**1. Operational Forecast Models (e.g., ECMWF, GFS)**

**According to the European Centre for Medium-Range Weather Forecasts (ECMWF), RMSE values for 2-meter temperature forecasts typically range from 2.5°C to 5.5°C for 5–10 day forecasts. For forecasts beyond 15 days, RMSE commonly exceeds 6°C, and may reach 7–8°C depending on seasonality and geographic region (Zhu et al., 2002).**

**2. NOAA/GFS Long-Term Forecast Evaluation**

**The National Oceanic and Atmospheric Administration (NOAA) reports that RMSE values above 6°C are typical for forecasts over 15–30 days, particularly in extended climate outlooks (Hamill et al., 2013).**

**3. AI-Based Temperature Forecasting Models**

**Studies utilizing machine learning models such as LSTM and XGBoost for medium to long-term temperature forecasting have reported MAEs in the range of 3.5–6.0°C and RMSEs between 4.5–7.5°C for 30+ day forecasts (Abdullah et al., 2020).**