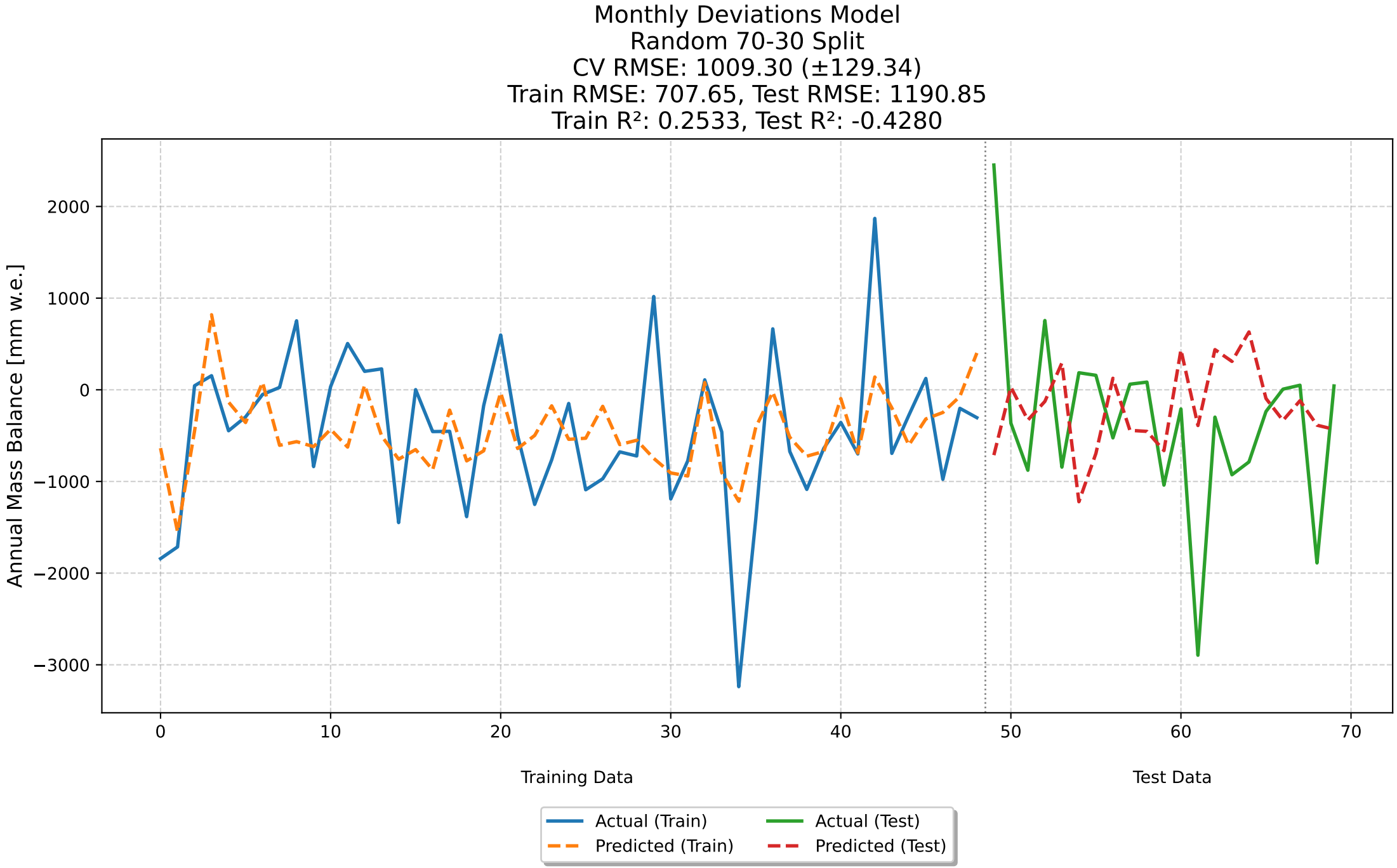
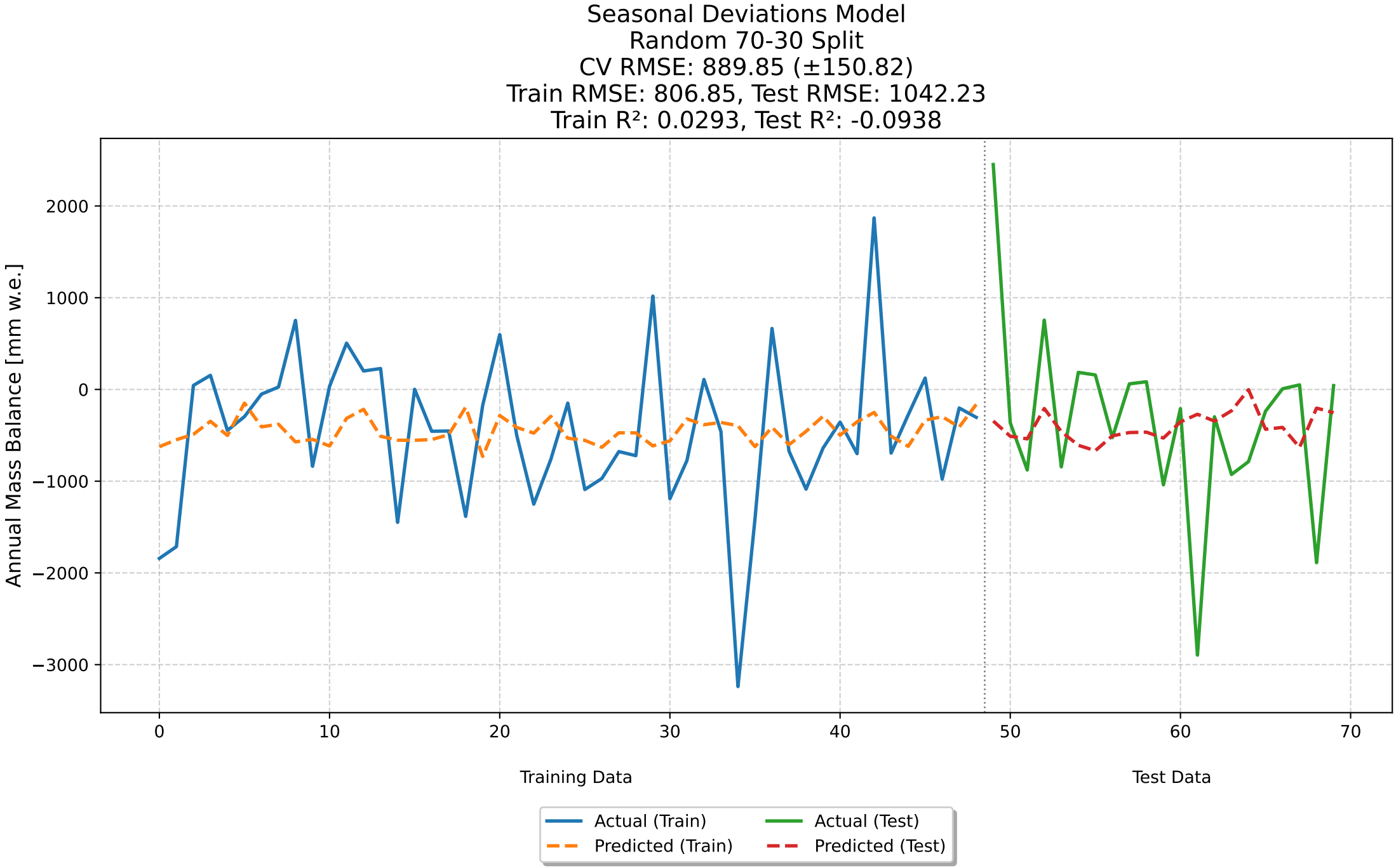
Glacier Mass Balance Model Results: Schwarzberggletscher


Monthly Deviations Model
Random 70-30 Split
CV RMSE: 1009.30 (±129.34)
Train RMSE: 707.65, Test RMSE: 1190.85
Train R²: 0.2533, Test R²: -0.4280
Annual Mass Balance [mm w.e.]
2000
1000
0
−1000
−2000
−3000
0
10
20
30
40
50
60
70
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

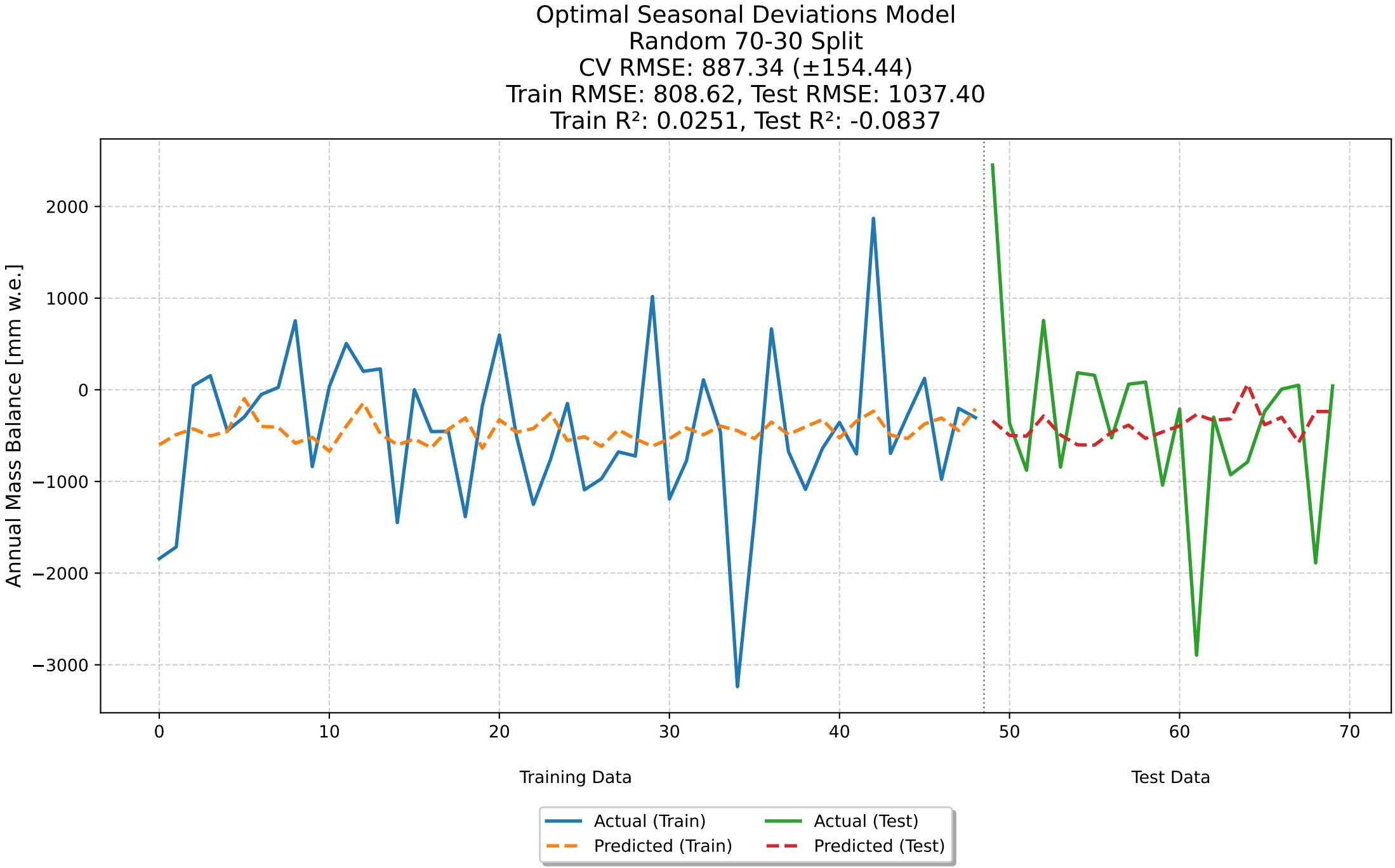
Monthly Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	1009.30 (±129.34)
Training RMSE	707.65
Training R^2	0.2533
Test RMSE	1190.85
Test R^2	-0.4280
Feature	Coefficient
may_td	87.4825
june_td	-34.8289
july_td	51.1534
august_td	-30.1973
september_td	-66.4947
october_pd	-78.3388
november_pd	126.0203
december_pd	200.0725
january_pd	91.7399
february_pd	-127.4852
march_pd	-114.8791
april_pd	225.2182
Intercept	-446.6122


Seasonal Deviations Model
Random 70-30 Split
CV RMSE: 889.85 (±150.82)
Train RMSE: 806.85, Test RMSE: 1042.23
Train R²: 0.0293, Test R²: -0.0938
Annual Mass Balance [mm w.e.]
2000
1000
0
−1000
−2000
−3000
0
10
20
30
40
50
60
70
Training Data
Test Data
Actual (Train)
Predicted (Train)
Actual (Test)
Predicted (Test)

Seasonal Deviations Model - Performance Metrics and Coefficients

Metric	Value
Cross-Validation RMSE	889.85 (±150.82)
Training RMSE	806.85
Training R^2	0.0293
Test RMSE	1042.23
Test R^2	-0.0938
Feature	Coefficient
summer_temp_dev	43.9526
winter_precip_dev	144.6691
Intercept	-446.6122


Optimal Seasonal Deviations Model
Random 70-30 Split
CV RMSE: 887.34 (±154.44)
Train RMSE: 808.62, Test RMSE: 1037.40
Train R²: 0.0251, Test R²: -0.0837
Annual Mass Balance [mm w.e.]
2000
1000
0
−1000
−2000
−3000
0
10
20
30
40
50
60
70
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	887.34 (±154.44)
Training RMSE	808.62
Training R^2	0.0251
Test RMSE	1037.40
Test R^2	-0.0837
Feature	Coefficient
optimal_summer_temp_dev	59.9474
optimal_winter_precip_dev	133.3820
Intercept	-446.6122