

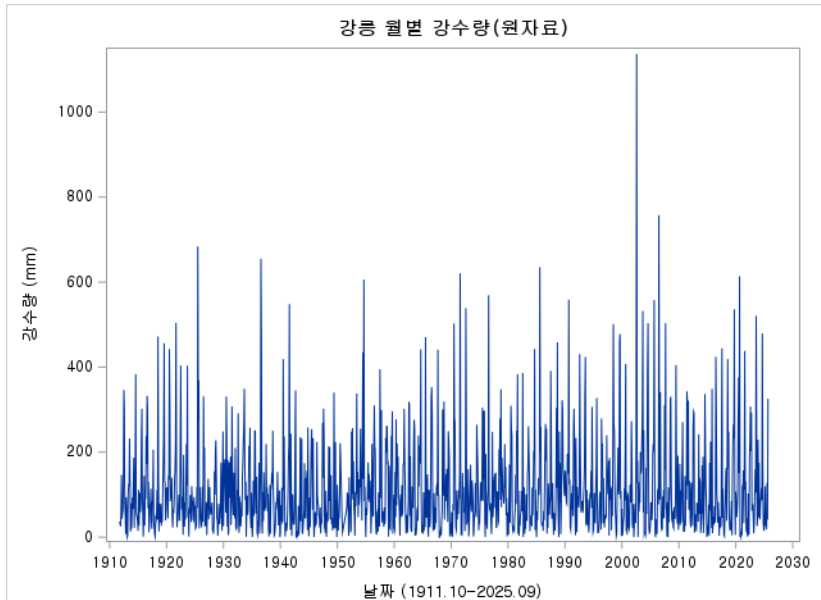
강원도 강수량 시계열 분석

ARIMA 모델을 이용한 예측

이태녕

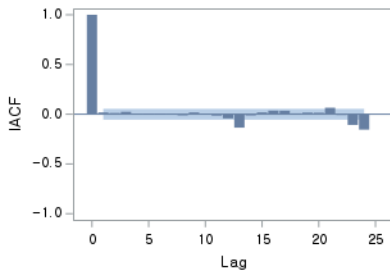
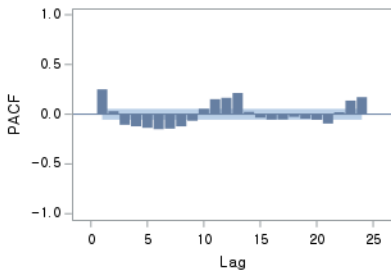
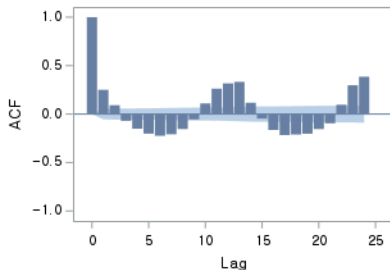
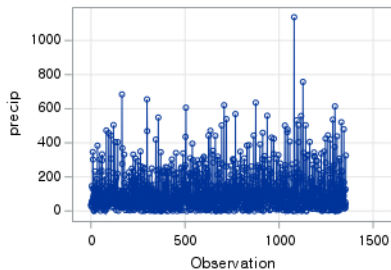
September 29, 2025

데이터 시각화: 강원도 월별 강수량

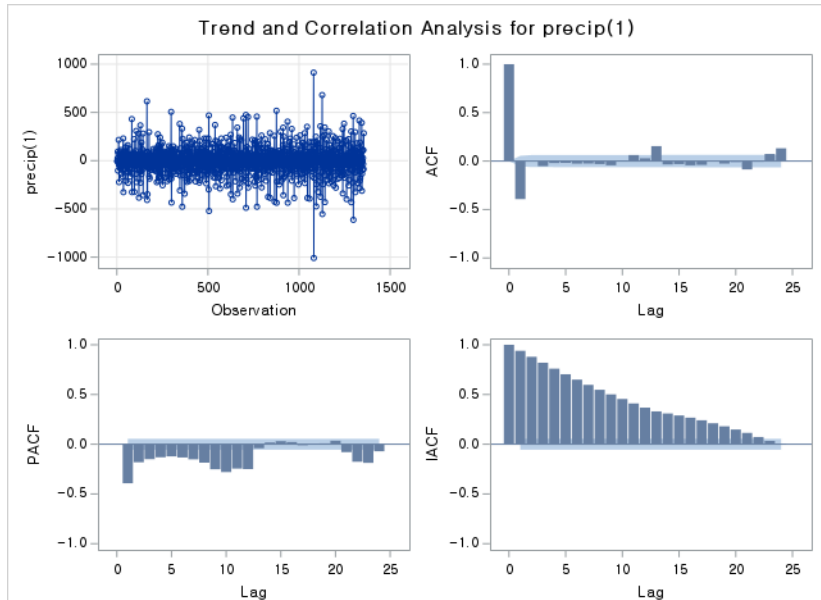


모델 식별: 기본 ACF/PACF 그래프

Trend and Correlation Analysis for precip



모델 식별: 1차 차분 ACF/PACF 그래프



모델 식별: SAS Macro로 최소 AIC 값 가지는 모수 찾기

Table: 모수별 AIC (하위 5개)

OBS	p	q	sp	sq	AIC
1	0	1	1	2	16053.36
2	0	1	0	2	16054.00
3	0	2	1	1	16054.97
4	0	2	0	2	16055.42
5	1	1	1	1	16055.96

ARIMA(0,1,1)(1,1,2)

Maximum Likelihood Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > t	Lag
MA1,1	1.00000	16.26762	0.06	0.9510	1
MA2,1	0.41357	0.25786	1.60	0.1087	12
MA2,2	0.45285	0.23932	1.89	0.0585	24
AR1,1	-0.56490	0.24673	-2.29	0.0220	12

Figure: noint option, 단위근 발견

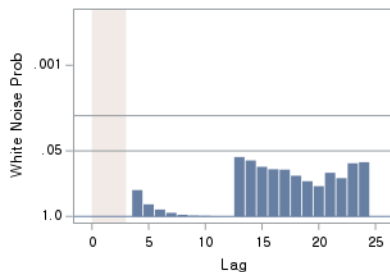
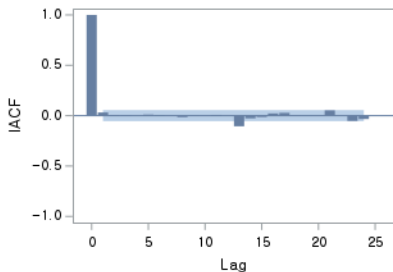
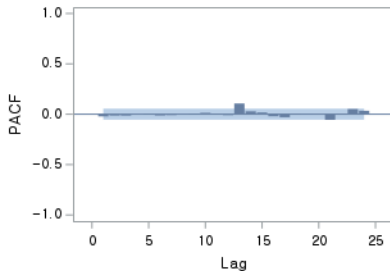
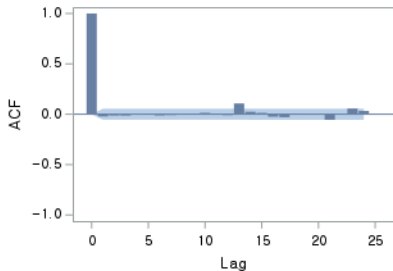
ARIMA(0,1,1)(0,1,2)

Maximum Likelihood Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > t	Lag
MA1,1	0.99999	0.89151	1.12	0.2620	1
MA2,1	0.97486	0.02721	35.82	<.0001	12
MA2,2	-0.06244	0.02707	-2.31	0.0211	24

ARIMA(0,1,1)(0,1,2) ACF/PACF

Residual Correlation Diagnostics for precip(1 12)



ARIMA(0,1,1)(0,1,2) Forecast

