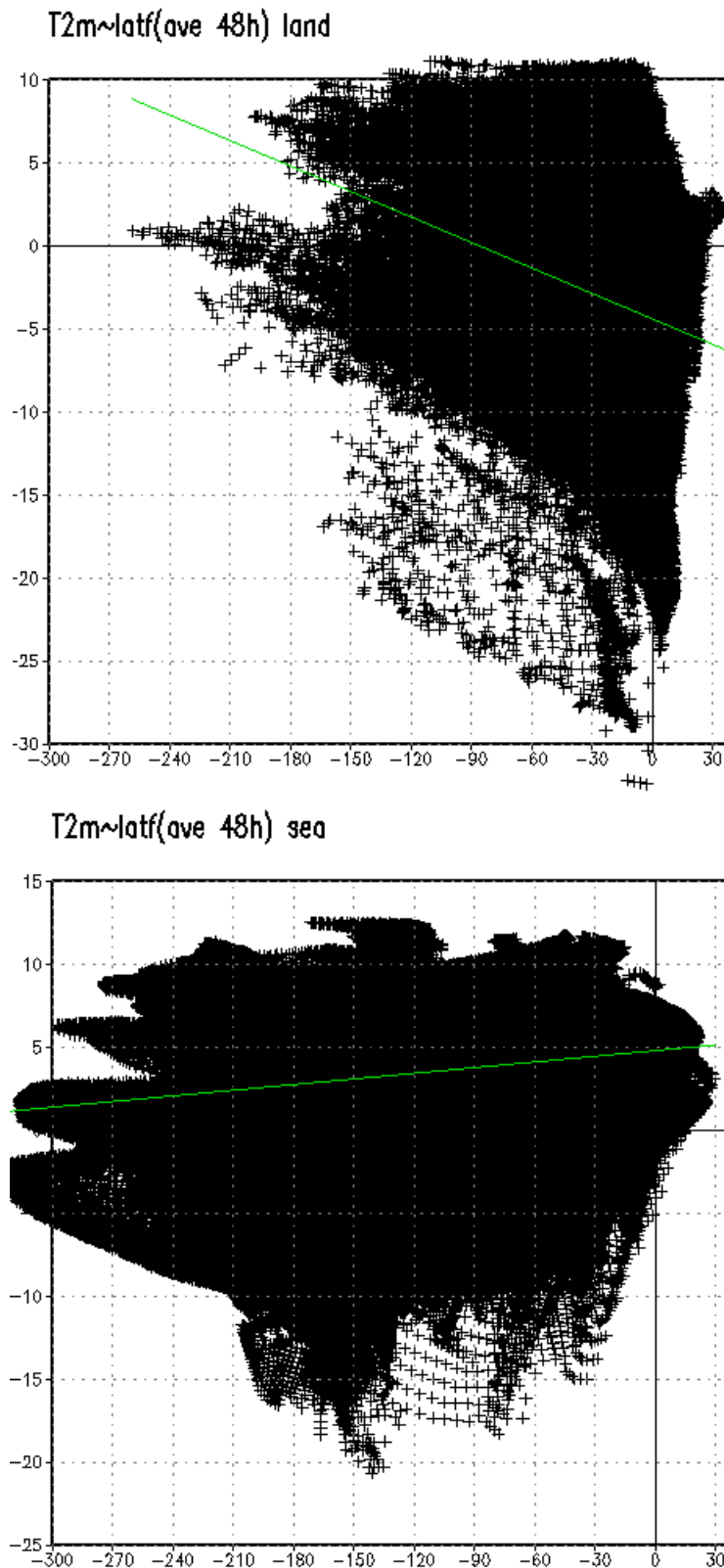


Figure 1: Predicted two-metre temperature (C , y -axis) as a function of latent heat flux (Wm^{-2} , positive downwards, average over the forecast length, x -axis) over an Icelandic-Northern Atlantic-Scandinavian area, January 2000, 00UTC+48h. Upper figure: open sea grid-points excluded, lower figure: only open-sea grid points. A least squares line (green) is fitted in the scatterplots, with calculated correlations of -0.23 for land and 0.16 for sea.

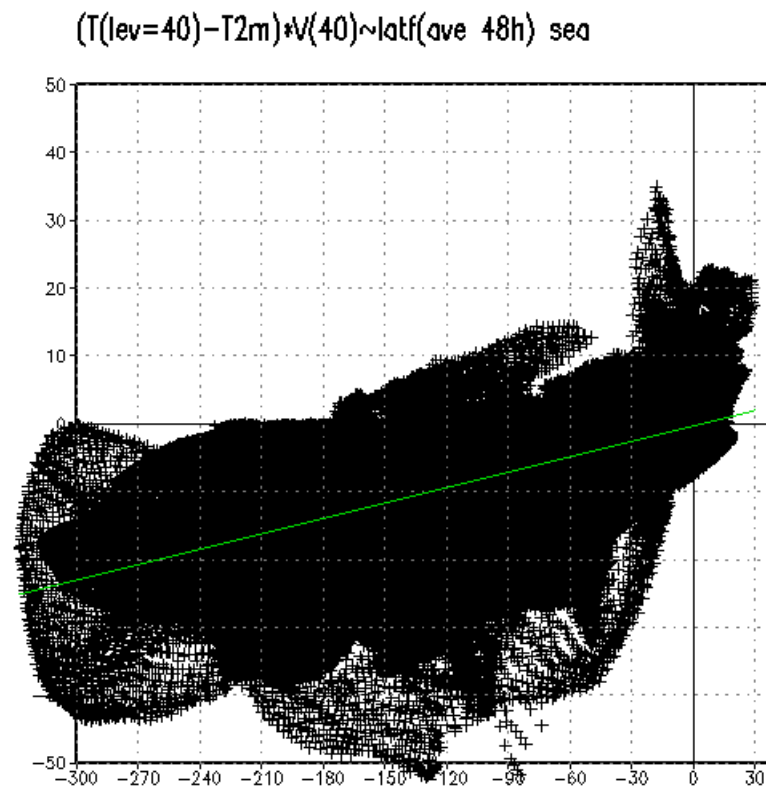
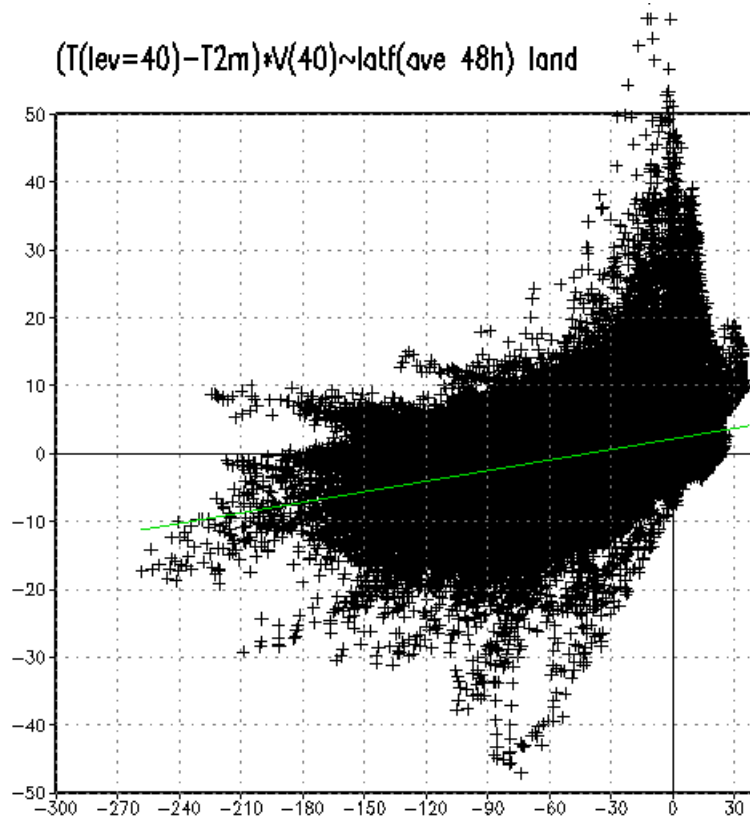


Figure 2: Predicted temperature gradient \times wind velocity $(T(40)-T_{2m}) \times V(40)$ (Kms^{-1} , y-axis) as a function of latent heat flux (Wm^{-2} , positive downwards, average over the forecast length, x-axis) over an Icelandic-Northern Atlantic-Scandinavian area, January 2000, 00UTC+48h. Upper figure: open sea grid-points excluded, lower figure: only open-sea grid points. A least squares line (green) is fitted in the scatterplots, with calculated correlations of 0.36 for land and 0.59 for sea.

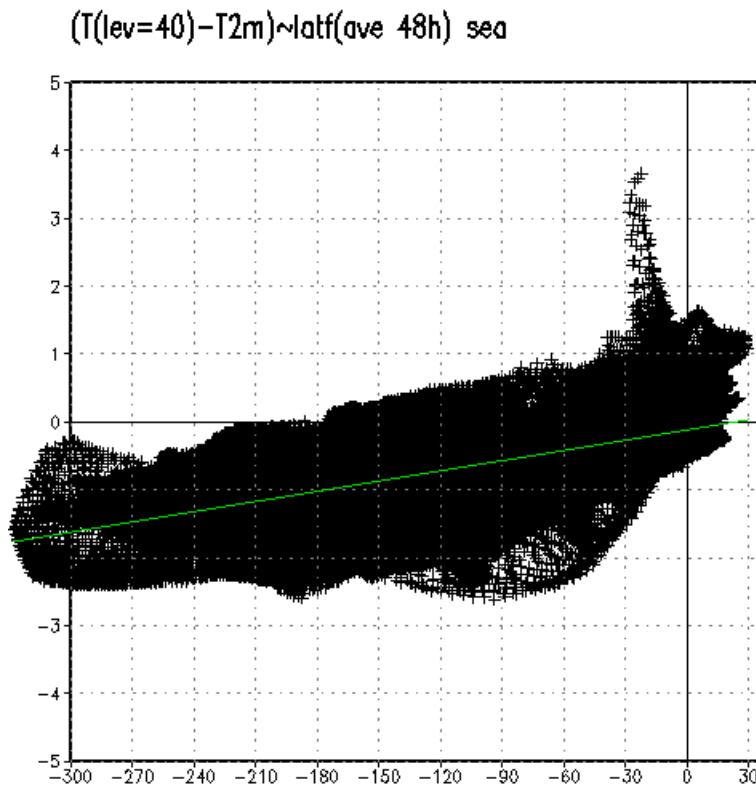
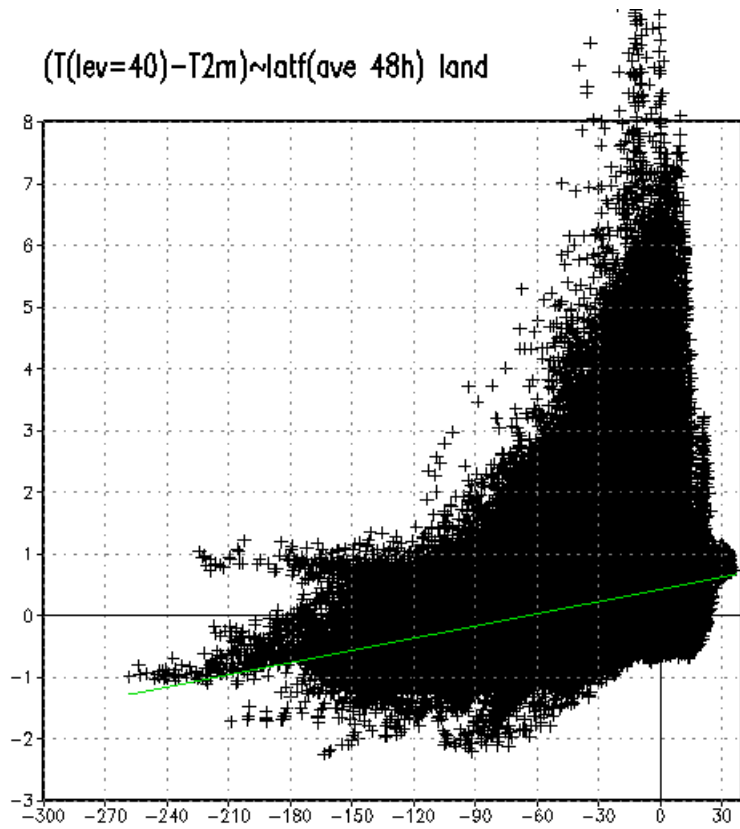


Figure 3: Predicted temperature gradient $T(40)-T2m$ (K, y-axis) as a function of latent heat flux (Wm^{-2} , positive downwards, average over the forecast length, x-axis) over an Icelandic-Northern Atlantic-Scandinavian area, January 2000, 00UTC+48h. Upper figure: open sea grid-points excluded, lower figure: only open-sea grid points. A least squares line (green) is fitted in the scatter-plots, with calculated correlations of 0.24 for land and 0.64 for sea.