

Predicciones sobre CoViD-19

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DEPARTAMENTO DE ESTADÍSTICA,
ANÁLISE MATEMÁTICA E OPTIMIZACIÓN



- Predicciones

- Predicciones Fallecidos

3 Panorama internacional

Datos

Aplicación Shiny disponible en

<http://modestya.usc.es:3838/covid19prediction/>

Último dato Confirmados CCAA: 24/02/2021

Fuente: https://cnecovid.isciii.es/covid19/resources/casos_tecnica_ccaa.csv

Predicciones:

▶ España

► Andalucía

► Aragón

► Asturias

▶ I. Balears

▶ Canarias

▶ Cantabria

► **Cataluña**

► Castilla-La Mancha

▶ Castilla y León

► C. Valenciana

▶ Extremadura

▶ País Vasco

► Galicia

▶ Madrid

► Murcia

▶ Navarra

► **La Rioja**

► Mod Lineal

▶ Mod NP

► **Mod Aditivo**

	$10^2 \sigma_R^2$			$10^2 \sigma_R^2 (rob.)$			r^2		
Horiz	FLM	NP	SAM	FLM	NP	SAM	FLM	NP	SAM
H1	0.008	0.007	0.007	0.006	0.005	0.006	0.685	0.747	0.699
H2	0.033	0.019	0.031	0.018	0.015	0.019	0.688	0.826	0.707
H3	0.049	0.033	0.046	0.036	0.031	0	0.774	0.852	0.786
H4	0.07	0.052	0.066	0.06	0.051	0.058	0.812	0.865	0.822
H5	0.111	0.09	0.106	0.089	0.08	0.087	0.815	0.855	0.823

Último dato fichero: 24/02/2021.

Tabla Previsión Confirmados: Mod. Lineal.

Last=24/02/2021

	Last	IA14	IA7	H1	H2	H3	H4	H5
España	3180210	168	60	3185951	3191054	3195358	3199706	3203045
Andalucía	475634	173	63	476663	477595	478344	479055	479577
Aragón	106254	190	68	106443	106614	106759	106908	107025
Asturias	43029	165	54	43108	43170	43237	43302	43341
Canarias	40194	88	38	40321	40441	40563	40689	40801
Cantabria	24533	123	42	24575	24613	24648	24685	24710
Castilla.y.León	205339	173	61	205667	205948	206178	206408	206569
Castilla.La.Mancha	167940	105	32	168137	168298	168414	168533	168603
Cataluña	574992	194	75	576095	577133	578045	578983	579738
Ceuta	4550	230	71	4560	4568	4576	4584	4591
Comunidad.Valenciana	377164	120	32	377667	378089	378352	378595	378721
Extremadura	68866	69	23	68945	69013	69062	69112	69145
Galicia	111174	133	46	111392	111579	111756	111936	112064
Islas.Baleares	55935	73	19	55998	56050	56090	56133	56160
La.Rioja	27408	81	23	27439	27466	27481	27498	27507
Madrid	582653	259	95	583862	584930	585877	586862	587721
Melilla	6920	351	139	6941	6962	6981	6999	7014
Murcia	106127	98	33	106260	106374	106464	106560	106626
Navarra	51194	120	54	51273	51342	51405	51472	51529
País.Vasco	150304	216	82	150607	150872	151129	151394	151601

Cuadro: Previsión Confirmados: Mod. Lineal - Horizonte 1 – 5 días.

Tabla Previsión Confirmados: Mod. Aditivo.

Last=24/02/2021

	Last	IA14	IA7	H1	H2	H3	H4	H5
España	3180210	168	60	3184473	3188230	3192404	3195493	3198717
Andalucía	475634	173	63	476400	477141	477957	478577	479071
Aragón	106254	190	68	106397	106523	106661	106766	106880
Asturias	43029	165	54	43107	43150	43236	43307	43352
Canarias	40194	88	38	40310	40403	40523	40634	40744
Cantabria	24533	123	42	24574	24603	24642	24673	24700
Castilla.y.León	205339	173	61	205536	205717	205933	206083	206237
Castilla.La.Mancha	167940	105	32	168030	168120	168215	168259	168329
Cataluña	574992	194	75	575985	576821	577749	578494	579266
Ceuta	4550	230	71	4559	4566	4575	4583	4590
Comunidad.Valenciana	377164	120	32	377426	377742	377982	378077	378181
Extremadura	68866	69	23	68902	68941	68978	68997	69031
Galicia	111174	133	46	111344	111464	111659	111822	111955
Islas.Baleares	55935	73	19	55978	56011	56050	56073	56102
La.Rioja	27408	81	23	27422	27442	27453	27454	27464
Madrid	582653	259	95	583647	584540	585421	586119	586919
Melilla	6920	351	139	6939	6956	6975	6991	7006
Murcia	106127	98	33	106204	106273	106352	106403	106471
Navarra	51194	120	54	51242	51288	51342	51386	51442
País.Vasco	150304	216	82	150565	150753	151021	151242	151453

Cuadro: Previsión Confirmados: Mod. Aditivo - Horizonte 1 – 5 días.

Tabla Ratio Incr. Confirmados: Mod. Lineal.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0015	0.0018	0.0034	0.0048	0.0061	0.0072
Andalucía	0.0019	0.0022	0.0041	0.0057	0.0072	0.0083
Aragón	0.0015	0.0018	0.0034	0.0048	0.0062	0.0073
Asturias	0.0023	0.0018	0.0033	0.0048	0.0064	0.0073
Canarias	0.0032	0.0032	0.0062	0.0092	0.0123	0.0151
Cantabria	0.0017	0.0017	0.0033	0.0047	0.0062	0.0072
Castilla.y.León	0.0012	0.0016	0.0030	0.0041	0.0052	0.0060
Castilla.La.Mancha	0.0007	0.0012	0.0021	0.0028	0.0035	0.0040
Cataluña	0.0017	0.0019	0.0037	0.0053	0.0069	0.0083
Ceuta	0.0026	0.0022	0.0039	0.0057	0.0075	0.0090
Comunidad.Valenciana	0.0009	0.0013	0.0025	0.0031	0.0038	0.0041
Extremadura	0.0006	0.0012	0.0021	0.0028	0.0036	0.0041
Galicia	0.0019	0.0020	0.0036	0.0052	0.0068	0.0080
Islas.Baleares	0.0008	0.0011	0.0021	0.0028	0.0035	0.0040
La.Rioja	0.0005	0.0011	0.0021	0.0027	0.0033	0.0036
Madrid	0.0019	0.0021	0.0039	0.0055	0.0072	0.0087
Melilla	0.0028	0.0031	0.0061	0.0088	0.0114	0.0136
Murcia	0.0008	0.0013	0.0023	0.0032	0.0041	0.0047
Navarra	0.0011	0.0015	0.0029	0.0041	0.0054	0.0065
País.Vasco	0.0020	0.0020	0.0038	0.0055	0.0072	0.0086

Cuadro: Previsión Ratio Incr. Confirmados: Mod. lineal - Horizonte 1 – 5 días.

Tabla Ratio Incr. Confirmados: Mod. No Paramétrico.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0015	0.0027	0.0055	0.0083	0.0110	0.0137
Andalucía	0.0019	0.0033	0.0066	0.0099	0.0131	0.0164
Aragón	0.0015	0.0026	0.0053	0.0078	0.0104	0.0130
Asturias	0.0023	0.0038	0.0075	0.0113	0.0149	0.0186
Canarias	0.0032	0.0040	0.0080	0.0119	0.0158	0.0197
Cantabria	0.0017	0.0028	0.0057	0.0085	0.0113	0.0141
Castilla.y.León	0.0012	0.0025	0.0051	0.0075	0.0100	0.0125
Castilla.La.Mancha	0.0007	0.0020	0.0041	0.0061	0.0081	0.0102
Cataluña	0.0017	0.0026	0.0053	0.0079	0.0105	0.0132
Ceuta	0.0026	0.0041	0.0080	0.0119	0.0158	0.0196
Comunidad.Valenciana	0.0009	0.0023	0.0047	0.0070	0.0093	0.0117
Extremadura	0.0006	0.0018	0.0037	0.0055	0.0073	0.0092
Galicia	0.0019	0.0033	0.0067	0.0100	0.0132	0.0165
Islas.Baleares	0.0008	0.0020	0.0042	0.0062	0.0083	0.0104
La.Rioja	0.0005	0.0017	0.0036	0.0053	0.0071	0.0089
Madrid	0.0019	0.0030	0.0061	0.0091	0.0121	0.0151
Melilla	0.0028	0.0038	0.0076	0.0114	0.0151	0.0188
Murcia	0.0008	0.0019	0.0040	0.0060	0.0080	0.0100
Navarra	0.0011	0.0020	0.0040	0.0060	0.0080	0.0101
País.Vasco	0.0020	0.0031	0.0063	0.0094	0.0124	0.0155

Cuadro: Previsión Ratio Incr. Confirmados: Mod. No Paramétrico - Horizonte 1
- 5 días.

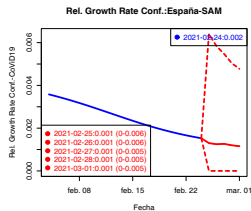
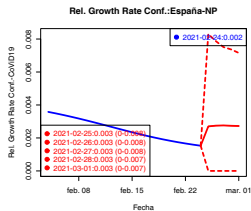
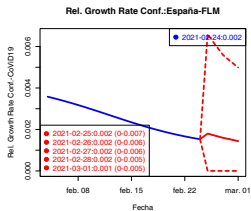
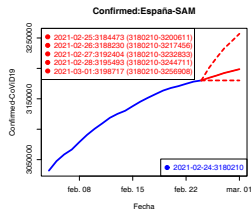
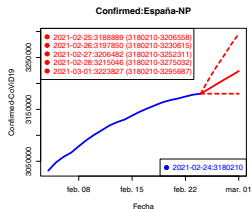
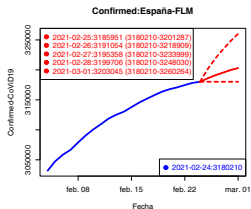
Tabla Ratio Incr. Confirmados: Mod. Aditivo.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0015	0.0013	0.0025	0.0038	0.0048	0.0058
Andalucía	0.0019	0.0016	0.0032	0.0049	0.0062	0.0072
Aragón	0.0015	0.0013	0.0025	0.0038	0.0048	0.0059
Asturias	0.0023	0.0018	0.0028	0.0048	0.0065	0.0075
Canarias	0.0032	0.0029	0.0052	0.0082	0.0110	0.0137
Cantabria	0.0017	0.0017	0.0029	0.0044	0.0057	0.0068
Castilla.y.León	0.0012	0.0010	0.0018	0.0029	0.0036	0.0044
Castilla.La.Mancha	0.0007	0.0005	0.0011	0.0016	0.0019	0.0023
Cataluña	0.0017	0.0017	0.0032	0.0048	0.0061	0.0074
Ceuta	0.0026	0.0021	0.0034	0.0056	0.0073	0.0089
Comunidad.Valenciana	0.0009	0.0007	0.0015	0.0022	0.0024	0.0027
Extremadura	0.0006	0.0005	0.0011	0.0016	0.0019	0.0024
Galicia	0.0019	0.0015	0.0026	0.0044	0.0058	0.0070
Islas.Baleares	0.0008	0.0008	0.0013	0.0021	0.0025	0.0030
La.Rioja	0.0005	0.0005	0.0012	0.0016	0.0017	0.0020
Madrid	0.0019	0.0017	0.0032	0.0048	0.0059	0.0073
Melilla	0.0028	0.0028	0.0053	0.0080	0.0102	0.0124
Murcia	0.0008	0.0007	0.0014	0.0021	0.0026	0.0032
Navarra	0.0011	0.0009	0.0018	0.0029	0.0038	0.0048
País.Vasco	0.0020	0.0017	0.0030	0.0048	0.0062	0.0076

Cuadro: Previsión Ratio Incr. Confirmados: Mod. Aditivo - Horizonte 1 – 5 días.

Confirmados: España



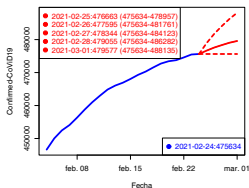
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

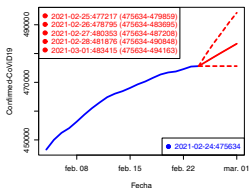
← Fallecidos

Confirmados: Andalucía

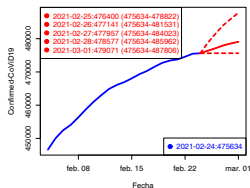
Confirmed:Andalucía-FLM



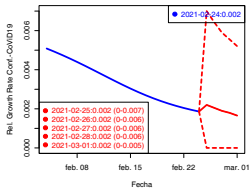
Confirmed:Andalucía-NP



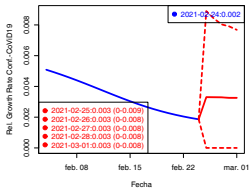
Confirmed:Andalucía-SAM



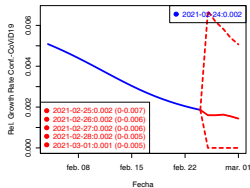
Rel. Growth Rate Conf.:Andalucía-FLM



Rel. Growth Rate Conf.:Andalucía-NP



Rel. Growth Rate Conf.:Andalucía-SAM

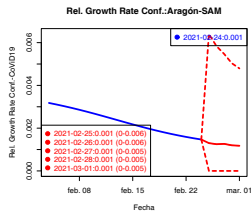
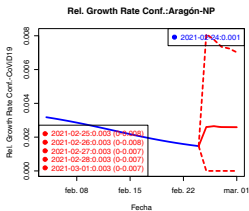
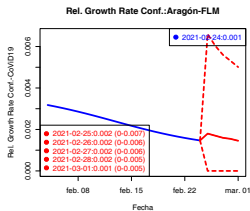
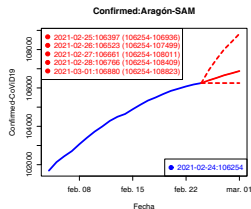
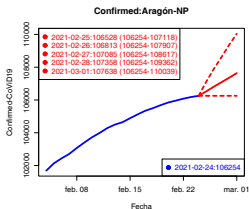
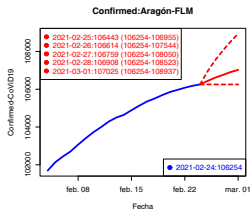


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Aragón

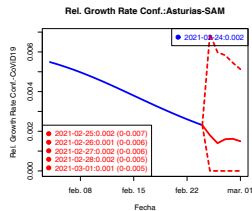
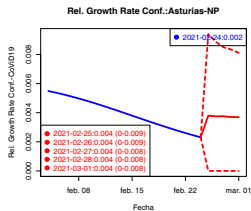
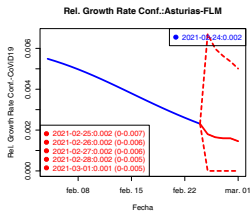
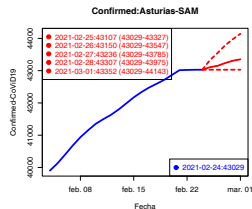
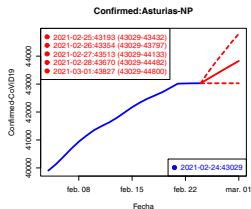
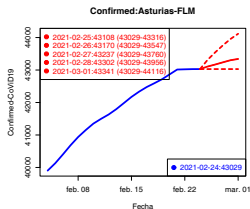


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Confirmados: Asturias

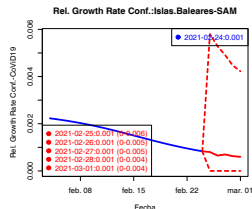
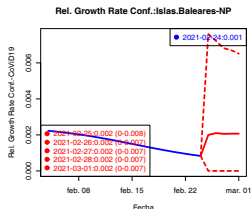
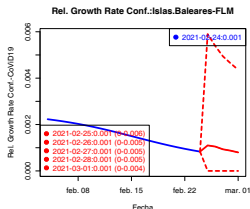
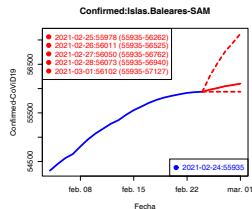
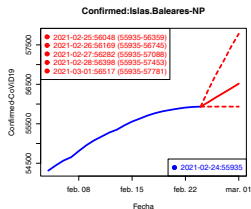
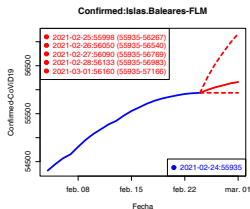


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Islas Baleares

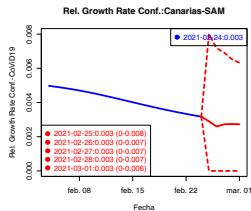
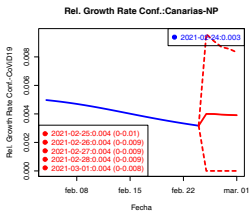
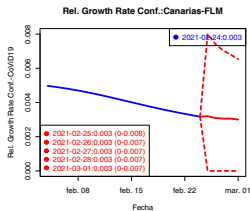
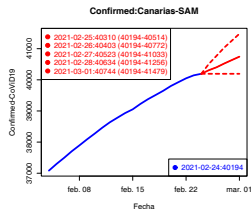
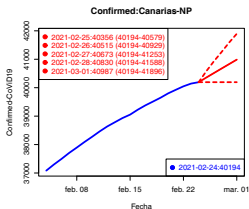
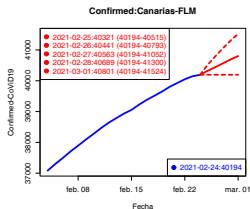


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Canarias

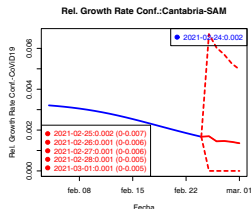
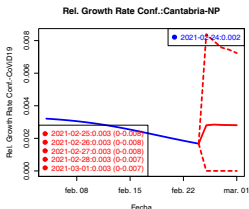
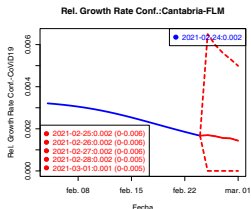
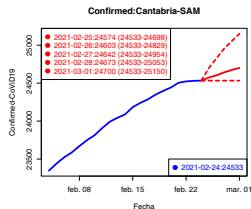
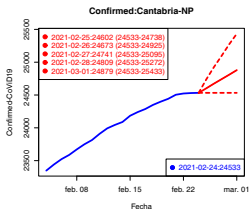
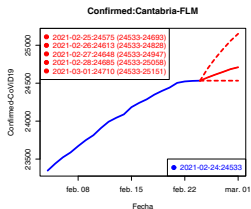


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Cantabria



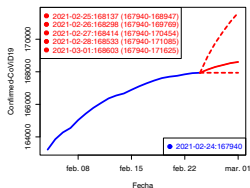
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

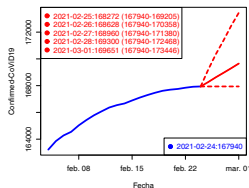
◀ Fallecidos

Confirmados: Castilla-La Mancha

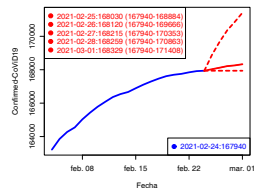
Confirmed:Castilla.La.Mancha-FLM



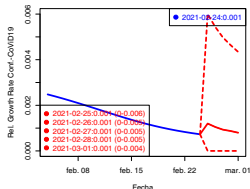
Confirmed:Castilla.La.Mancha-NP



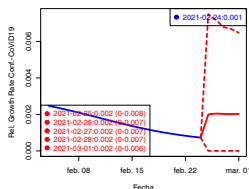
Confirmed:Castilla.La.Mancha-SAM



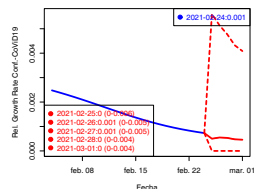
Rel. Growth Rate Conf.:Castilla.La.Mancha-FLM



Rel. Growth Rate Conf.:Castilla.La.Mancha-NP



Rel. Growth Rate Conf.:Castilla.La.Mancha-SAM

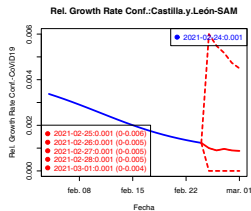
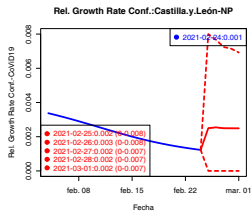
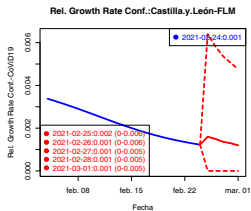
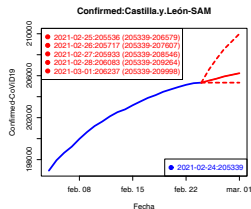
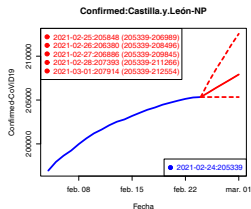
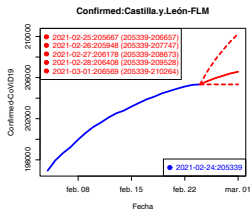


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Castilla y León

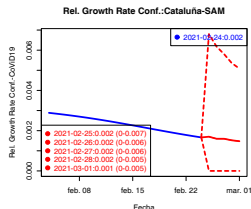
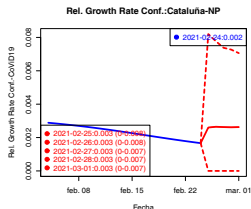
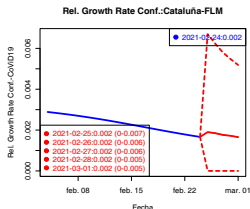
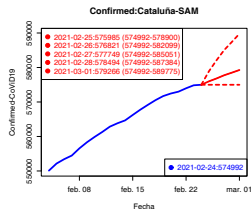
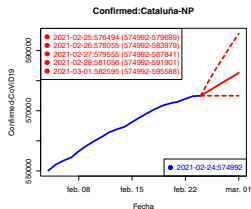
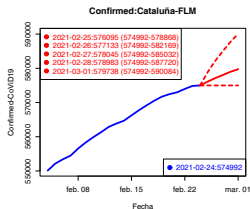


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Cataluña

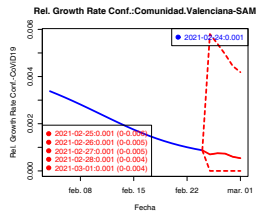
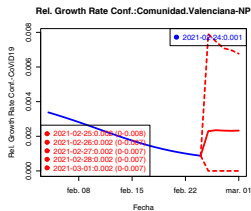
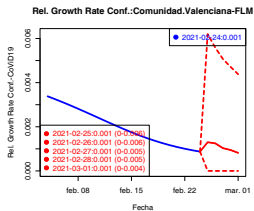
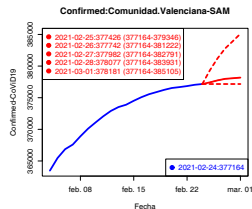
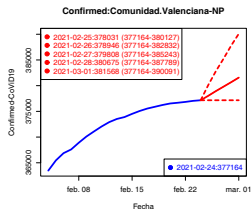
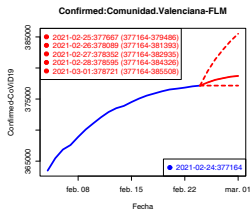


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Confirmados: C. Valenciana

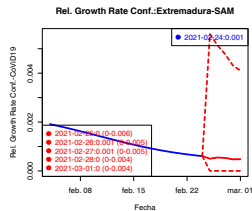
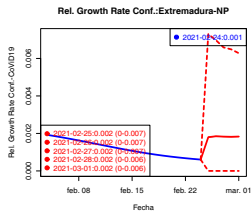
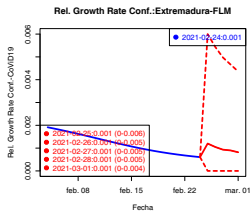
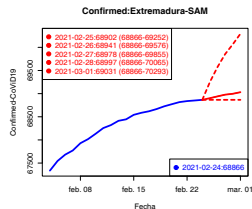
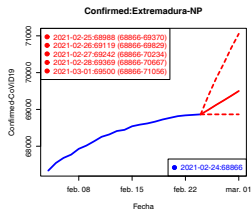
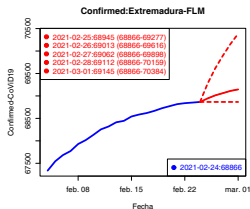


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Extremadura

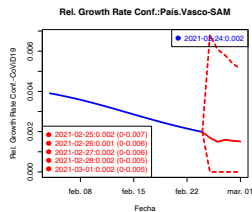
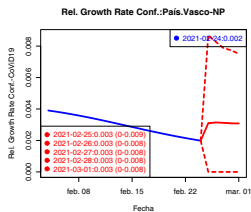
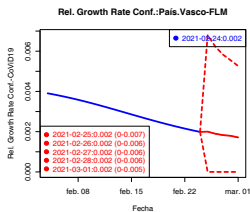
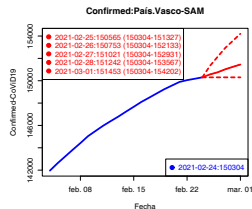
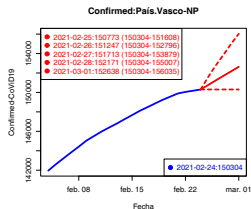
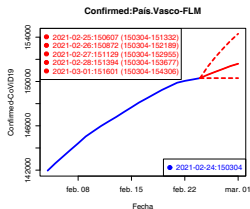


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: País Vasco

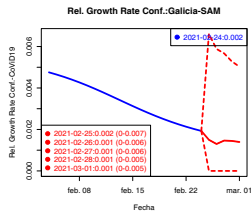
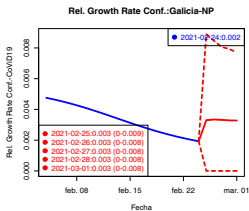
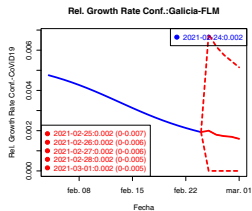
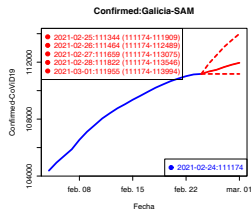
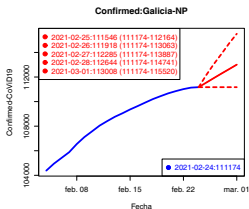
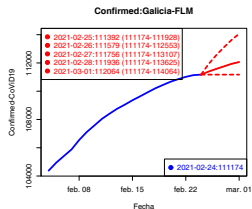


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Galicia

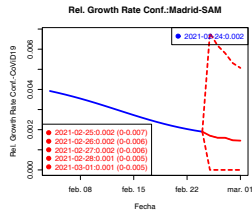
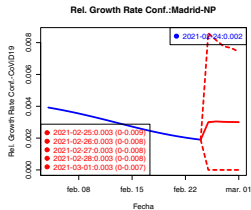
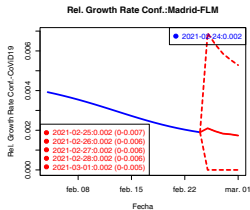
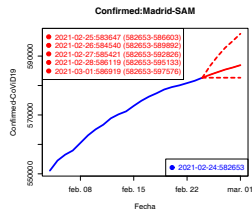
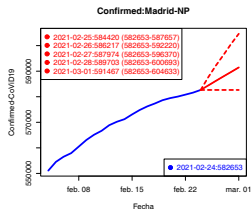
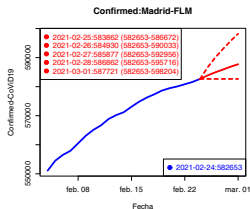


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Madrid

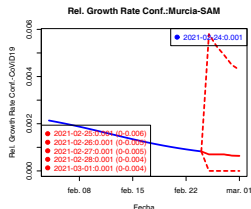
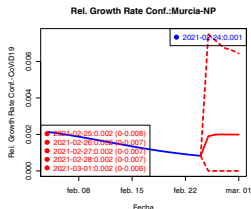
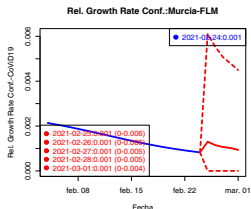
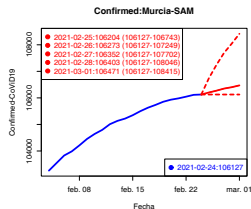
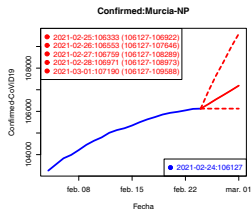
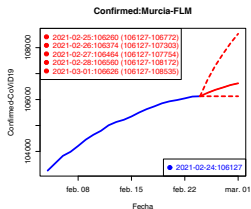


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Murcia

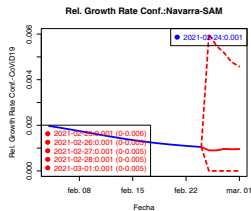
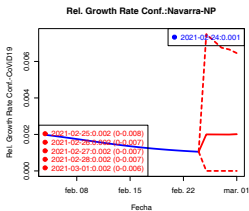
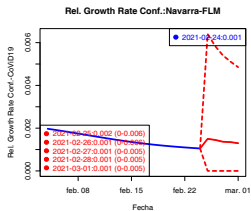
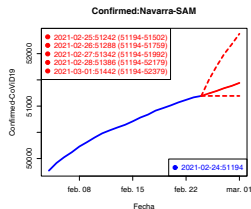
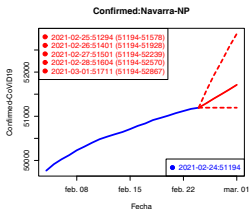
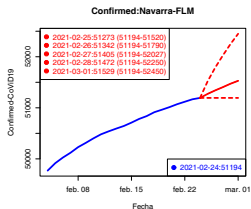


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Navarra

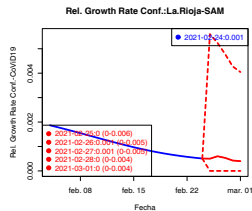
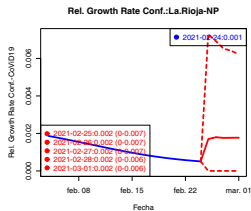
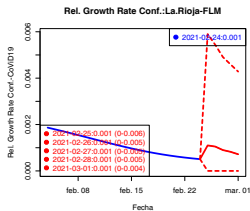
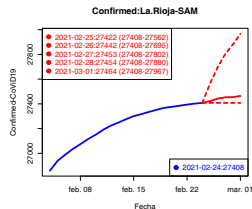
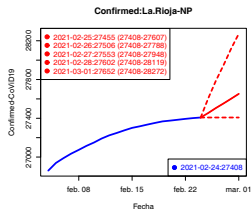
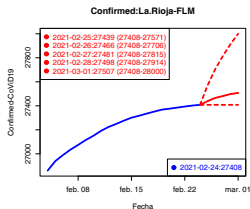


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: La Rioja



Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

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- 1 Casos Confirmados
 - Predicciones
- 2 Fallecidos
 - Predicciones Fallecidos
- 3 Panorama internacional

Modelos para fallecidos por CoViD-19

Último dato: 24/02/2021 Fuente: https://cneccovid.isciii.es/covid19/resources/casos_hosp_uci_def_sexo_edad_provres.csv

Predicciones:

▶ España

► Andalucía

► Aragón

► Asturias

► I. Balears

▶ Canarias

► **Cantabria**

► **Castilla-La Mancha**

► **Castilla y León**

▶ Cataluña

► C. Valenciana

► **Extremadura**

▶ País Vasco

▶ Galicia

▶ Madrid

▶ Murcia

▶ Navarra

► La Rioja

► Mod Lineal

▶ Mod NF

► Mod Aditivo

	$10^2 \sigma_R^2$			$10^2 \sigma_R^2(rob.)$			r^2		
Horiz	FLM	NP	SAM	FLM	NP	SAM	FLM	NP	SAM
H1	0.003	0.003	0.003	0.002	0.002	0.002	0.661	0.634	0.678
H2	0.01	0.012	0.01	0.006	0.006	0.005	0.712	0.677	0.726
H3	0.029	0.032	0.028	0.009	0.013	0.009	0.673	0.641	0.681
H4	0.032	0.038	0.031	0.014	0.02	0.012	0.766	0.727	0.773
H5	0.042	0.052	0.041	0.02	0.031	0.016	0.8	0.758	0.807

Tabla Previsión Fallecidos: Mod. Lineal.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	68422	68553	68664	68771	68842	68886
Andalucía	8208	8235	8258	8275	8292	8304
Aragón	3218	3225	3232	3238	3242	3244
Asturias	1741	1747	1752	1758	1762	1767
Canarias	578	580	582	585	587	589
Cantabria	506	507	508	508	509	509
Castilla y León	6253	6262	6270	6277	6282	6284
Castilla-La Mancha	5553	5562	5570	5575	5577	5577
Cataluña	10316	10326	10333	10341	10344	10343
Ceuta	81	82	82	83	83	84
Comunidad Valenciana	6519	6538	6554	6566	6575	6579
Extremadura	1686	1688	1690	1690	1691	1692
Galicia	2185	2193	2200	2205	2210	2214
Islas Baleares	700	701	702	704	704	705
La Rioja	724	725	726	727	728	729
Madrid	13827	13845	13859	13881	13892	13899
Melilla	68	69	69	69	70	71
Murcia	1447	1451	1455	1458	1461	1462
Navarra	1091	1092	1093	1094	1094	1094
País Vasco	3721	3726	3731	3737	3739	3739

Cuadro: Previsión fallecidos: Mod. lineal - Horizonte 1 – 5 días.

Tabla Previsión Fallecidos: Mod. Aditivo.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	68422	68543	68596	68788	68895	68916
Andalucía	8208	8240	8253	8278	8303	8318
Aragón	3218	3224	3228	3238	3243	3245
Asturias	1741	1746	1750	1761	1765	1768
Canarias	578	580	582	585	587	589
Cantabria	506	507	507	508	508	509
Castilla.y.León	6253	6262	6264	6278	6285	6286
Castilla.La.Mancha	5553	5562	5565	5572	5576	5578
Cataluña	10316	10322	10324	10336	10336	10339
Ceuta	81	81	82	82	83	83
Comunidad.Valenciana	6519	6545	6556	6571	6590	6601
Extremadura	1686	1689	1690	1690	1693	1695
Galicia	2185	2194	2198	2205	2212	2218
Islas.Baleares	700	701	702	704	706	706
La.Rioja	724	725	726	728	730	730
Madrid	13827	13837	13844	13887	13903	13904
Melilla	68	69	69	69	70	70
Murcia	1447	1453	1456	1460	1465	1469
Navarra	1091	1092	1092	1093	1093	1094
País.Vasco	3721	3725	3727	3740	3745	3742

Cuadro: Previsión fallecidos: Mod. Aditivo - Horizonte 1 – 5 días.

Tabla Ratio Incr. Fallecidos: Mod. Lineal.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0019	0.0035	0.0051	0.0061	0.0068
Andalucía	0.0040	0.0033	0.0061	0.0082	0.0102	0.0117
Aragón	0.0022	0.0022	0.0042	0.0061	0.0073	0.0080
Asturias	0.0036	0.0032	0.0062	0.0096	0.0121	0.0147
Canarias	0.0042	0.0038	0.0074	0.0114	0.0150	0.0192
Cantabria	0.0016	0.0017	0.0031	0.0045	0.0053	0.0059
Castilla.y.León	0.0018	0.0015	0.0027	0.0039	0.0046	0.0049
Castilla.La.Mancha	0.0017	0.0017	0.0031	0.0039	0.0044	0.0043
Cataluña	0.0007	0.0009	0.0017	0.0025	0.0027	0.0026
Ceuta	0.0068	0.0073	0.0152	0.0220	0.0285	0.0360
Comunidad.Valenciana	0.0037	0.0029	0.0054	0.0072	0.0086	0.0092
Extremadura	0.0021	0.0014	0.0023	0.0027	0.0032	0.0035
Galicia	0.0044	0.0036	0.0067	0.0092	0.0115	0.0132
Islas.Baleares	0.0023	0.0017	0.0032	0.0052	0.0064	0.0074
La.Rioja	0.0023	0.0015	0.0027	0.0044	0.0055	0.0064
Madrid	0.0014	0.0013	0.0023	0.0039	0.0047	0.0052
Melilla	0.0095	0.0076	0.0146	0.0204	0.0277	0.0363
Murcia	0.0040	0.0028	0.0053	0.0075	0.0093	0.0106
Navarra	0.0010	0.0010	0.0018	0.0023	0.0026	0.0024
País.Vasco	0.0016	0.0015	0.0027	0.0042	0.0048	0.0049

Cuadro: Previsión Ratio Incr. Fallecidos: Mod. lineal - Horizonte 1 – 5 días.

Tabla Ratio Incr. Fallecidos: Mod. No Paramétrico.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0037	0.0072	0.0112	0.0148	0.0185
Andalucía	0.0040	0.0056	0.0111	0.0168	0.0221	0.0274
Aragón	0.0022	0.0034	0.0068	0.0106	0.0140	0.0175
Asturias	0.0036	0.0041	0.0081	0.0126	0.0166	0.0207
Canarias	0.0042	0.0039	0.0078	0.0121	0.0160	0.0200
Cantabria	0.0016	0.0029	0.0058	0.0089	0.0119	0.0150
Castilla.y.León	0.0018	0.0033	0.0065	0.0101	0.0134	0.0168
Castilla.La.Mancha	0.0017	0.0034	0.0067	0.0105	0.0138	0.0174
Cataluña	0.0007	0.0023	0.0045	0.0070	0.0093	0.0120
Ceuta	0.0068	0.0041	0.0081	0.0126	0.0167	0.0208
Comunidad.Valenciana	0.0037	0.0056	0.0111	0.0168	0.0220	0.0273
Extremadura	0.0021	0.0039	0.0078	0.0121	0.0159	0.0198
Galicia	0.0044	0.0058	0.0116	0.0175	0.0230	0.0286
Islas.Baleares	0.0023	0.0035	0.0069	0.0107	0.0141	0.0177
La.Rioja	0.0023	0.0037	0.0073	0.0114	0.0150	0.0187
Madrid	0.0014	0.0028	0.0055	0.0085	0.0113	0.0144
Melilla	0.0095	0.0084	0.0169	0.0254	0.0335	0.0418
Murcia	0.0040	0.0058	0.0116	0.0175	0.0229	0.0285
Navarra	0.0010	0.0027	0.0053	0.0082	0.0109	0.0139
País.Vasco	0.0016	0.0033	0.0064	0.0100	0.0132	0.0167

Cuadro: Previsión Ratio Incr. Fallecidos: Mod. No Paramétrico - Horizonte 1 – 5 días.

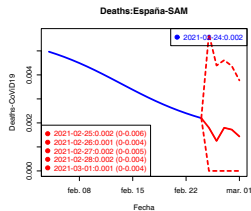
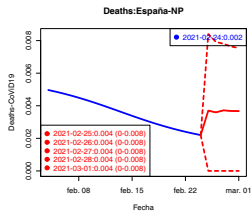
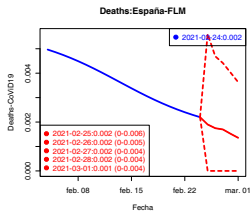
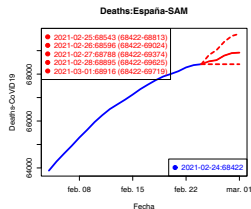
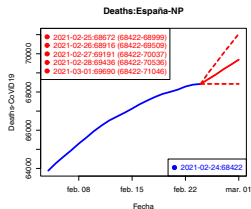
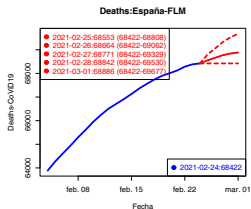
Tabla Ratio Incr. Fallecidos: Mod. Aditivo.

Last=24/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0018	0.0025	0.0054	0.0069	0.0072
Andalucía	0.0040	0.0039	0.0054	0.0085	0.0115	0.0134
Aragón	0.0022	0.0018	0.0033	0.0063	0.0077	0.0084
Asturias	0.0036	0.0030	0.0053	0.0113	0.0139	0.0153
Canarias	0.0042	0.0035	0.0067	0.0116	0.0151	0.0186
Cantabria	0.0016	0.0010	0.0018	0.0042	0.0049	0.0056
Castilla.y.León	0.0018	0.0014	0.0018	0.0040	0.0051	0.0052
Castilla.La.Mancha	0.0017	0.0016	0.0021	0.0034	0.0042	0.0045
Cataluña	0.0007	0.0006	0.0008	0.0020	0.0020	0.0023
Ceuta	0.0068	0.0052	0.0092	0.0164	0.0197	0.0256
Comunidad.Valenciana	0.0037	0.0040	0.0057	0.0080	0.0109	0.0125
Extremadura	0.0021	0.0020	0.0023	0.0025	0.0041	0.0051
Galicia	0.0044	0.0040	0.0059	0.0092	0.0125	0.0150
Islas.Baleares	0.0023	0.0014	0.0026	0.0060	0.0079	0.0087
La.Rioja	0.0023	0.0019	0.0029	0.0056	0.0079	0.0084
Madrid	0.0014	0.0008	0.0012	0.0043	0.0055	0.0055
Melilla	0.0095	0.0077	0.0149	0.0179	0.0264	0.0362
Murcia	0.0040	0.0040	0.0063	0.0090	0.0125	0.0149
Navarra	0.0010	0.0010	0.0013	0.0018	0.0021	0.0025
País.Vasco	0.0016	0.0011	0.0017	0.0051	0.0065	0.0057

Cuadro: Previsión Ratio Incr. Fallecidos: Mod. Aditivo - Horizonte 1 – 5 días.

Fallecidos: España

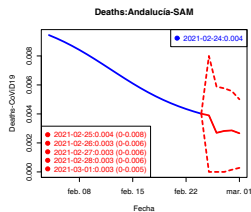
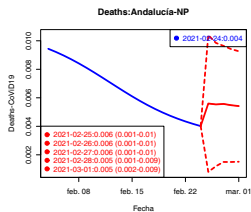
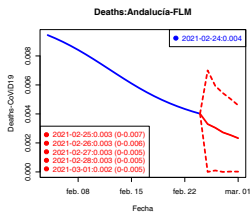
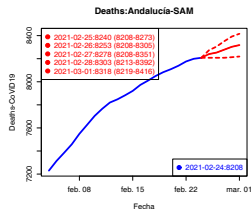
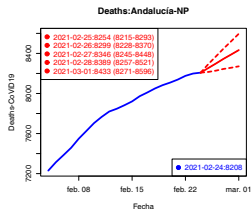
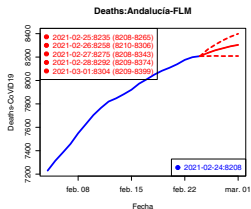


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

[◀ Fallecidos](#)

Fallecidos: Andalucía

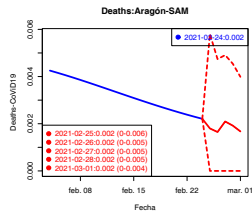
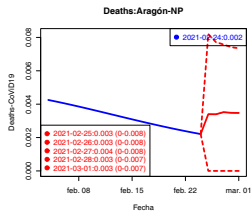
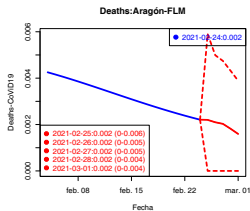
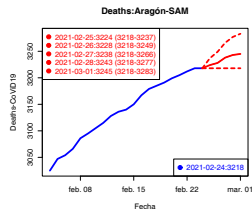
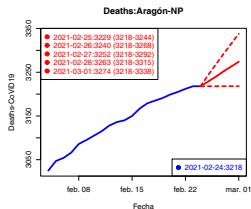
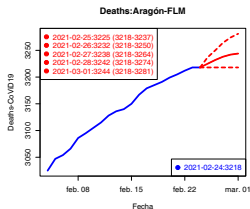


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Fallecidos: Aragón

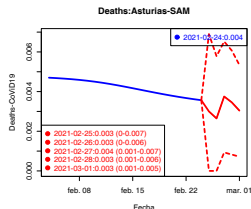
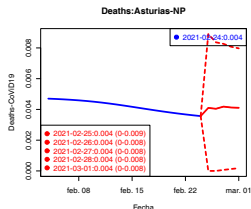
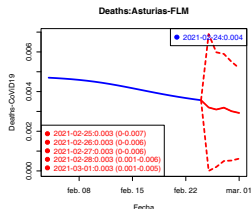
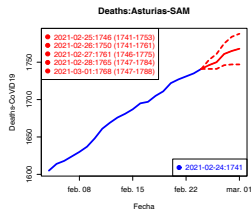
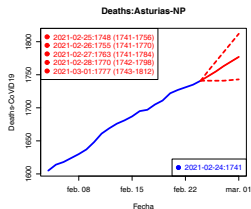
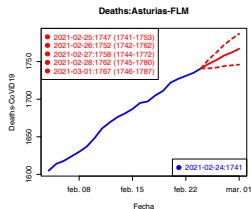


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

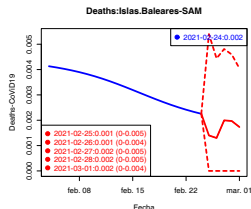
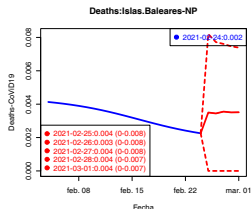
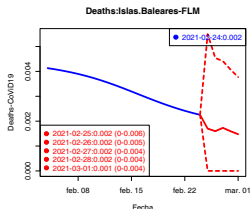
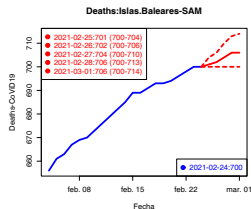
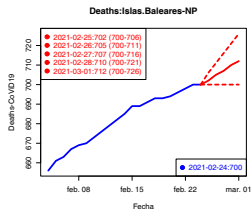
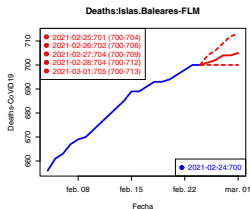
◀ Fallecidos

Fallecidos: Asturias



Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

Fallecidos: Islas Baleares

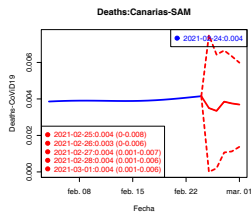
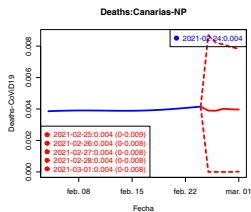
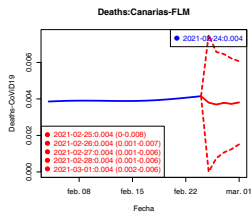
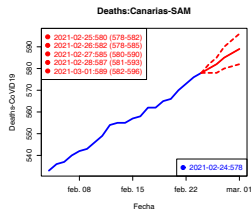
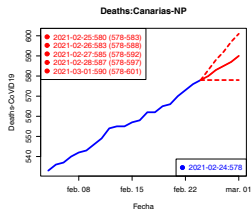
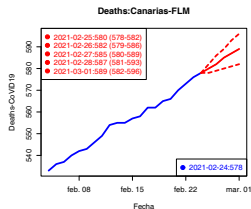


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

[◀ Fallecidos](#)

Fallecidos: Canarias

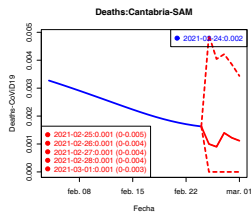
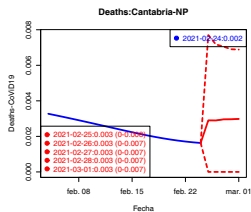
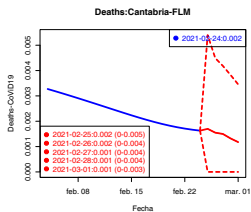
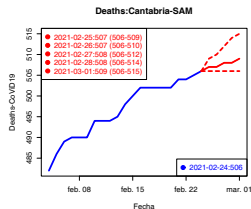
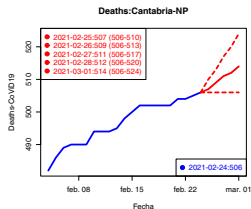
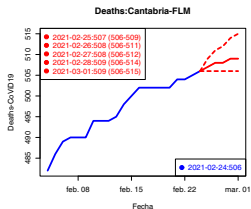


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Cantabria

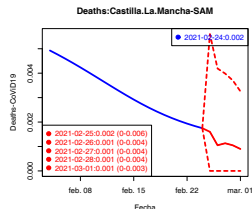
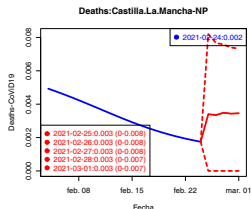
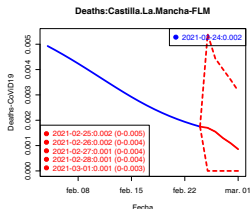
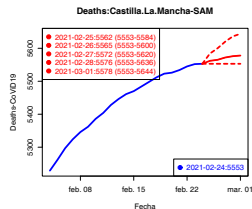
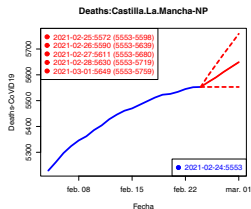
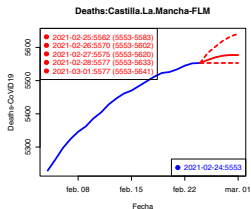


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla-La Mancha

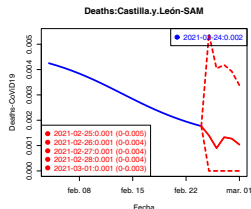
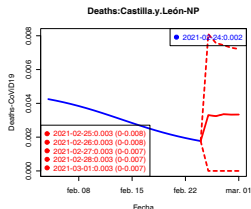
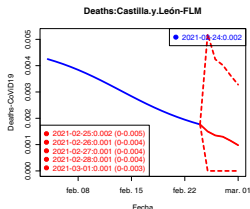
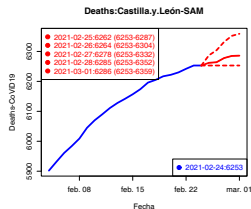
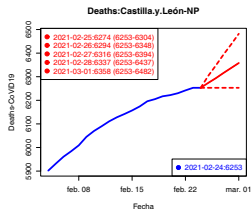
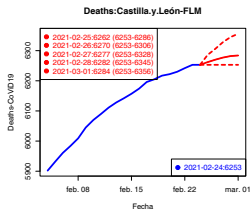


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla y León

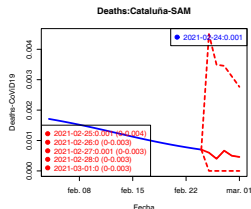
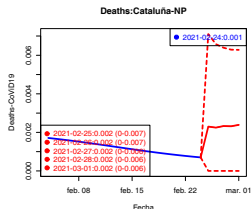
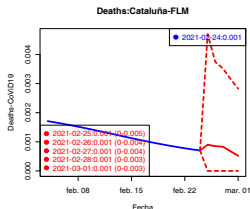
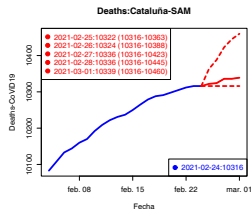
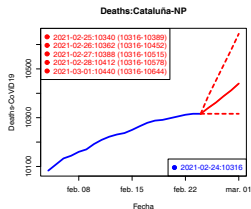
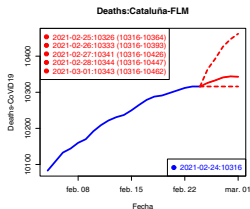


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

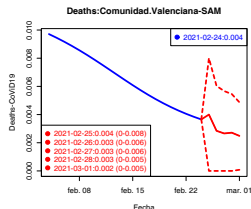
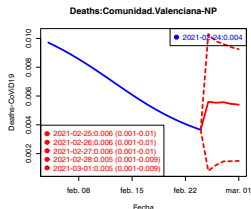
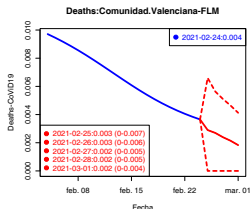
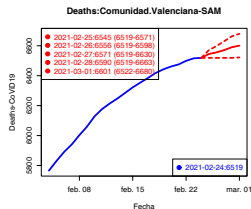
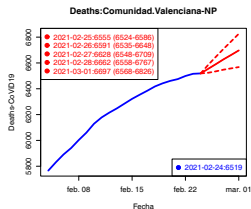
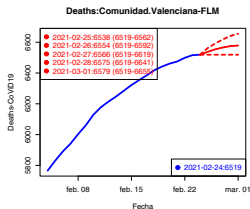
[◀ Fallecidos](#)

Fallecidos: Cataluña



Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

Fallecidos: C. Valenciana

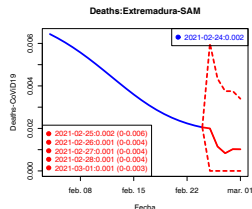
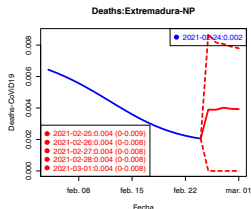
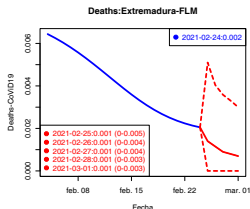
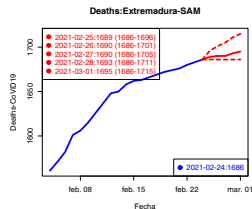
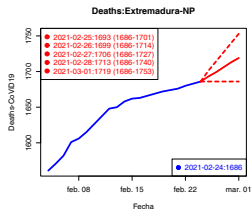
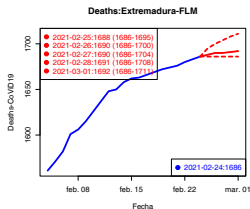


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Extremadura

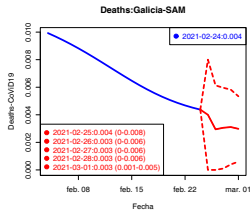
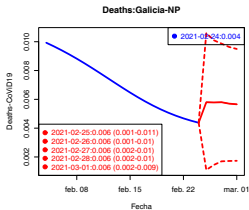
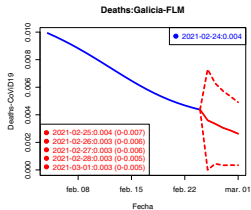
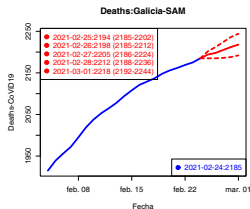
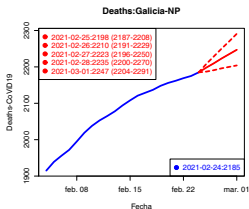
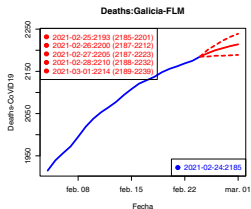


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

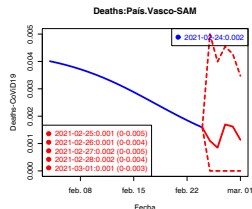
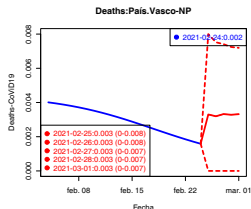
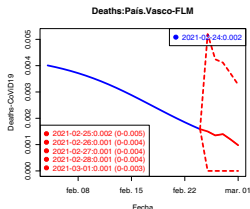
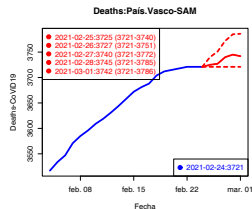
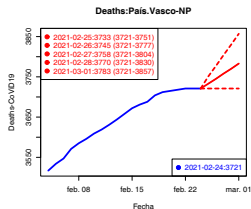
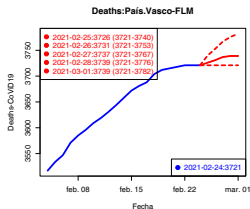
◀ Fallecidos

Fallecidos: Galicia



Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

Fallecidos: País Vasco

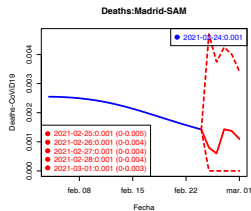
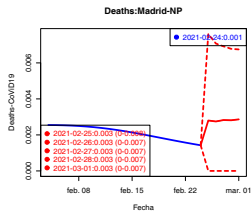
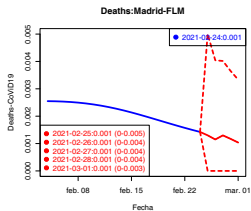
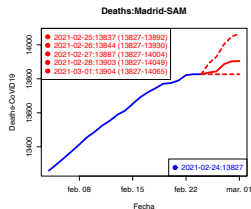
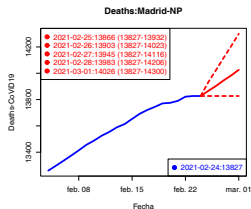
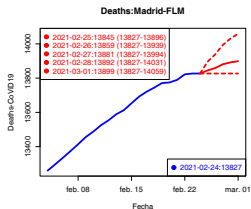


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Madrid

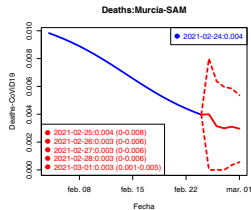
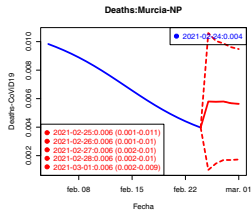
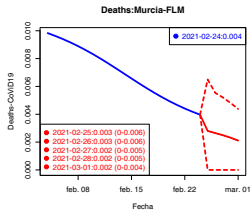
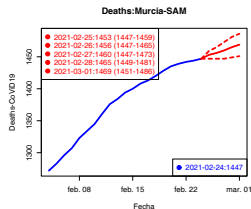
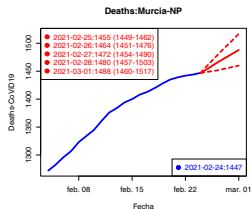
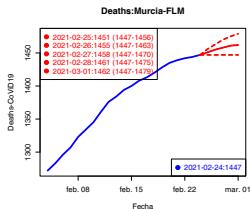


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

[◀ Fallecidos](#)

Fallecidos: Murcia

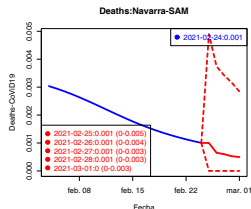
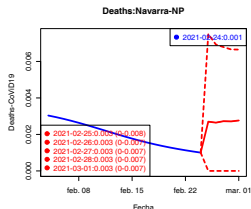
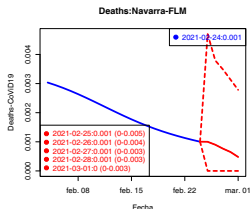
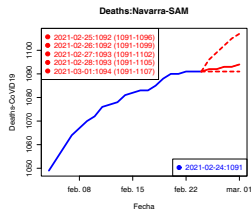
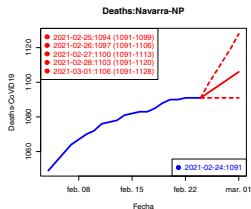
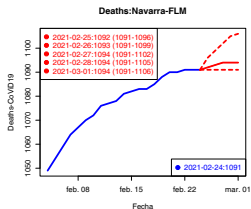


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Navarra

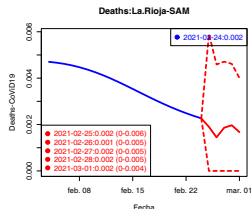
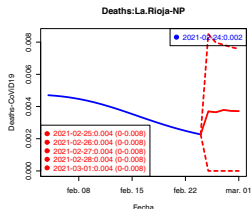
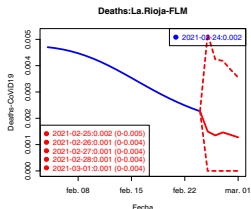
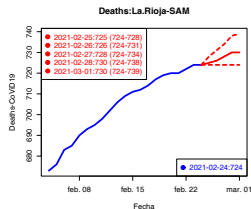
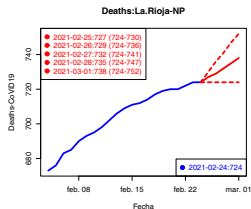
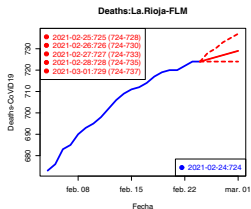


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: La Rioja



Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

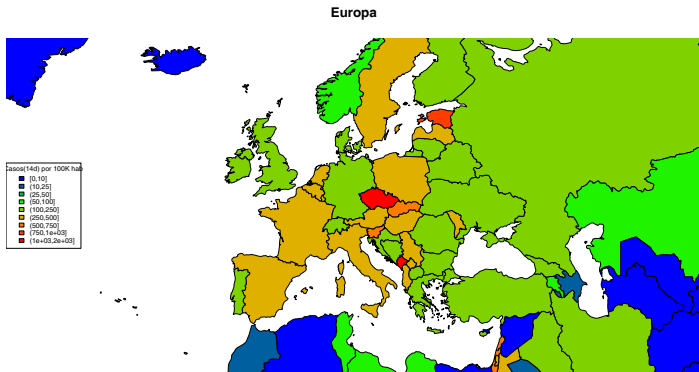
◀ Confirmados

[◀ Fallecidos](#)

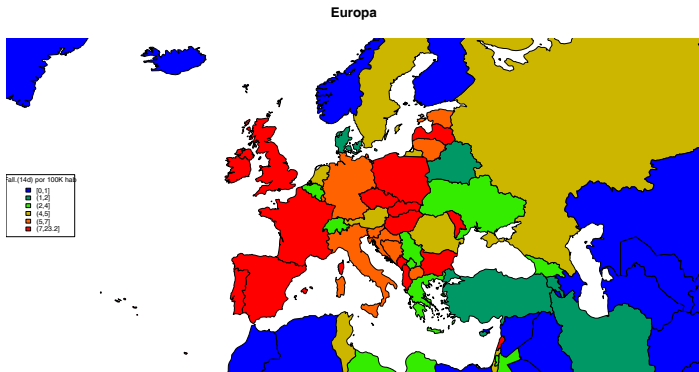
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Europa: Incidencia Acumulada (14d) por 100K hab.

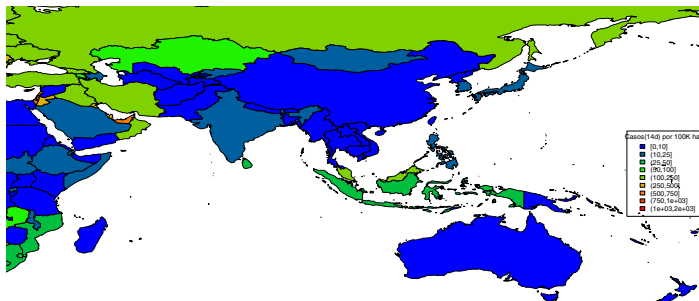


Europa: Fallecidos (14d) por 100K hab.



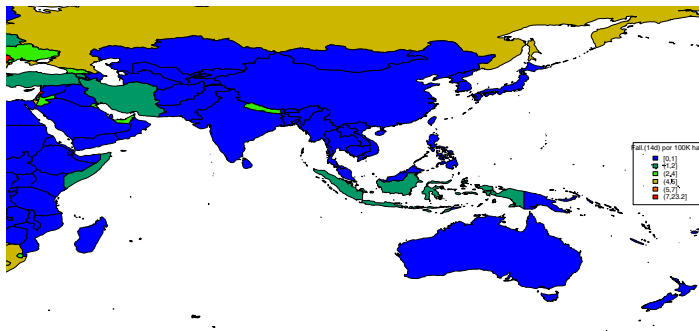
Asia y Oceanía: Incidencia acumulada (14d) por 100K hab.

Asia y Oceanía



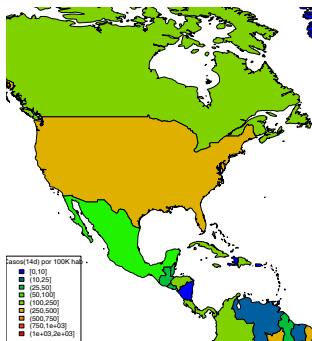
Asia y Oceanía: Fallecidos (14d) por 100K hab.

Asia y Oceanía

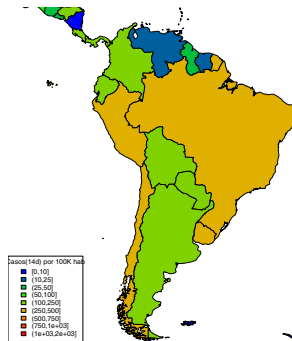


América: Incidencia acumulada (14d) por 100K hab.

América del Norte

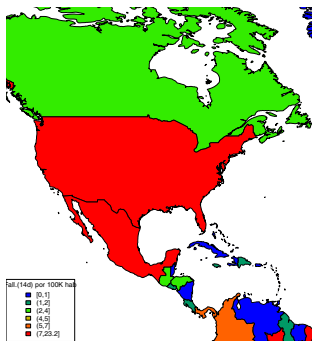


América del sur

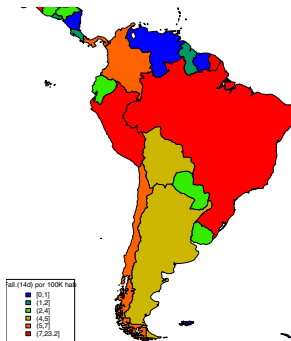


América: Fallecidos (14d) por 100K hab.

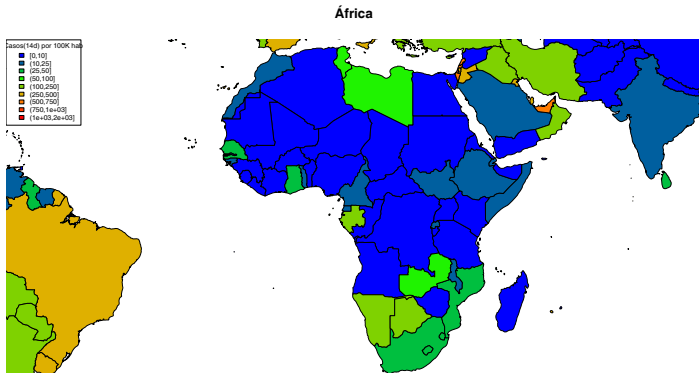
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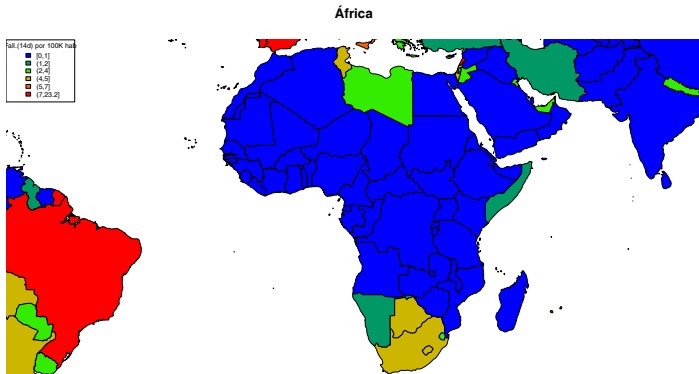
América del sur



África: Incidencia acumulada (14d) por 100K hab.



África: Fallecidos (14d) por 100K hab.



Breve descripción del Modelo de predicción

Objetivo: Predecir ratio de incremento de casos confirmados a 1–5 días: $r^{(k)}(t) = \frac{x_{t+k} - x_t}{x_t + 1}$

Información usada: Pasado de esta variable suavizada (retardo 1) durante los últimos 21 días: $R^{(1)} = \{r^{(1)}(-21), \dots, r^{(1)}(0)\}$.

Datos para alimentar el modelo: https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data/csse_covid_19_time_series/. Algunas series de tiempo (como el Diamond Princess) son filtrados por inconsistencia, presunta falta de veracidad o por valores anormalmente bajos. En la predicción final se reconstruye el número de casos esperado.

Se construyen tres modelos funcionales de la regresión general: $r^{(k)}(0) = f(R^{(1)}) + \epsilon$ donde la diferencia radica en la forma de la función f

- Lineal: $f(R^{(1)}) = \int_{-21}^0 R^{(1)}(t)\beta(t)dt$
- NP: f es una estimación no paramétrica tipo núcleo.
- SAM: f es una combinación aditiva de funciones suaves de las componentes principales funcionales.

Para el objetivo de predecir el ratio de incremento de fallecidos, se usa además del pasado de la propia variable, el ratio de incremento pasado de casos confirmados.