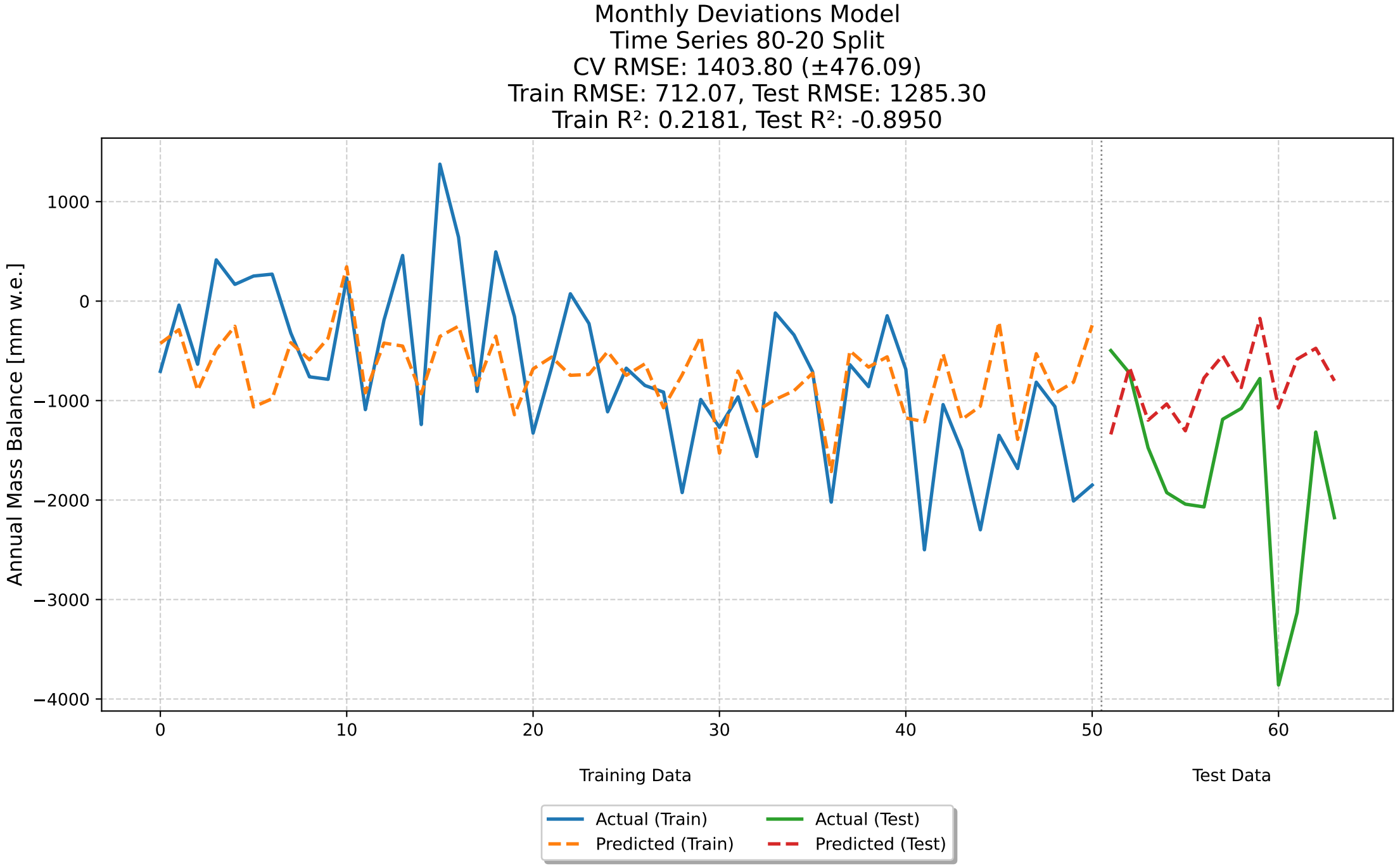
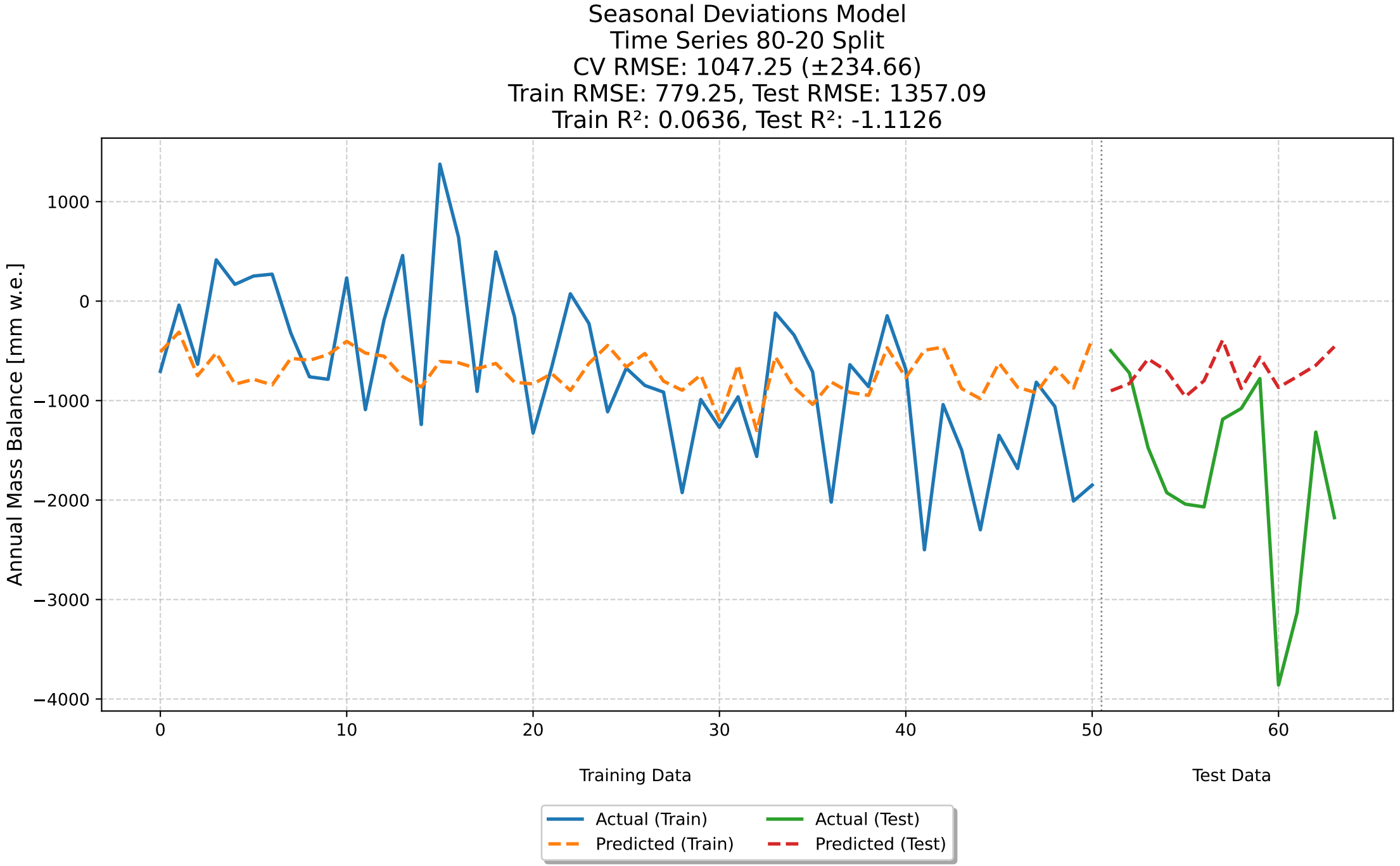
Glacier Mass Balance Model Results: Griesgletscher


Monthly Deviations Model
Time Series 80-20 Split
CV RMSE: 1403.80 (±476.09)
Train RMSE: 712.07, Test RMSE: 1285.30
Train R²: 0.2181, Test R²: -0.8950
Annual Mass Balance [mm w.e.]
1000
0
−1000
−2000
−3000
−4000
0
10
20
30
40
50
60
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

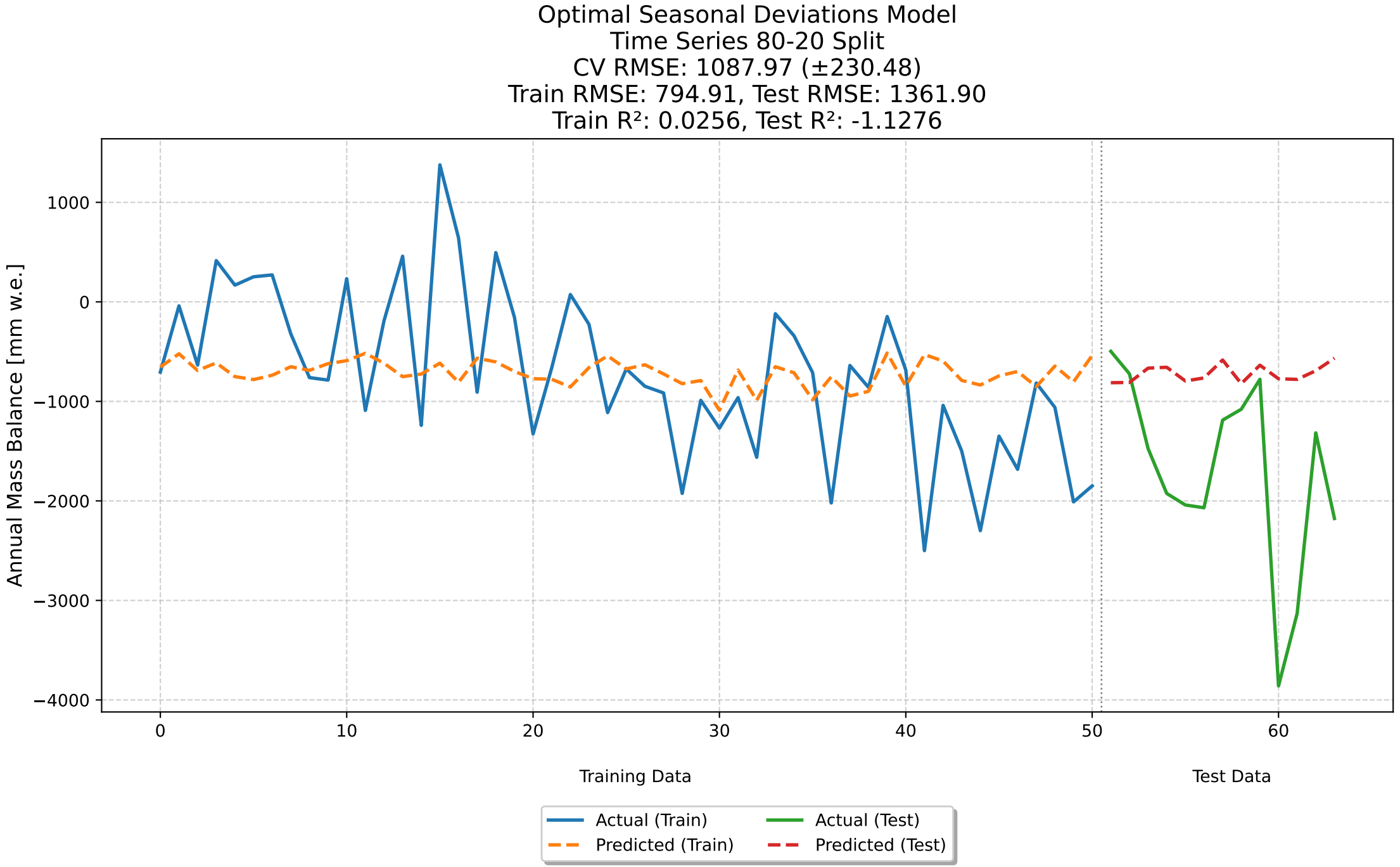
Monthly Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	1403.80 (±476.09)
Training RMSE	712.07
Training R^2	0.2181
Test RMSE	1285.30
Test R^2	-0.8950
Feature	Coefficient
may_td	-54.6445
june_td	36.5706
july_td	-93.4246
august_td	180.3680
september_td	-324.7908
october_pd	124.3128
november_pd	-161.6410
december_pd	83.1229
january_pd	-156.6006
february_pd	-47.1266
march_pd	-35.9094
april_pd	50.7109
Intercept	-716.6275


Seasonal Deviations Model
Time Series 80-20 Split
CV RMSE: 1047.25 (±234.66)
Train RMSE: 779.25, Test RMSE: 1357.09
Train R²: 0.0636, Test R²: -1.1126
Annual Mass Balance [mm w.e.]
1000
0
−1000
−2000
−3000
−4000
0
10
20
30
40
50
60
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

Seasonal Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	1047.25 (±234.66)
Training RMSE	779.25
Training R^2	0.0636
Test RMSE	1357.09
Test R^2	-1.1126
Feature	Coefficient
summer_temp_dev	-203.6363
winter_precip_dev	-79.4691
Intercept	-716.6275


Optimal Seasonal Deviations Model
Time Series 80-20 Split
CV RMSE: 1087.97 (±230.48)
Train RMSE: 794.91, Test RMSE: 1361.90
Train R²: 0.0256, Test R²: -1.1276
Annual Mass Balance [mm w.e.]
1000
0
−1000
−2000
−3000
−4000
0
10
20
30
40
50
60
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

Optimal Seasonal Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	1087.97 (±230.48)
Training RMSE	794.91
Training R^2	0.0256
Test RMSE	1361.90
Test R^2	-1.1276
Feature	Coefficient
optimal_summer_temp_dev	-117.2323
optimal_winter_precip_dev	-71.0687
Intercept	-716.6275