Figure 5: XGBoost Model – Predicted vs Observed Thermal Intensity
(Improved Model with Advanced Features)

XGBoost (Tuned)

R² = 0.528
RMSE = 0.00252
MAE = 0.00185
n = 1803

- Poor Envelope
- Medium Envelope
- Good Envelope
- Perfect Prediction
- ±1σ (0.0025)