

## Predicción IPC para los próximos 1 meses

### 1 Predicciones

Año	Mes	República	Región I	Región II	Región III	Región IV	Región V	Región VI	Región VII	Región VIII
2023	Diciembre	168.09	142.17	247.87	159.66	236.56	154.69	153.53	227.66	170.9

## 2 Gráficas

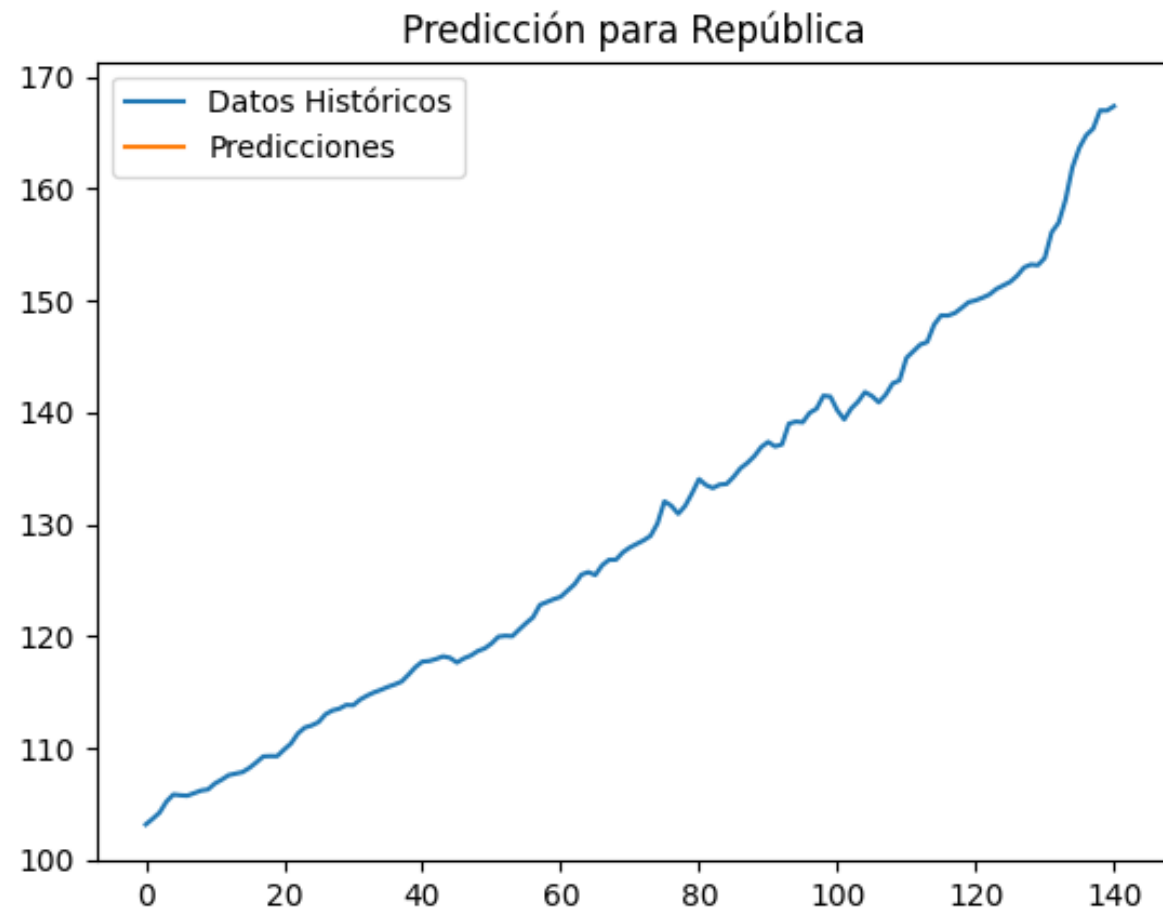


Figure 1: Gráfica de República

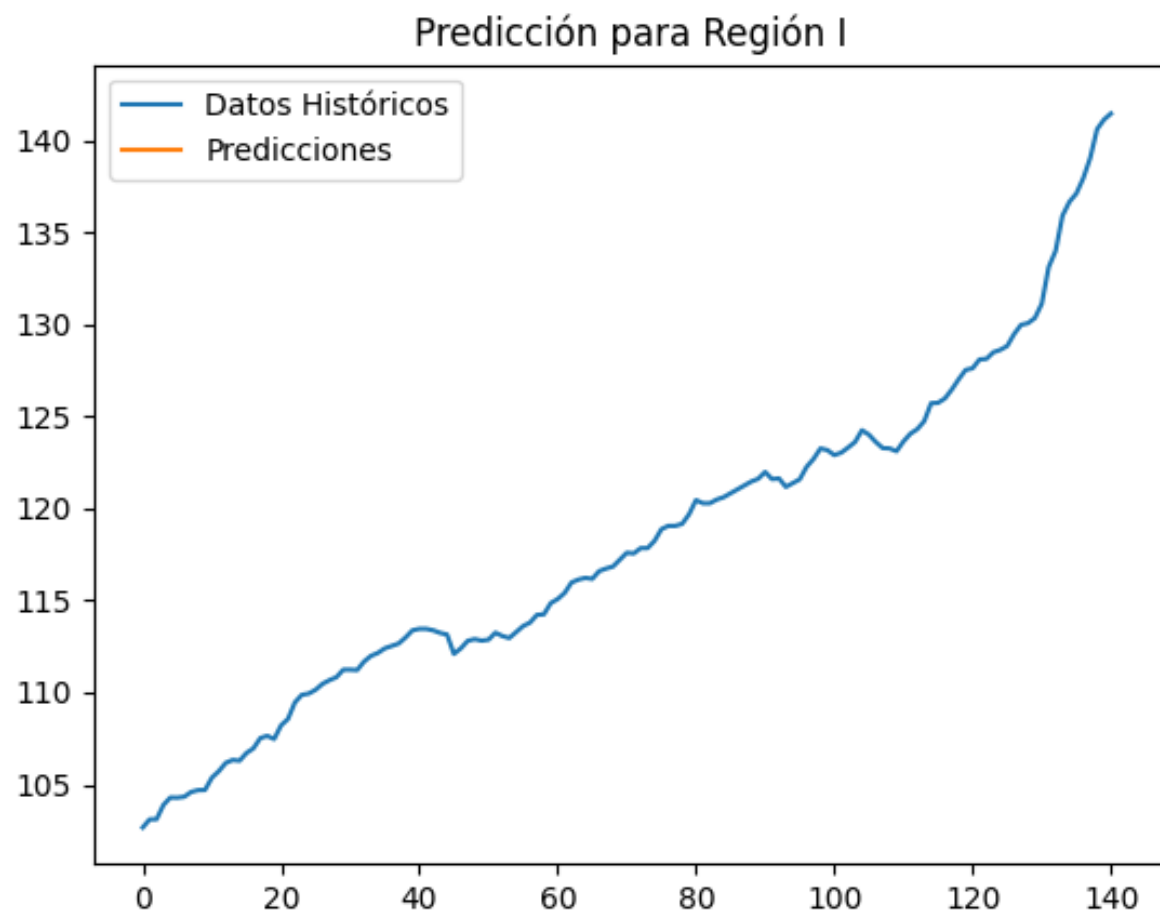


Figure 2: Gráfica de Región I

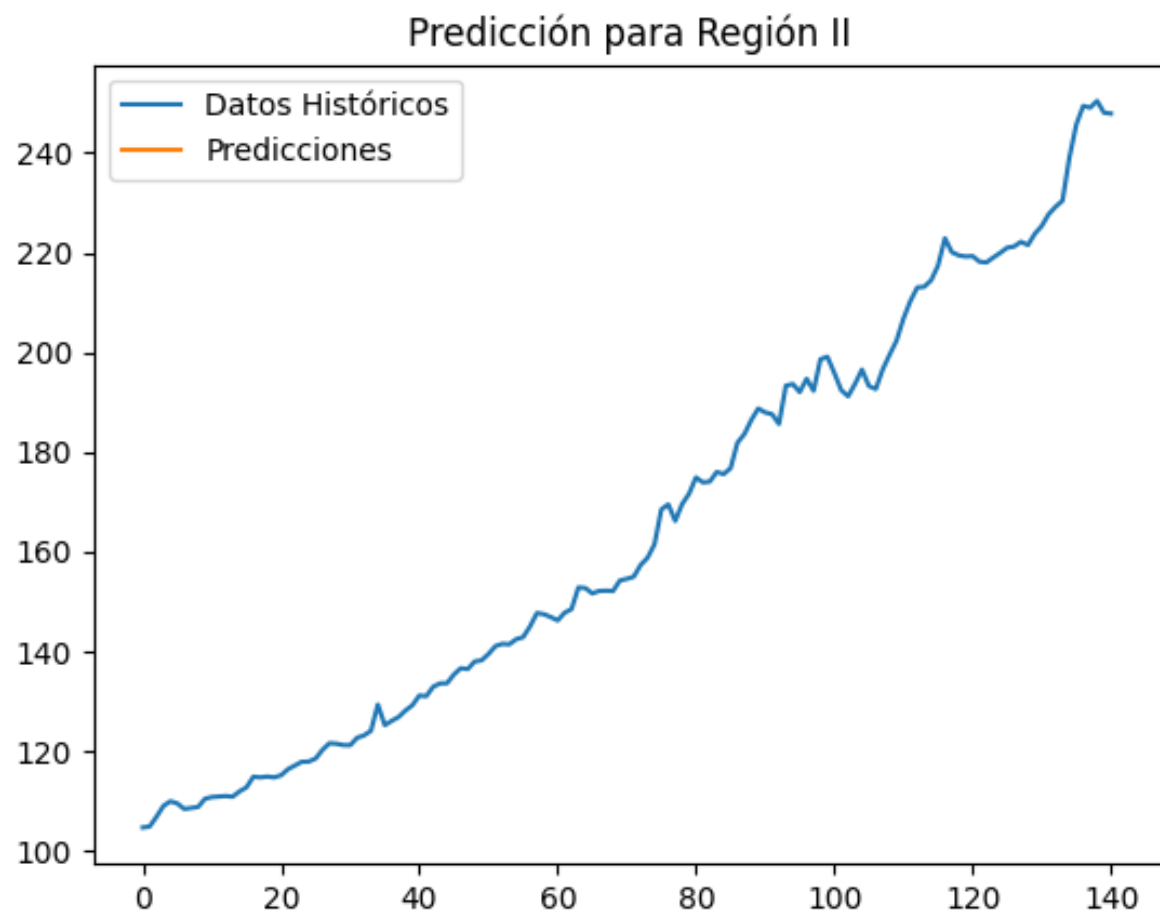


Figure 3: Gráfica de Región II

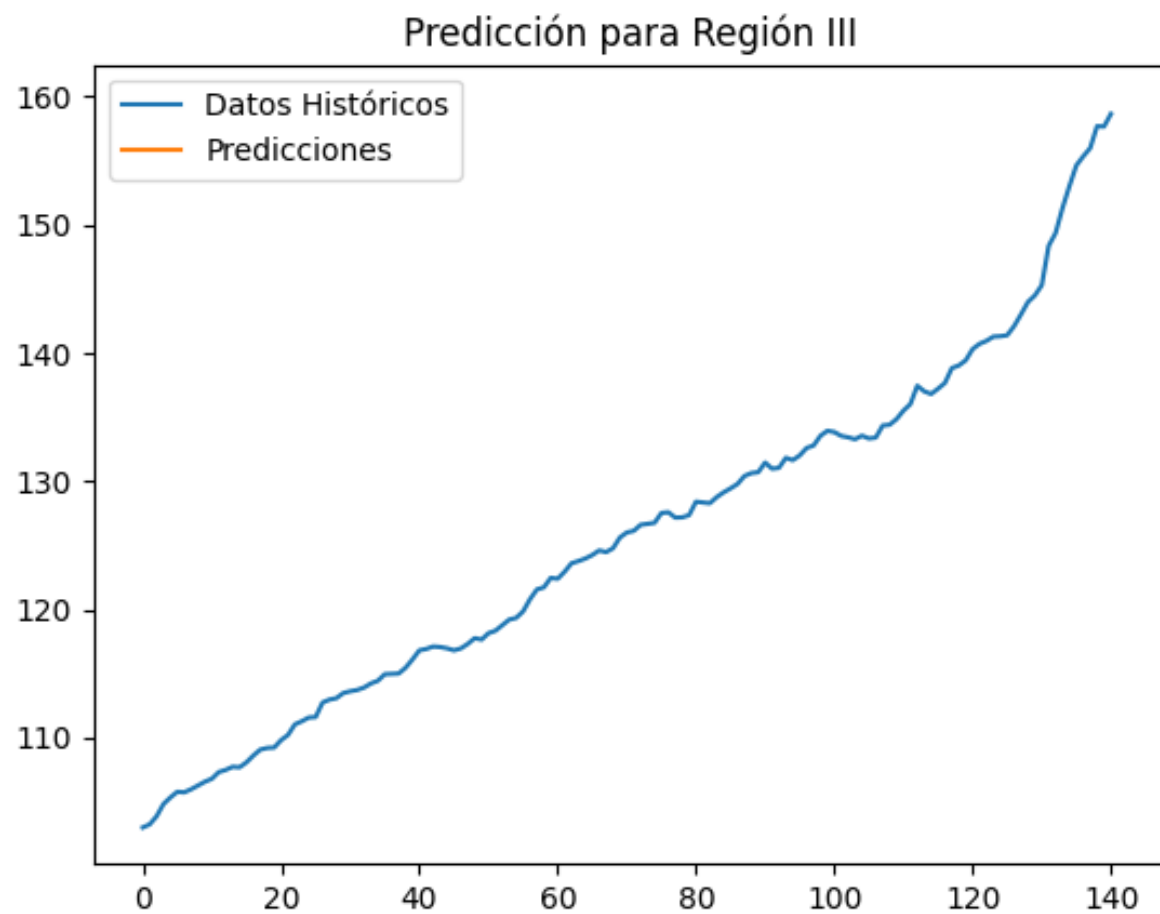


Figure 4: Gráfica de Región III

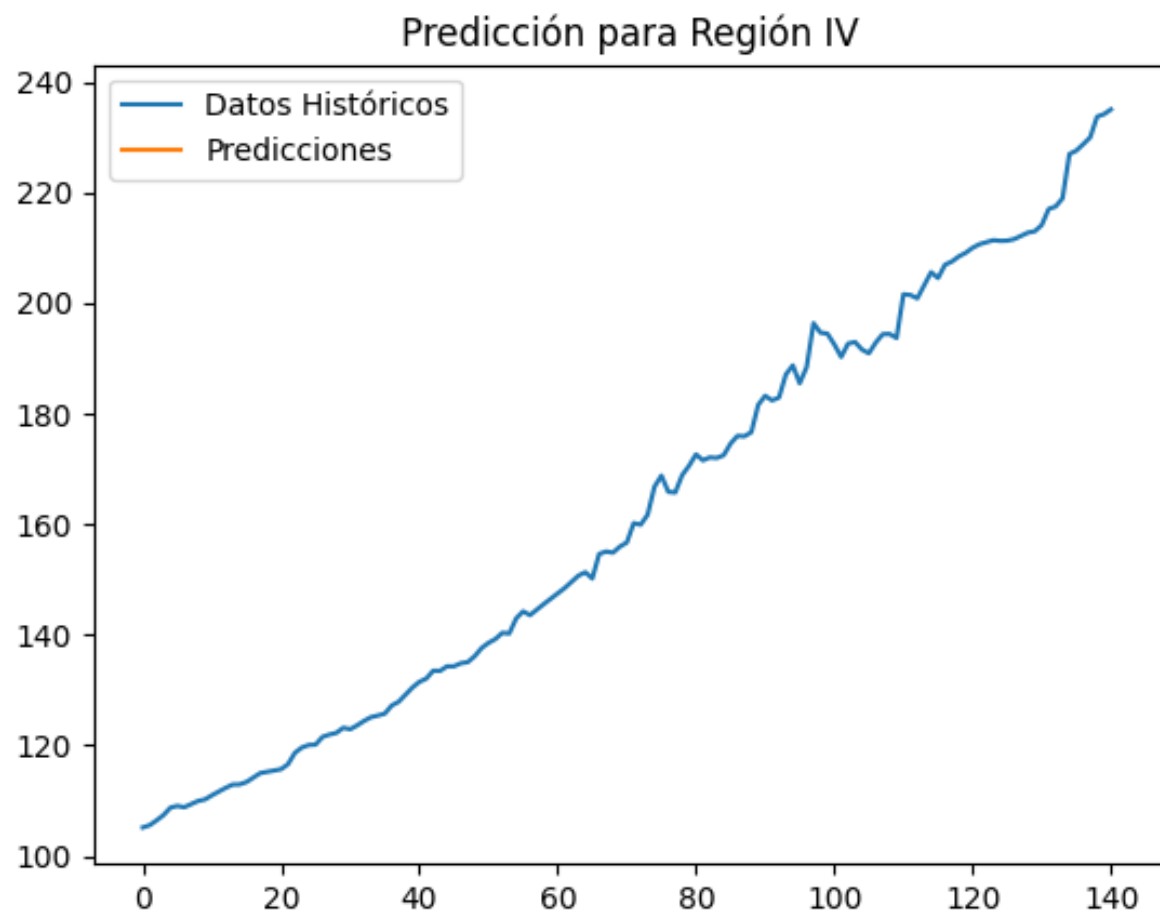


Figure 5: Gráfica de Región IV

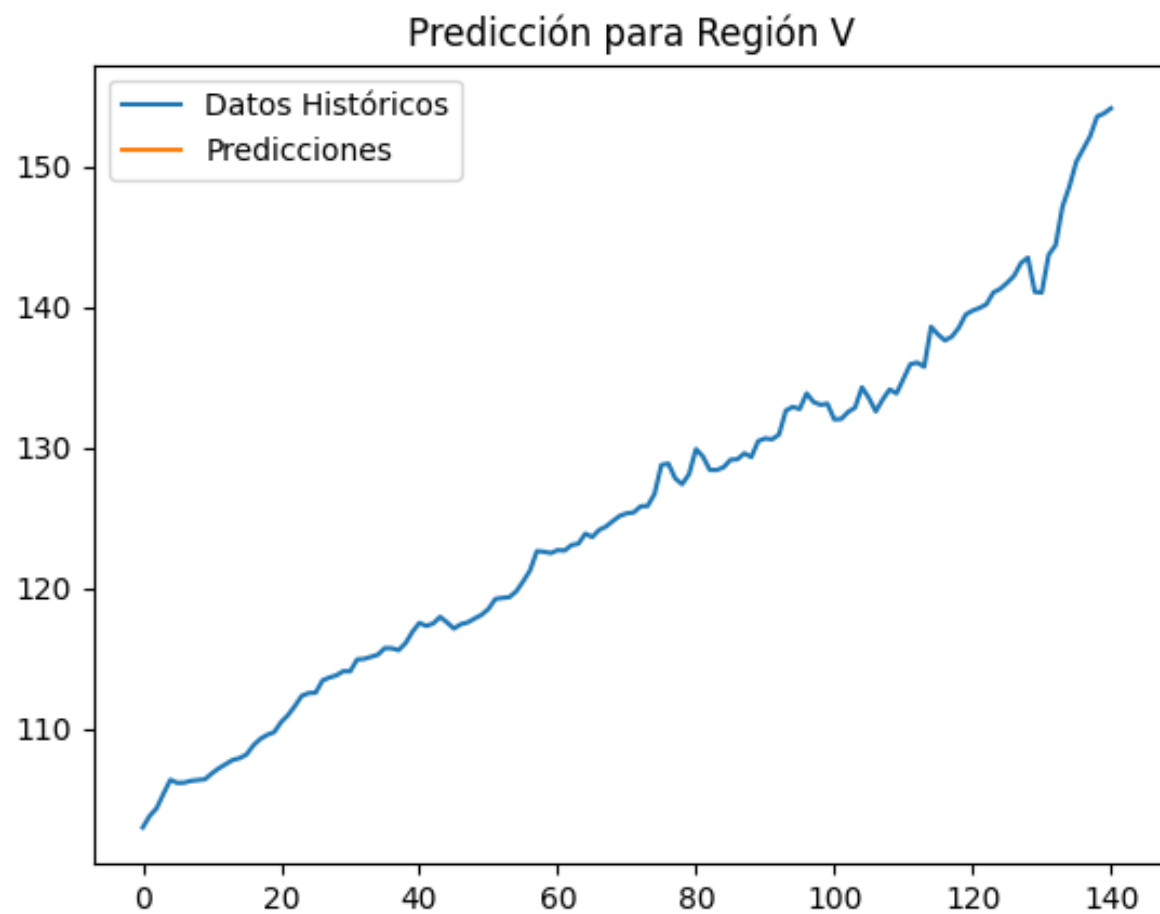


Figure 6: Gráfica de Región V

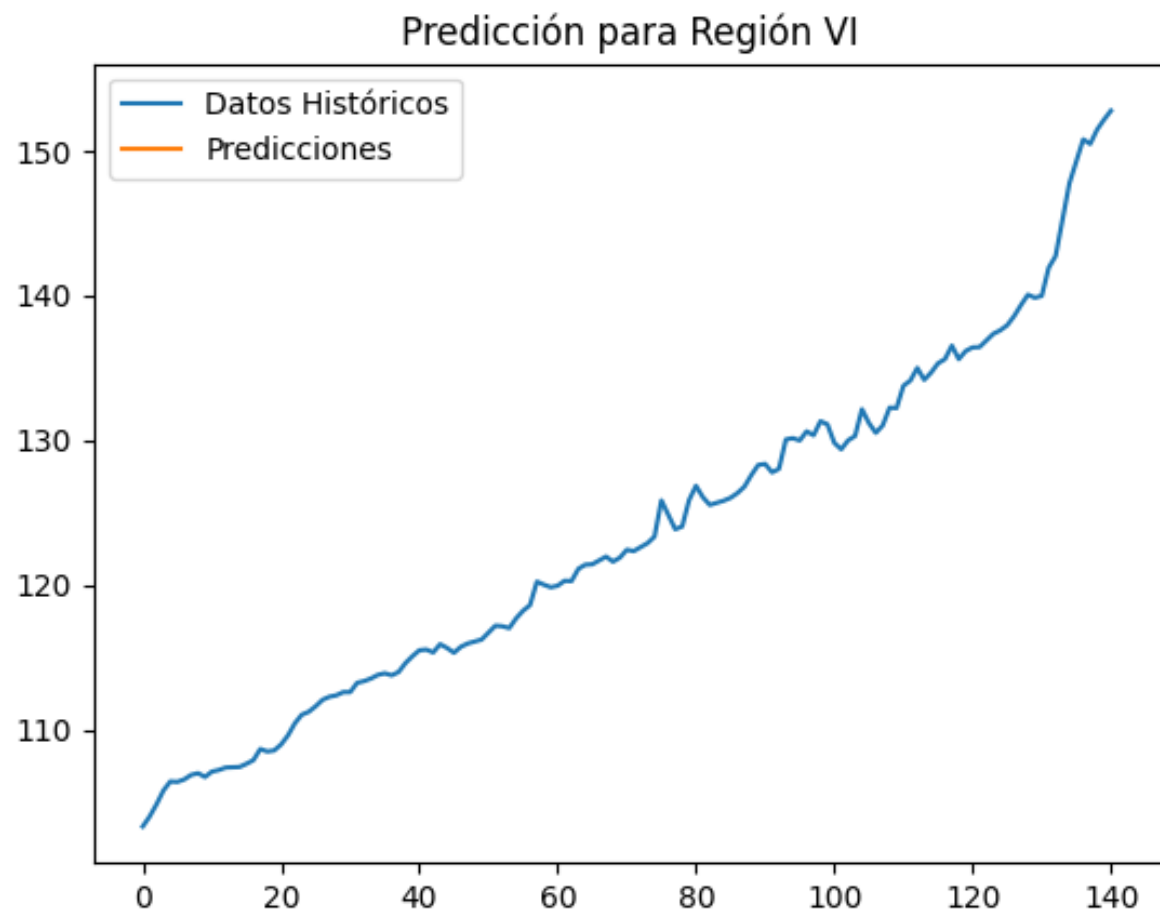


Figure 7: Gráfica de Región VI



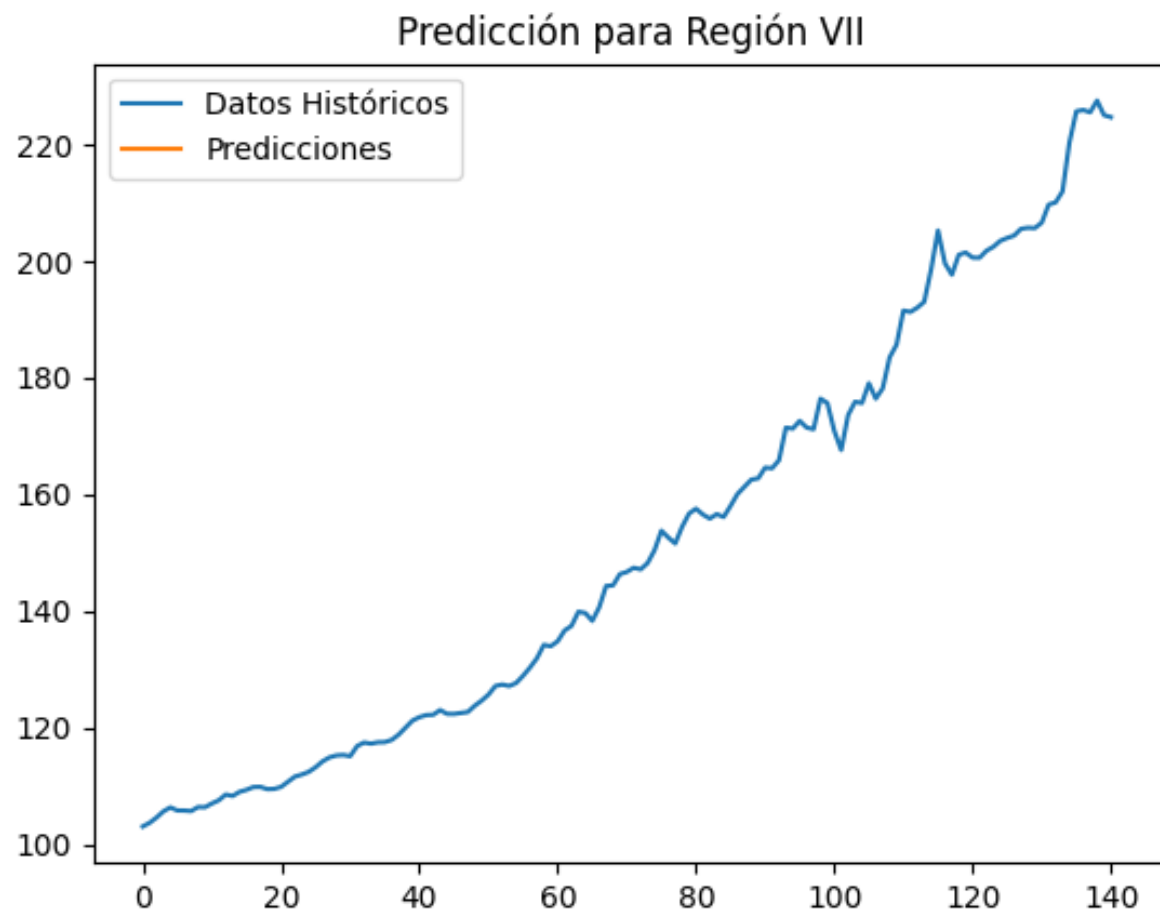


Figure 8: Gráfica de Región VII

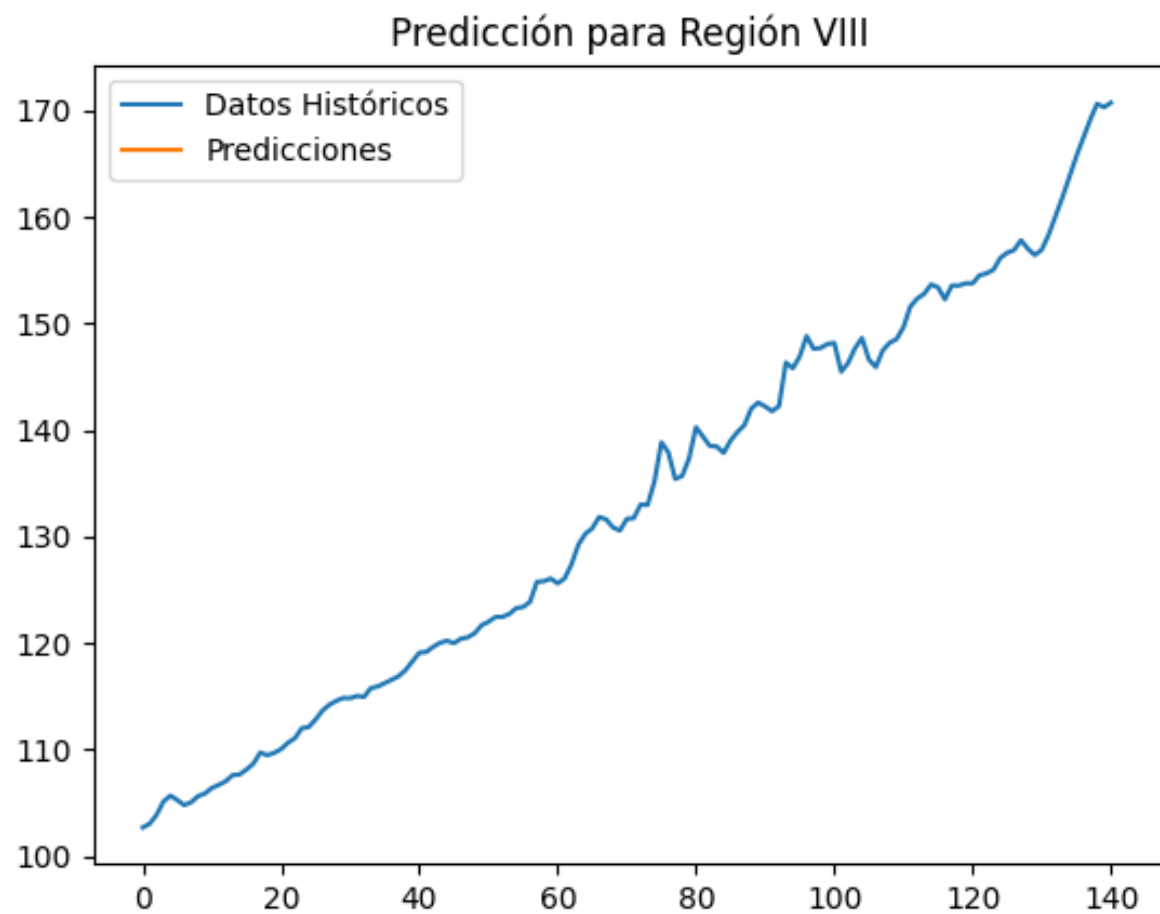


Figure 9: Gráfica de Región VIII

### 3 Tablas de resumen

#### República

		<b>Dep. Variable:</b>		República		<b>No. Observations:</b>		141		
		<b>Model:</b>		ARIMA(0, 2, 2)		<b>Log Likelihood</b>		-112.529		
		<b>Date:</b>		Wed, 22 Nov 2023		<b>AIC</b>		231.058		
		<b>Time:</b>		11:52:30		<b>BIC</b>		239.862		
		<b>Sample:</b>		0		<b>HQIC</b>		234.636		
				- 141						
		<b>Covariance Type:</b>		opg						
	coef	std err	z	P>  z	[0.025	0.975]	Ljung-Box (L1) (Q):	0.22	Jarque-Bera (JB):	35.95
ma.L1	-0.5955	0.054	-11.024	0.000	-0.701	-0.490	Prob(Q):	0.64	Prob(JB):	0.00
ma.L2	-0.3488	0.066	-5.309	0.000	-0.478	-0.220	Heteroskedasticity (H):	8.32	Skew:	0.70
sigma2	0.2912	0.024	11.995	0.000	0.244	0.339	Prob(H) (two-sided):	0.00	Kurtosis:	5.06

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

#### Región I

			<b>Dep. Variable:</b>		Región I		<b>No. Observations:</b>		141		
			<b>Model:</b>		ARIMA(1, 2, 1)		<b>Log Likelihood</b>		-50.463		
			<b>Date:</b>		Wed, 22 Nov 2023		<b>AIC</b>		106.926		
			<b>Time:</b>		11:52:30		<b>BIC</b>		115.730		
			<b>Sample:</b>		0		<b>HQIC</b>		110.504		
					- 141						
			<b>Covariance Type:</b>		opg						

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región II

							<b>Dep. Variable:</b>	Región II	<b>No. Observations:</b>	141
							<b>Model:</b>	ARIMA(0, 1, 0)	<b>Log Likelihood</b>	-315.550
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b>	633.100
							<b>Time:</b>	11:52:30	<b>BIC</b>	636.041
							<b>Sample:</b>	0	<b>HQIC</b>	634.295
								- 141		
							<b>Covariance Type:</b>	opg		
									<b>Ljung-Box (L1) (Q):</b>	1.52
									<b>Prob(Q):</b>	0.22
									<b>Jarque-Bera (JB):</b>	39.84
									<b>Prob(JB):</b>	0.00
									<b>Heteroskedasticity (H):</b>	4.17
									<b>Skew:</b>	0.79
									<b>Prob(H) (two-sided):</b>	0.00
									<b>Kurtosis:</b>	5.08

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región III

							<b>Dep. Variable:</b>	Región III	<b>No. Observations:</b>	141
							<b>Model:</b>	ARIMA(1, 2, 2)	<b>Log Likelihood</b>	-81.421
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b>	170.842
							<b>Time:</b>	11:52:30	<b>BIC</b>	182.580
							<b>Sample:</b>	0	<b>HQIC</b>	175.612
								- 141		
							<b>Covariance Type:</b>	opg		
									<b>Ljung-Box (L1) (Q):</b>	0.29
									<b>Prob(Q):</b>	0.59
									<b>Jarque-Bera (JB):</b>	250.41
									<b>Prob(JB):</b>	0.00
									<b>Heteroskedasticity (H):</b>	4.45
									<b>Skew:</b>	1.25
									<b>Prob(H) (two-sided):</b>	0.00
									<b>Kurtosis:</b>	9.08

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región IV

			Dep. Variable:		Región IV		No. Observations:		141		
			Model:		ARIMA(3, 1, 2)		Log Likelihood		-260.319		
			Date:		Wed, 22 Nov 2023		AIC		532.638		
			Time:		11:52:30		BIC		550.287		
			Sample:		0		HQIC		539.810		
					- 141						
			Covariance Type:		opg						
	coef	std err	z	P>  z	[0.025	0.975]					
ar.L1	0.7888	0.186	4.232	0.000	0.423	1.154	Ljung-Box (L1) (Q):	0.02	Jarque-Bera (JB):	214.32	
ar.L2	-0.1427	0.192	-0.745	0.456	-0.518	0.233	Prob(Q):	0.88	Prob(JB):	0.00	
ar.L3	0.3527	0.062	5.730	0.000	0.232	0.473	Heteroskedasticity (H):	16.90	Skew:	1.30	
ma.L1	-0.8338	0.177	-4.700	0.000	-1.182	-0.486	Prob(H) (two-sided):	0.00	Kurtosis:	8.48	
ma.L2	-0.1261	0.175	-0.721	0.471	-0.469	0.217					
sigma2	2.3675	0.200	11.811	0.000	1.975	2.760					

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región V

							<b>Dep. Variable:</b>	Región V	<b>No. Observations:</b>	141
							<b>Model:</b>	ARIMA(1, 1, 1)	<b>Log Likelihood</b>	-148.042
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b>	302.083
							<b>Time:</b>	11:52:30	<b>BIC</b>	310.908
							<b>Sample:</b>	0	<b>HQIC</b>	305.669
								- 141		
							<b>Covariance Type:</b>	opg		
	<b>coef</b>	<b>std err</b>	<b>z</b>	<b>P&gt;  z </b>	<b>[0.025</b>	<b>0.975]</b>	<b>Ljung-Box (L1) (Q):</b>	0.96	<b>Jarque-Bera (JB):</b>	92.34
<b>ar.L1</b>	0.9984	0.005	201.347	0.000	0.989	1.008	<b>Prob(Q):</b>	0.33	<b>Prob(JB):</b>	0.00
<b>ma.L1</b>	-0.9637	0.041	-23.378	0.000	-1.045	-0.883	<b>Heteroskedasticity (H):</b>	7.40	<b>Skew:</b>	0.48
<b>sigma2</b>	0.4789	0.035	13.650	0.000	0.410	0.548	<b>Prob(H) (two-sided):</b>	0.00	<b>Kurtosis:</b>	6.86

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región VI

							<b>Dep. Variable:</b>	Región VI	<b>No. Observations:</b>	141
							<b>Model:</b>	ARIMA(0, 2, 1)	<b>Log Likelihood</b>	-137.849
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b>	279.698
							<b>Time:</b>	11:52:31	<b>BIC</b>	285.567
							<b>Sample:</b>	0	<b>HQIC</b>	282.083
								- 141		
							<b>Covariance Type:</b>	opg		
	<b>coef</b>	<b>std err</b>	<b>z</b>	<b>P&gt;  z </b>	<b>[0.025</b>	<b>0.975]</b>	<b>Ljung-Box (L1) (Q):</b>	0.95	<b>Jarque-Bera (JB):</b>	36.47
<b>ma.L1</b>	-0.9335	0.029	-32.656	0.000	-0.990	-0.877	<b>Prob(Q):</b>	0.33	<b>Prob(JB):</b>	0.00
<b>sigma2</b>	0.4193	0.035	11.926	0.000	0.350	0.488	<b>Heteroskedasticity (H):</b>	6.78	<b>Skew:</b>	0.74
							<b>Prob(H) (two-sided):</b>	0.00	<b>Kurtosis:</b>	5.02

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región VII

							<b>Dep. Variable:</b>	Región VII	<b>No. Observations:</b>	141
							<b>Model:</b>	ARIMA(0, 2, 3)	<b>Log Likelihood</b>	-276.724
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b>	561.449
							<b>Time:</b>	11:52:31	<b>BIC</b>	573.187
							<b>Sample:</b>	0	<b>HQIC</b>	566.219
								- 141		
							<b>Covariance Type:</b>	opg		
	<b>coef</b>	<b>std err</b>	<b>z</b>	<b>P&gt;  z </b>	<b>[0.025</b>	<b>0.975]</b>	<b>Ljung-Box (L1) (Q):</b>	0.35	<b>Jarque-Bera (JB):</b>	39.45
<b>ma.L1</b>	-0.7475	0.053	-14.173	0.000	-0.851	-0.644	<b>Prob(Q):</b>	0.55	<b>Prob(JB):</b>	0.00
<b>ma.L2</b>	-0.6334	0.061	-10.370	0.000	-0.753	-0.514	<b>Heteroskedasticity (H):</b>	20.73	<b>Skew:</b>	0.38
<b>ma.L3</b>	0.4112	0.056	7.281	0.000	0.300	0.522	<b>Prob(H) (two-sided):</b>	0.00	<b>Kurtosis:</b>	5.49
<b>sigma2</b>	3.0592	0.251	12.188	0.000	2.567	3.551				

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

## Región VIII

							<b>Dep. Variable:</b>	Región VIII	<b>No. Observations:</b> 141
							<b>Model:</b>	ARIMA(2, 1, 0)	<b>Log Likelihood</b> -196.460
							<b>Date:</b>	Wed, 22 Nov 2023	<b>AIC</b> 398.919
							<b>Time:</b>	11:52:31	<b>BIC</b> 407.744
							<b>Sample:</b>	0	<b>HQIC</b> 402.506
								- 141	
							<b>Covariance Type:</b>	opg	
	<b>coef</b>	<b>std err</b>	<b>z</b>	<b>P&gt;  z </b>	<b>[0.025</b>	<b>0.975]</b>	<b>Ljung-Box (L1) (Q):</b>	2.16	<b>Jarque-Bera (JB):</b> 34.82
<b>ar.L1</b>	0.3612	0.057	6.293	0.000	0.249	0.474	<b>Prob(Q):</b>	0.14	<b>Prob(JB):</b> 0.00
<b>ar.L2</b>	-0.0747	0.070	-1.070	0.285	-0.211	0.062	<b>Heteroskedasticity (H):</b>	6.20	<b>Skew:</b> -0.14
<b>sigma2</b>	0.9683	0.088	11.004	0.000	0.796	1.141	<b>Prob(H) (two-sided):</b>	0.00	<b>Kurtosis:</b> 5.43

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).