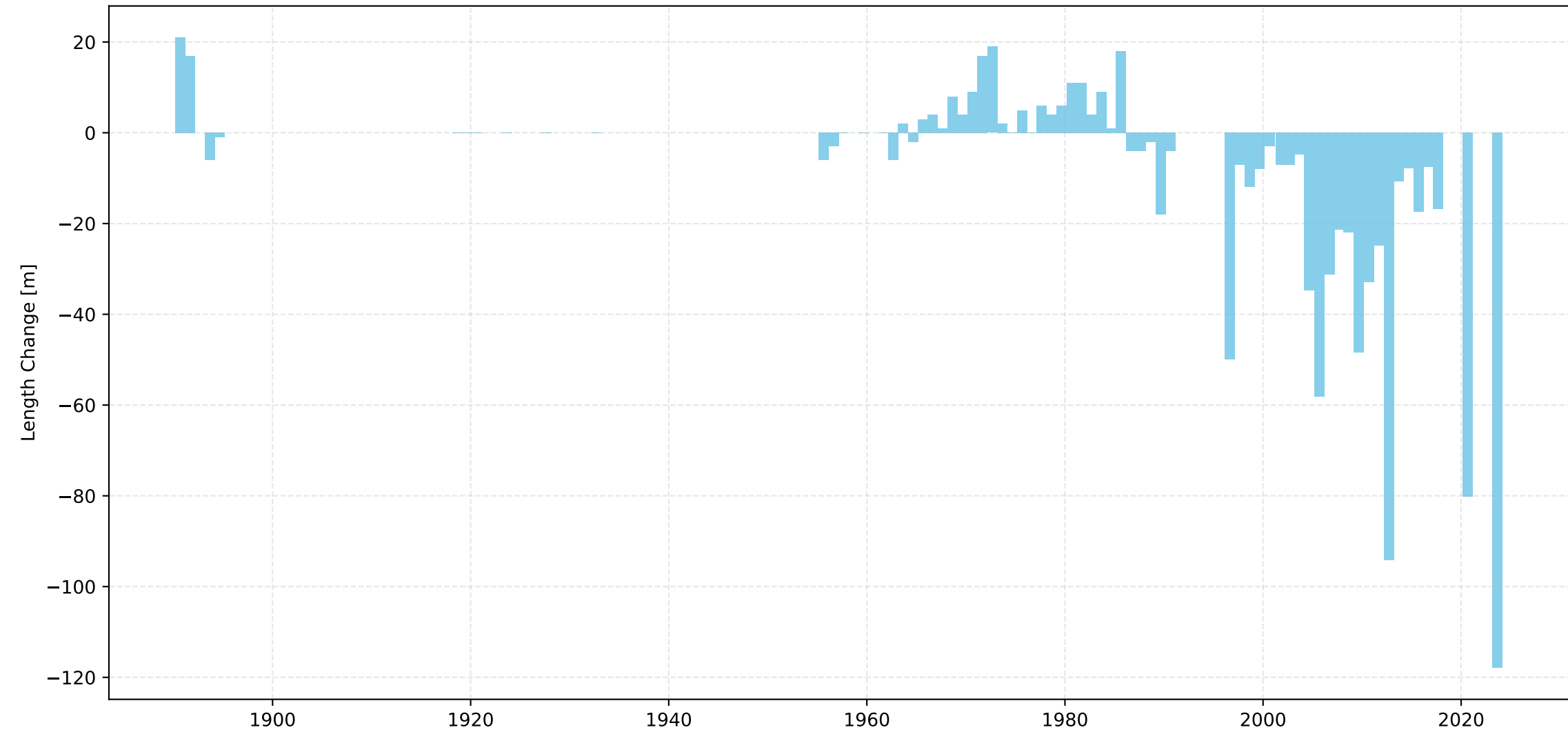
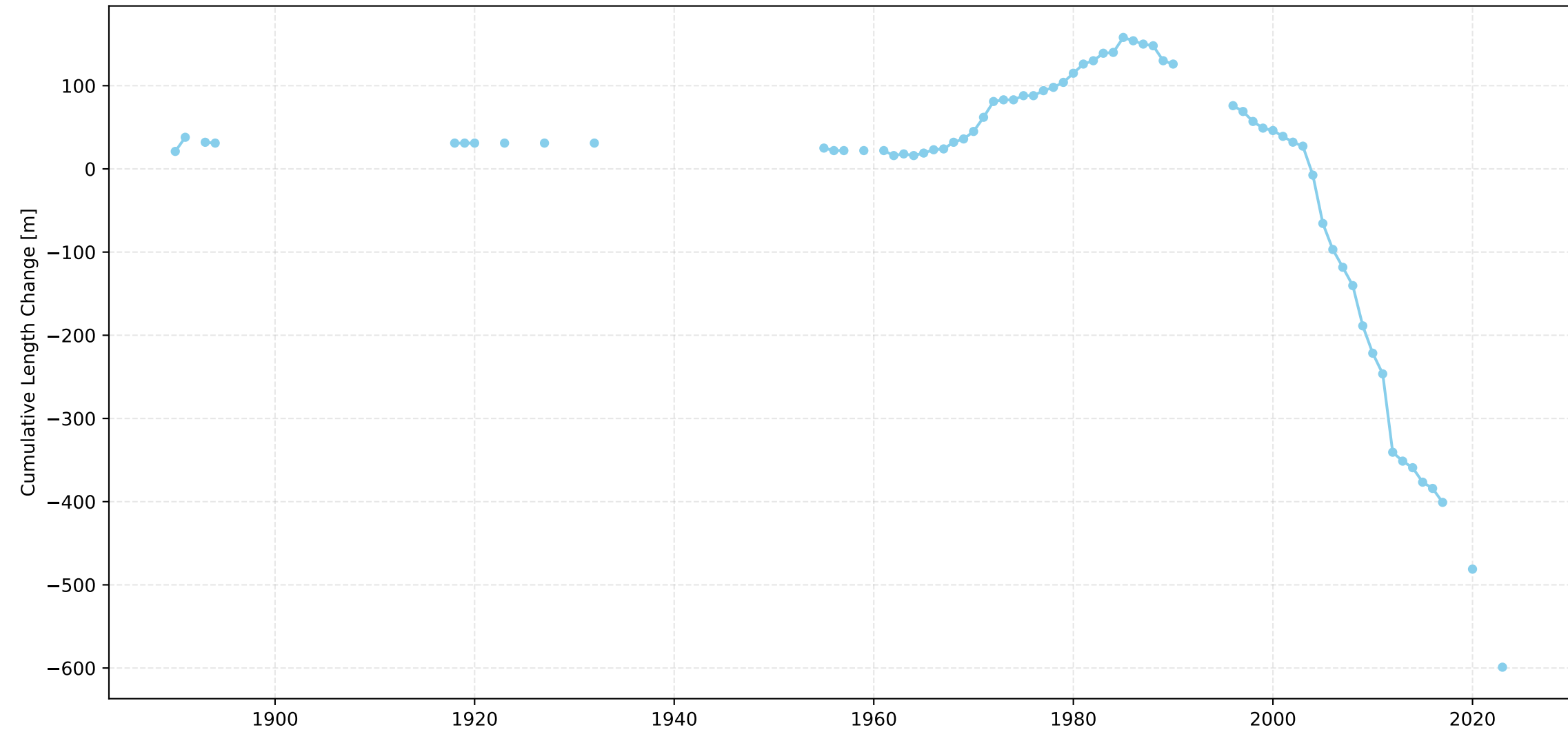


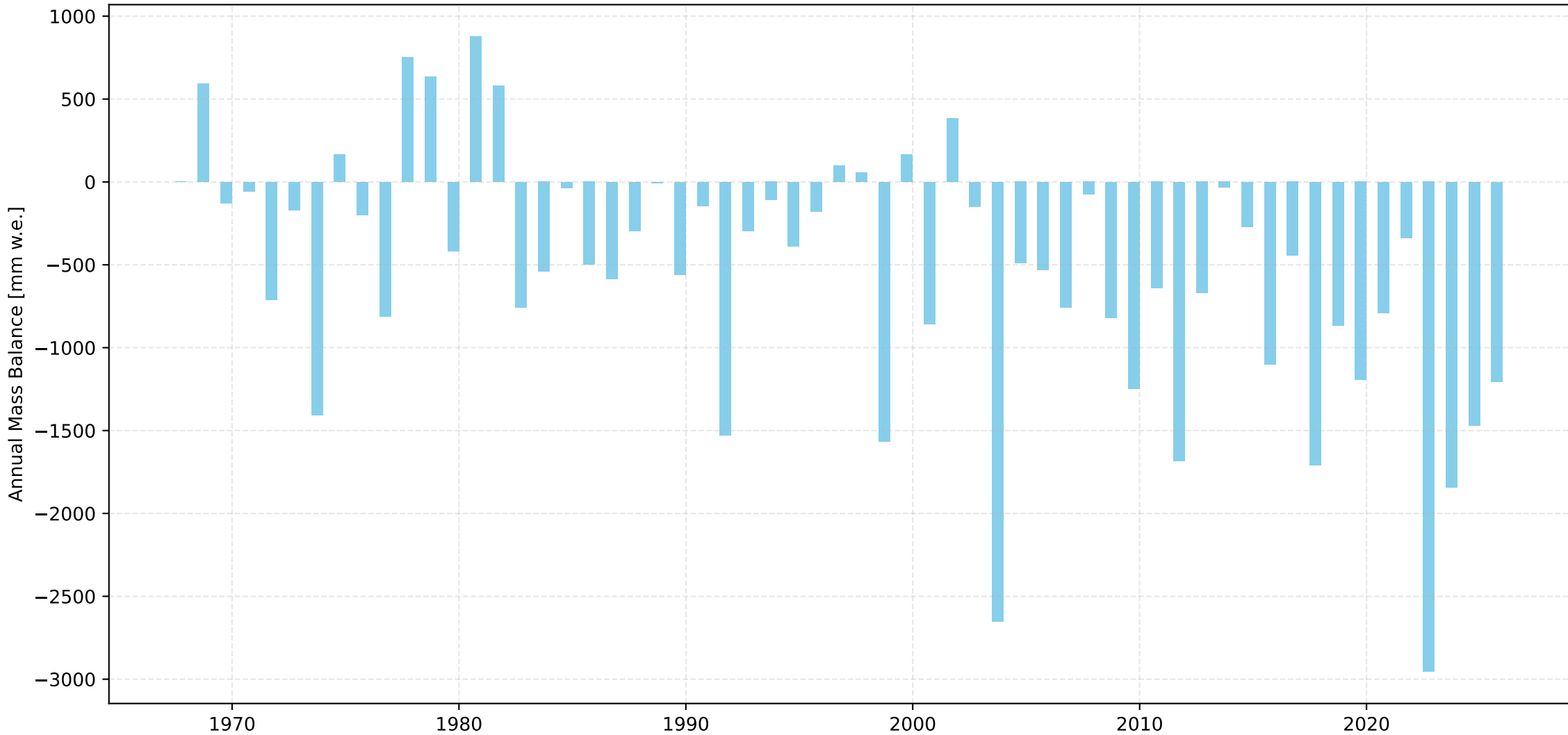
Glacier du Giétro Length Change Over Time



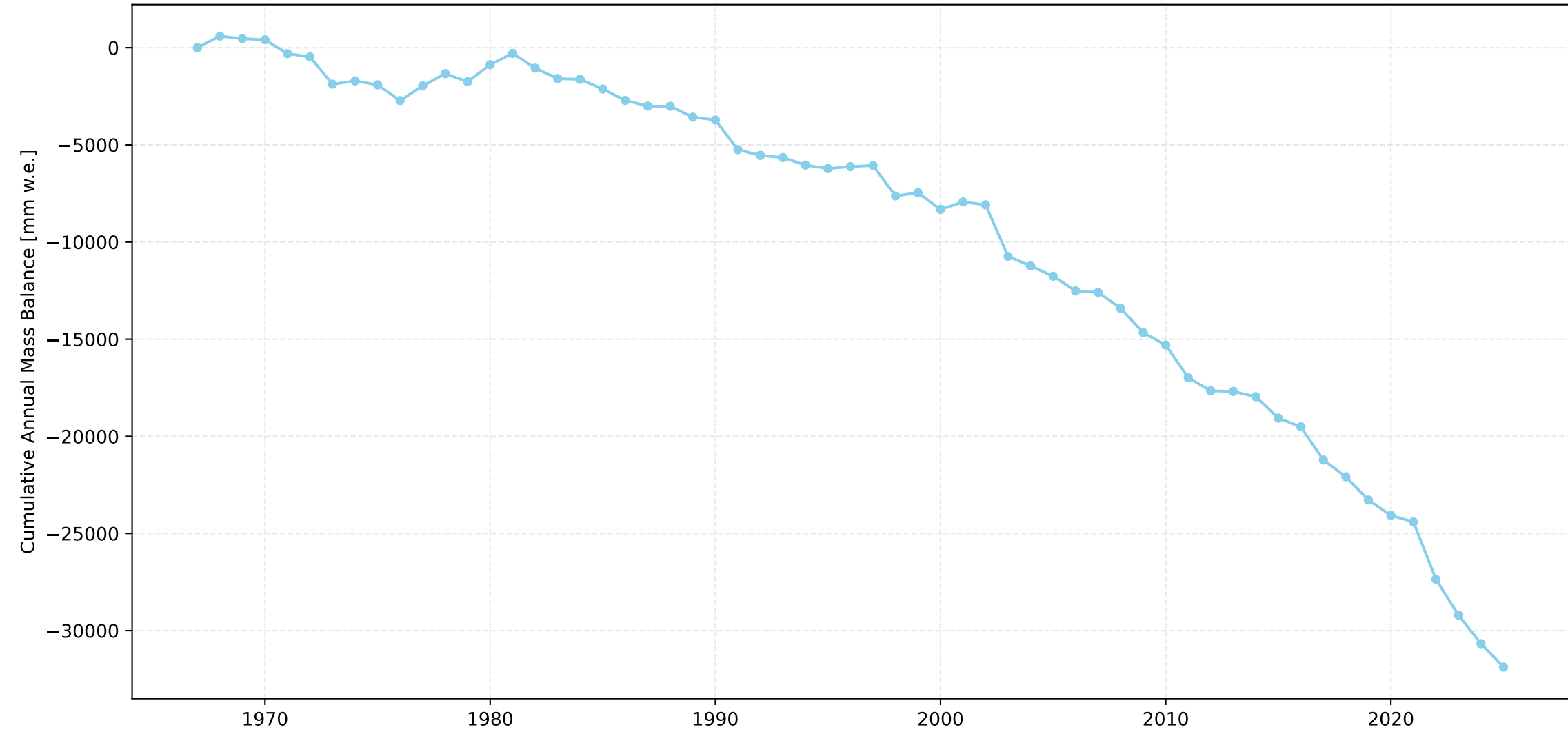
Glacier du Giétro Cumulative Length Change Over Time



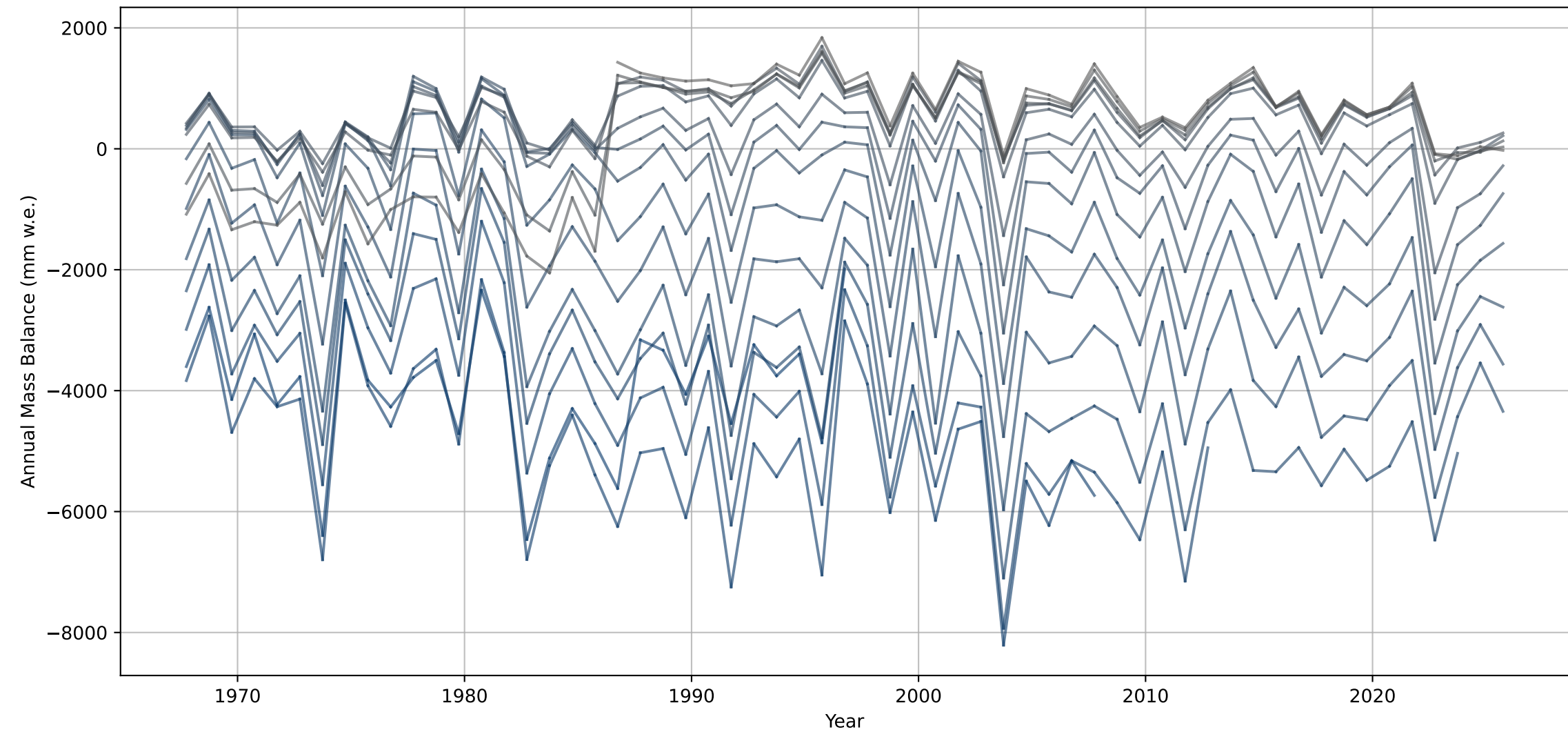
Glacier du Giétro Annual Mass Balance Over Time



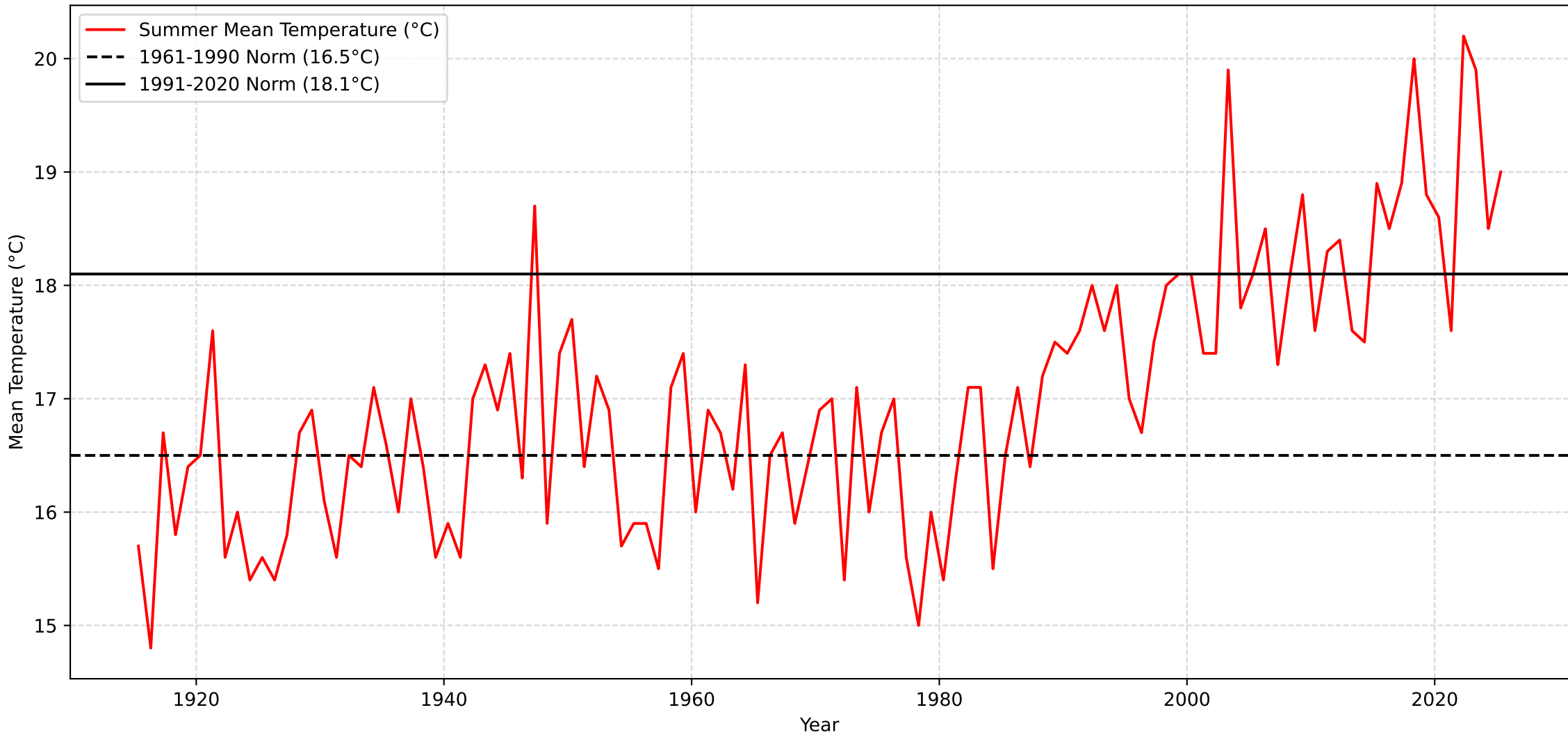
Glacier du Giéto Cumulative Annual Mass Balance Over Time



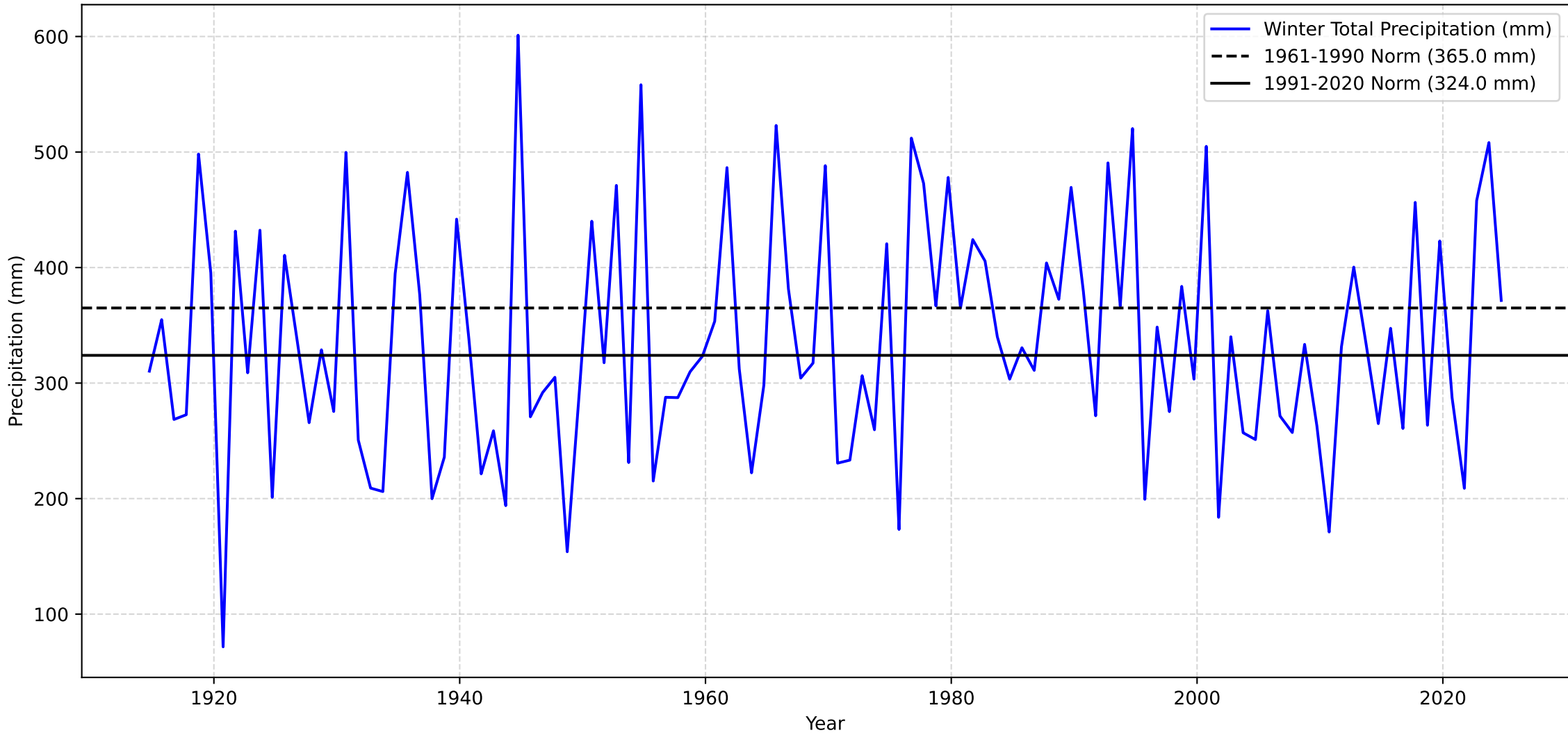
Annual Mass Balance for each Elevation Bin over Time - Glacier du Giétro



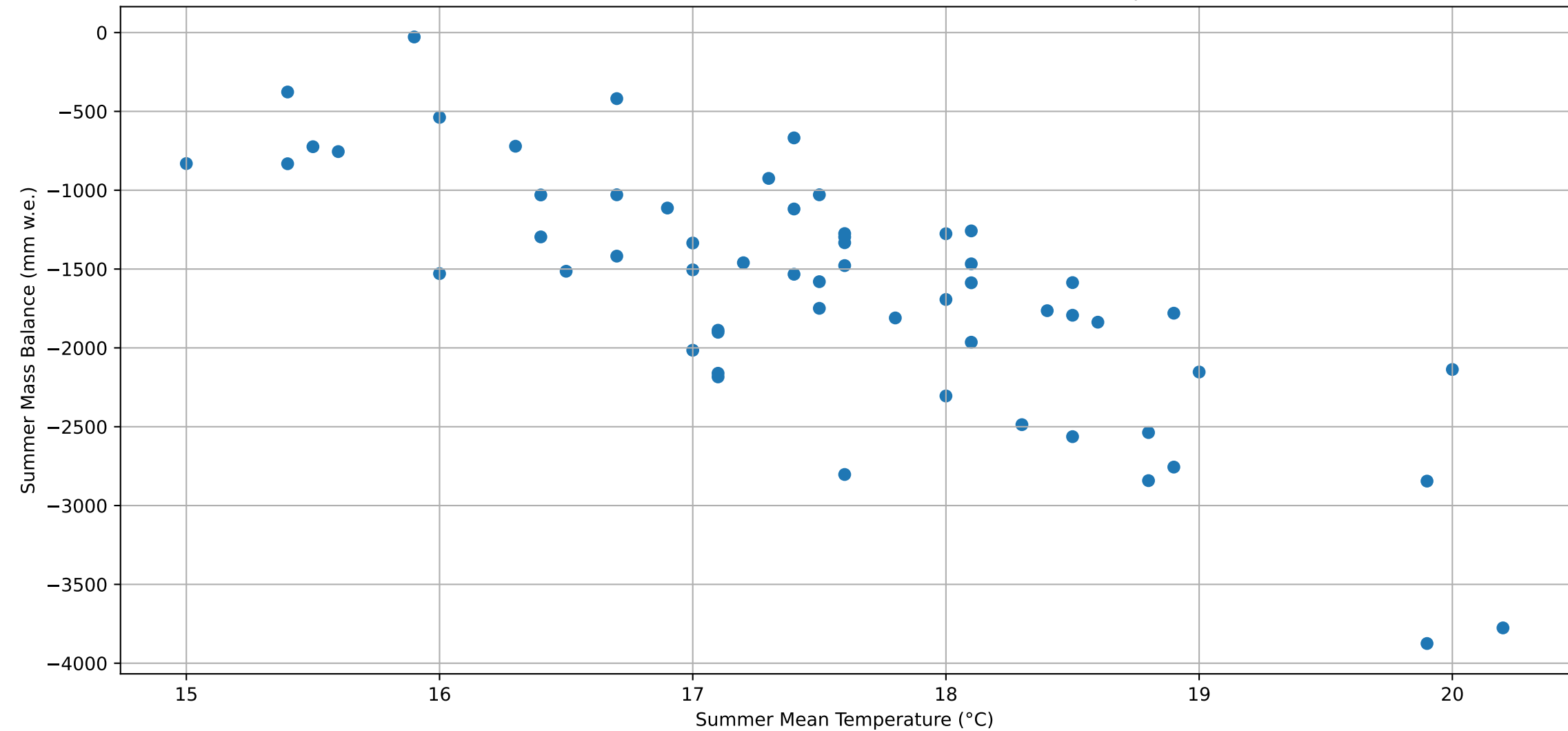
Sion Summer Mean Temperature



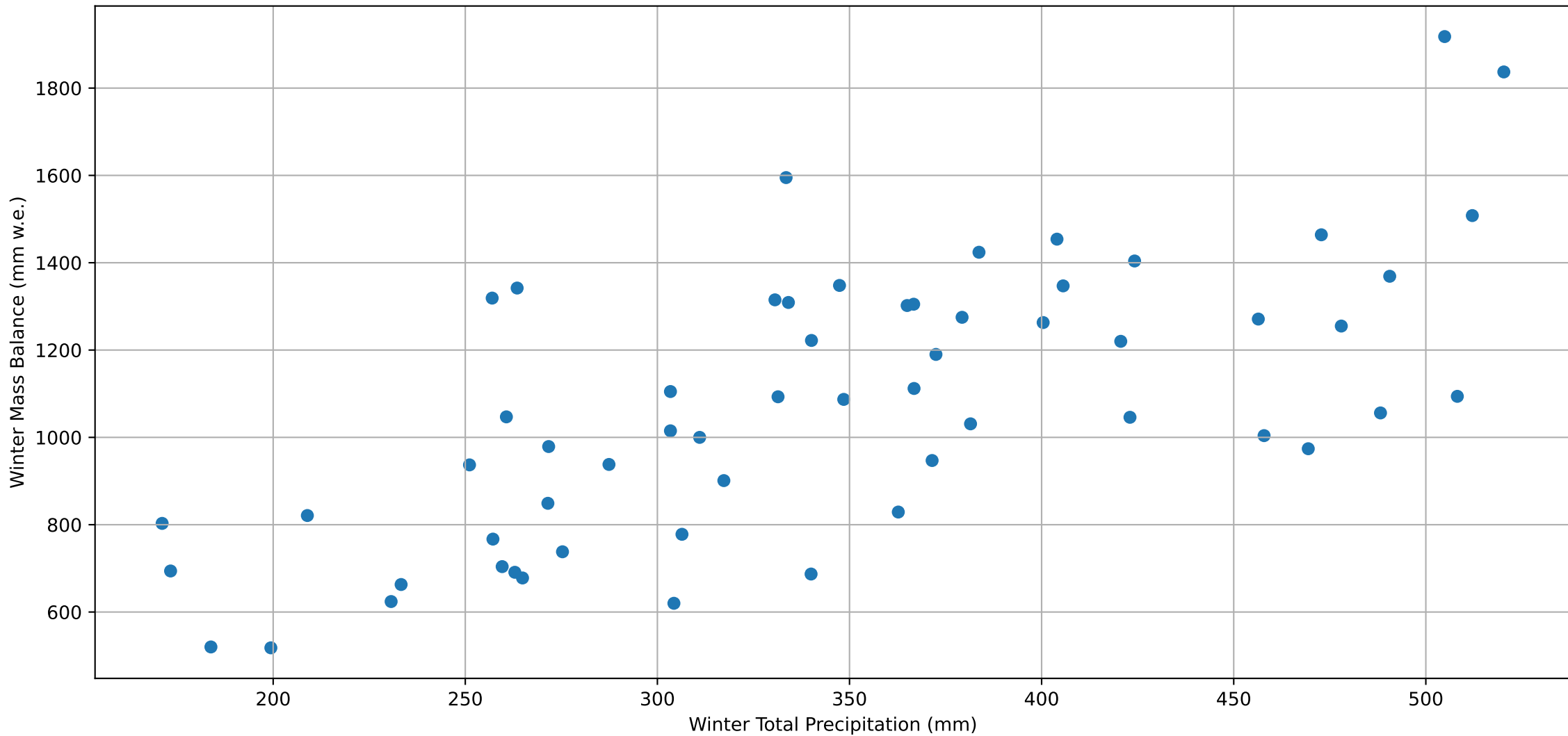
Sion Winter Total Precipitation



Glacier du Giétro Summer Mass Balance with relation to Temperature



Glacier du Giéto Winter Mass Balance with relation to Precipitation



Regression: Monthly 1961-1990

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MONTHLY DEVIATIONS for Glacier du G  tro using 1961-1990 climate norms
=====

Correlation Analysis with Significance Testing:
Skipping constant column: const
Table with 5 columns: Variable, Correlation Coefficient, P-value, Significant (p < 0.05), and an index column. Rows include months from august to april.

Number of observations: 59

Regression Summary:

OLS Regression Results
Table with 2 columns: Dep. Variable: annual mass balance (mm w.e.) and various statistics including R-squared, Adj. R-squared, F-statistic, Prob (F-statistic), Log-Likelihood, AIC, BIC, and Covariance Type: nonrobust.

Table with 7 columns: coef, std err, t, P>|t|, [0.025, 0.975]. Rows include coefficients for const, months (may to april), and Durbin-Watson statistics.

Table with 4 columns: Omnibus, Prob(Omnibus), Skew, Kurtosis, Durbin-Watson, Jarque-Bera (JB), Prob(JB), Cond. No. Rows include statistical test results.

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Regression: Optimal 1961-1990

=====

OPTIMAL SEASONAL DEVIATIONS for Glacier du Giétro using 1961-1990 climate norms

=====

Correlation Analysis with Significance Testing:

Skipping constant column: const

	Variable	Correlation Coefficient	P-value	Significant (p < 0.05)
0	opt_season_td	-0.763681	2.003258e-12	True
1	opt_season_pd	0.265071	4.246513e-02	True

Number of observations: 59

Regression Summary:

OLS Regression Results						
=====						
Dep. Variable:	annual mass balance (mm w.e.)			R-squared:	0.608	
Model:	OLS			Adj. R-squared:	0.594	
Method:	Least Squares			F-statistic:	43.42	
Date:	Wed, 17 Dec 2025			Prob (F-statistic):	4.11e-12	
Time:	20:25:32			Log-Likelihood:	-447.09	
No. Observations:	59			AIC:	900.2	
Df Residuals:	56			BIC:	906.4	
Df Model:	2					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	-20.9892	84.812	-0.247	0.805	-190.889	148.910
opt_season_td	-442.8249	50.529	-8.764	0.000	-544.047	-341.603
opt_season_pd	1.4986	0.797	1.880	0.065	-0.098	3.095
=====						
Omnibus:	1.915		Durbin-Watson:		2.013	
Prob(Omnibus):	0.384		Jarque-Bera (JB):		1.702	
Skew:	-0.410		Prob(JB):		0.427	
Kurtosis:	2.862		Cond. No.		118.	
=====						

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Regression: Seasonal 1961-1990

=====
SUMMER/WINTER SEASONAL DEVIATIONS for Glacier du Giétro using 1961-1990 climate norms
=====

Correlation Analysis with Significance Testing:
Skipping constant column: const
Variable Correlation Coefficient P-value Significant (p < 0.05)
0 summer_td -0.769112 1.119720e-12 True
1 winter_pd 0.303591 1.941328e-02 True

Number of observations: 59

Regression Summary:

OLS Regression Results						
=====						
Dep. Variable:	annual mass balance (mm w.e.)			R-squared:	0.640	
Model:	OLS			Adj. R-squared:	0.627	
Method:	Least Squares			F-statistic:	49.78	
Date:	Wed, 17 Dec 2025			Prob (F-statistic):	3.77e-13	
Time:	20:25:32			Log-Likelihood:	-444.58	
No. Observations:	59			AIC:	895.2	
Df Residuals:	56			BIC:	901.4	
Df Model:	2					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	-2.1532	81.438	-0.026	0.979	-165.293	160.986
summer_td	-481.9572	52.207	-9.232	0.000	-586.541	-377.374
winter_pd	1.8171	0.662	2.746	0.008	0.492	3.143
=====						
Omnibus:	2.332		Durbin-Watson:		2.072	
Prob(Omnibus):	0.312		Jarque-Bera (JB):		2.224	
Skew:	-0.405		Prob(JB):		0.329	
Kurtosis:	2.503		Cond. No.		140.	
=====						

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Regression: Monthly 1991-2020

=====
MONTHLY DEVIATIONS for Glacier du Giétro using 1991-2020 climate norms
=====

Correlation Analysis with Significance Testing:
Skipping constant column: const
Table with 5 columns: Variable, Correlation Coefficient, P-value, Significant (p < 0.05), and an index column. Rows include months from august to april.

Number of observations: 59

Regression Summary:

OLS Regression Results
Table with 2 columns: Dep. Variable: annual mass balance (mm w.e.) and various statistics including R-squared, Adj. R-squared, F-statistic, Prob (F-statistic), Log-Likelihood, AIC, BIC, and Covariance Type: nonrobust.

Table with 7 columns: coef, std err, t, P>|t|, [0.025, 0.975]. Rows include const and months from may to april.

Table with 4 columns: Omnibus, Prob(Omnibus), Skew, Kurtosis and Durbin-Watson, Jarque-Bera (JB), Prob(JB), Cond. No.

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Regression: Optimal 1991-2020

=====
OPTIMAL SEASONAL DEVIATIONS for Glacier du G  tro using 1991-2020 climate norms
=====

Correlation Analysis with Significance Testing:
Skipping constant column: const
Variable Correlation Coefficient P-value Significant (p < 0.05)
0 opt_season_td -0.768057 1.255240e-12 True
1 opt_season_pd 0.265071 4.246513e-02 True

Number of observations: 59

Regression Summary:

OLS Regression Results						
=====						
Dep. Variable:	annual mass balance (mm w.e.)			R-squared:	0.613	
Model:	OLS			Adj. R-squared:	0.599	
Method:	Least Squares			F-statistic:	44.30	
Date:	Wed, 17 Dec 2025			Prob (F-statistic):	2.91e-12	
Time:	20:25:32			Log-Likelihood:	-446.73	
No. Observations:	59			AIC:	899.5	
Df Residuals:	56			BIC:	905.7	
Df Model:	2					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	-852.7609	71.051	-12.002	0.000	-995.092	-710.429
opt_season_td	-448.0476	50.588	-8.857	0.000	-549.388	-346.707
opt_season_pd	1.4408	0.793	1.816	0.075	-0.148	3.030
=====						
Omnibus:	1.850		Durbin-Watson:		2.024	
Prob(Omnibus):	0.396		Jarque-Bera (JB):		1.632	
Skew:	-0.402		Prob(JB):		0.442	
Kurtosis:	2.871		Cond. No.		99.0	
=====						

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Regression: Seasonal 1991-2020

=====
SUMMER/WINTER SEASONAL DEVIATIONS for Glacier du Giétro using 1991-2020 climate norms
=====

Correlation Analysis with Significance Testing:
Skipping constant column: const
Variable Correlation Coefficient P-value Significant (p < 0.05)
0 summer_td -0.769107 1.120325e-12 True
1 winter_pd 0.303591 1.941328e-02 True

Number of observations: 59

Regression Summary:

OLS Regression Results						
=====						
Dep. Variable:	annual mass balance (mm w.e.)			R-squared:	0.639	
Model:	OLS			Adj. R-squared:	0.626	
Method:	Least Squares			F-statistic:	49.62	
Date:	Wed, 17 Dec 2025			Prob (F-statistic):	3.99e-13	
Time:	20:25:32			Log-Likelihood:	-444.64	
No. Observations:	59			AIC:	895.3	
Df Residuals:	56			BIC:	901.5	
Df Model:	2					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	-863.4615	68.764	-12.557	0.000	-1001.212	-725.711
summer_td	-482.6673	52.371	-9.216	0.000	-587.580	-377.755
winter_pd	1.8040	0.663	2.723	0.009	0.477	3.131
=====						
Omnibus:	2.461		Durbin-Watson:		2.051	
Prob(Omnibus):	0.292		Jarque-Bera (JB):		2.309	
Skew:	-0.407		Prob(JB):		0.315	
Kurtosis:	2.475		Cond. No.		116.	
=====						

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.