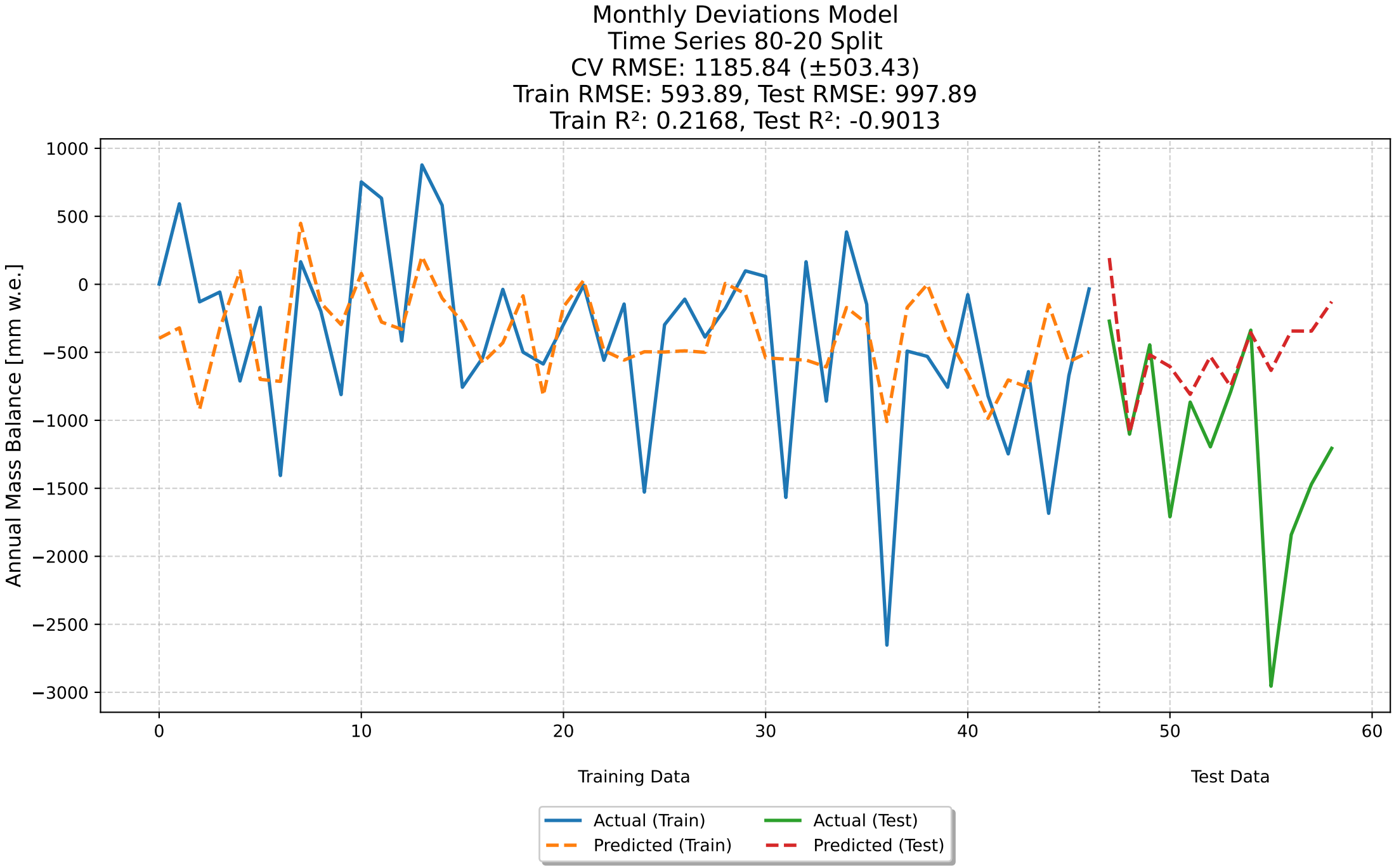
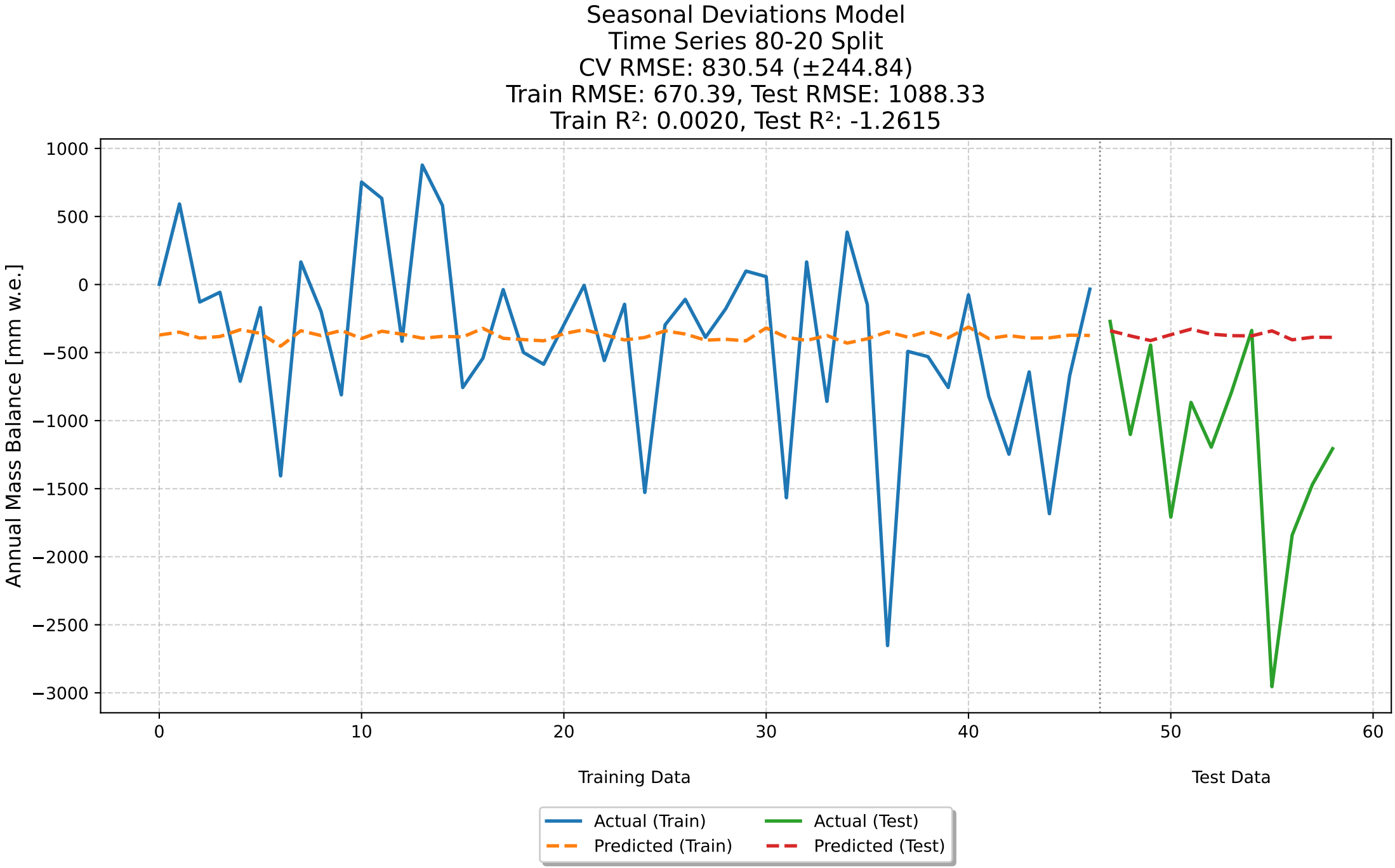
Glacier Mass Balance Model Results: Glacier du Giétro


Monthly Deviations Model
Time Series 80-20 Split
CV RMSE: 1185.84 (±503.43)
Train RMSE: 593.89, Test RMSE: 997.89
Train R²: 0.2168, Test R²: -0.9013
Annual Mass Balance [mm w.e.]
1000
500
0
−500
−1000
−1500
−2000
−2500
−3000
0
10
20
30
40
50
60
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

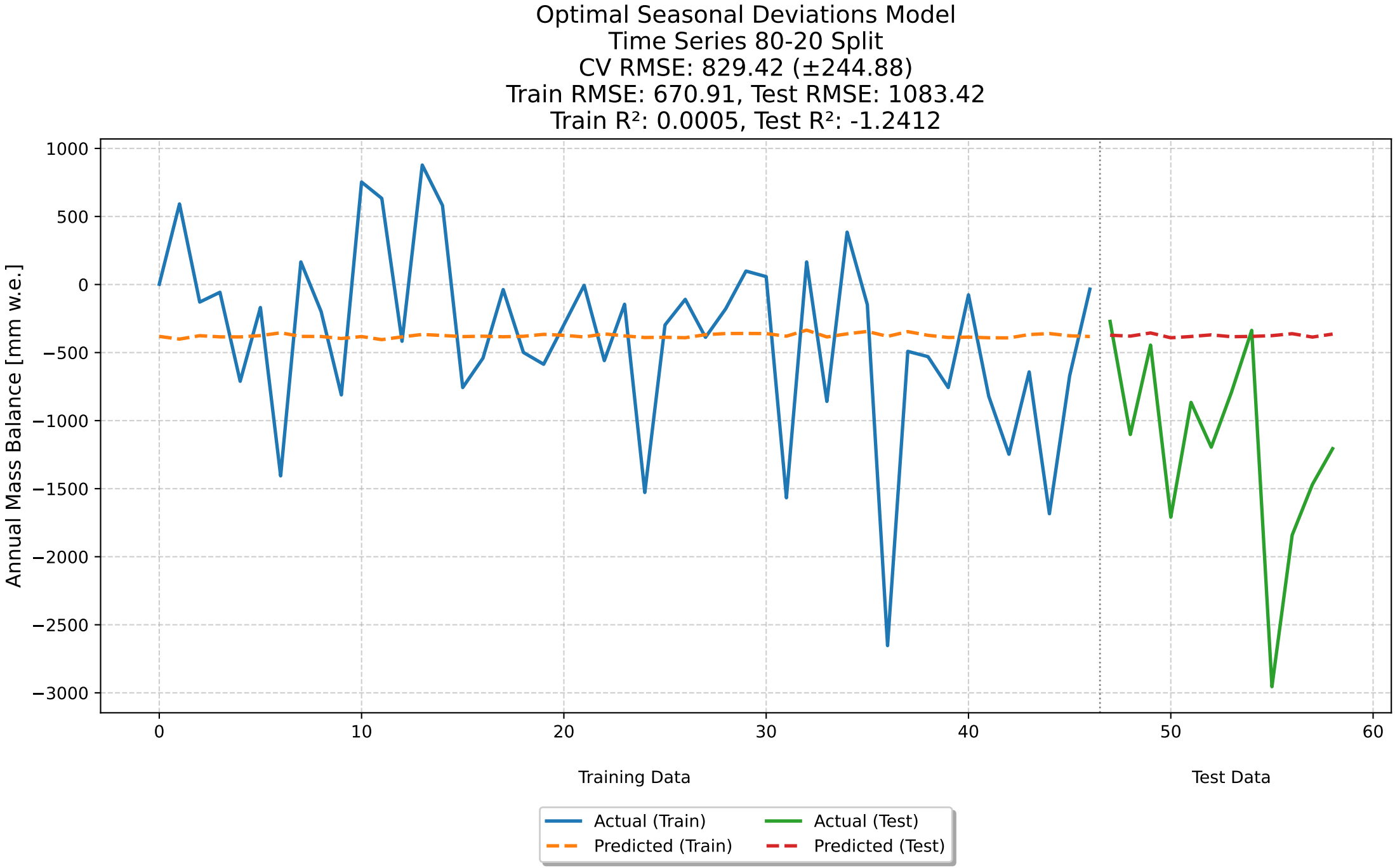
Monthly Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	1185.84 (±503.43)
Training RMSE	593.89
Training R^2	0.2168
Test RMSE	997.89
Test R^2	-0.9013
Feature	Coefficient
may_td	-46.5939
june_td	-15.7425
july_td	12.6066
august_td	295.8108
september_td	-171.8560
october_pd	150.5784
november_pd	-58.9162
december_pd	102.4133
january_pd	-17.6206
february_pd	-19.5331
march_pd	-94.8795
april_pd	228.1051
Intercept	-376.3830


Seasonal Deviations Model
Time Series 80-20 Split
CV RMSE: 830.54 (±244.84)
Train RMSE: 670.39, Test RMSE: 1088.33
Train R²: 0.0020, Test R²: -1.2615
Annual Mass Balance [mm w.e.]
1000
500
0
−500
−1000
−1500
−2000
−2500
−3000
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	830.54 (±244.84)
Training RMSE	670.39
Training R^2	0.0020
Test RMSE	1088.33
Test R^2	-1.2615
Feature	Coefficient
summer_temp_dev	-8.9207
winter_precip_dev	26.9714
Intercept	-376.3830


Optimal Seasonal Deviations Model
Time Series 80-20 Split
CV RMSE: 829.42 (±244.88)
Train RMSE: 670.91, Test RMSE: 1083.42
Train R²: 0.0005, Test R²: -1.2412
Annual Mass Balance [mm w.e.]
1000
500
0
−500
−1000
−1500
−2000
−2500
−3000
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	829.42 (±244.88)
Training RMSE	670.91
Training R^2	0.0005
Test RMSE	1083.42
Test R^2	-1.2412
Feature	Coefficient
optimal_summer_temp_dev	14.1305
optimal_winter_precip_dev	-1.1537
Intercept	-376.3830