Application and verification of ECMWF products in Lithuania

2. Use and application of products.

2.1 Post-processing of model output.

LHMS is performing experimental non-operational runs using ECMWF model data as boundary conditions for local-area model Hirlam. Current boundary conditions for the operational model are being provided by the Finnish meteorological institute from their Hirlam model runs. It is planned to start using ECMWF model data as the main source for boundary conditions for LHMS Hirlam in the future.

2.2 Use of products

ECMWF password-protected website is used. Deterministic and ensemble forecasts are used in daily operational work for origination of 1-5-day general weather forecasts for Lithuania, 10-day extreme temperature forecasts for heating utilities. Extreme index forecasts - in anticipation of disastrous and dangerous phenomena. Monthly (4-week) and seasonal forecasts of mean temperature and precipitation anomaly forecasts are used for origination of similar forecasts for Lithuania. These forecasts are posted on the LHMS website comparing them to climatic normal. ECMWF as a source is indicated. Mean weekly temperature validation diagrams for the first half of 2007 are presented in figures 1–4.

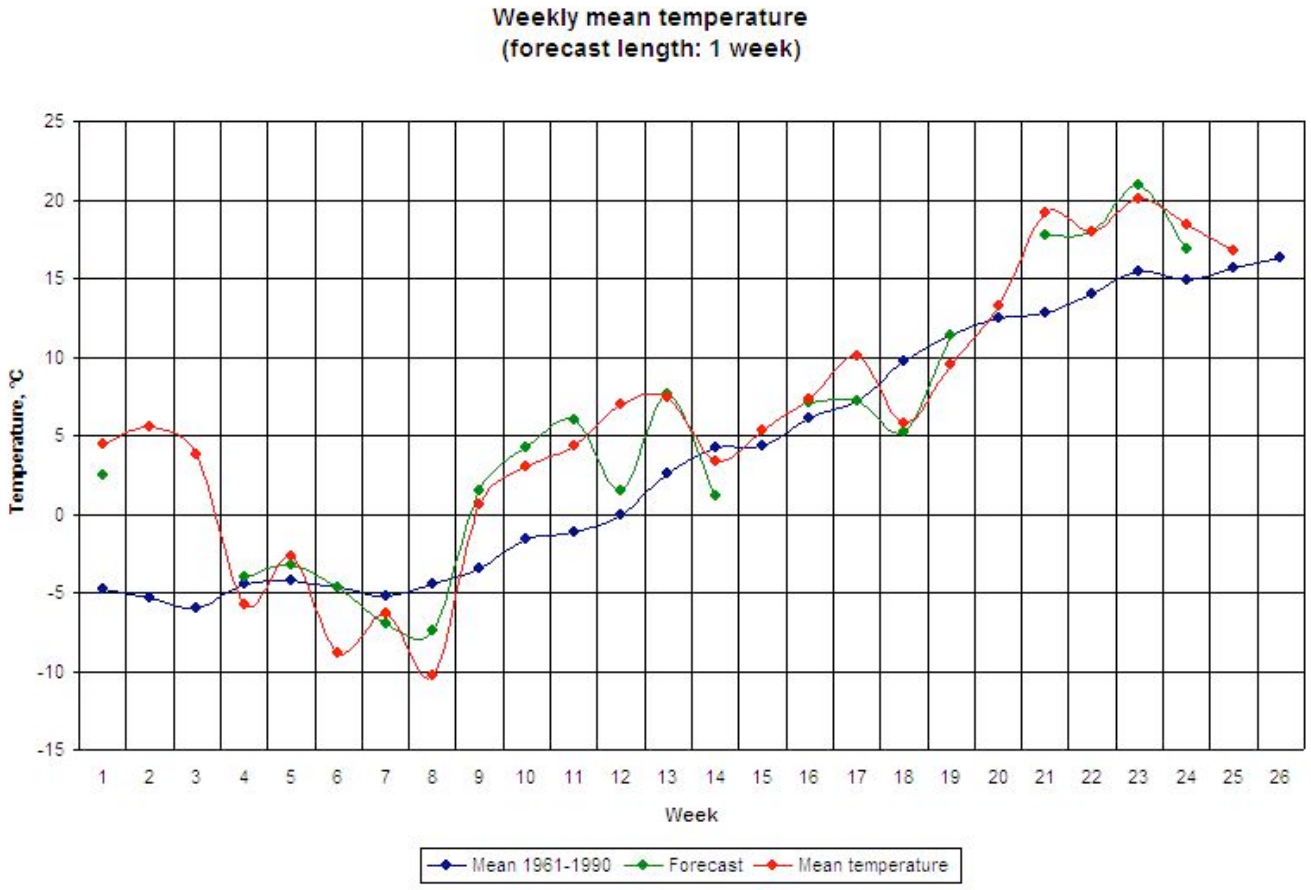

Fig.1

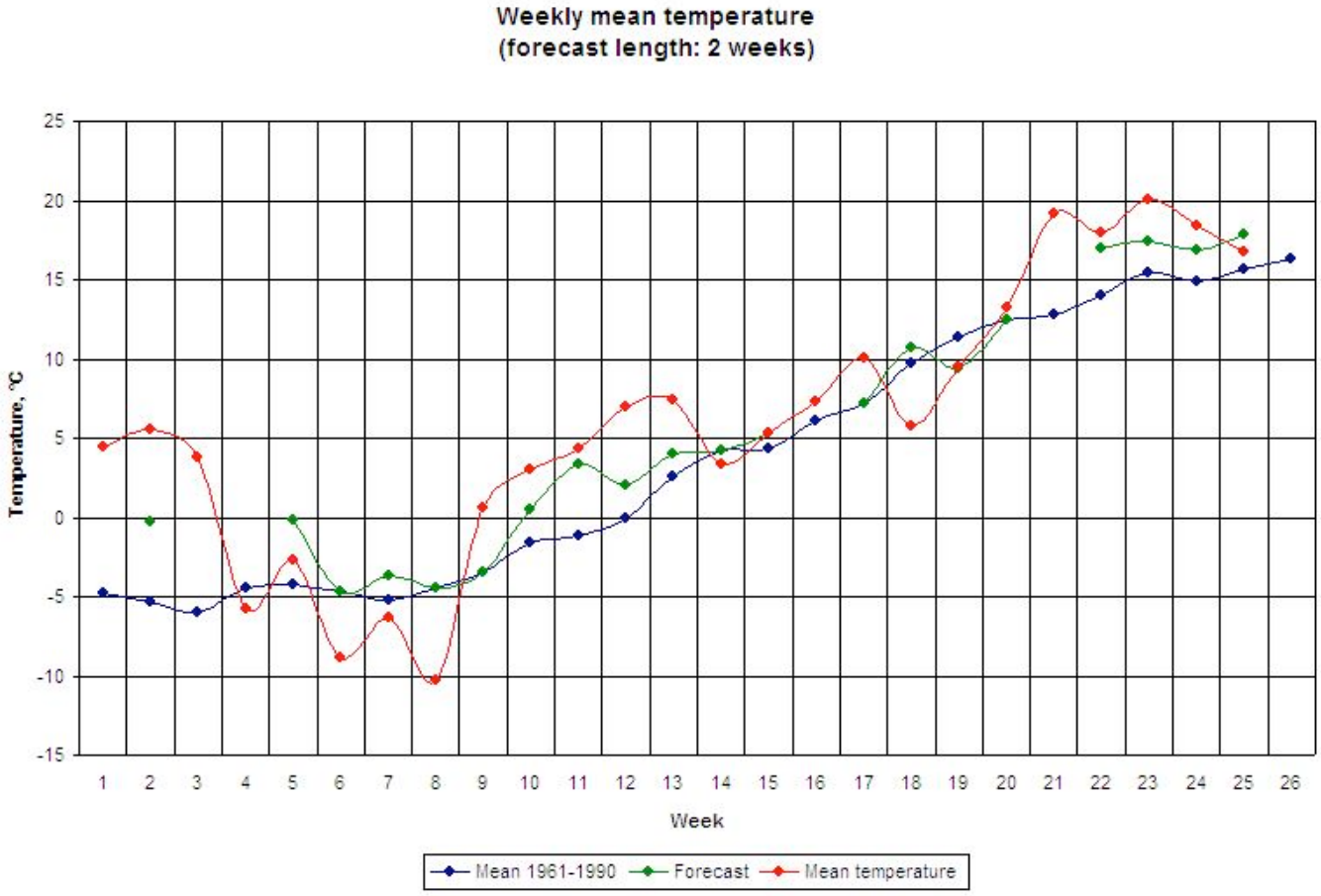
Weekly mean temperature
(forecast length: 2 weeks)
Temperature, °C
25
20
15
10
5
0
-5
-10
-15
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Week
Mean 1961-1990
Forecast
Mean temperature

Fig. 2

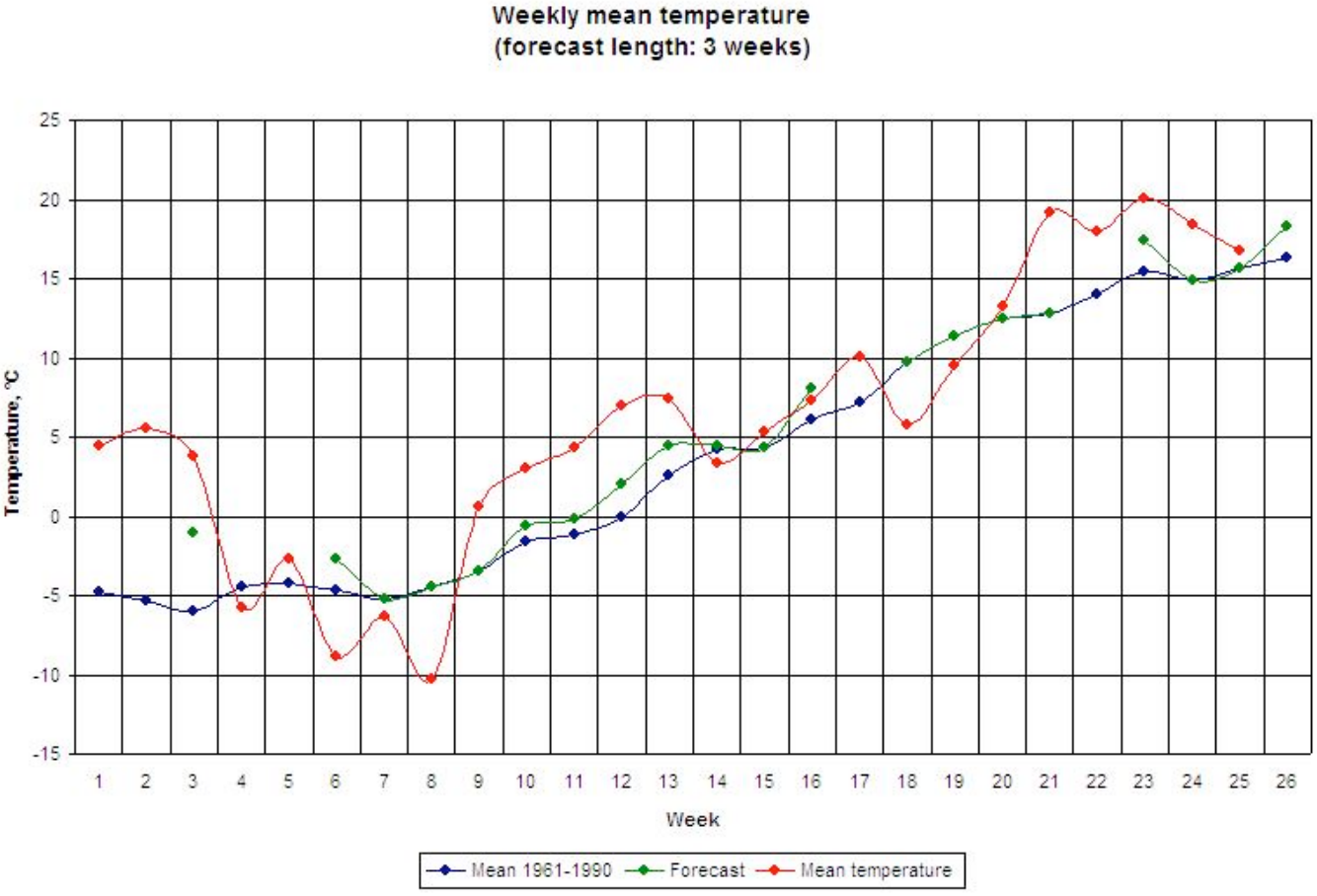
Weekly mean temperature
(forecast length: 3 weeks)
Temperature, °C
25
20
15
10
5
0
-5
-10
-15
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Week
Mean 1961-1990
Forecast
Mean temperature

Fig. 3

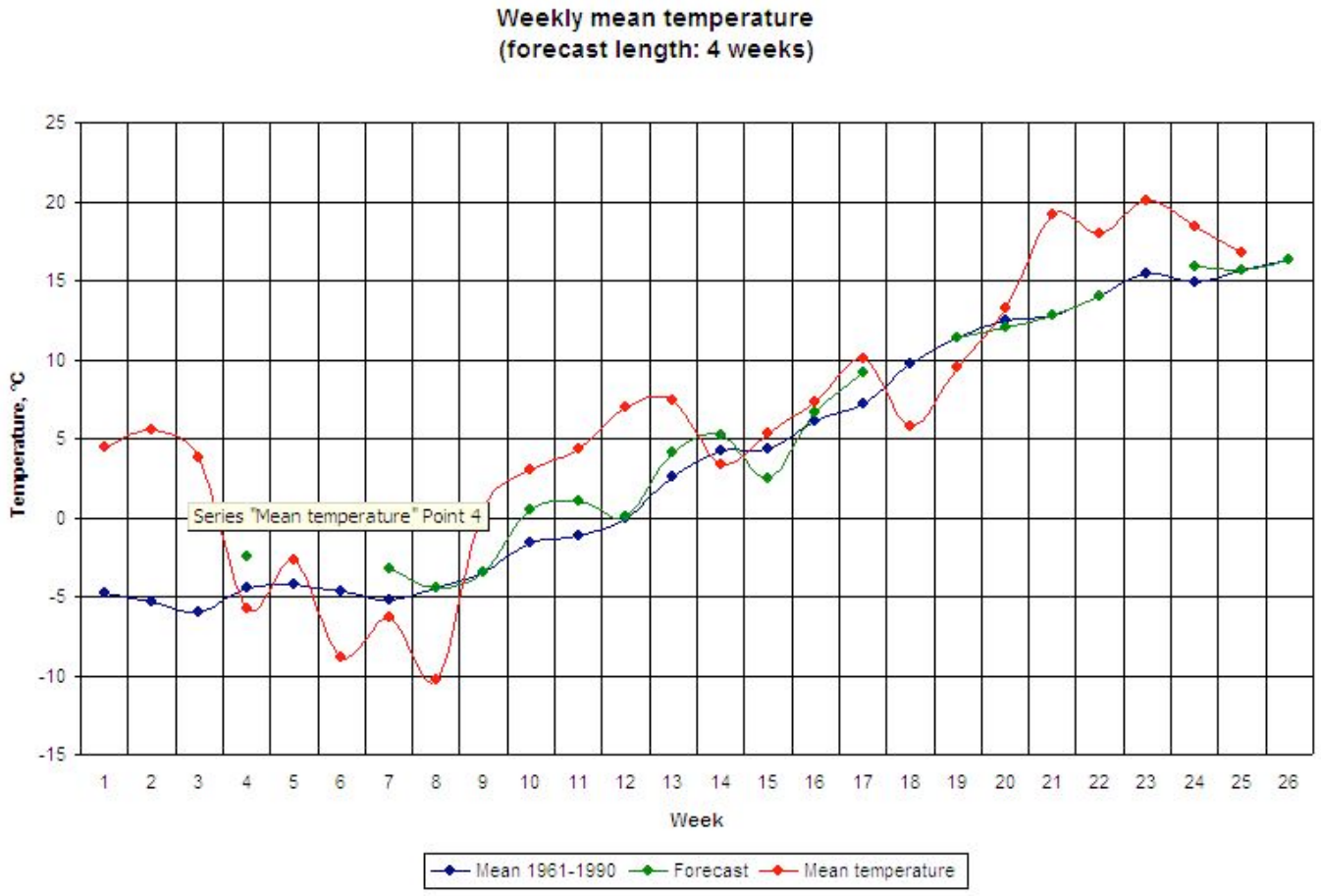
Weekly mean temperature
(forecast length: 4 weeks)
Temperature, °C
25
20
15
10
5
0
-5
-10
-15
Series "Mean temperature" Point 4
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Week
Mean 1981-1990
Forecast
Mean temperature

Fig. 4