

Predicciones sobre CoViD-19

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DEPARTAMENTO DE ESTATÍSTICA,
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: 22/02/2021

Fuente: https://cneccovid.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 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	0.008	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: 22/02/2021.

Tabla Previsión Confirmados: Mod. Lineal.

Last=22/02/2021

	Last	IA14	IA7	H1	H2	H3	H4	H5
España	3168478	193	70	3174930	3180788	3185434	3189879	3193207
Andalucía	474212	212	74	475359	476366	477171	477922	478497
Aragón	105965	218	81	106173	106363	106522	106681	106806
Asturias	42888	192	70	43008	43123	43223	43315	43380
Canarias	39957	95	42	40100	40240	40375	40513	40641
Cantabria	24473	137	50	24527	24581	24627	24673	24708
Castilla.y.León	204959	209	75	205328	205636	205898	206158	206351
Castilla.La.Mancha	167543	130	40	167776	167974	168096	168203	168258
Cataluña	571261	210	87	572479	573642	574625	575603	576399
Ceuta	4531	278	99	4543	4552	4563	4573	4581
Comunidad.Valenciana	376385	152	42	376948	377402	377664	377872	377946
Extremadura	68836	83	26	68923	68995	69049	69104	69141
Galicia	110841	155	55	111117	111374	111580	111774	111923
Islas.Baleares	55868	91	27	55957	56044	56094	56137	56161
La.Rioja	27389	98	27	27424	27455	27471	27483	27488
Madrid	579668	286	102	580942	582141	583079	583966	584621
Melilla	6891	380	170	6913	6932	6953	6974	6994
Murcia	105940	116	42	106096	106235	106335	106434	106502
Navarra	51084	129	57	51165	51235	51299	51367	51423
País.Vasco	149787	243	97	150155	150501	150817	151131	151387

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

Tabla Previsión Confirmados: Mod. Aditivo.

Last=22/02/2021

	Last	IA14	IA7	H1	H2	H3	H4	H5
España	3168478	193	70	3173388	3178079	3182892	3186315	3189431
Andalucía	474212	212	74	475136	476065	477041	477790	478325
Aragón	105965	218	81	106125	106271	106425	106541	106661
Asturias	42888	192	70	43001	43092	43213	43310	43379
Canarias	39957	95	42	40091	40211	40337	40454	40578
Cantabria	24473	137	50	24527	24573	24621	24660	24697
Castilla.y.León	204959	209	75	205181	205393	205647	205837	206011
Castilla.La.Mancha	167543	130	40	167659	167810	167920	167961	168003
Cataluña	571261	210	87	572311	573257	574234	574990	575779
Ceuta	4531	278	99	4543	4551	4563	4573	4582
Comunidad.Valenciana	376385	152	42	376706	377132	377454	377598	377626
Extremadura	68836	83	26	68874	68917	68957	68979	69013
Galicia	110841	155	55	111078	111300	111536	111717	111863
Islas.Baleares	55868	91	27	55940	56021	56072	56091	56115
La.Rioja	27389	98	27	27405	27433	27443	27441	27444
Madrid	579668	286	102	580783	581800	582833	583562	584207
Melilla	6891	380	170	6909	6924	6944	6961	6980
Murcia	105940	116	42	106031	106131	106216	106265	106329
Navarra	51084	129	57	51128	51171	51222	51265	51318
País.Vasco	149787	243	97	150100	150361	150683	150950	151203

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

Tabla Ratio Incr. Confirmados: Mod. Lineal.

Last=22/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0017	0.0020	0.0039	0.0054	0.0068	0.0078
Andalucía	0.0022	0.0024	0.0045	0.0062	0.0078	0.0090
Aragón	0.0017	0.0020	0.0038	0.0053	0.0068	0.0079
Asturias	0.0028	0.0028	0.0055	0.0078	0.0100	0.0115
Canarias	0.0035	0.0036	0.0071	0.0104	0.0139	0.0171
Cantabria	0.0020	0.0022	0.0044	0.0063	0.0082	0.0096
Castilla.y.León	0.0015	0.0018	0.0033	0.0046	0.0058	0.0068
Castilla.La.Mancha	0.0009	0.0014	0.0026	0.0033	0.0039	0.0043
Cataluña	0.0018	0.0021	0.0042	0.0059	0.0076	0.0090
Ceuta	0.0031	0.0026	0.0047	0.0070	0.0093	0.0111
Comunidad.Valenciana	0.0011	0.0015	0.0027	0.0034	0.0040	0.0041
Extremadura	0.0008	0.0013	0.0023	0.0031	0.0039	0.0044
Galicia	0.0023	0.0025	0.0048	0.0067	0.0084	0.0098
Islas.Baleares	0.0011	0.0016	0.0032	0.0040	0.0048	0.0052
La.Rioja	0.0006	0.0013	0.0024	0.0030	0.0034	0.0036
Madrid	0.0020	0.0022	0.0043	0.0059	0.0074	0.0085
Melilla	0.0032	0.0032	0.0060	0.0089	0.0120	0.0149
Murcia	0.0010	0.0015	0.0028	0.0037	0.0047	0.0053
Navarra	0.0011	0.0016	0.0030	0.0042	0.0055	0.0066
País.Vasco	0.0023	0.0025	0.0048	0.0069	0.0090	0.0107

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

Tabla Ratio Incr. Confirmados: Mod. No Paramétrico.

Last=22/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0017	0.0031	0.0062	0.0092	0.0122	0.0152
Andalucía	0.0022	0.0038	0.0075	0.0112	0.0148	0.0184
Aragón	0.0017	0.0028	0.0057	0.0086	0.0114	0.0142
Asturias	0.0028	0.0042	0.0084	0.0124	0.0164	0.0204
Canarias	0.0035	0.0042	0.0084	0.0125	0.0165	0.0206
Cantabria	0.0020	0.0030	0.0061	0.0091	0.0121	0.0151
Castilla.y.León	0.0015	0.0028	0.0058	0.0086	0.0113	0.0142
Castilla.La.Mancha	0.0009	0.0023	0.0047	0.0070	0.0092	0.0116
Cataluña	0.0018	0.0028	0.0057	0.0085	0.0112	0.0141
Ceuta	0.0031	0.0044	0.0088	0.0130	0.0172	0.0214
Comunidad.Valenciana	0.0011	0.0028	0.0056	0.0083	0.0110	0.0137
Extremadura	0.0008	0.0020	0.0041	0.0060	0.0080	0.0101
Galicia	0.0023	0.0038	0.0074	0.0111	0.0147	0.0182
Islas.Baleares	0.0011	0.0023	0.0047	0.0070	0.0094	0.0117
La.Rioja	0.0006	0.0020	0.0041	0.0061	0.0081	0.0102
Madrid	0.0020	0.0033	0.0066	0.0099	0.0131	0.0164
Melilla	0.0032	0.0041	0.0081	0.0121	0.0161	0.0200
Murcia	0.0010	0.0022	0.0045	0.0066	0.0088	0.0110
Navarra	0.0011	0.0021	0.0043	0.0064	0.0086	0.0108
País.Vasco	0.0023	0.0034	0.0068	0.0102	0.0135	0.0168

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

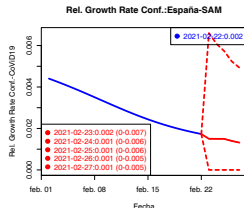
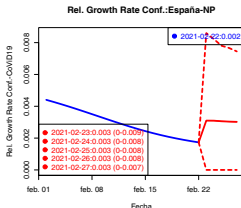
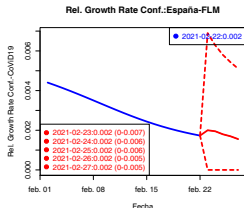
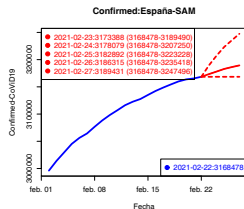
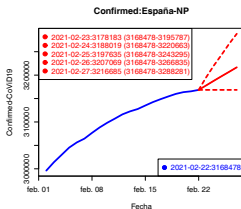
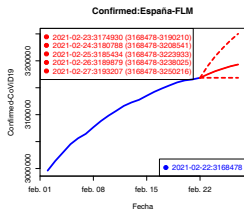
Tabla Ratio Incr. Confirmados: Mod. Aditivo.

Last=22/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0017	0.0015	0.0030	0.0045	0.0056	0.0066
Andalucía	0.0022	0.0019	0.0039	0.0060	0.0075	0.0087
Aragón	0.0017	0.0015	0.0029	0.0043	0.0054	0.0066
Asturias	0.0028	0.0026	0.0048	0.0076	0.0098	0.0114
Canarias	0.0035	0.0033	0.0063	0.0095	0.0124	0.0155
Cantabria	0.0020	0.0022	0.0041	0.0061	0.0076	0.0091
Castilla.y.León	0.0015	0.0011	0.0021	0.0034	0.0043	0.0051
Castilla.La.Mancha	0.0009	0.0007	0.0016	0.0022	0.0025	0.0027
Cataluña	0.0018	0.0018	0.0035	0.0052	0.0065	0.0079
Ceuta	0.0031	0.0026	0.0044	0.0070	0.0093	0.0112
Comunidad.Valenciana	0.0011	0.0009	0.0020	0.0028	0.0032	0.0033
Extremadura	0.0008	0.0006	0.0012	0.0018	0.0021	0.0026
Galicia	0.0023	0.0021	0.0041	0.0063	0.0079	0.0092
Islas.Baleares	0.0011	0.0013	0.0027	0.0037	0.0040	0.0044
La.Rioja	0.0006	0.0006	0.0016	0.0020	0.0019	0.0020
Madrid	0.0020	0.0019	0.0037	0.0055	0.0067	0.0078
Melilla	0.0032	0.0027	0.0049	0.0076	0.0102	0.0129
Murcia	0.0010	0.0009	0.0018	0.0026	0.0031	0.0037
Navarra	0.0011	0.0009	0.0017	0.0027	0.0035	0.0046
País.Vasco	0.0023	0.0021	0.0038	0.0060	0.0078	0.0095

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

Confirmados: España

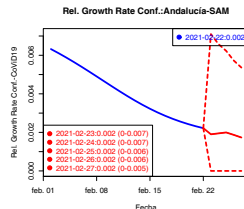
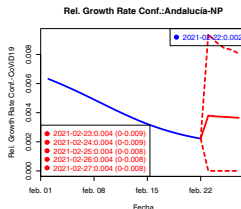
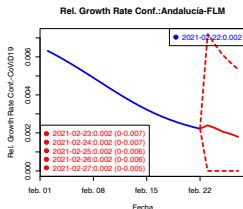
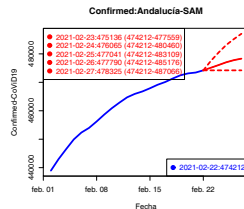
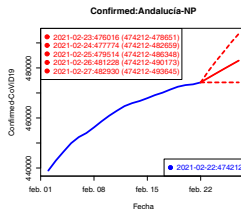
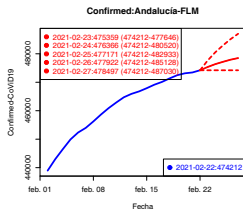


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Andalucía

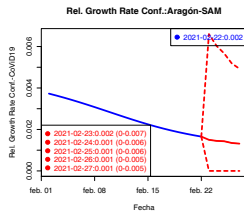
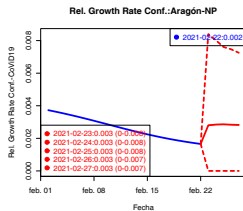
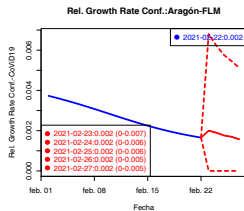
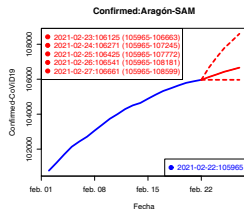
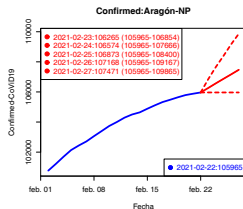
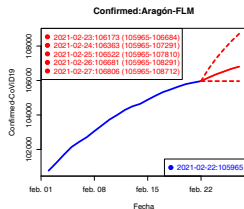


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Aragón

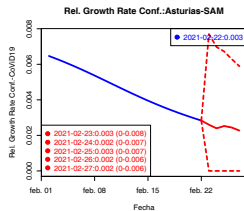
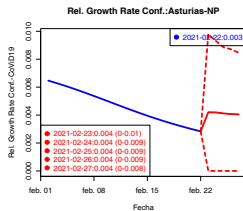
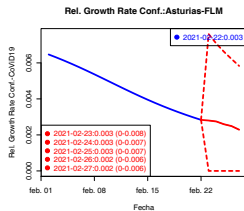
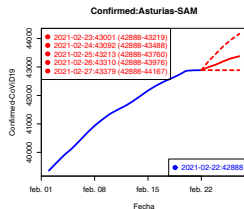
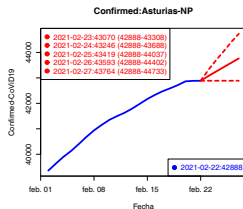
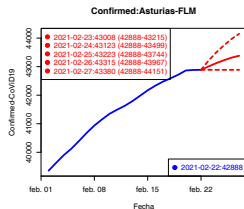


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Asturias

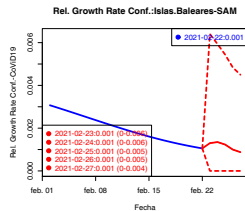
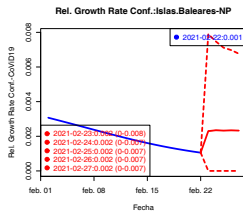
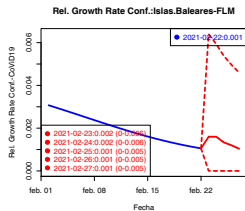
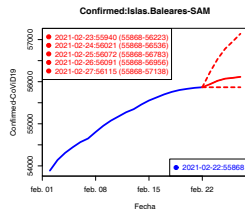
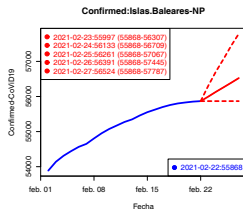
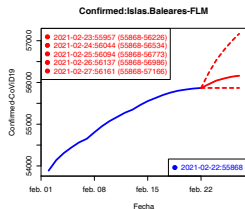


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Islas Baleares

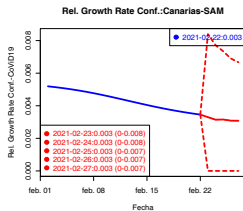
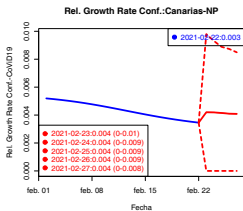
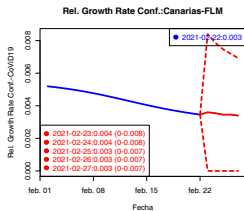
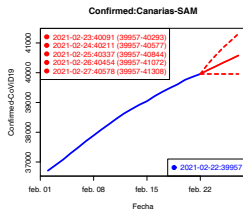
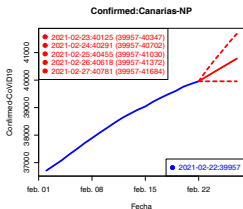
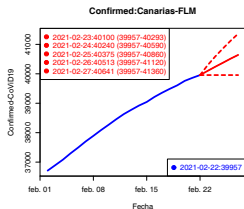


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Canarias

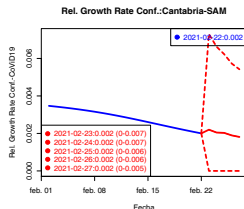
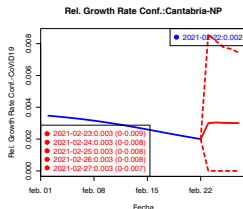
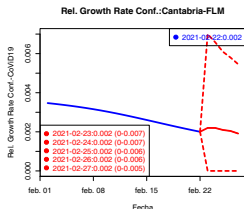
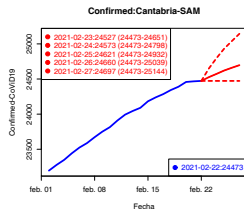
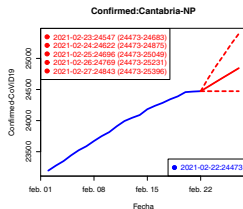
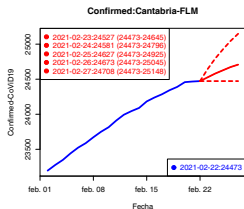


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Cantabria



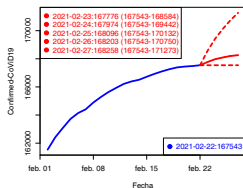
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

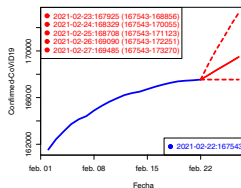
◀ Fallecidos

Confirmados: Castilla-La Mancha

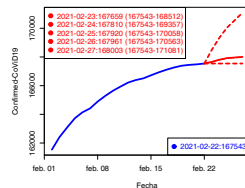
Confirmed:Castilla.La.Mancha-FLM



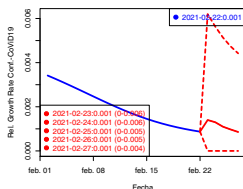
Confirmed:Castilla.La.Mancha-NP



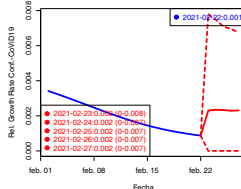
Confirmed:Castilla.La.Mancha-SAM



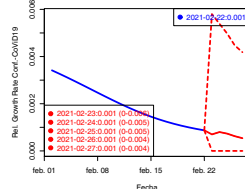
Rel. Growth Rate Conf.:Castilla.La.Mancha-FLM



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



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

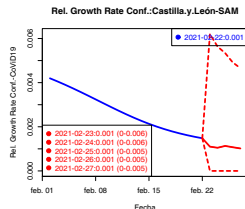
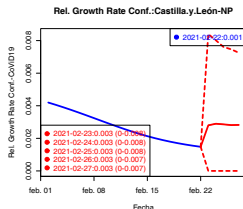
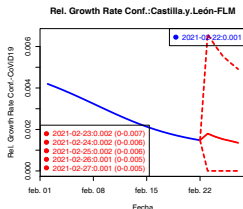
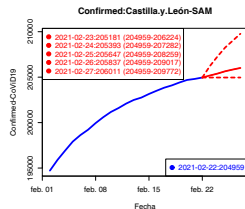
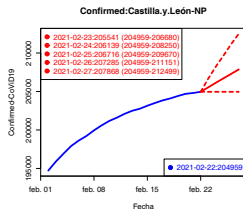
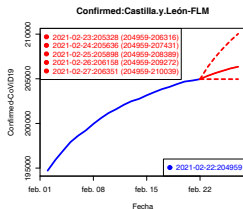


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Castilla y León



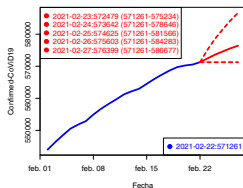
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

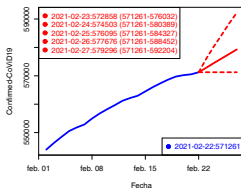
◀ Fallecidos

Confirmados: Cataluña

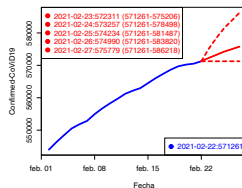
Confirmed:Cataluña-FLM



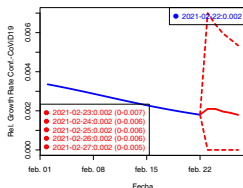
Confirmed:Cataluña-NP



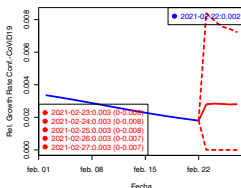
Confirmed:Cataluña-SAM



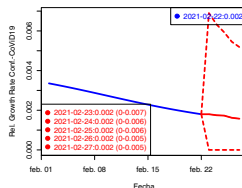
Rel. Growth Rate Conf.:Cataluña-FLM



Rel. Growth Rate Conf.:Cataluña-NP



Rel. Growth Rate Conf.:Cataluña-SAM

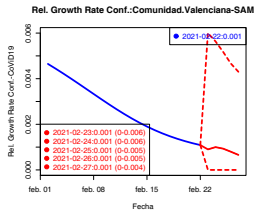
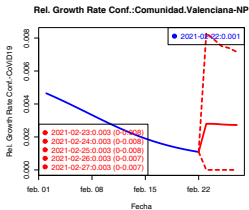
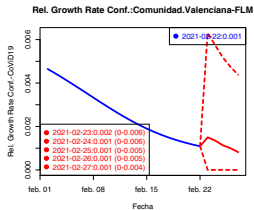
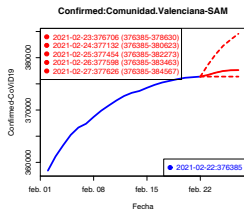
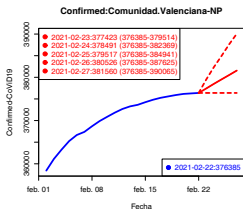
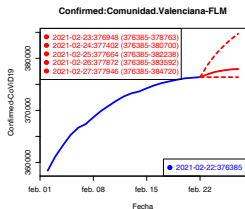


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: C. Valenciana



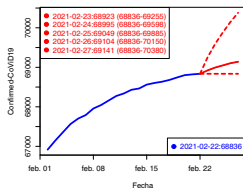
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

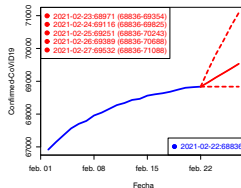
◀ Fallecidos

Confirmados: Extremadura

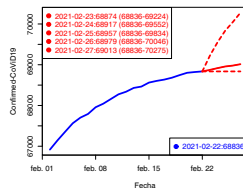
Confirmed:Extremadura-FLM



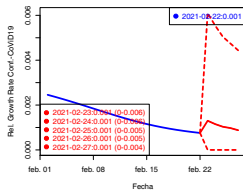
Confirmed:Extremadura-NP



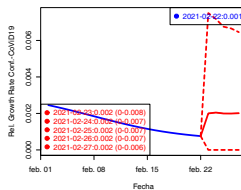
Confirmed:Extremadura-SAM



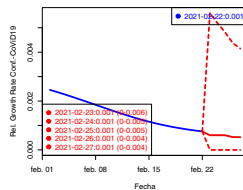
Rel. Growth Rate Conf.:Extremadura-FLM



Rel. Growth Rate Conf.:Extremadura-NP



Rel. Growth Rate Conf.:Extremadura-SAM



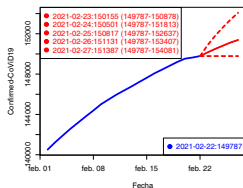
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

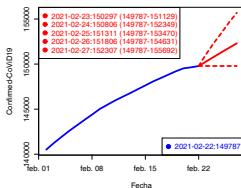
◀ Fallecidos

Confirmados: País Vasco

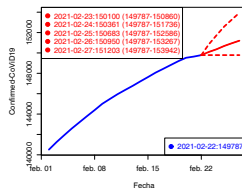
Confirmed:País.Vasco-FLM



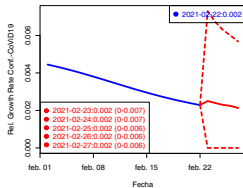
Confirmed:País.Vasco-NP



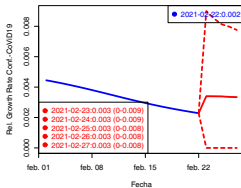
Confirmed:País.Vasco-SAM



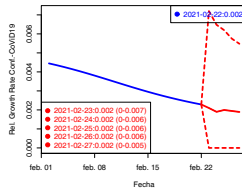
Rel. Growth Rate Conf.:País.Vasco-FLM



Rel. Growth Rate Conf.:País.Vasco-NP



Rel. Growth Rate Conf.:País.Vasco-SAM

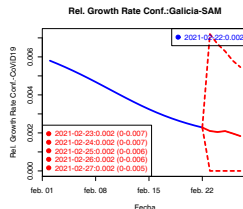
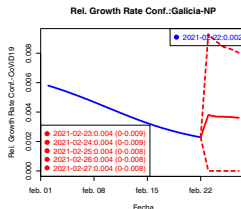
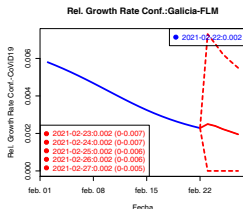
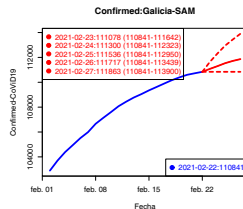
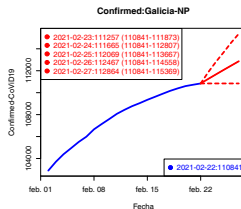
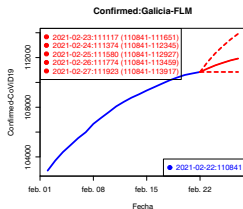


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Galicia

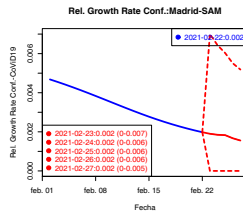
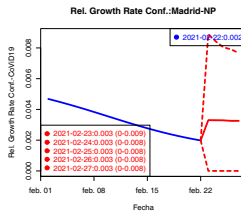
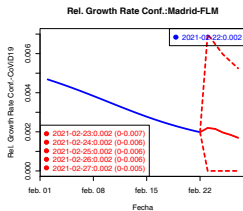
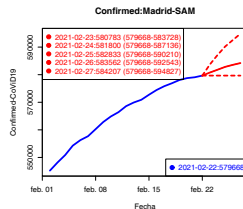
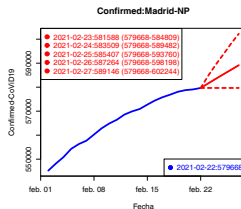
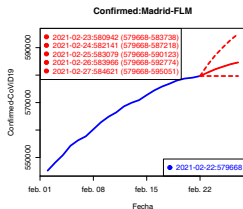


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Madrid

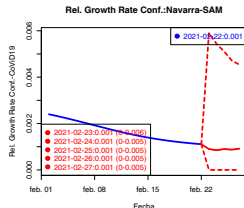
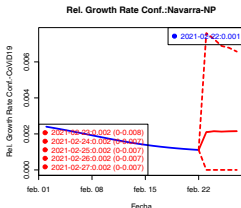
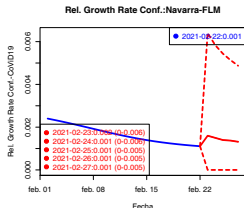
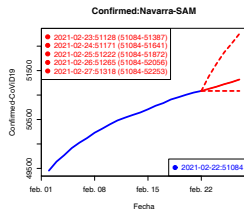
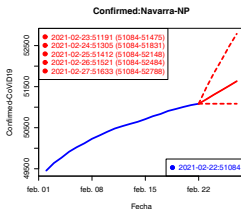
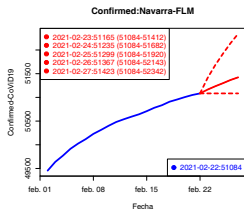


Los valores del Ratio de incremento de H2—H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Navarra



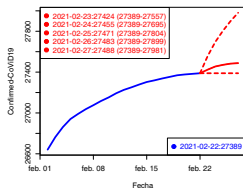
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

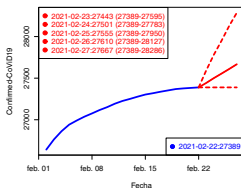
◀ Fallecidos

Confirmados: La Rioja

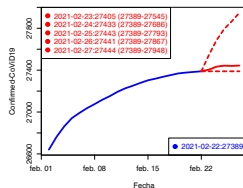
Confirmed:La.Rioja-FLM



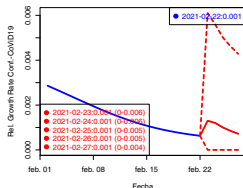
Confirmed:La.Rioja-NP



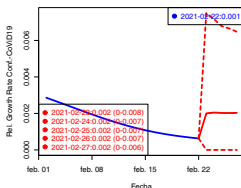
Confirmed:La.Rioja-SAM



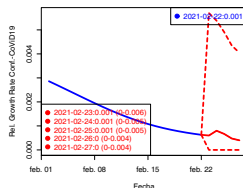
Rel. Growth Rate Conf.:La.Rioja-FLM



Rel. Growth Rate Conf.:La.Rioja-NP



Rel. Growth Rate Conf.:La.Rioja-SAM



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
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- 3 Panorama internacional

Modelos para fallecidos por CoViD-19

Último dato: 23/02/2021 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=23/02/2021

	Last	H1	H2	H3	H4	H5
España	68077	68210	68319	68425	68492	68529
Andalucía	8151	8178	8200	8216	8232	8243
Aragón	3215	3223	3230	3236	3241	3244
Asturias	1735	1741	1746	1752	1757	1762
Canarias	575	577	579	581	583	586
Cantabria	504	505	505	506	506	507
Castilla y León	6240	6250	6258	6266	6270	6272
Castilla-La Mancha	5539	5548	5555	5560	5562	5561
Cataluña	10238	10248	10255	10263	10265	10264
Ceuta	79	79	80	80	80	81
Comunidad Valenciana	6474	6494	6512	6524	6534	6538
Extremadura	1681	1683	1685	1686	1687	1687
Galicia	2173	2181	2188	2194	2198	2201
Islas Baleares	691	692	694	695	696	696
La Rioja	723	724	726	727	728	728
Madrid	13747	13763	13774	13791	13796	13797
Melilla	68	69	69	69	70	71
Murcia	1435	1439	1443	1447	1450	1453
Navarra	1091	1092	1093	1094	1094	1094
País Vasco	3718	3724	3730	3737	3740	3741

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

Tabla Previsión Fallecidos: Mod. No Paramétrico.

Last=23/02/2021

	Last	H1	H2	H3	H4	H5
España	68077	68332	68581	68861	69111	69369
Andalucía	8151	8198	8245	8293	8337	8382
Aragón	3215	3226	3238	3250	3261	3273
Asturias	1735	1742	1749	1757	1764	1771
Canarias	575	577	579	582	584	586
Cantabria	504	505	507	508	510	512
Castilla y León	6240	6261	6282	6306	6327	6349
Castilla-La Mancha	5539	5559	5578	5599	5618	5638
Cataluña	10238	10262	10285	10310	10334	10362
Ceuta	79	79	80	80	80	80
Comunidad Valenciana	6474	6512	6549	6588	6623	6659
Extremadura	1681	1688	1695	1702	1709	1716
Galicia	2173	2186	2199	2213	2225	2238
Islas Baleares	691	693	696	698	701	703
La Rioja	723	726	729	732	734	737
Madrid	13747	13785	13821	13861	13899	13940
Melilla	68	69	69	70	70	71
Murcia	1435	1444	1452	1461	1469	1478
Navarra	1091	1094	1097	1100	1103	1107
País Vasco	3718	3731	3743	3757	3769	3782

Cuadro: Previsión fallecidos: Mod. No Paramétrico - Horizonte 1 – 5 días.

Tabla Ratio Incr. Fallecidos: Mod. Lineal.

Last=23/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0020	0.0036	0.0051	0.0061	0.0066
Andalucía	0.0041	0.0033	0.0060	0.0080	0.0099	0.0113
Aragón	0.0025	0.0024	0.0045	0.0067	0.0081	0.0092
Asturias	0.0036	0.0033	0.0064	0.0100	0.0127	0.0153
Canarias	0.0040	0.0034	0.0066	0.0106	0.0142	0.0183
Cantabria	0.0015	0.0015	0.0027	0.0040	0.0048	0.0053
Castilla.y.León	0.0018	0.0016	0.0028	0.0041	0.0048	0.0051
Castilla.La.Mancha	0.0018	0.0016	0.0029	0.0038	0.0042	0.0040
Cataluña	0.0007	0.0010	0.0017	0.0025	0.0026	0.0025
Ceuta	0.0043	0.0054	0.0112	0.0151	0.0186	0.0220
Comunidad.Valenciana	0.0039	0.0031	0.0058	0.0078	0.0093	0.0100
Extremadura	0.0022	0.0014	0.0023	0.0028	0.0034	0.0036
Galicia	0.0044	0.0037	0.0070	0.0094	0.0116	0.0129
Islas.Baleares	0.0022	0.0020	0.0037	0.0054	0.0065	0.0073
La.Rioja	0.0025	0.0020	0.0036	0.0054	0.0065	0.0073
Madrid	0.0011	0.0011	0.0019	0.0032	0.0036	0.0036
Melilla	0.0105	0.0077	0.0145	0.0205	0.0291	0.0397
Murcia	0.0044	0.0031	0.0058	0.0086	0.0108	0.0124
Navarra	0.0012	0.0010	0.0017	0.0025	0.0029	0.0031
País.Vasco	0.0018	0.0017	0.0032	0.0050	0.0059	0.0062

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

Tabla Ratio Incr. Fallecidos: Mod. No Paramétrico.

Last=23/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0038	0.0074	0.0115	0.0152	0.0190
Andalucía	0.0041	0.0058	0.0115	0.0174	0.0228	0.0283
Aragón	0.0025	0.0036	0.0070	0.0109	0.0144	0.0181
Asturias	0.0036	0.0041	0.0082	0.0127	0.0167	0.0208
Canarias	0.0040	0.0039	0.0076	0.0119	0.0157	0.0196
Cantabria	0.0015	0.0029	0.0057	0.0088	0.0117	0.0149
Castilla y León	0.0018	0.0034	0.0068	0.0105	0.0139	0.0174
Castilla-La Mancha	0.0018	0.0035	0.0070	0.0108	0.0143	0.0179
Cataluña	0.0007	0.0023	0.0046	0.0071	0.0094	0.0121
Ceuta	0.0043	0.0036	0.0072	0.0112	0.0148	0.0186
Comunidad Valenciana	0.0039	0.0059	0.0117	0.0176	0.0231	0.0286
Extremadura	0.0022	0.0042	0.0082	0.0127	0.0168	0.0208
Galicia	0.0044	0.0061	0.0122	0.0183	0.0240	0.0298
Islas Baleares	0.0022	0.0035	0.0069	0.0107	0.0141	0.0177
La Rioja	0.0025	0.0039	0.0077	0.0120	0.0158	0.0197
Madrid	0.0011	0.0027	0.0054	0.0083	0.0110	0.0141
Melilla	0.0105	0.0089	0.0180	0.0271	0.0358	0.0446
Murcia	0.0044	0.0061	0.0121	0.0182	0.0239	0.0297
Navarra	0.0012	0.0028	0.0054	0.0084	0.0112	0.0143
País Vasco	0.0018	0.0034	0.0067	0.0104	0.0137	0.0173

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

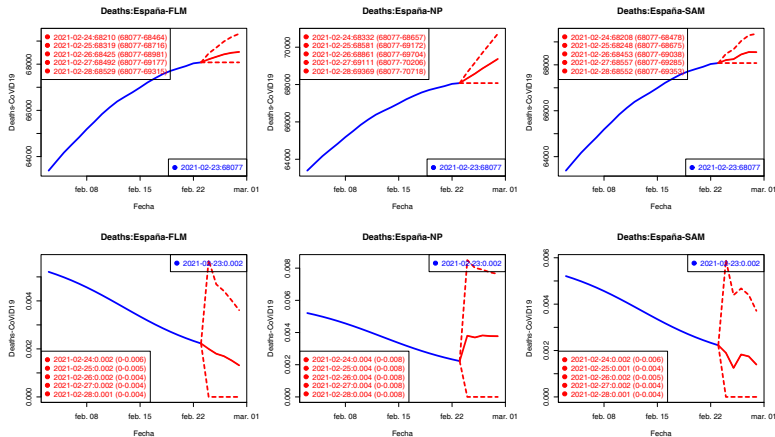
Tabla Ratio Incr. Fallecidos: Mod. Aditivo.

Last=23/02/2021

	Last	H1	H2	H3	H4	H5
España	0.0022	0.0019	0.0025	0.0055	0.0070	0.0070
Andalucía	0.0041	0.0040	0.0054	0.0083	0.0112	0.0131
Aragón	0.0025	0.0021	0.0036	0.0069	0.0084	0.0094
Asturias	0.0036	0.0032	0.0056	0.0119	0.0146	0.0160
Canarias	0.0040	0.0031	0.0059	0.0112	0.0148	0.0179
Cantabria	0.0015	0.0011	0.0018	0.0041	0.0049	0.0054
Castilla.y.León	0.0018	0.0014	0.0017	0.0042	0.0054	0.0051
Castilla.La.Mancha	0.0018	0.0018	0.0020	0.0037	0.0046	0.0044
Cataluña	0.0007	0.0008	0.0009	0.0021	0.0021	0.0021
Ceuta	0.0043	0.0038	0.0073	0.0096	0.0101	0.0159
Comunidad.Valenciana	0.0039	0.0042	0.0061	0.0089	0.0116	0.0133
Extremadura	0.0022	0.0022	0.0024	0.0032	0.0052	0.0057
Galicia	0.0044	0.0042	0.0065	0.0099	0.0131	0.0154
Islas.Baleares	0.0022	0.0021	0.0034	0.0061	0.0076	0.0082
La.Rioja	0.0025	0.0027	0.0038	0.0066	0.0086	0.0089
Madrid	0.0011	0.0007	0.0008	0.0038	0.0045	0.0037
Melilla	0.0105	0.0077	0.0145	0.0177	0.0278	0.0387
Murcia	0.0044	0.0044	0.0070	0.0101	0.0136	0.0165
Navarra	0.0012	0.0011	0.0012	0.0021	0.0027	0.0032
País.Vasco	0.0018	0.0014	0.0023	0.0060	0.0074	0.0069

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

Fallecidos: España

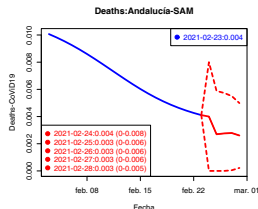
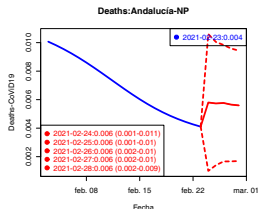
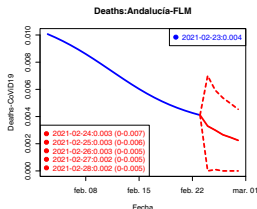
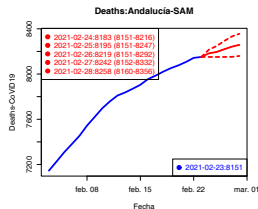
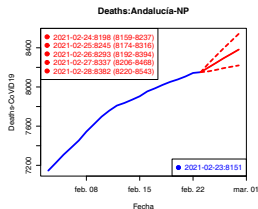
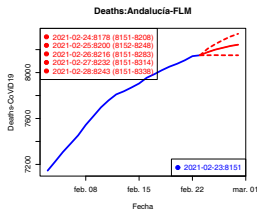


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Andalucía

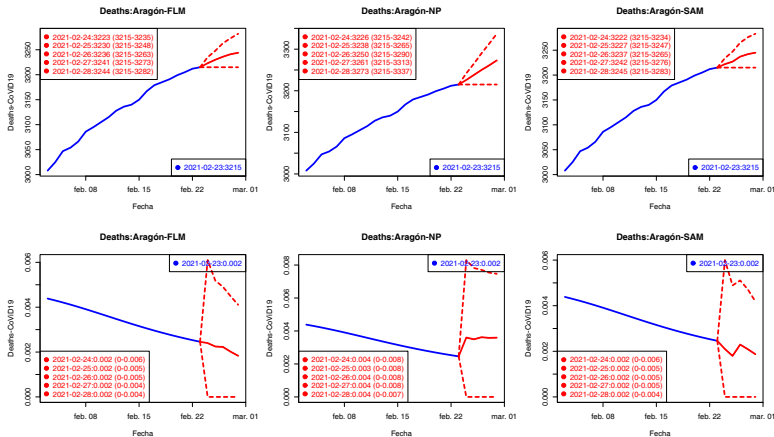


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Aragón

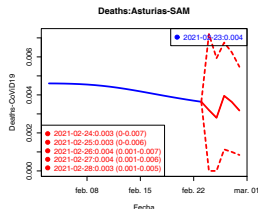
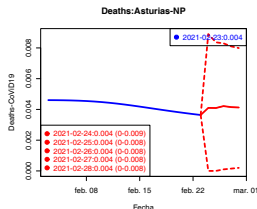
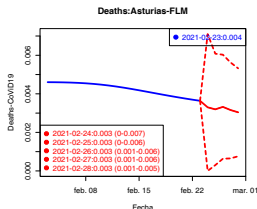
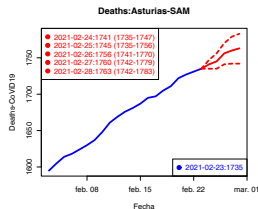
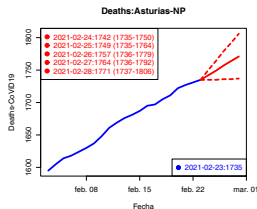
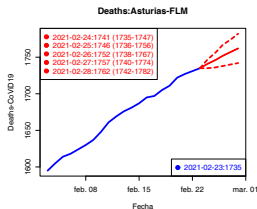


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Asturias

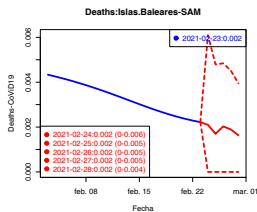
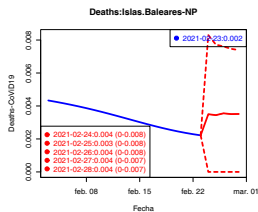
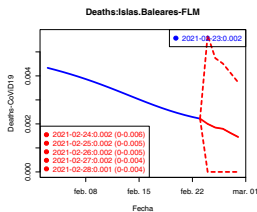
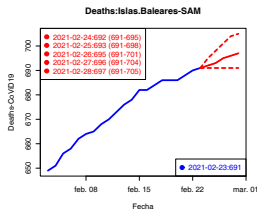
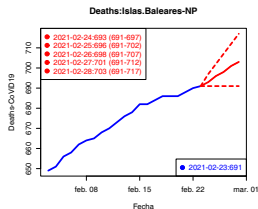
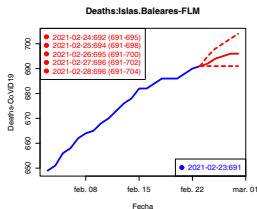


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Islas Baleares

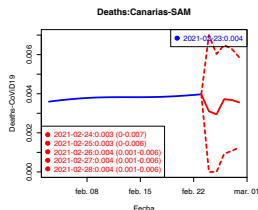
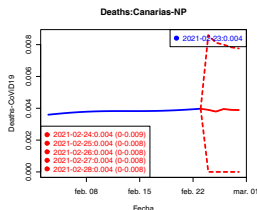
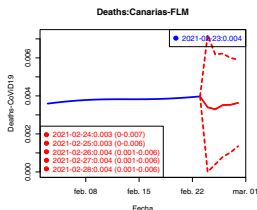
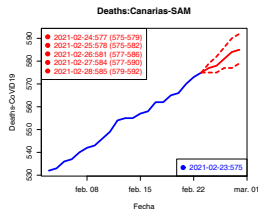
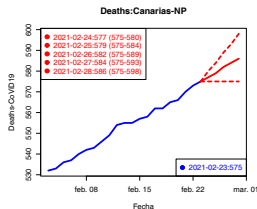
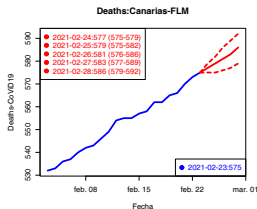


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Canarias

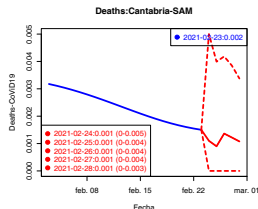
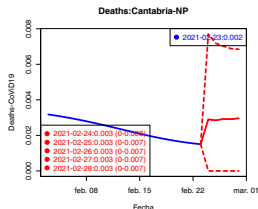
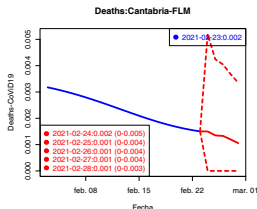
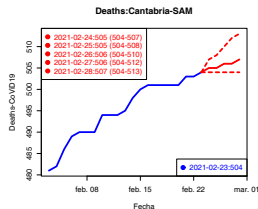
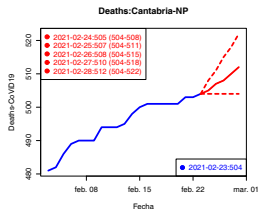
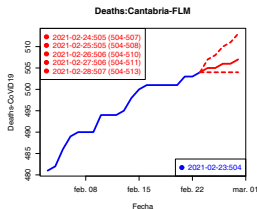


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Cantabria

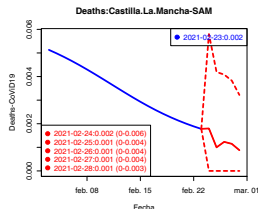
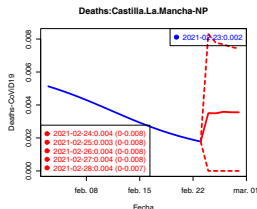
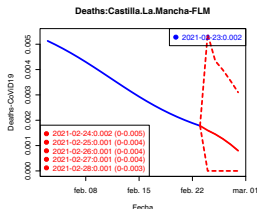
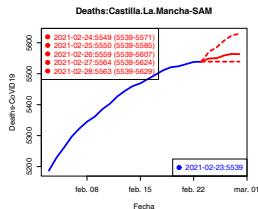
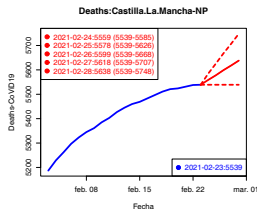
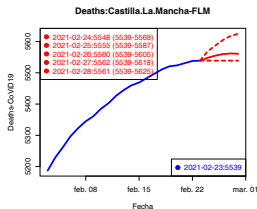


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla-La Mancha

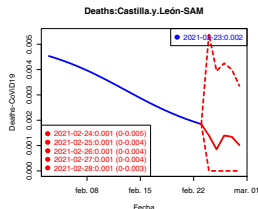
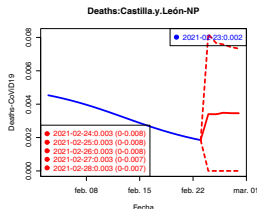
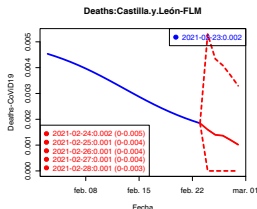
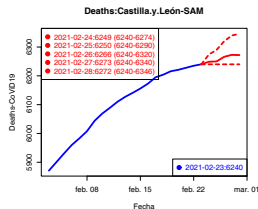
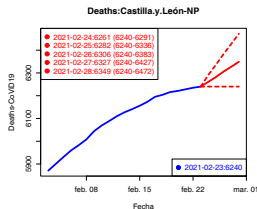
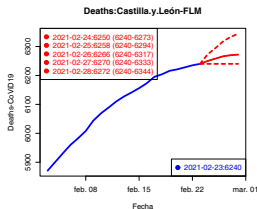


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla y León

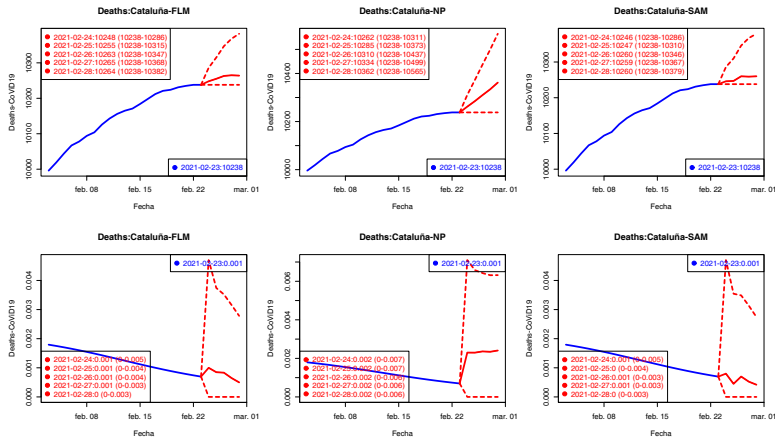


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Cataluña



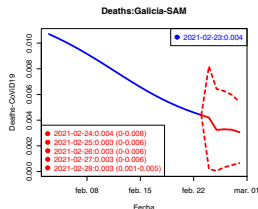
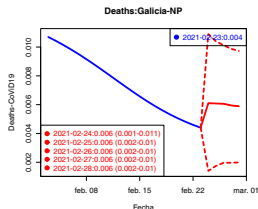
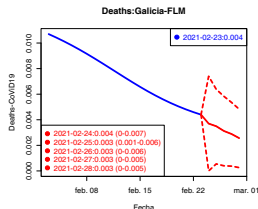
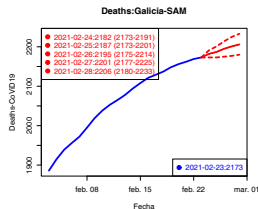
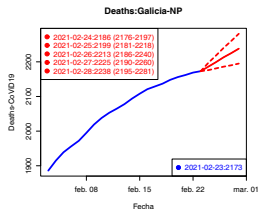
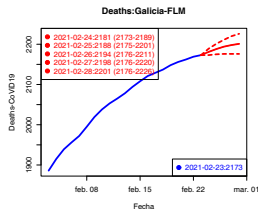
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

◀ Confirmados ▶ Fallecidos

Fallecidos: Galicia

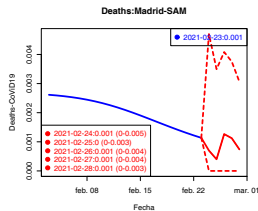
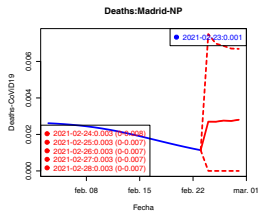
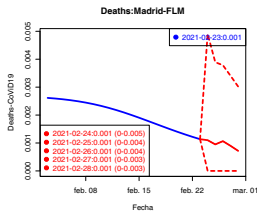
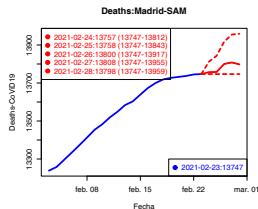
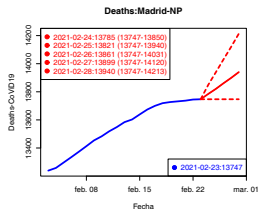
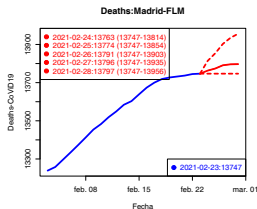


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

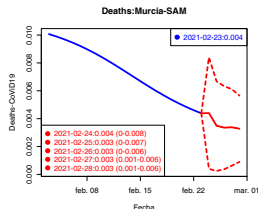
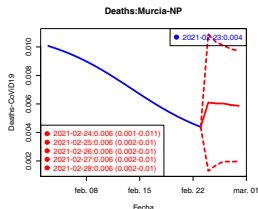
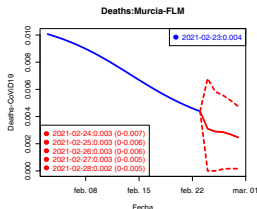
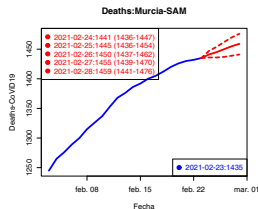
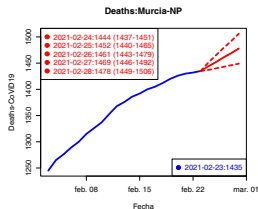
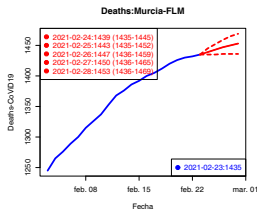
◀ Fallecidos

Fallecidos: Madrid



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

Fallecidos: Murcia

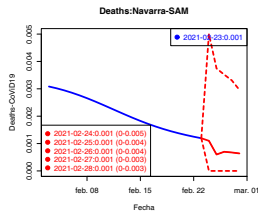
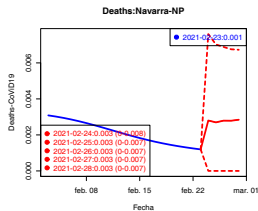
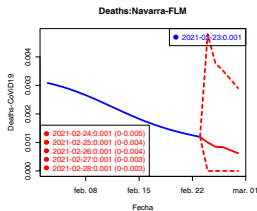
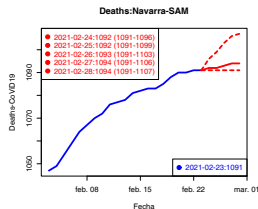
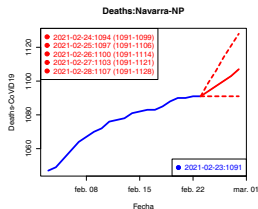
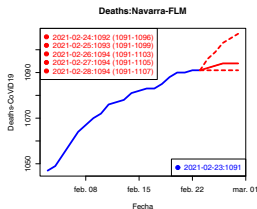


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Navarra

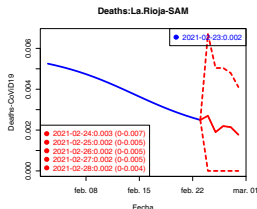
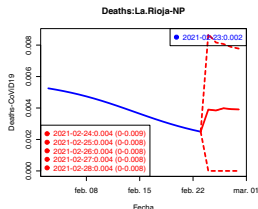
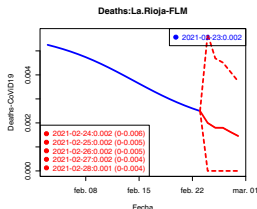
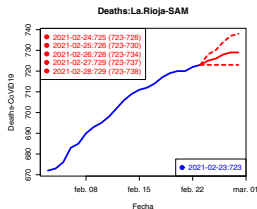
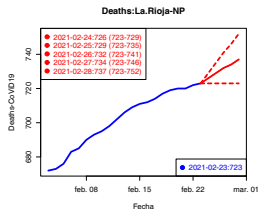
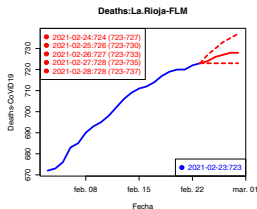


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: La Rioja



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

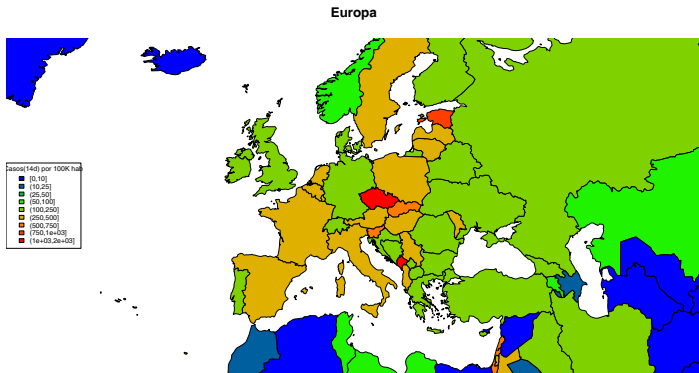
◀ Confirmados

◀ Fallecidos

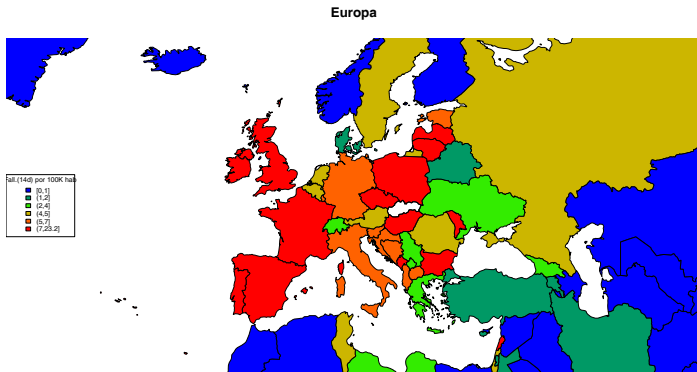
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Europa: Incidencia Acumulada (14d) por 100K hab.

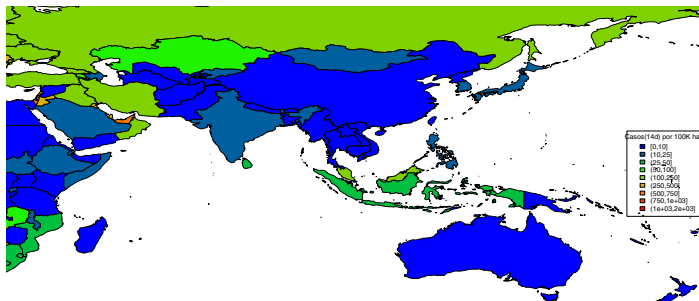


Europa: Fallecidos (14d) por 100K hab.



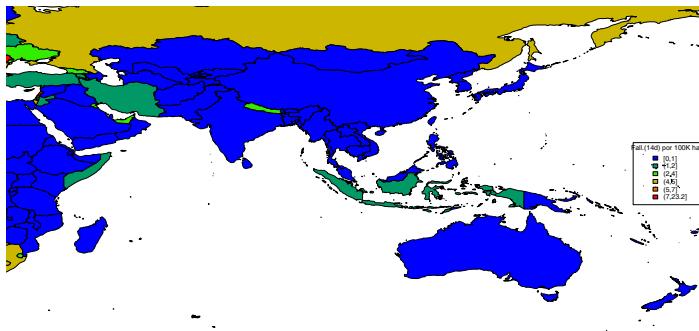
Asia y Oceanía: Incidencia acumulada (14d) por 100K hab.

Asia y Oceanía



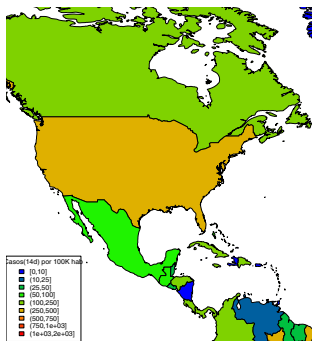
Asia y Oceanía: Fallecidos (14d) por 100K hab.

Asia y Oceanía

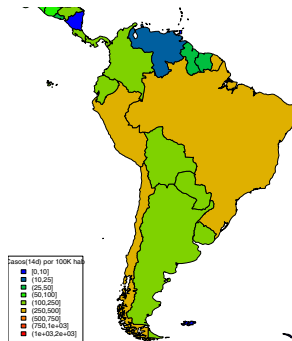


América: Incidencia acumulada (14d) por 100K hab.

América del Norte

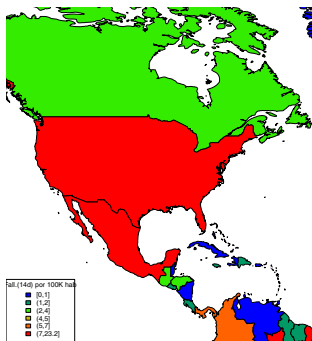


América del sur

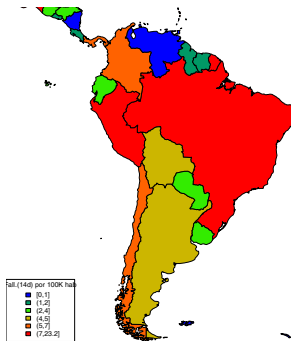


América: Fallecidos (14d) por 100K hab.

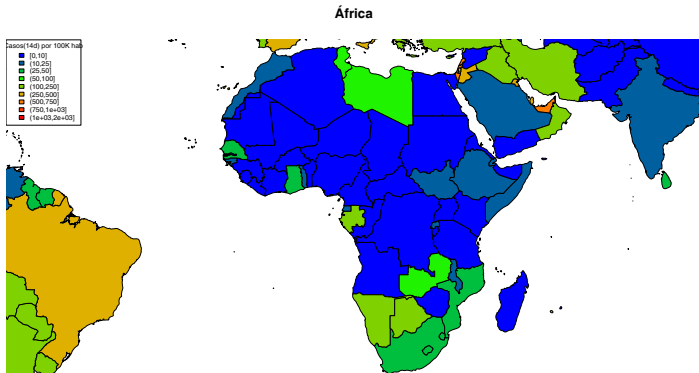
América del Norte



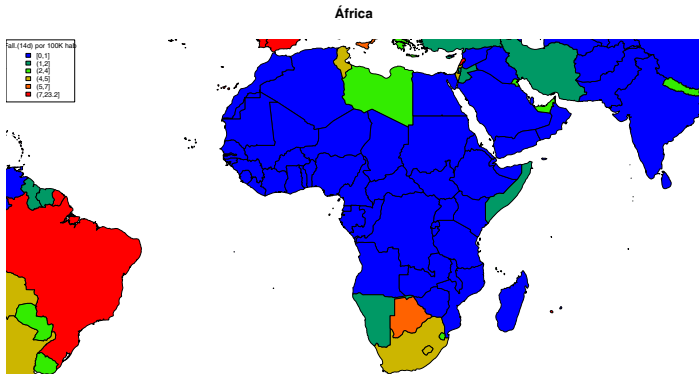
América del sur



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.