

Predicciones sobre CoViD-19

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DEPARTAMENTO DE ESTATÍSTICA,
ANÁLISE MATEMÁTICA E OPTIMIZACIÓN



- Predicciones

- Predicciones Fallecidos

3 Panorama internacional

► Mod Adivivo

	$10^2 \sigma_R^2$			$10^2 \sigma_R^2(\text{rob.})$			r^2		
Horiz	FLM	NP	SAM	FLM	NP	SAM	FLM	NP	SAM
H1	0.008	0.004	0.007	0.005	0.003	0.006	0.671	0.834	0.694
H2	0.041	0.021	0.039	0.016	0.009	0.018	0.63	0.828	0.649
H3	0.057	0.031	0.054	0.033	0.017	0.035	0.735	0.87	0.749
H4	0.08	0.046	0.075	0.052	0.026	0.053	0.783	0.888	0.796
H5	0.107	0.063	0.099	0.081	0.04	0.081	0.815	0.901	0.827

Tabla Previsión Confirmados: Mod. Aditivo.

Last=15/03/2021

	Last	IA14	IA7	H1	H2	H3	H4	H5
España	3200060	105	42	3202901	3206330	3210205	3212282	3214868
Andalucía	491570	100	42	492103	492744	493420	493791	494210
Aragón	108772	113	43	108846	108935	109048	109110	109194
Asturias	45474	132	47	45537	45600	45680	45695	45733
Canarias	43717	104	43	43870	44022	44176	44278	44392
Cantabria	25309	74	31	25335	25368	25403	25418	25436
Castilla.y.León	209136	91	38	209266	209440	209634	209778	209934
Castilla.La.Mancha	172972	60	20	173020	173104	173212	173279	173356
Cataluña	517374	132	49	517930	518571	519308	519565	519948
Ceuta	4858	186	86	4866	4871	4881	4886	4896
Comunidad.Valenciana	383411	34	11	383473	383612	383797	383971	384135
Extremadura	69811	56	36	69872	69961	70035	70127	70196
Galicia	114336	65	27	114438	114567	114706	114787	114873
Islas.Baleares	56788	39	13	56810	56844	56884	56908	56938
La.Rioja	27419	56	24	27428	27443	27461	27475	27492
Madrid	605533	175	70	606208	606946	607817	608289	608931
Melilla	7396	379	168	7419	7439	7462	7478	7498
Murcia	107672	59	23	107725	107801	107885	107955	108027
Navarra	52283	110	47	52332	52395	52459	52504	52552
País.Vasco	156229	146	64	156435	156670	156920	157072	157248

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

Tabla Ratio Incr. Confirmados: Mod. Lineal.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0009	0.0013	0.0028	0.0041	0.0051	0.0060
Andalucía	0.0010	0.0015	0.0032	0.0047	0.0058	0.0068
Aragón	0.0007	0.0012	0.0025	0.0037	0.0046	0.0053
Asturias	0.0015	0.0015	0.0033	0.0050	0.0062	0.0071
Canarias	0.0031	0.0031	0.0068	0.0102	0.0131	0.0158
Cantabria	0.0010	0.0014	0.0029	0.0044	0.0055	0.0063
Castilla.y.León	0.0006	0.0012	0.0024	0.0035	0.0044	0.0051
Castilla.La.Mancha	0.0003	0.0009	0.0018	0.0026	0.0031	0.0035
Cataluña	0.0010	0.0014	0.0031	0.0045	0.0056	0.0064
Ceuta	0.0021	0.0023	0.0045	0.0071	0.0094	0.0113
Comunidad.Valenciana	0.0002	0.0008	0.0016	0.0024	0.0028	0.0032
Extremadura	0.0007	0.0014	0.0029	0.0043	0.0055	0.0065
Galicia	0.0009	0.0014	0.0028	0.0042	0.0052	0.0060
Islas.Baleares	0.0004	0.0009	0.0020	0.0029	0.0035	0.0040
La.Rioja	0.0004	0.0009	0.0019	0.0029	0.0036	0.0041
Madrid	0.0011	0.0015	0.0031	0.0046	0.0058	0.0069
Melilla	0.0028	0.0029	0.0064	0.0096	0.0124	0.0151
Murcia	0.0005	0.0011	0.0022	0.0032	0.0040	0.0046
Navarra	0.0008	0.0014	0.0029	0.0042	0.0053	0.0063
País.Vasco	0.0013	0.0017	0.0035	0.0052	0.0066	0.0078

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

Tabla Ratio Incr. Confirmados: Mod. No Paramétrico.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0009	0.0014	0.0030	0.0046	0.0062	0.0080
Andalucía	0.0010	0.0015	0.0032	0.0048	0.0066	0.0084
Aragón	0.0007	0.0014	0.0028	0.0043	0.0059	0.0075
Asturias	0.0015	0.0025	0.0051	0.0080	0.0106	0.0133
Canarias	0.0031	0.0037	0.0075	0.0114	0.0151	0.0192
Cantabria	0.0010	0.0016	0.0032	0.0050	0.0068	0.0086
Castilla.y.León	0.0006	0.0012	0.0024	0.0038	0.0052	0.0066
Castilla.La.Mancha	0.0003	0.0011	0.0022	0.0033	0.0046	0.0058
Cataluña	0.0010	0.0018	0.0036	0.0056	0.0075	0.0096
Ceuta	0.0021	0.0029	0.0061	0.0094	0.0125	0.0157
Comunidad.Valenciana	0.0002	0.0010	0.0020	0.0031	0.0042	0.0054
Extremadura	0.0007	0.0011	0.0022	0.0033	0.0046	0.0059
Galicia	0.0009	0.0015	0.0030	0.0046	0.0063	0.0080
Islas.Baleares	0.0004	0.0011	0.0022	0.0034	0.0046	0.0059
La.Rioja	0.0004	0.0010	0.0021	0.0033	0.0045	0.0057
Madrid	0.0011	0.0017	0.0034	0.0053	0.0072	0.0092
Melilla	0.0028	0.0032	0.0067	0.0102	0.0136	0.0172
Murcia	0.0005	0.0011	0.0022	0.0034	0.0047	0.0060
Navarra	0.0008	0.0013	0.0027	0.0041	0.0057	0.0072
País.Vasco	0.0013	0.0017	0.0036	0.0055	0.0075	0.0095

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

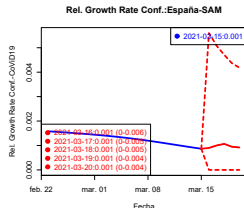
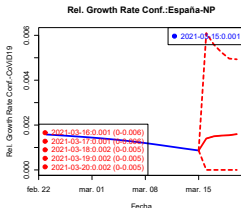
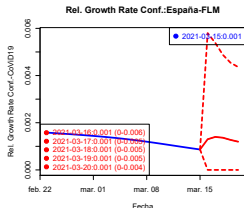
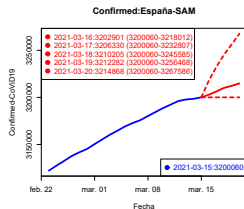
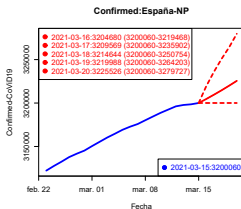
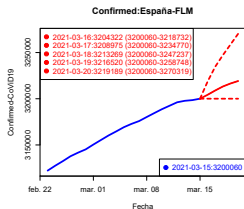
Tabla Ratio Incr. Confirmados: Mod. Aditivo.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0009	0.0009	0.0020	0.0032	0.0038	0.0046
Andalucía	0.0010	0.0011	0.0024	0.0038	0.0045	0.0054
Aragón	0.0007	0.0007	0.0015	0.0025	0.0031	0.0039
Asturias	0.0015	0.0014	0.0028	0.0045	0.0049	0.0057
Canarias	0.0031	0.0035	0.0070	0.0105	0.0128	0.0154
Cantabria	0.0010	0.0010	0.0023	0.0037	0.0043	0.0050
Castilla.y.León	0.0006	0.0006	0.0015	0.0024	0.0031	0.0038
Castilla.La.Mancha	0.0003	0.0003	0.0008	0.0014	0.0018	0.0022
Cataluña	0.0010	0.0011	0.0023	0.0037	0.0042	0.0050
Ceuta	0.0021	0.0016	0.0026	0.0047	0.0059	0.0079
Comunidad.Valenciana	0.0002	0.0002	0.0005	0.0010	0.0015	0.0019
Extremadura	0.0007	0.0009	0.0022	0.0032	0.0045	0.0055
Galicia	0.0009	0.0009	0.0020	0.0032	0.0039	0.0047
Islas.Baleares	0.0004	0.0004	0.0010	0.0017	0.0021	0.0026
La.Rioja	0.0004	0.0003	0.0009	0.0015	0.0020	0.0027
Madrid	0.0011	0.0011	0.0023	0.0038	0.0046	0.0056
Melilla	0.0028	0.0031	0.0059	0.0089	0.0111	0.0138
Murcia	0.0005	0.0005	0.0012	0.0020	0.0026	0.0033
Navarra	0.0008	0.0009	0.0021	0.0034	0.0042	0.0052
País.Vasco	0.0013	0.0013	0.0028	0.0044	0.0054	0.0065

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

Confirmados: España

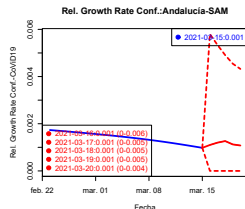
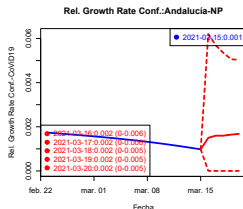
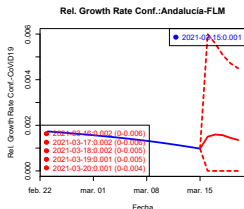
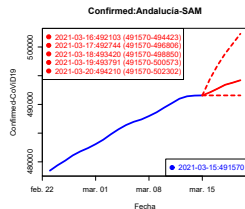
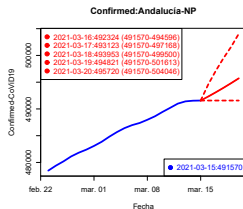
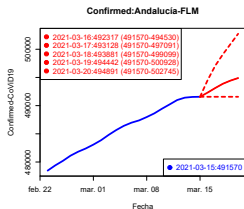


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Andalucía

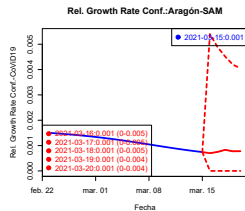
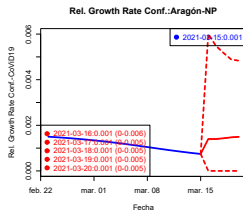
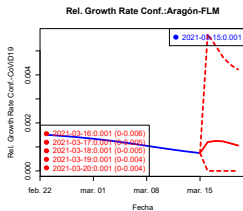
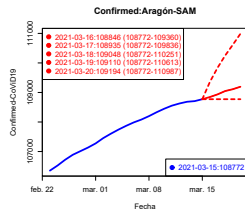
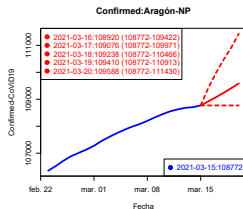
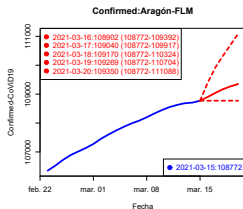


Los valores del Ratio de incremento de H2—H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Aragón

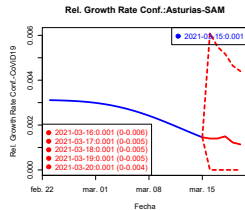
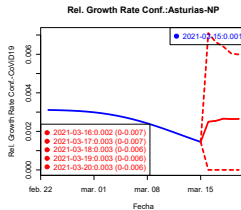
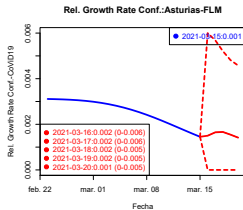
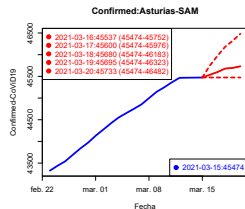
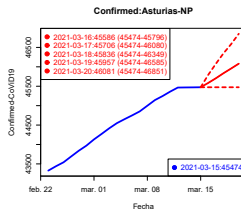
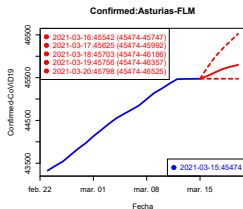


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Confirmados: Asturias



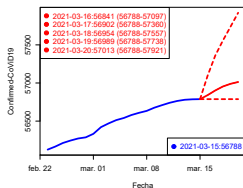
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

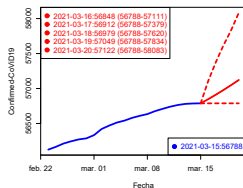
◀ Fallecidos

Confirmados: Islas Baleares

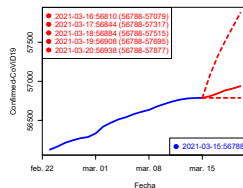
Confirmed:Islas.Baleares-FLM



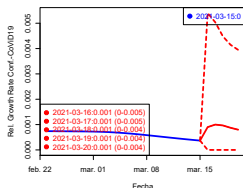
Confirmed:Islas.Baleares-NP



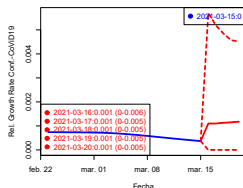
Confirmed:Islas.Baleares-SAM



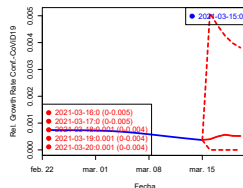
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Rel. Growth Rate Conf.:Islas.Baleares-NP



Rel. Growth Rate Conf.:Islas.Baleares-SAM

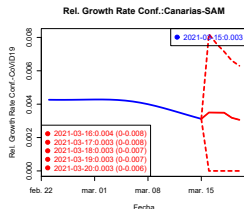
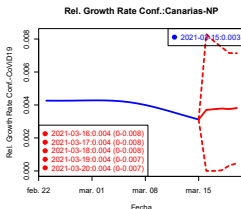
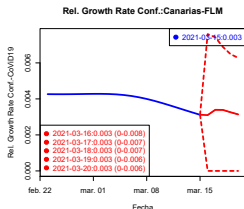
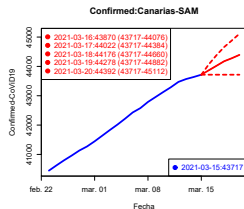
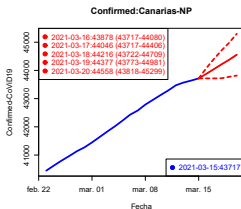
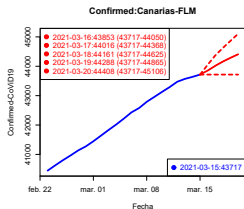


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Canarias

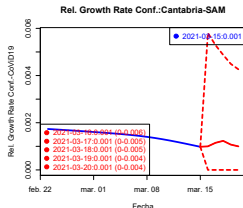
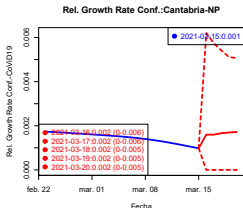
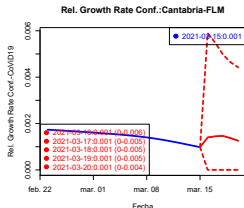
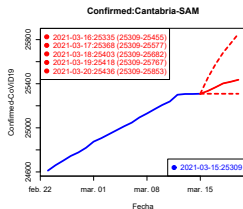
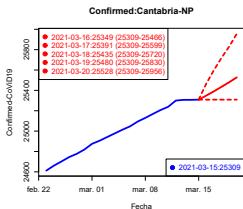
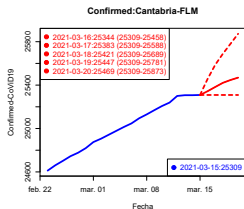


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Confirmados: Cantabria



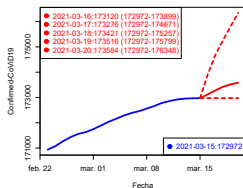
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

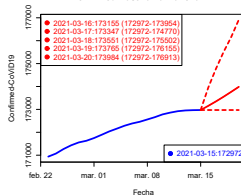
← Fallecidos

Confirmados: Castilla-La Mancha

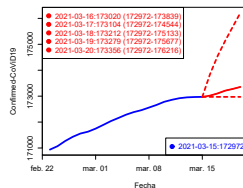
Confirmed:Castilla.La.Mancha-FLM



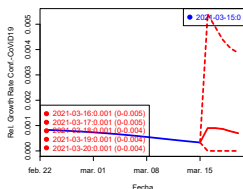
Confirmed:Castilla.La.Mancha-NP



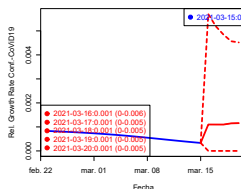
Confirmed:Castilla.La.Mancha-SAM



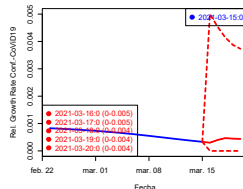
Rel. Growth Rate Conf.:Castilla.La.Mancha-FLM



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



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

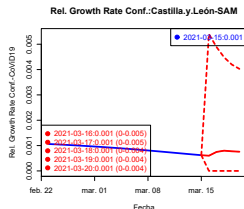
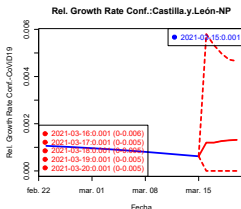
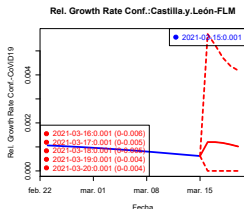
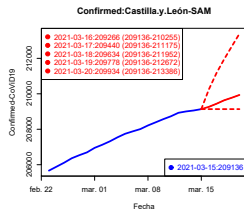
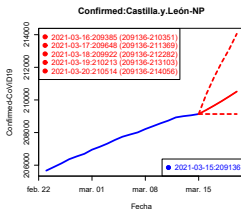
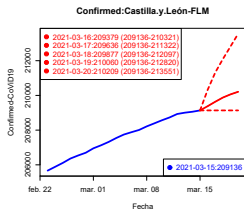


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Castilla y León

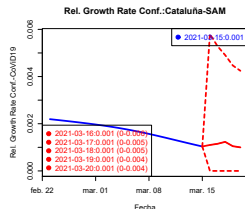
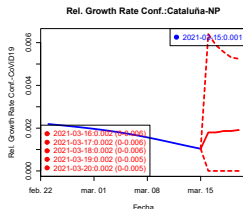
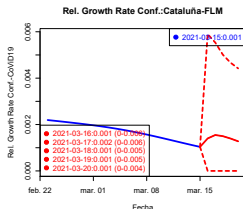
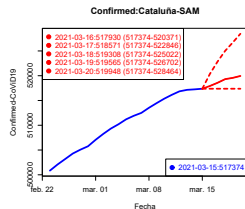
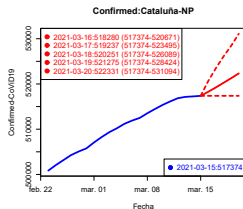
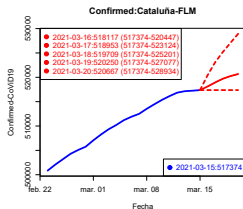


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

← Confirmados

← Fallecidos

Confirmados: Cataluña



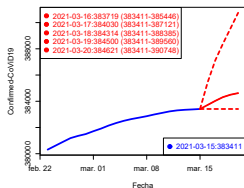
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

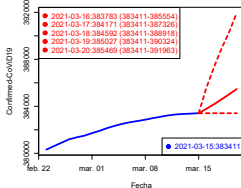
◀ Fallecidos

Confirmados: C. Valenciana

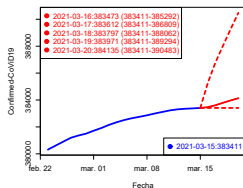
Confirmed:Comunidad.Valenciana-FLM



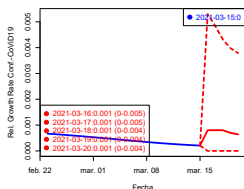
Confirmed:Comunidad.Valenciana-NP



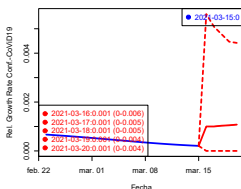
Confirmed:Comunidad.Valenciana-SAM



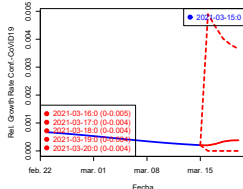
Rel. Growth Rate Conf.:Comunidad.Valenciana-FLM



Rel. Growth Rate Conf.:Comunidad.Valenciana-NP



Rel. Growth Rate Conf.:Comunidad.Valenciana-SAM



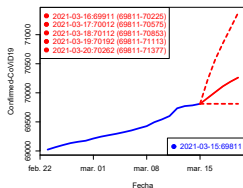
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

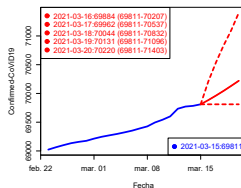
◀ Fallecidos

Confirmados: Extremadura

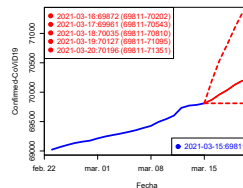
Confirmed:Extremadura-FLM



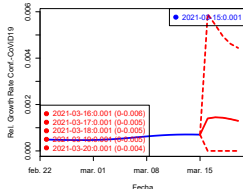
Confirmed:Extremadura-NP



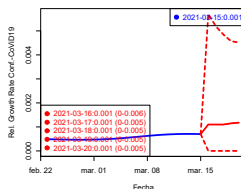
Confirmed:Extremadura-SAM



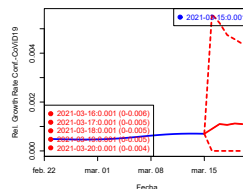
Rel. Growth Rate Conf.:Extremadura-FLM



Rel. Growth Rate Conf.:Extremadura-NP



Rel. Growth Rate Conf.:Extremadura-SAM

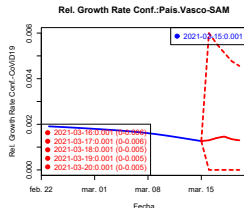
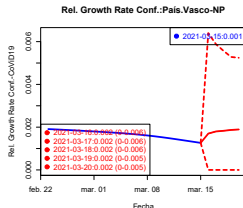
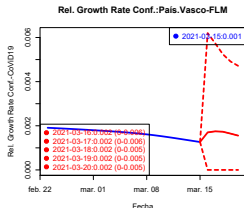
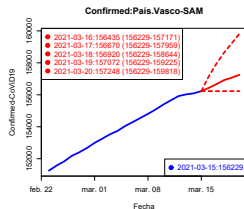
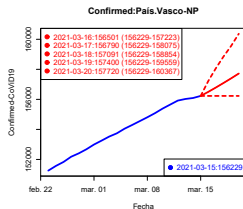
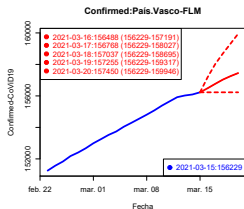


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: País Vasco

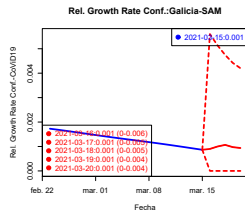
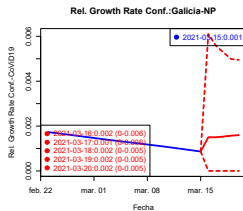
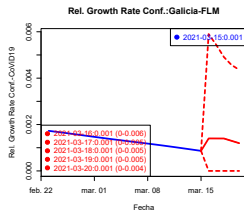
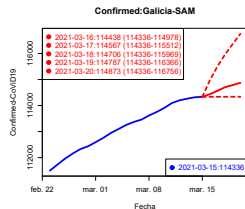
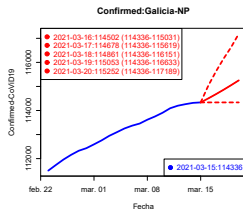
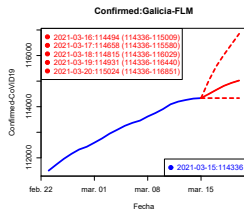


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Galicia

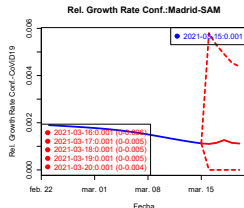
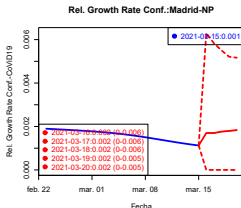
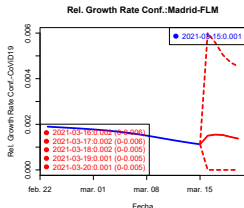
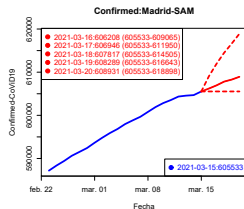
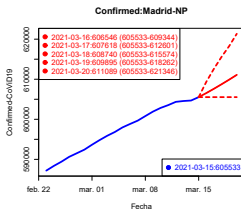
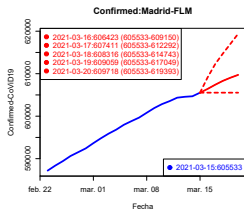


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Madrid

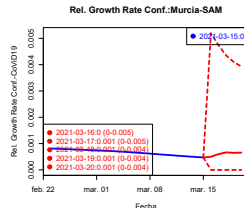
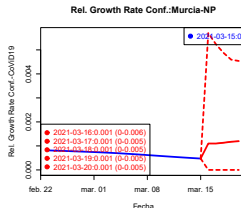
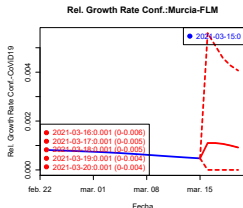
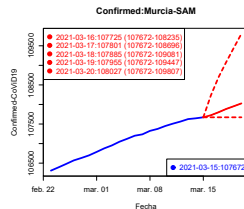
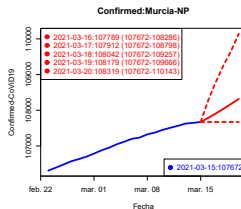
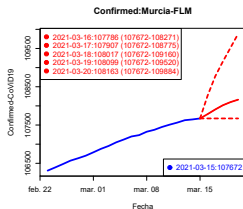


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Murcia

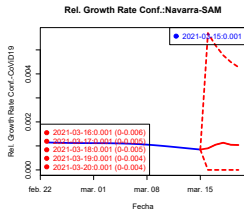
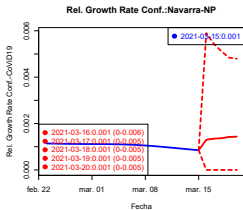
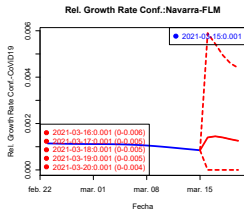
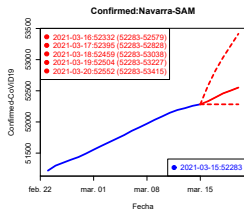
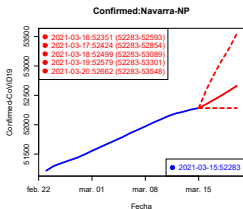
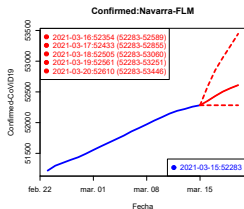


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Confirmados: Navarra

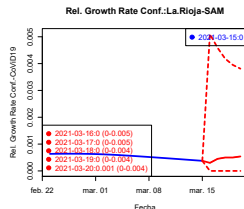
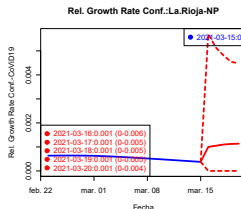
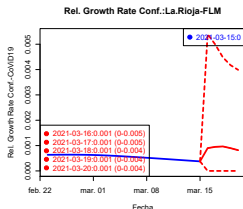
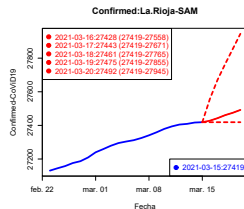
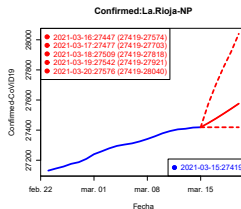
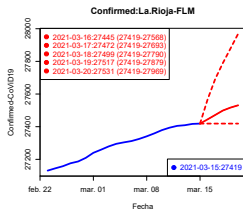


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ 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
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- 3 Panorama internacional

Modelos para fallecidos por CoViD-19

Último dato: 15/03/2021 Fuente: https://cnecovid.isciii.es/covid19/resources/casos_hosp_uci_def_sexo_edad_provres.csv

Predicciones:

▶ España

▶ Andalucía

▶ Aragón

▶ Asturias

▶ I. Baleares

▶ Canarias

▶ Cantabria

▶ Castilla-La Mancha

▶ Castilla y León

▶ Cataluña

▶ 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	0.002	0.002	0.002	0.002	0.002	0.002	0.71	0.689	0.746
H2	0.005	0.006	0.004	0.004	0.005	0.004	0.825	0.797	0.853
H3	0.007	0.009	0.006	0.007	0.009	0.006	0.878	0.849	0.897
H4	0.028	0.031	0.027	0.011	0.014	0.01	0.778	0.753	0.787
H5	0.04	0.045	0.038	0.015	0.022	0.014	0.797	0.775	0.808

Tabla Previsión Fallecidos: Mod. Lineal.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	72167	72240	72295	72321	72366	72364
Andalucía	8815	8826	8835	8841	8847	8849
Aragón	3319	3322	3325	3326	3328	3328
Asturias	1819	1821	1823	1824	1826	1827
Canarias	625	627	629	631	634	635
Cantabria	530	531	532	533	533	534
Castilla y León	6476	6483	6488	6491	6496	6496
Castilla-La Mancha	5678	5681	5683	5683	5685	5684
Cataluña	11433	11442	11448	11448	11452	11449
Ceuta	87	87	87	87	87	87
Comunidad Valenciana	6944	6951	6956	6957	6960	6956
Extremadura	1728	1729	1730	1731	1731	1731
Galicia	2279	2283	2286	2288	2290	2291
Islas Baleares	739	739	740	740	740	740
La Rioja	737	738	739	739	740	741
Madrid	14388	14403	14416	14424	14435	14437
Melilla	76	77	77	77	78	78
Murcia	1541	1542	1543	1543	1543	1543
Navarra	1111	1112	1113	1113	1114	1115
País Vasco	3842	3844	3845	3844	3845	3843

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

Tabla Previsión Fallecidos: Mod. No Paramétrico.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	72167	72312	72451	72586	72725	72910
Andalucía	8815	8841	8866	8890	8917	8944
Aragón	3319	3326	3332	3339	3346	3354
Asturias	1819	1824	1828	1833	1837	1843
Canarias	625	627	630	632	635	637
Cantabria	530	531	533	534	535	537
Castilla.y.León	6476	6489	6501	6513	6526	6542
Castilla.La.Mancha	5678	5687	5696	5705	5714	5727
Cataluña	11433	11451	11468	11484	11501	11527
Ceuta	87	87	88	88	88	89
Comunidad.Valenciana	6944	6958	6971	6983	6996	7014
Extremadura	1728	1731	1734	1736	1739	1743
Galicia	2279	2285	2291	2296	2302	2309
Islas.Baleares	739	740	741	743	744	746
La.Rioja	737	738	739	741	742	744
Madrid	14388	14415	14442	14467	14494	14530
Melilla	76	76	77	77	77	78
Murcia	1541	1545	1549	1552	1556	1560
Navarra	1111	1113	1114	1116	1118	1120
País.Vasco	3842	3849	3856	3863	3870	3880

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

Tabla Previsión Fallecidos: Mod. Aditivo.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	72167	72232	72301	72356	72352	72513
Andalucía	8815	8829	8844	8852	8857	8877
Aragón	3319	3322	3325	3327	3328	3336
Asturias	1819	1821	1823	1824	1826	1828
Canarias	625	627	630	632	634	635
Cantabria	530	531	532	533	534	535
Castilla.y.León	6476	6483	6489	6495	6493	6511
Castilla.La.Mancha	5678	5681	5683	5685	5682	5698
Cataluña	11433	11436	11440	11441	11438	11451
Ceuta	87	87	87	87	87	87
Comunidad.Valenciana	6944	6951	6957	6962	6956	6978
Extremadura	1728	1729	1731	1732	1730	1736
Galicia	2279	2283	2286	2289	2290	2296
Islas.Baleares	739	739	740	740	740	742
La.Rioja	737	738	738	739	739	741
Madrid	14388	14401	14414	14427	14430	14456
Melilla	76	76	77	77	77	77
Murcia	1541	1543	1544	1545	1545	1549
Navarra	1111	1112	1112	1113	1113	1116
País.Vasco	3842	3844	3846	3846	3845	3850

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

Tabla Ratio Incr. Fallecidos: Mod. Lineal.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0008	0.0010	0.0018	0.0021	0.0028	0.0027
Andalucía	0.0015	0.0013	0.0023	0.0029	0.0036	0.0038
Aragón	0.0009	0.0010	0.0017	0.0021	0.0028	0.0029
Asturias	0.0015	0.0013	0.0022	0.0029	0.0038	0.0045
Canarias	0.0035	0.0036	0.0071	0.0102	0.0136	0.0166
Cantabria	0.0016	0.0018	0.0037	0.0049	0.0064	0.0071
Castilla.y.León	0.0009	0.0011	0.0019	0.0023	0.0031	0.0031
Castilla.La.Mancha	0.0004	0.0006	0.0009	0.0009	0.0013	0.0010
Cataluña	0.0003	0.0008	0.0013	0.0013	0.0017	0.0014
Ceuta	0.0017	0.0004	0.0006	0.0010	0.0015	0.0020
Comunidad.Valenciana	0.0007	0.0010	0.0017	0.0019	0.0023	0.0017
Extremadura	0.0005	0.0009	0.0014	0.0016	0.0020	0.0016
Galicia	0.0017	0.0016	0.0029	0.0038	0.0049	0.0054
Islas.Baleares	0.0005	0.0005	0.0009	0.0010	0.0015	0.0016
La.Rioja	0.0011	0.0013	0.0023	0.0032	0.0046	0.0054
Madrid	0.0008	0.0011	0.0020	0.0025	0.0033	0.0034
Melilla	0.0049	0.0069	0.0127	0.0174	0.0213	0.0215
Murcia	0.0009	0.0007	0.0011	0.0012	0.0015	0.0011
Navarra	0.0007	0.0009	0.0017	0.0021	0.0030	0.0034
País.Vasco	0.0004	0.0006	0.0008	0.0006	0.0007	0.0002

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

Tabla Ratio Incr. Fallecidos: Mod. No Paramétrico.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0008	0.0020	0.0039	0.0058	0.0077	0.0103
Andalucía	0.0015	0.0029	0.0058	0.0086	0.0116	0.0147
Aragón	0.0009	0.0021	0.0041	0.0060	0.0080	0.0106
Asturias	0.0015	0.0026	0.0051	0.0075	0.0102	0.0131
Canarias	0.0035	0.0037	0.0076	0.0112	0.0154	0.0191
Cantabria	0.0016	0.0026	0.0052	0.0077	0.0103	0.0133
Castilla y León	0.0009	0.0020	0.0039	0.0058	0.0077	0.0103
Castilla-La Mancha	0.0004	0.0017	0.0033	0.0048	0.0063	0.0087
Cataluña	0.0003	0.0015	0.0031	0.0045	0.0059	0.0082
Ceuta	0.0017	0.0038	0.0076	0.0113	0.0154	0.0191
Comunidad Valenciana	0.0007	0.0020	0.0039	0.0057	0.0076	0.0101
Extremadura	0.0005	0.0017	0.0033	0.0049	0.0065	0.0089
Galicia	0.0017	0.0026	0.0051	0.0076	0.0102	0.0131
Islas Baleares	0.0005	0.0017	0.0033	0.0049	0.0065	0.0089
La Rioja	0.0011	0.0017	0.0034	0.0050	0.0066	0.0090
Madrid	0.0008	0.0019	0.0037	0.0055	0.0073	0.0098
Melilla	0.0049	0.0046	0.0093	0.0139	0.0189	0.0233
Murcia	0.0009	0.0025	0.0049	0.0072	0.0097	0.0125
Navarra	0.0007	0.0016	0.0031	0.0046	0.0060	0.0083
País Vasco	0.0004	0.0019	0.0037	0.0055	0.0073	0.0098

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

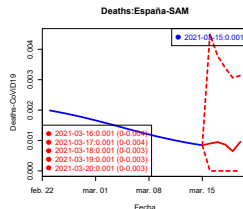
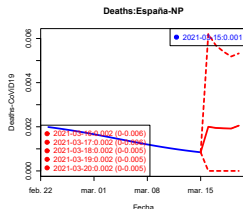
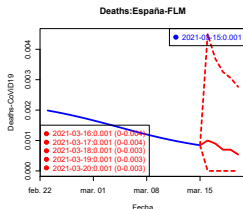
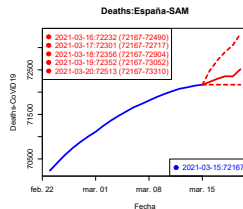
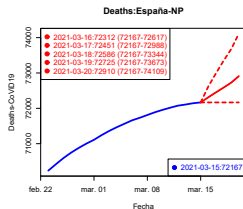
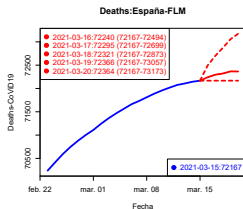
Tabla Ratio Incr. Fallecidos: Mod. Aditivo.

Last=15/03/2021

	Last	H1	H2	H3	H4	H5
España	0.0008	0.0009	0.0019	0.0026	0.0026	0.0048
Andalucía	0.0015	0.0016	0.0032	0.0042	0.0047	0.0070
Aragón	0.0009	0.0009	0.0018	0.0025	0.0026	0.0051
Asturias	0.0015	0.0009	0.0023	0.0027	0.0040	0.0048
Canarias	0.0035	0.0035	0.0074	0.0112	0.0146	0.0166
Cantabria	0.0016	0.0021	0.0043	0.0066	0.0079	0.0103
Castilla.y.León	0.0009	0.0010	0.0020	0.0029	0.0026	0.0055
Castilla.La.Mancha	0.0004	0.0005	0.0008	0.0012	0.0007	0.0035
Cataluña	0.0003	0.0002	0.0006	0.0007	0.0005	0.0016
Ceuta	0.0017	0.0000	0.0000	0.0001	0.0027	0.0043
Comunidad.Valenciana	0.0007	0.0010	0.0019	0.0026	0.0018	0.0049
Extremadura	0.0005	0.0008	0.0015	0.0024	0.0013	0.0044
Galicia	0.0017	0.0015	0.0032	0.0043	0.0047	0.0073
Islas.Baleares	0.0005	0.0005	0.0009	0.0015	0.0012	0.0043
La.Rioja	0.0011	0.0010	0.0016	0.0021	0.0026	0.0056
Madrid	0.0008	0.0009	0.0018	0.0027	0.0029	0.0048
Melilla	0.0049	0.0055	0.0110	0.0146	0.0139	0.0147
Murcia	0.0009	0.0011	0.0021	0.0025	0.0023	0.0052
Navarra	0.0007	0.0006	0.0011	0.0016	0.0018	0.0041
País.Vasco	0.0004	0.0005	0.0010	0.0010	0.0007	0.0020

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

Fallecidos: España

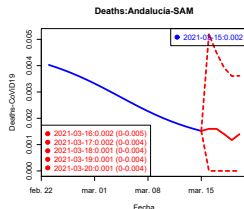
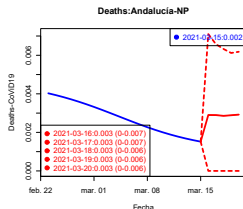
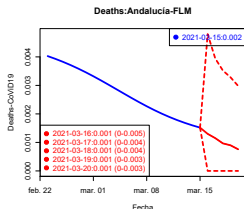
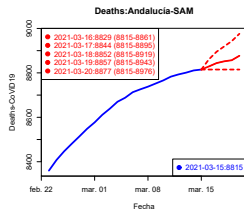
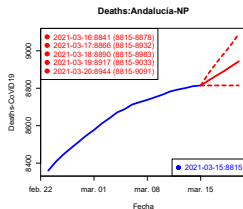
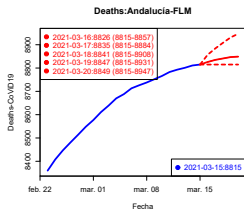


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Andalucía

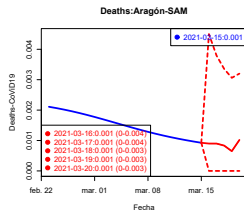
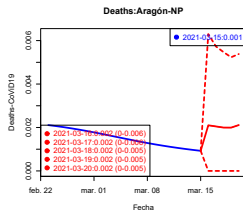
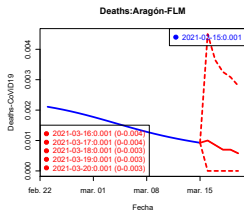
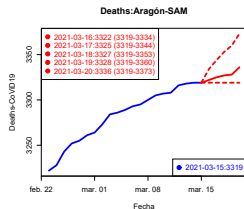
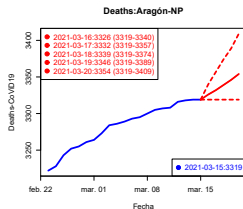
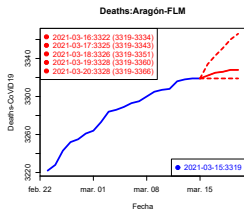


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Aragón



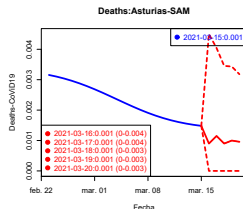
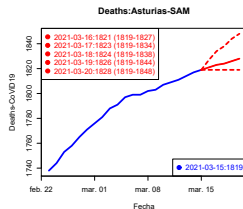
Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

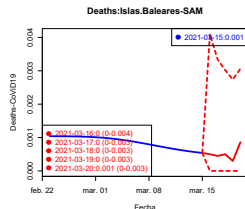
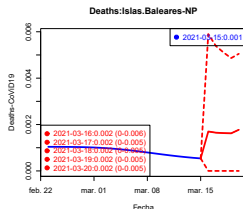
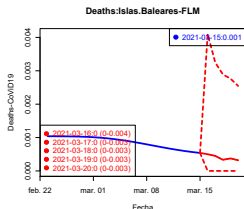
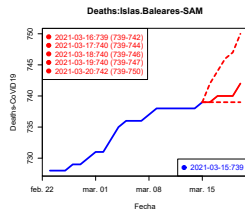
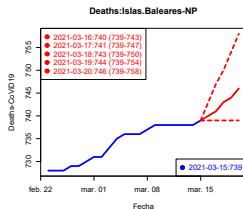
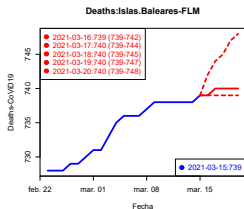
◀ Fallecidos

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

◀ Fallecidos



Fallecidos: Islas Baleares

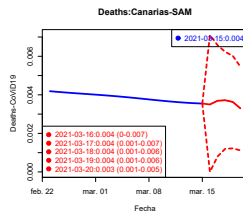
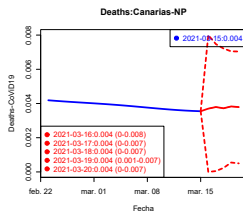
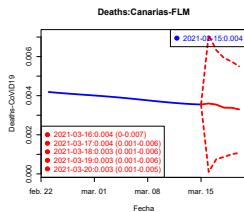
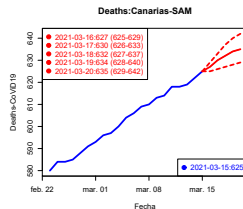
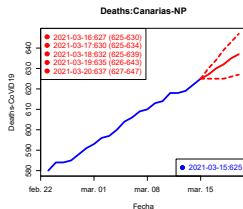
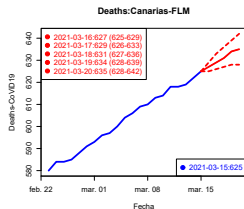


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Canarias

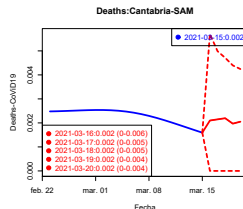
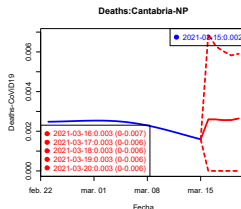
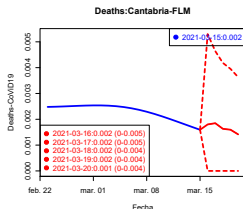
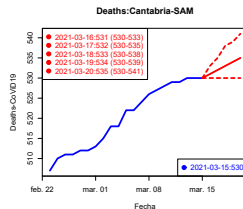
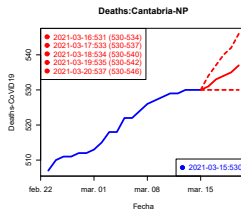
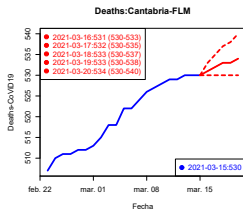


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Cantabria

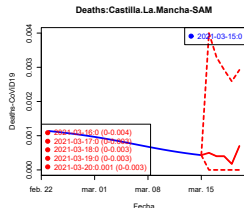
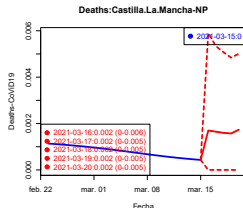
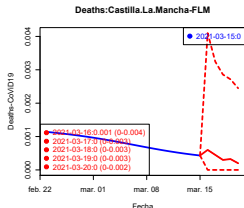
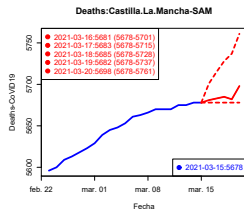
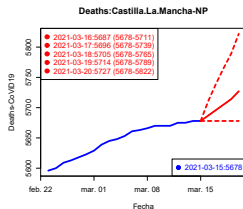
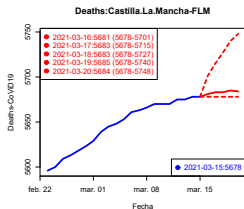


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla-La Mancha

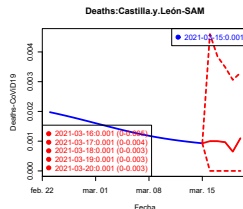
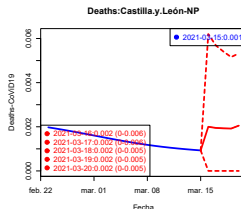
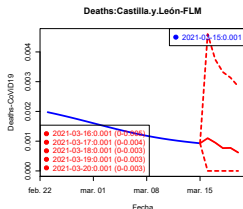
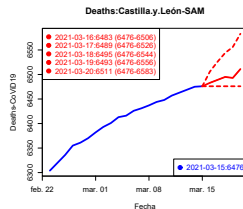
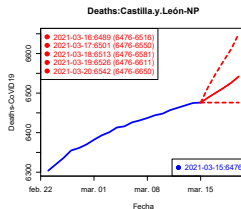
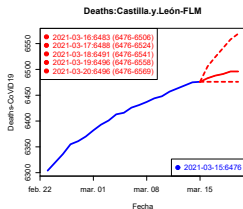


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Castilla y León

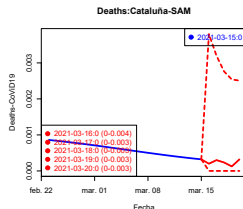
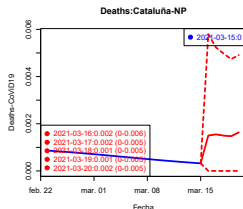
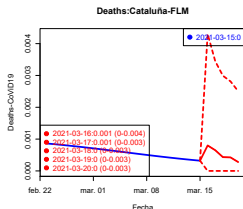
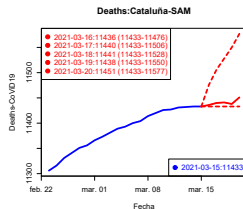
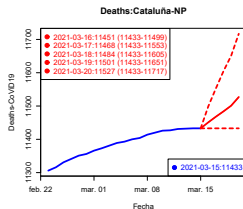
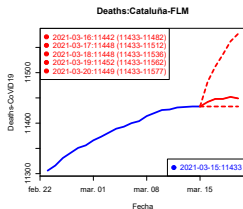


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

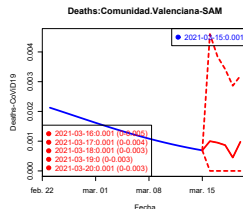
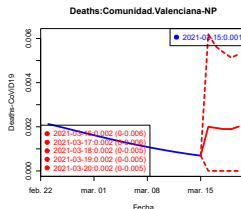
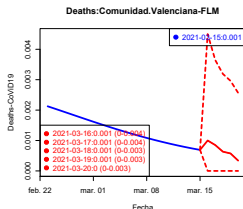
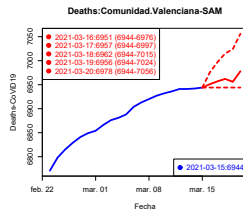
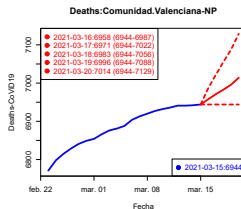
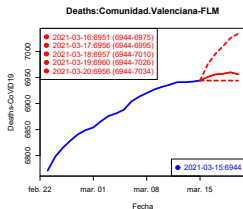
◀ Fallecidos

Fallecidos: Cataluña



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

Fallecidos: C. Valenciana

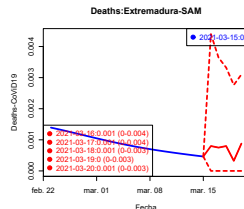
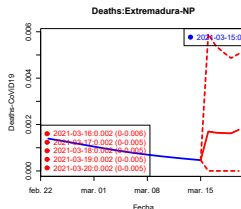
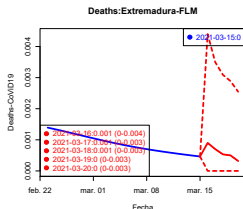
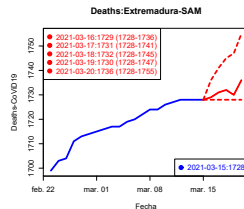
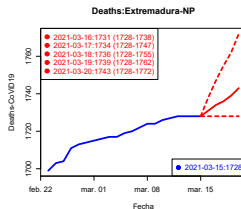
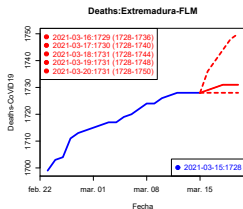


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Extremadura

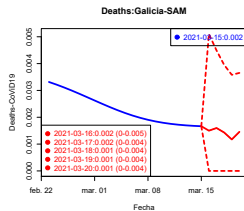
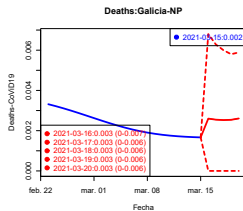
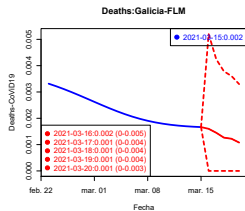
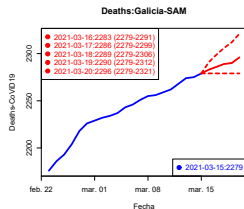
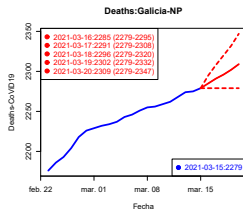
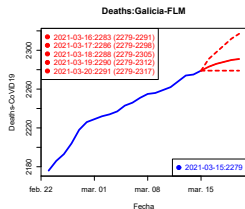


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Galicia

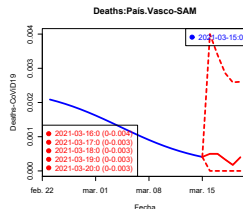
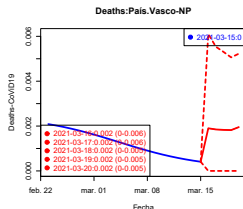
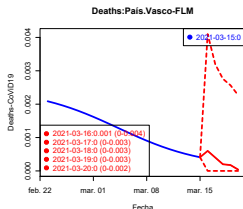
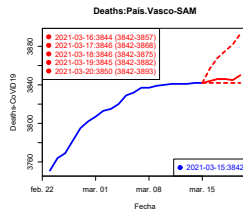
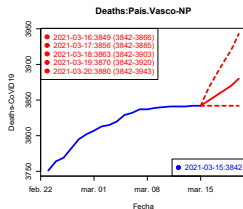
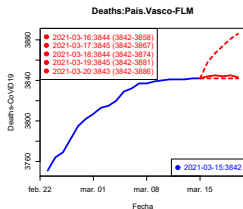


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: País Vasco

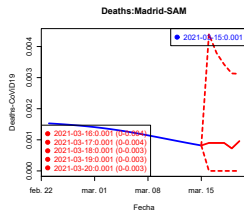
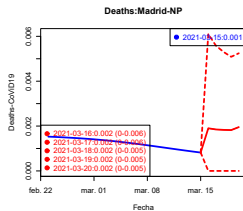
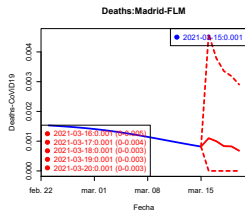
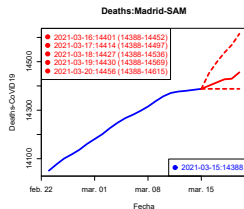
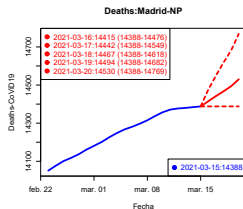
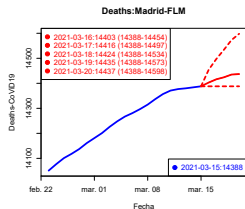


Los valores del Ratio de incremento de H2–H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

◀ Fallecidos

Fallecidos: Madrid

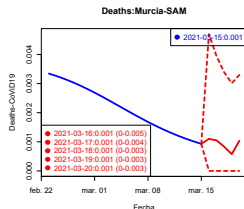
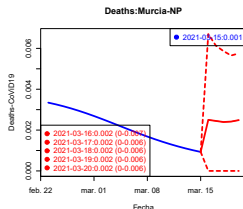
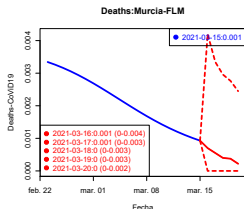
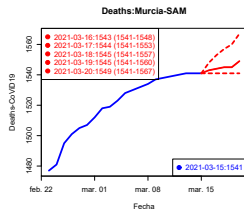
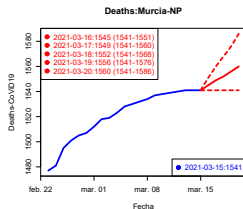
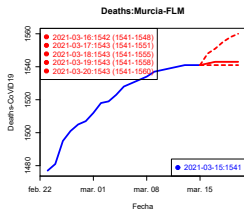


Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

◀ Confirmados

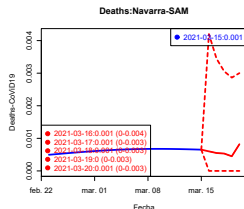
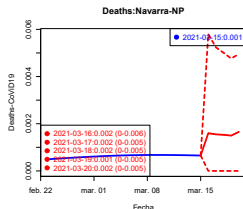
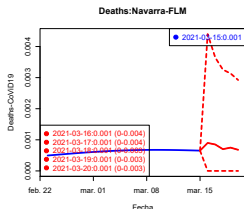
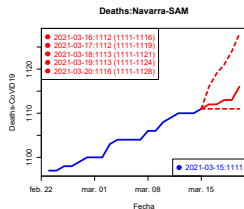
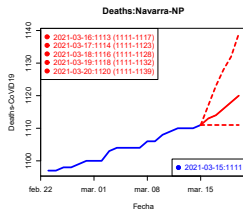
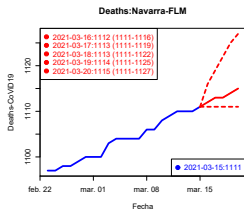
◀ Fallecidos

Fallecidos: Murcia



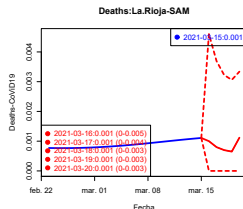
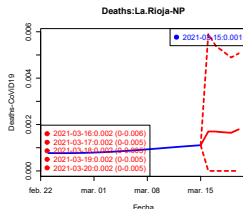
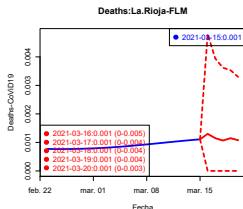
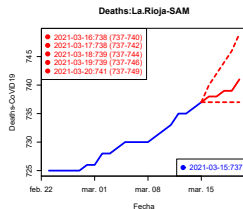
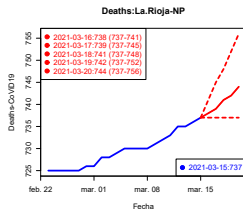
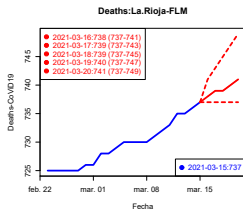
Los valores del Ratio de incremento de H2-H5 están rescalados a H1 para su comparación gráfica.

Fallecidos: Navarra



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

Fallecidos: La Rioja



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

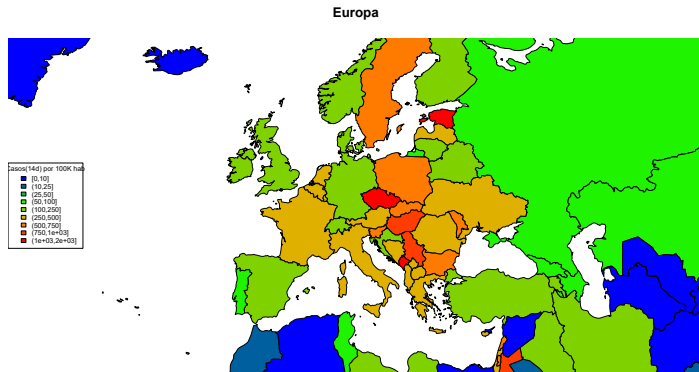
◀ Confirmados

◀ Fallecidos

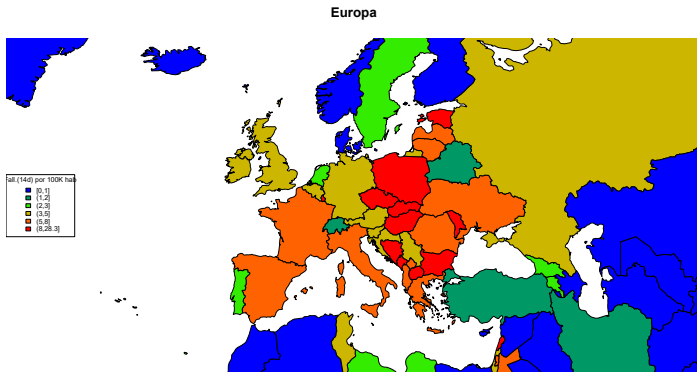
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- 3 Panorama internacional

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

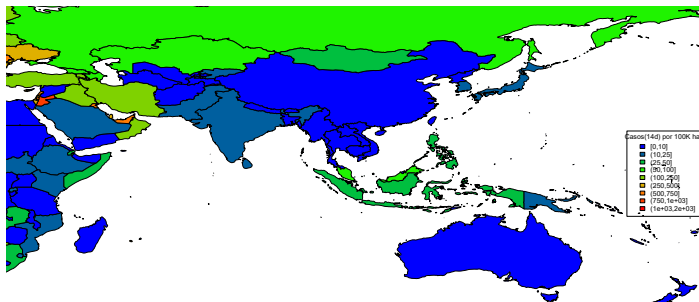


Europa: Fallecidos (14d) por 100K hab.



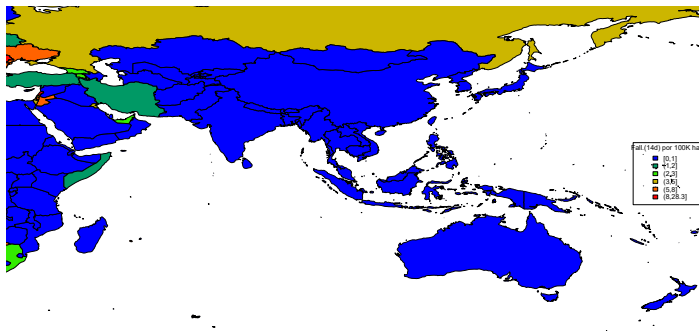
Asia y Oceanía: Incidencia acumulada (14d) por 100K hab.

Asia y Oceanía



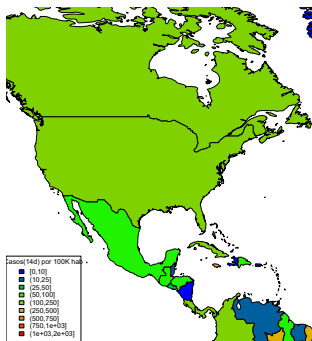
Asia y Oceanía: Fallecidos (14d) por 100K hab.

Asia y Oceanía

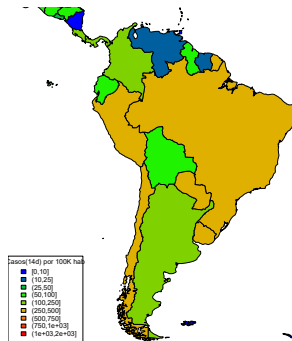


América: Incidencia acumulada (14d) por 100K hab.

América del Norte

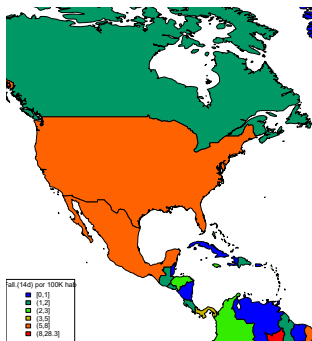


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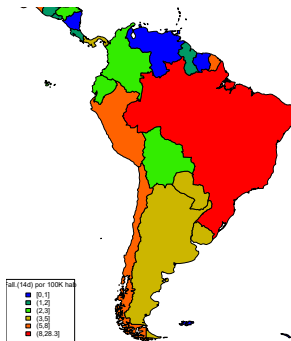


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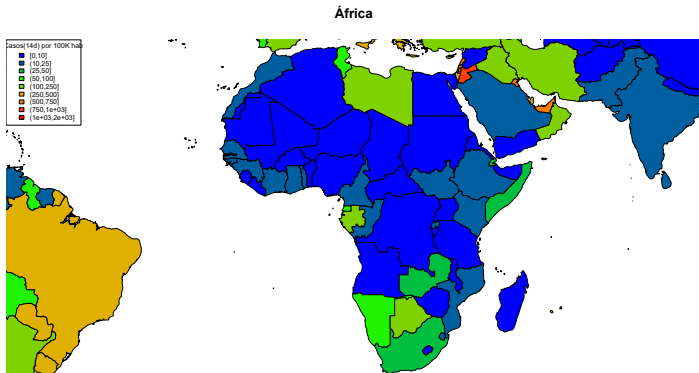
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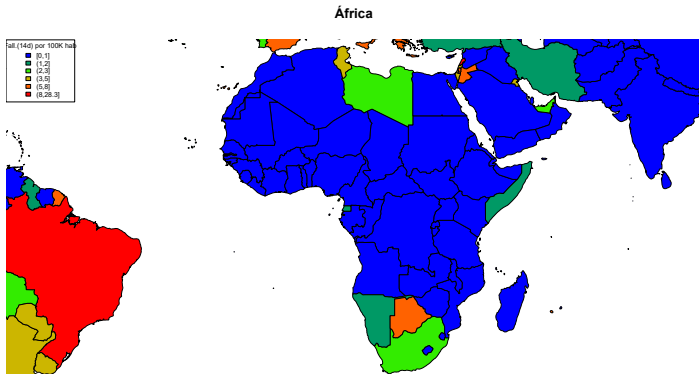
América del sur



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.