Predicciones sobre CoViD-19

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modestya

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Datos

Número de datos funcionales: 2252
Países/Regiones distintos incorporados: 103

Predicciones: España Andalucía Aragón Asturias Baleares Canarias Cantabria Cataluña Castilla-La Mancha Castilla y León C. Valenciana Extremadura Euskadi Galicia Madrid Murcia Navarra La Rioja Mod Lineal Mod NP Mod Aditivo

Horiz	Medida	FLM	NP	SAM
H1	σ_R^2	0.033	0.022	0.029
H1	$\sigma_R^2(rob.)$	0.019	0.006	0.017
H1	r^2	0.2	0.61	0.295
H2	σ_R^2	0.133	0.089	0.113
H2	$\sigma_R^2(rob.)$	0.068	0.024	0.06
H2	r^2	0.231	0.618	0.344
H3	σ_R^2	0.392	0.292	0.338
H3	$\sigma_R^2(rob.)$	0.183	0.062	0.168
H3	r^2	0.217	0.564	0.322

Último dato: 2020-03-28 21:00 que se publica 2020-03-29 12:00.

Tabla Modelo Lineal.

	Last	N:H1-lw	N:H1-fit	N:H1-up	N:H2-lw	N:H2-fit	N:H2-up
España	78797	78797	87825	100756	78797	96666	123590
Andalucía	4682	4698	5312	5925	4738	6042	7347
Aragón	1858	1882	2125	2368	1926	2444	2961
Asturias	1088	1088	1215	1357	1088	1364	1667
Baleares	958	980	1105	1231	1007	1275	1542
Canarias	1125	1128	1275	1423	1142	1456	1769
Cantabria	1023	1061	1195	1329	1117	1403	1688
Cataluña	15026	15415	17406	19396	15814	20042	24270
Castilla.La.Mancha	5246	5278	5965	6653	5370	6832	8294
Castilla.y.León	5414	5539	6249	6959	5724	7234	8744
C..Valenciana	4784	4854	5485	6116	4818	6159	7501
Extremadura	1456	1491	1681	1872	1541	1947	2353
Euskadi	5740	5740	6490	7242	5787	7387	8987
Galicia	3139	3201	3613	4024	3279	4154	5028
Madrid	22677	22677	25159	28183	22677	27976	34395
Murcia	872	882	996	1111	897	1141	1384
Navarra	2011	2011	2266	2529	2014	2575	3135
La.Rioja	1629	1629	1808	2021	1629	2026	2479

Table: Previsión número de casos confirmados: Modelo lineal - Horizonte 1 y 2 días.

Tabla Modelo No Paramétrico.

	Last	N:H1-lw	N:H1-fit	N:H1-up	N:H2-lw	N:H2-fit	N:H2-up
España	78797	79066	84358	89650	78797	90685	102838
Andalucía	4682	4714	5028	5343	4690	5413	6135
Aragón	1858	1887	2012	2137	1902	2189	2476
Asturias	1088	1088	1156	1229	1088	1233	1401
Baleares	958	987	1051	1116	1009	1157	1304
Canarias	1125	1131	1206	1282	1125	1298	1472
Cantabria	1023	1091	1159	1228	1150	1308	1466
Cataluña	15026	15628	16637	17646	16049	18365	20681
Castilla.La.Mancha	5246	5335	5687	6040	5382	6192	7001
Castilla.y.León	5414	5640	6004	6368	5817	6652	7487
C..Valenciana	4784	5176	5499	5821	5494	6232	6969
Extremadura	1456	1502	1600	1698	1533	1758	1983
Euskadi	5740	5752	6137	6523	5740	6591	7477
Galicia	3139	3229	3440	3651	3290	3775	4259
Madrid	22677	22677	23914	25437	22677	25365	28862
Murcia	872	887	945	1004	892	1027	1161
Navarra	2011	2017	2152	2287	2011	2313	2624
La.Rioja	1629	1629	1713	1823	1629	1813	2065

Table: Previsión número de casos confirmados: Modelo No Paramétrico - Horizonte 1 y 2 días.

Tabla Modelo Aditivo.

	Last	N:H1-lw	N:H1-fit	N:H1-up	N:H2-lw	N:H2-fit	N:H2-up
España	78797	82378	90247	98116	86620	102677	118734
Andalucía	4682	4865	5333	5801	5149	6102	7056
Aragón	1858	2012	2198	2384	2201	2581	2961
Asturias	1088	1092	1202	1311	1088	1308	1532
Baleares	958	1007	1103	1200	1055	1252	1449
Canarias	1125	1184	1297	1409	1252	1481	1711
Cantabria	1023	1135	1239	1343	1234	1447	1659
Cataluña	15026	16201	17714	19227	17681	20767	23853
Castilla.La.Mancha	5246	5518	6045	6573	5718	6794	7871
Castilla.y.León	5414	5715	6259	6804	6039	7149	8259
C..Valenciana	4784	5041	5539	6038	5247	6261	7275
Extremadura	1456	1581	1727	1874	1763	2062	2361
Euskadi	5740	6078	6651	7225	6495	7666	8836
Galicia	3139	3300	3616	3932	3422	4067	4712
Madrid	22677	23379	25641	27902	24392	29008	33624
Murcia	872	914	1002	1089	965	1143	1321
Navarra	2011	2064	2265	2466	2130	2540	2949
La.Rioja	1629	1688	1850	2012	1773	2104	2435

Table: Previsión número de casos confirmados: Modelo Aditivo - Horizonte 1 y 2 días.

Tabla Ratio Incremento Modelo Lineal.

	Last	RI:H1-lw	RI:H1-fit	RI:H1-up	RI:H2-lw	RI:H2-fit	RI:H2-up
España	0.091	0.000	0.115	0.279	0.000	0.227	0.568
Andalucía	0.095	0.003	0.134	0.265	0.012	0.290	0.569
Aragón	0.167	0.013	0.144	0.275	0.037	0.315	0.594
Asturias	0.084	0.000	0.116	0.247	0.000	0.253	0.532
Baleares	0.111	0.023	0.154	0.285	0.051	0.330	0.609
Canarias	0.097	0.003	0.133	0.264	0.015	0.294	0.572
Cantabria	0.092	0.037	0.168	0.299	0.092	0.371	0.649
Cataluña	0.053	0.026	0.158	0.291	0.052	0.334	0.615
Castilla.La.Mancha	0.163	0.006	0.137	0.268	0.024	0.302	0.581
Castilla.y.León	0.130	0.023	0.154	0.285	0.057	0.336	0.615
C..Valenciana	0.186	0.015	0.146	0.278	0.007	0.287	0.568
Extremadura	0.044	0.024	0.155	0.286	0.058	0.337	0.615
Euskadi	0.118	0.000	0.131	0.262	0.008	0.287	0.565
Galicia	0.132	0.020	0.151	0.282	0.044	0.323	0.602
Madrid	0.054	0.000	0.109	0.243	0.000	0.234	0.517
Murcia	0.087	0.012	0.142	0.273	0.029	0.308	0.586
Navarra	0.099	0.000	0.127	0.258	0.002	0.280	0.559
La.Rioja	0.134	0.000	0.110	0.241	0.000	0.243	0.522

Table: Previsión Ratio incremento casos confirmados: Modelo lineal - Horizonte 1 y 2 días.

Tabla Ratio Incremento Modelo No Paramétrico.

	Last	RI:H1-lw	RI:H1-fit	RI:H1-up	RI:H2-lw	RI:H2-fit	RI:H2-up
España	0.091	0.003	0.071	0.138	0.000	0.151	0.305
Andalucía	0.095	0.007	0.074	0.141	0.002	0.156	0.310
Aragón	0.167	0.016	0.083	0.150	0.024	0.178	0.332
Asturias	0.084	0.000	0.062	0.129	0.000	0.133	0.288
Baleares	0.111	0.030	0.097	0.164	0.053	0.207	0.361
Canarias	0.097	0.005	0.072	0.139	0.000	0.154	0.308
Cantabria	0.092	0.066	0.133	0.200	0.124	0.278	0.433
Cataluña	0.053	0.040	0.107	0.174	0.068	0.222	0.376
Castilla.La.Mancha	0.163	0.017	0.084	0.151	0.026	0.180	0.335
Castilla.y.León	0.130	0.042	0.109	0.176	0.075	0.229	0.383
C..Valenciana	0.186	0.082	0.149	0.217	0.148	0.303	0.457
Extremadura	0.044	0.032	0.099	0.166	0.053	0.207	0.362
Euskadi	0.118	0.002	0.069	0.136	0.000	0.148	0.303
Galicia	0.132	0.029	0.096	0.163	0.048	0.202	0.357
Madrid	0.054	0.000	0.055	0.122	0.000	0.119	0.273
Murcia	0.087	0.017	0.084	0.151	0.023	0.177	0.332
Navarra	0.099	0.003	0.070	0.137	0.000	0.150	0.304
La.Rioja	0.134	0.000	0.052	0.119	0.000	0.113	0.267

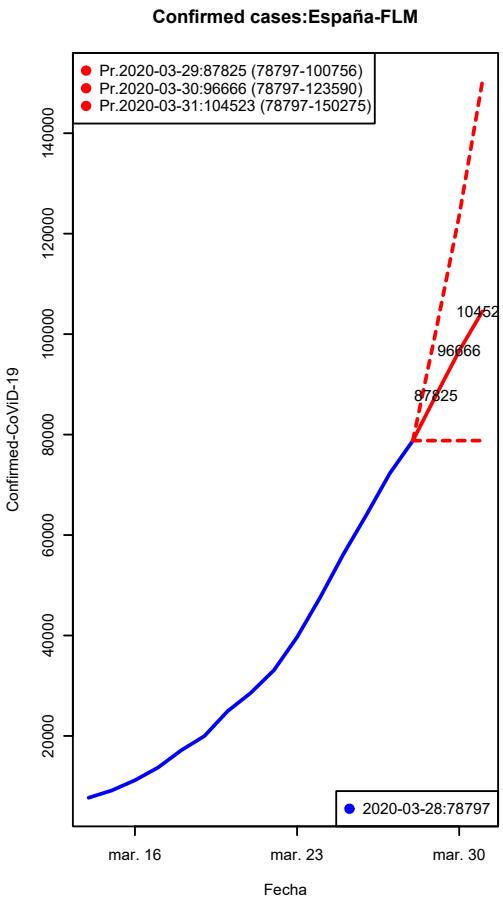
Table: Previsión Ratio incremento casos confirmados: Modelo No Paramétrico - Horizonte 1 y 2 días.

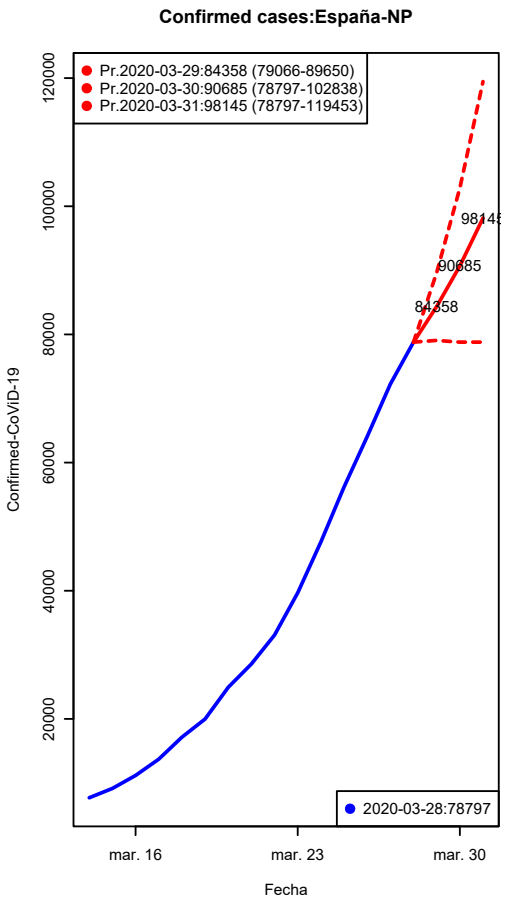
Tabla Ratio Incremento Modelo Aditivo.

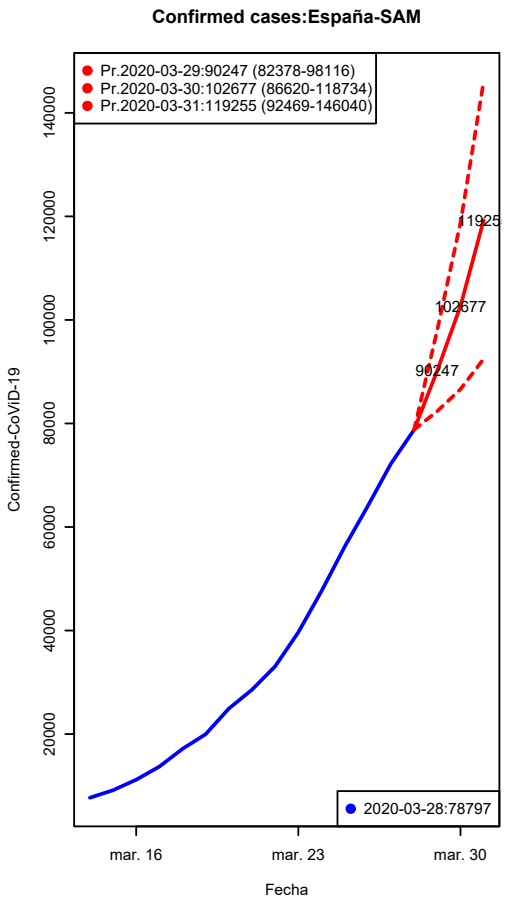
	Last	RI:H1-lw	RI:H1-fit	RI:H1-up	RI:H2-lw	RI:H2-fit	RI:H2-up
España	0.091	0.045	0.145	0.245	0.099	0.303	0.507
Andalucía	0.095	0.039	0.139	0.239	0.100	0.303	0.507
Aragón	0.167	0.083	0.183	0.283	0.185	0.389	0.593
Asturias	0.084	0.004	0.104	0.205	0.000	0.202	0.407
Baleares	0.111	0.051	0.151	0.252	0.101	0.306	0.512
Canarias	0.097	0.053	0.153	0.252	0.113	0.316	0.520
Cantabria	0.092	0.110	0.211	0.313	0.206	0.414	0.621
Cataluña	0.053	0.078	0.179	0.280	0.177	0.382	0.587
Castilla.La.Mancha	0.163	0.052	0.152	0.253	0.090	0.295	0.500
Castilla.y.León	0.130	0.055	0.156	0.257	0.115	0.320	0.525
C..Valenciana	0.186	0.054	0.158	0.262	0.097	0.309	0.521
Extremadura	0.044	0.086	0.186	0.287	0.211	0.416	0.621
Euskadi	0.118	0.059	0.159	0.259	0.132	0.335	0.539
Galicia	0.132	0.051	0.152	0.253	0.090	0.296	0.501
Madrid	0.054	0.031	0.131	0.230	0.076	0.279	0.483
Murcia	0.087	0.048	0.148	0.248	0.106	0.310	0.514
Navarra	0.099	0.026	0.126	0.226	0.059	0.263	0.466
La.Rioja	0.134	0.036	0.136	0.235	0.088	0.291	0.494

Table: Previsión Ratio incremento casos confirmados: Modelo Aditivo - Horizonte 1 y 2 días.

Confirmed cases: España

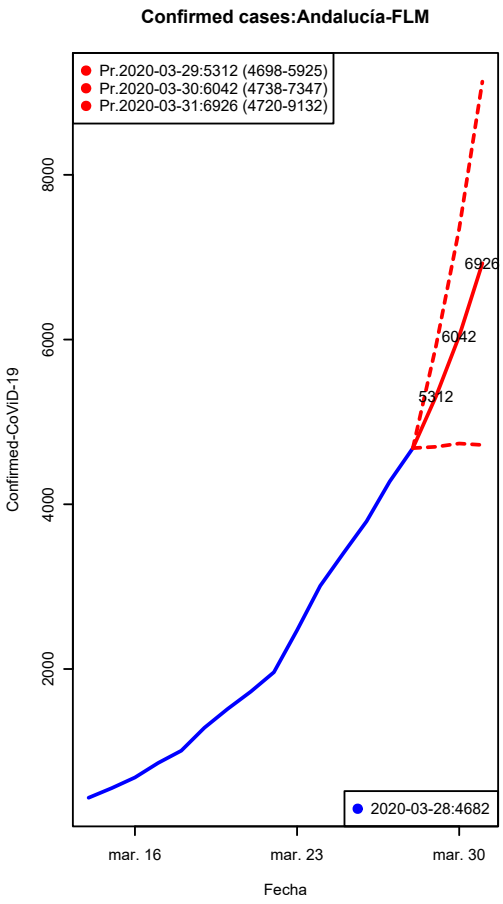


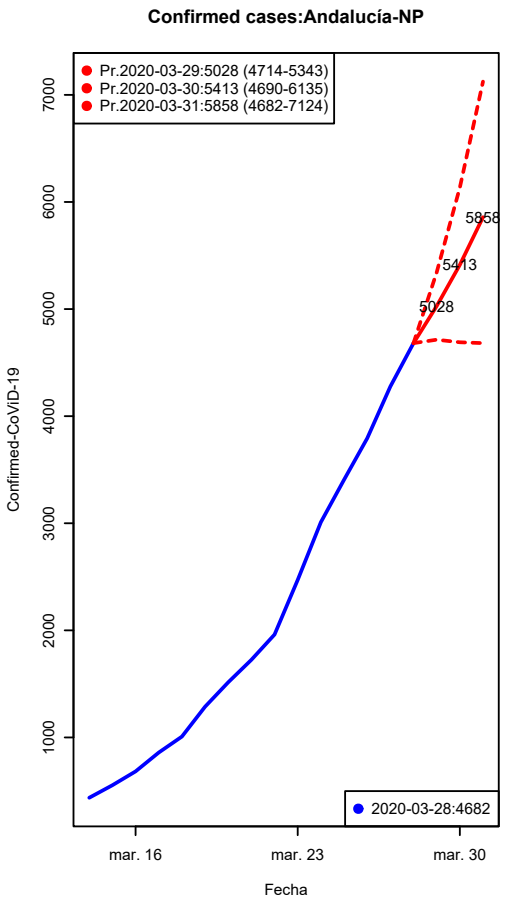


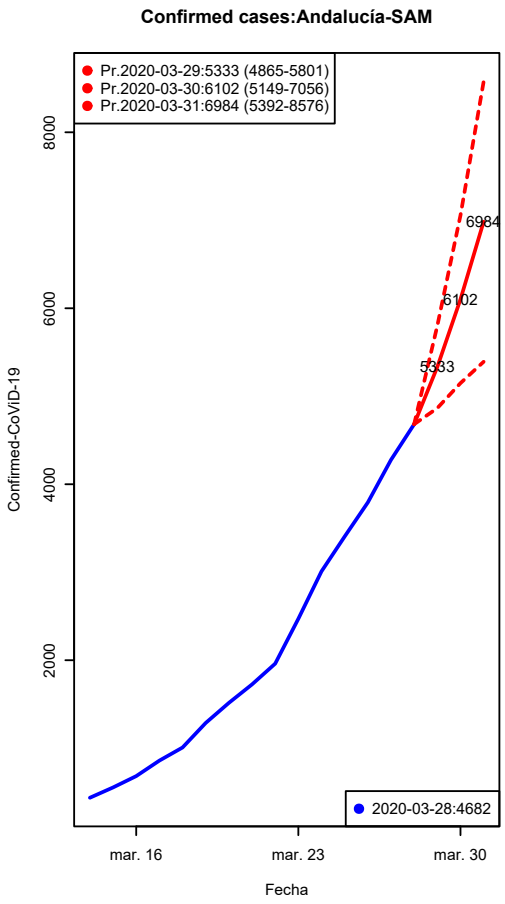


Confirmados Fallecidos

Confirmed cases: Andalucía

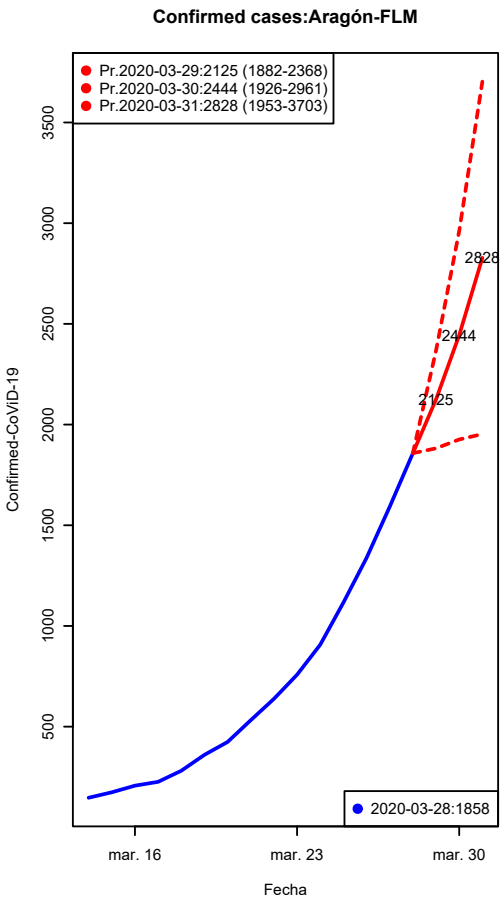


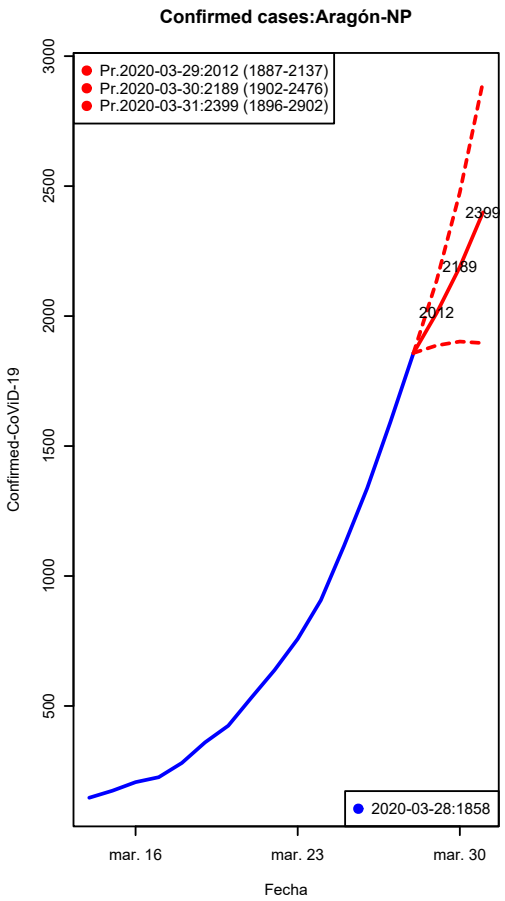


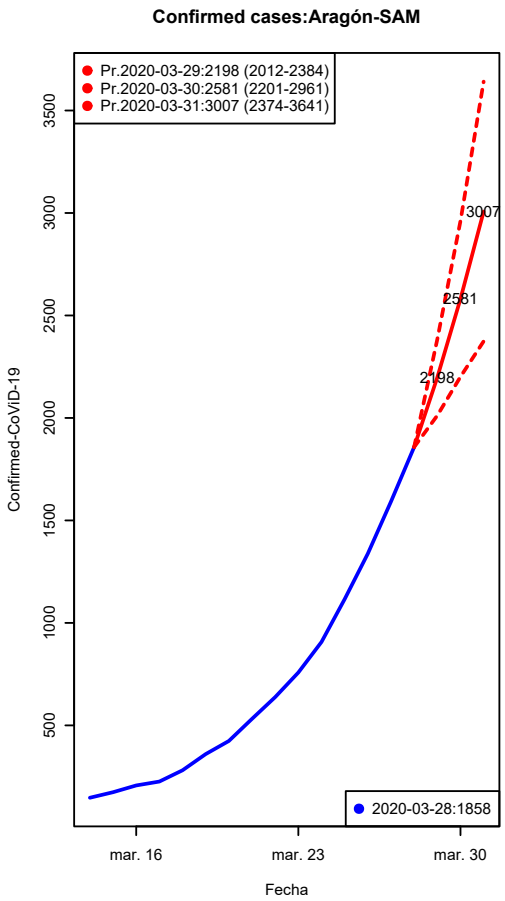


Confirmados Fallecidos

Confirmed cases: Aragón

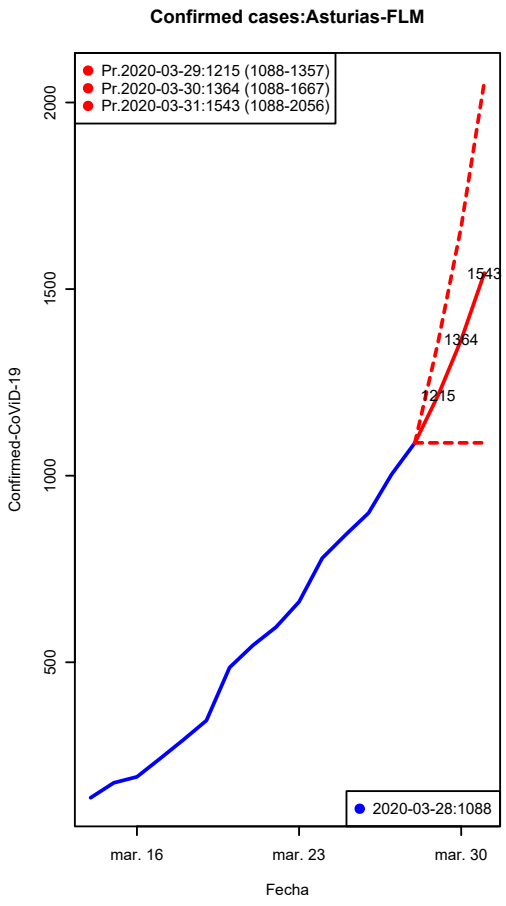


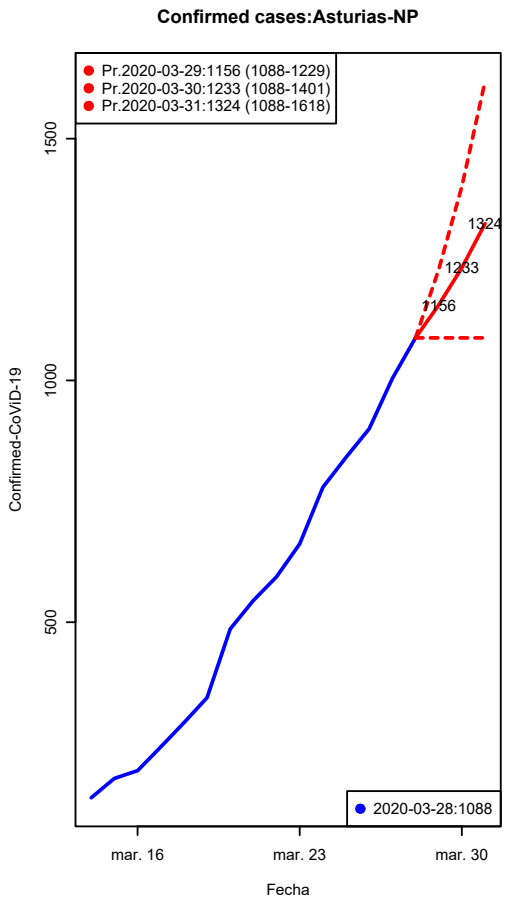


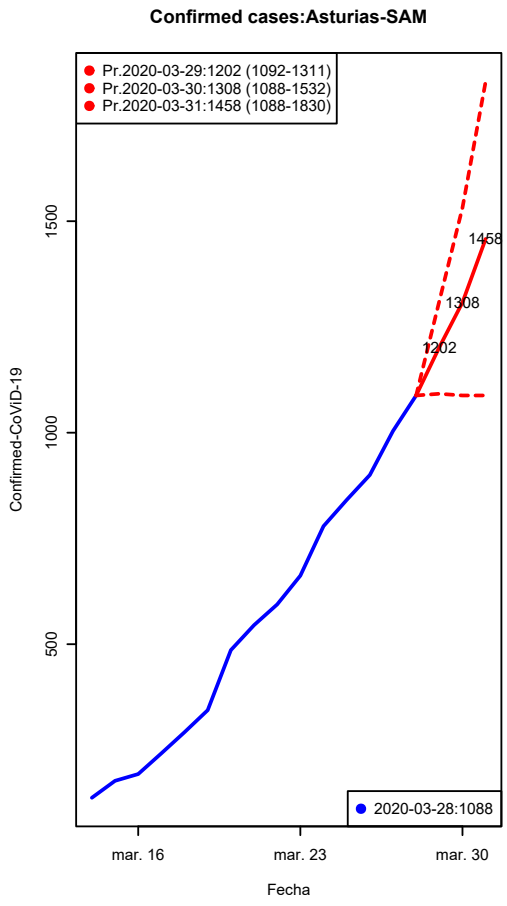


Confirmados Fallecidos

Confirmed cases: Asturias

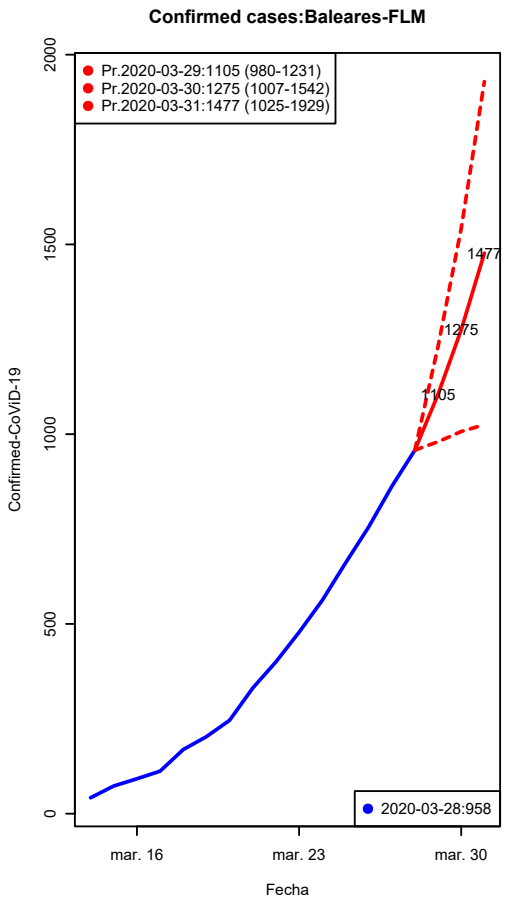


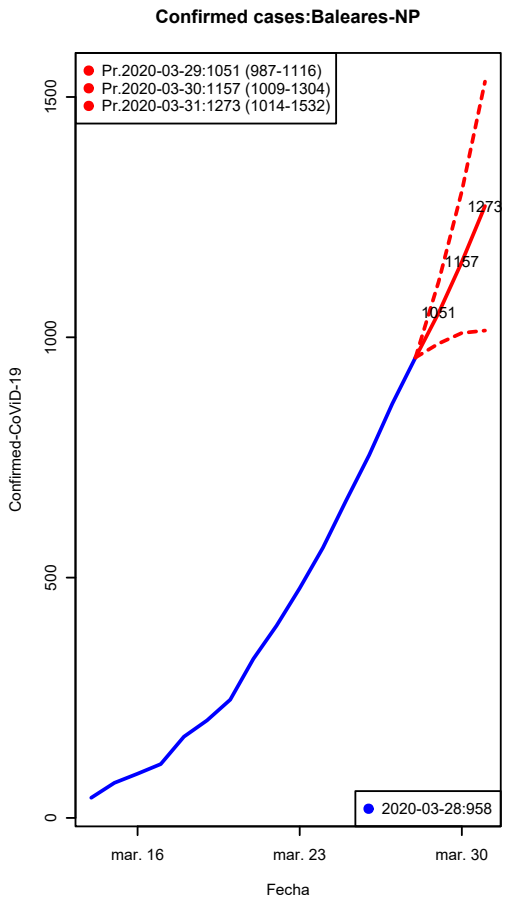


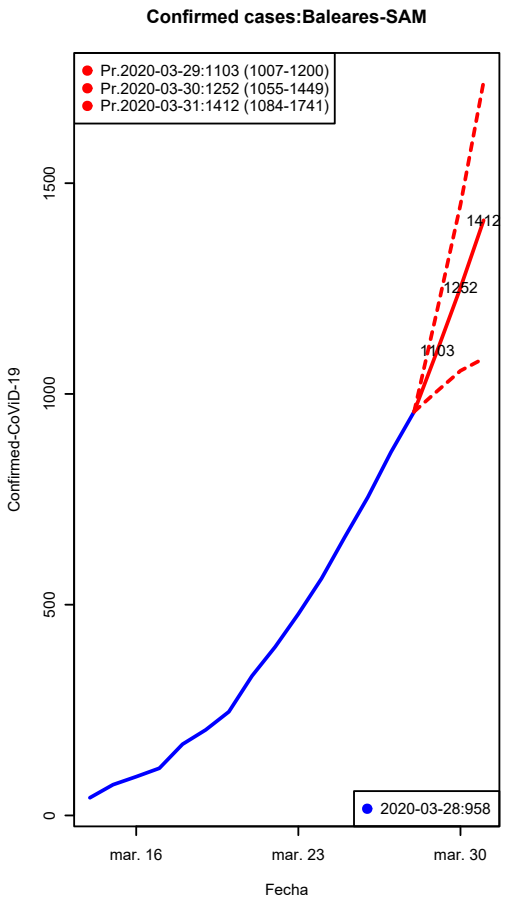


Confirmados Fallecidos

Confirmed cases: Baleares

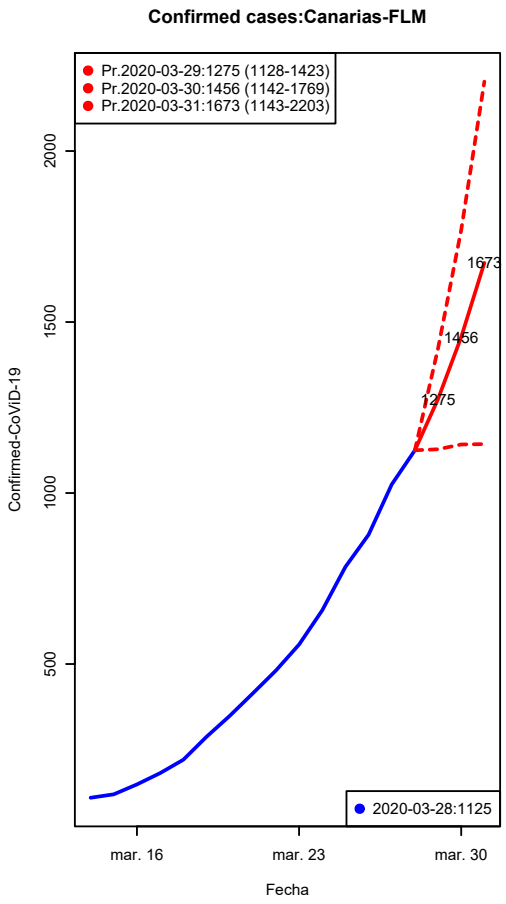


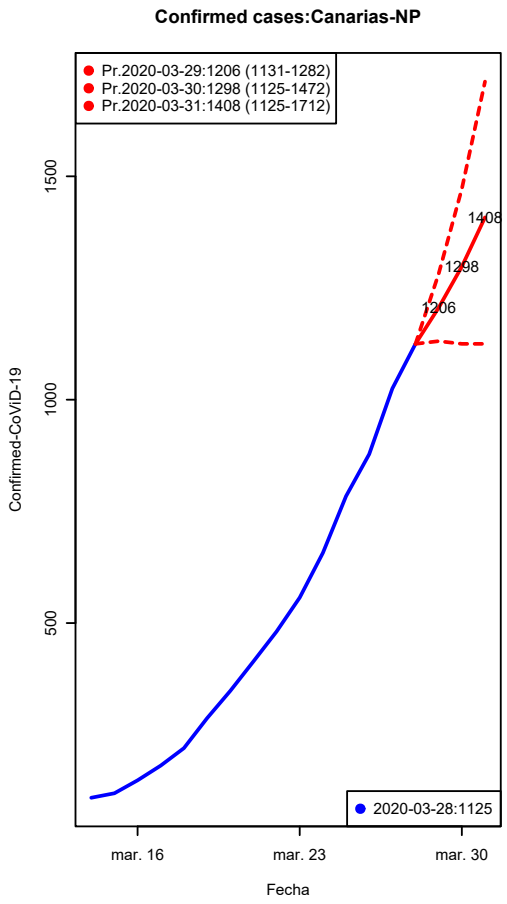


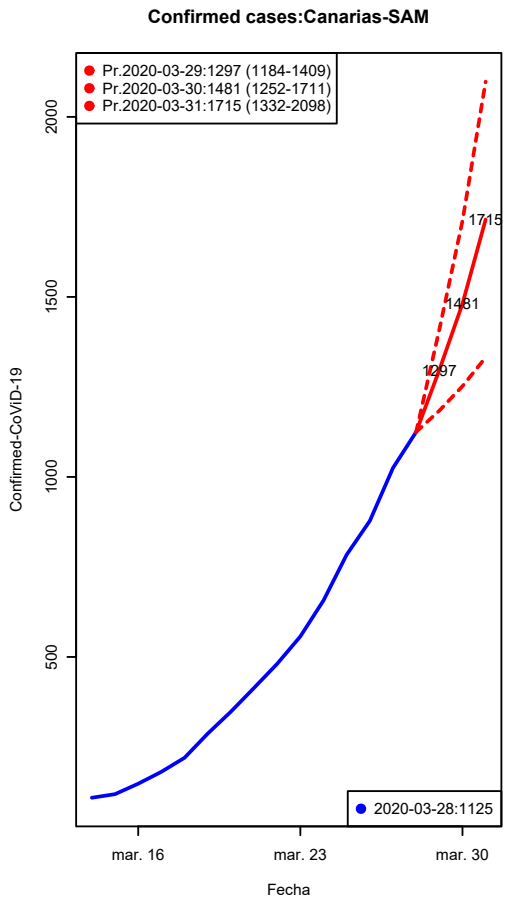


Confirmados Fallecidos

Confirmed cases: Canarias

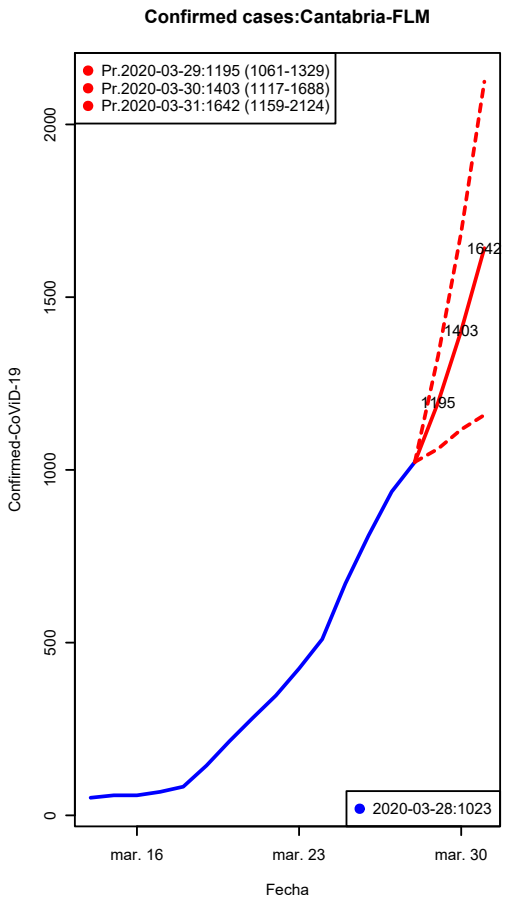


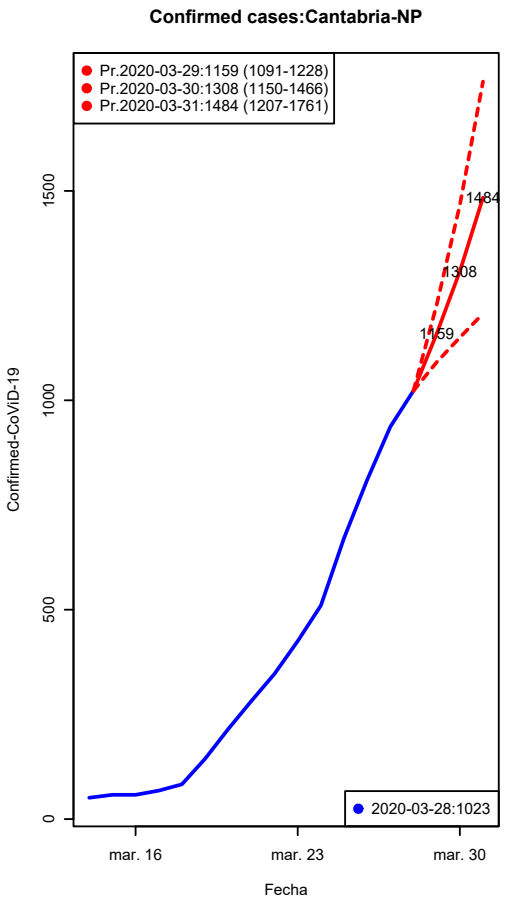


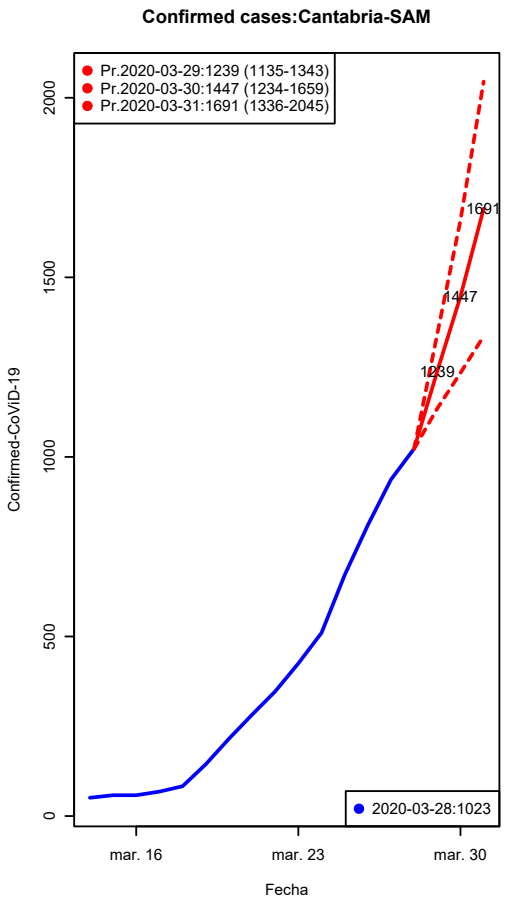


Confirmados Fallecidos

Confirmed cases: Cantabria

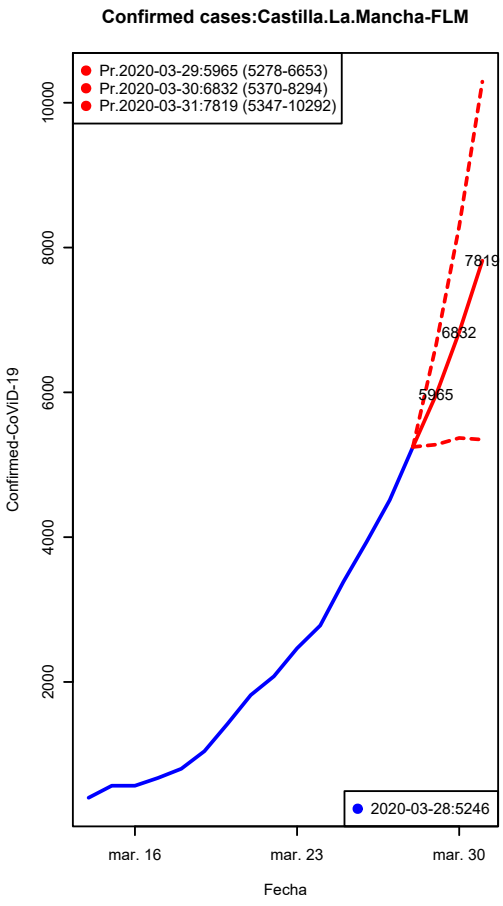


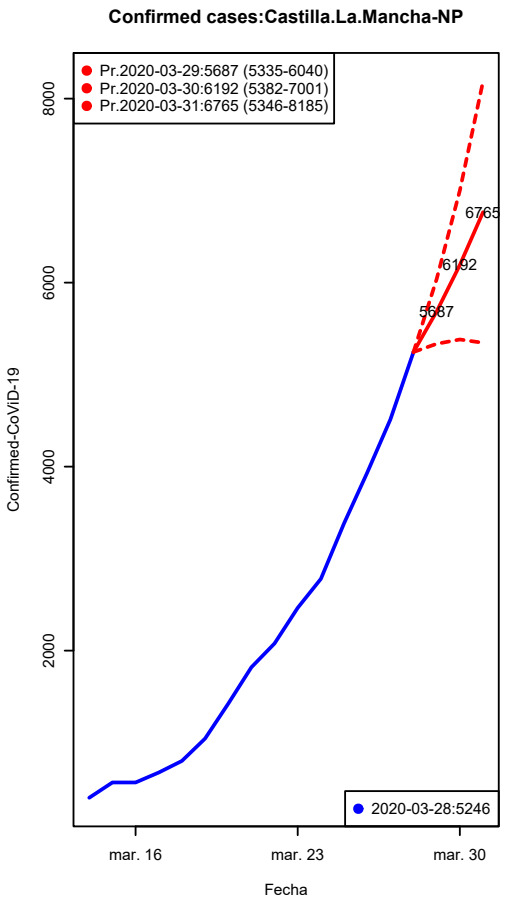


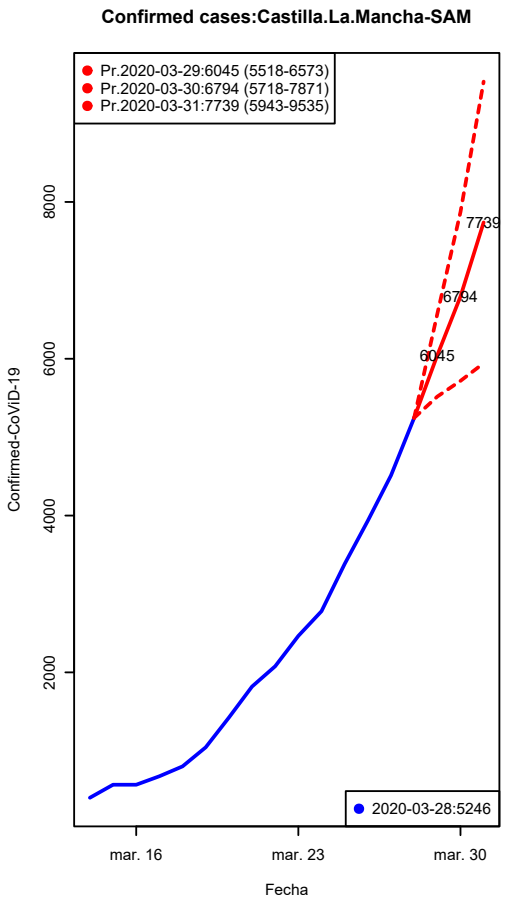


Confirmados Fallecidos

Confirmed cases: Castilla-La Mancha

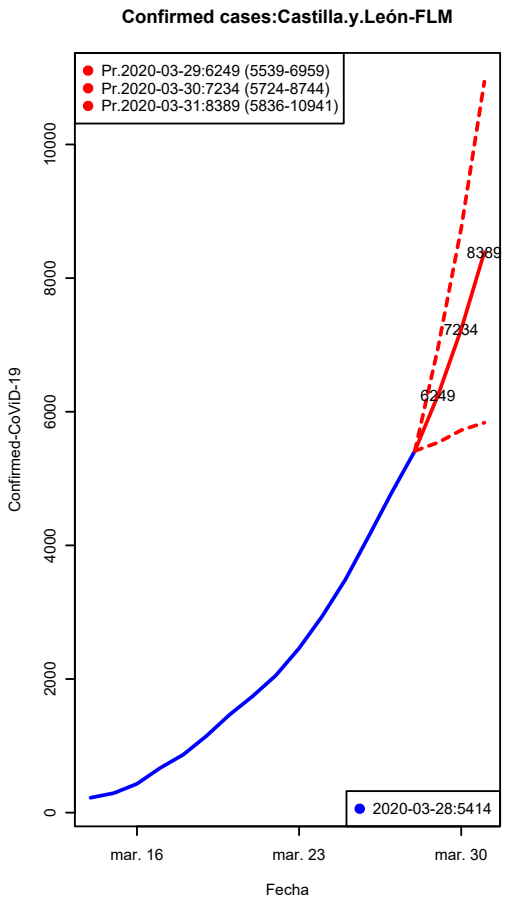


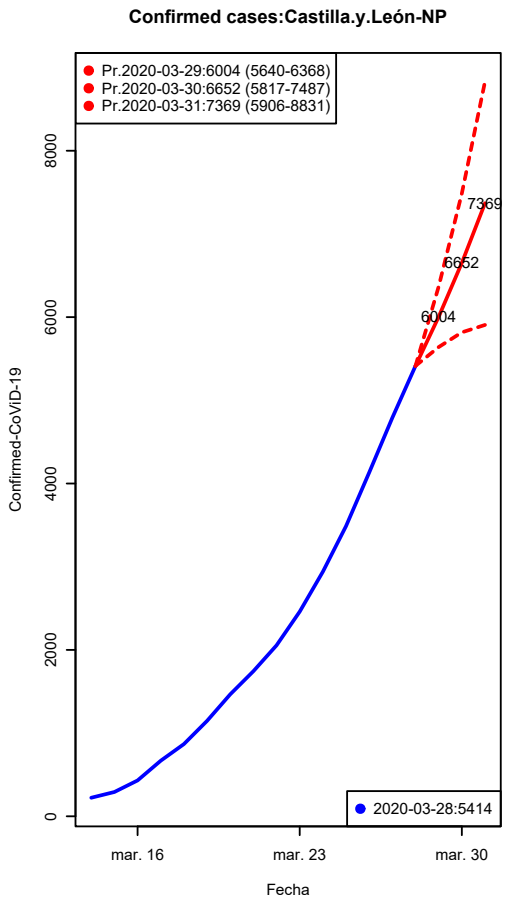


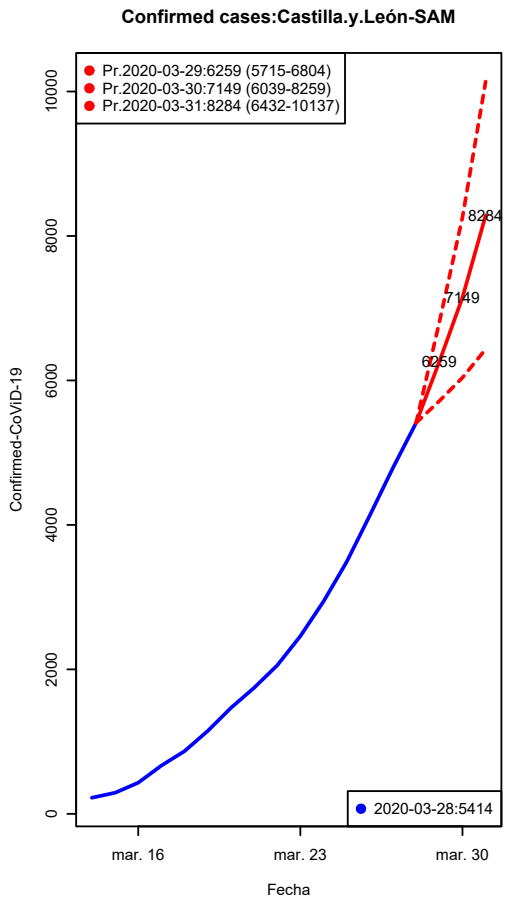


Confirmados Fallecidos

Confirmed cases: Castilla y León

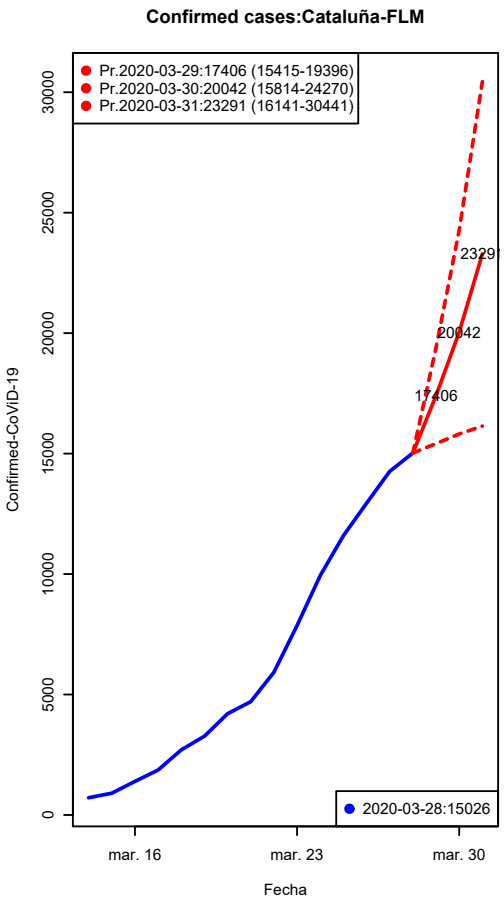


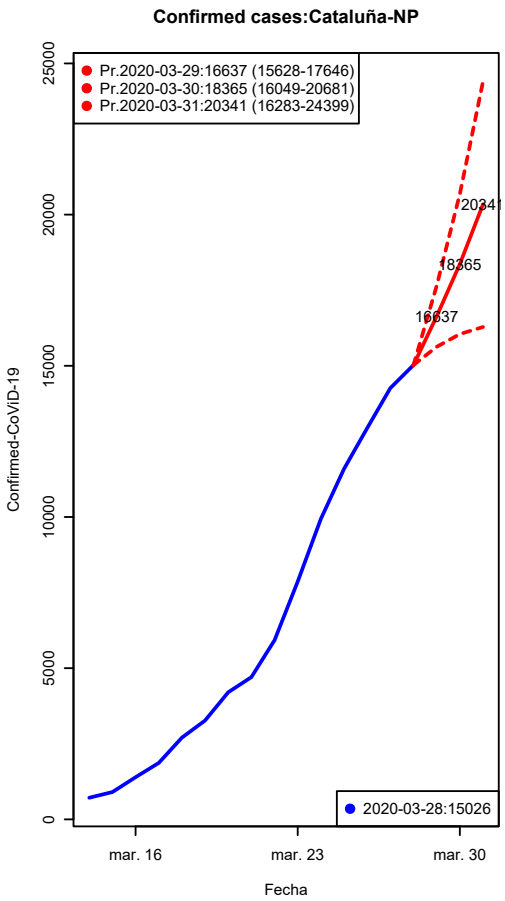


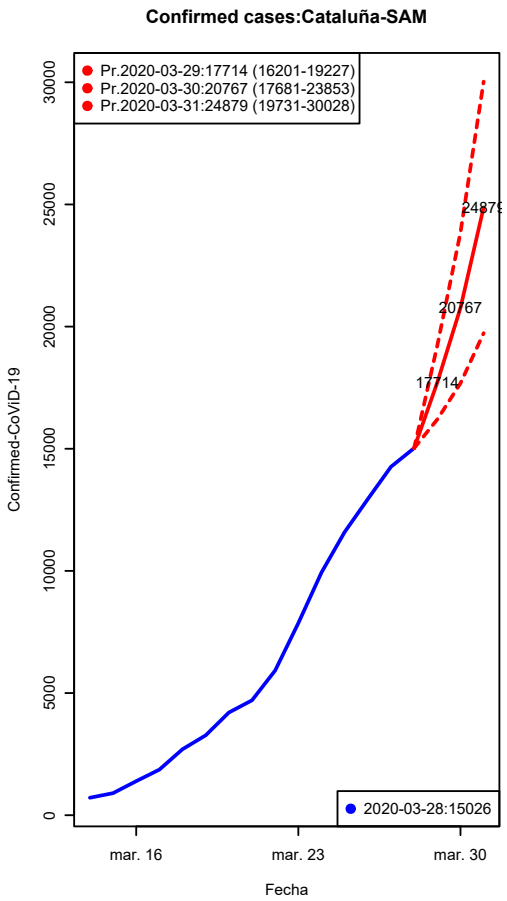


Confirmados Fallecidos

Confirmed cases: Cataluña

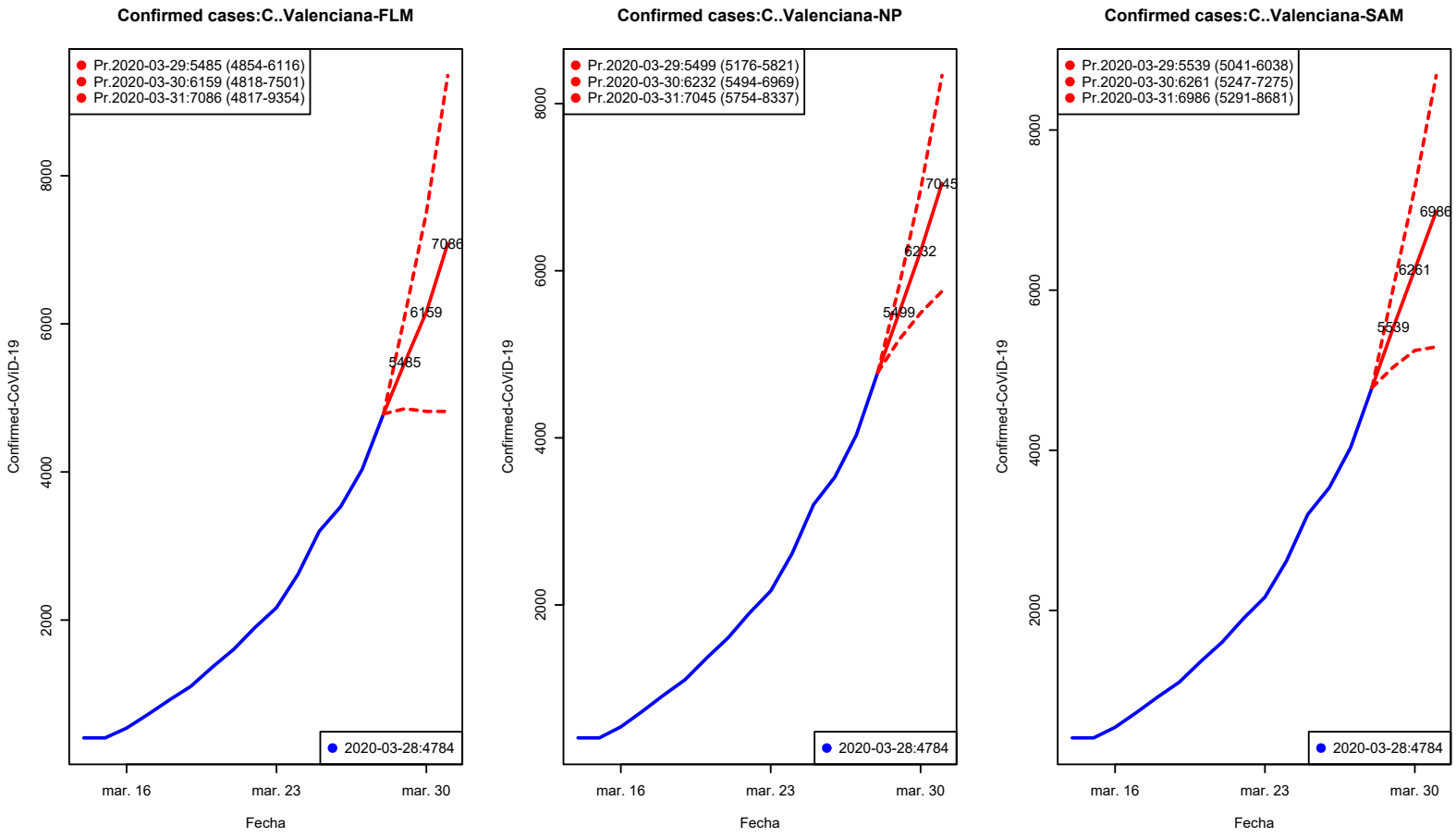






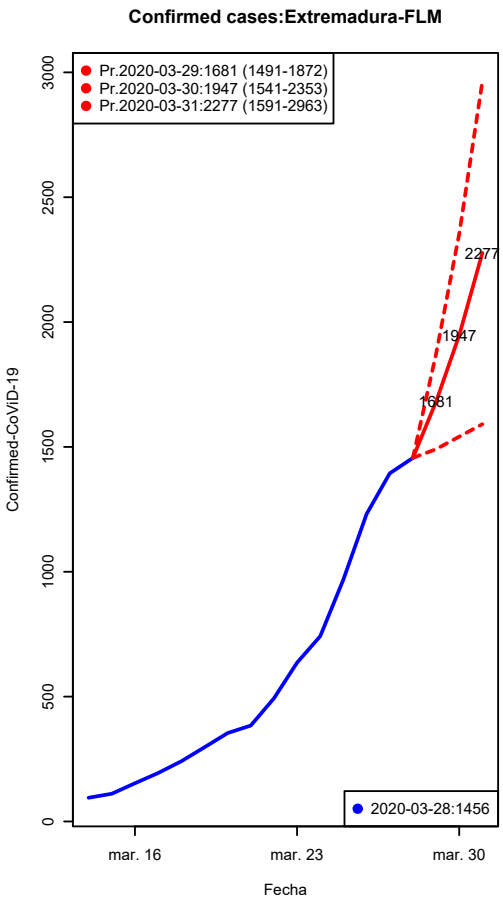
Confirmados Fallecidos

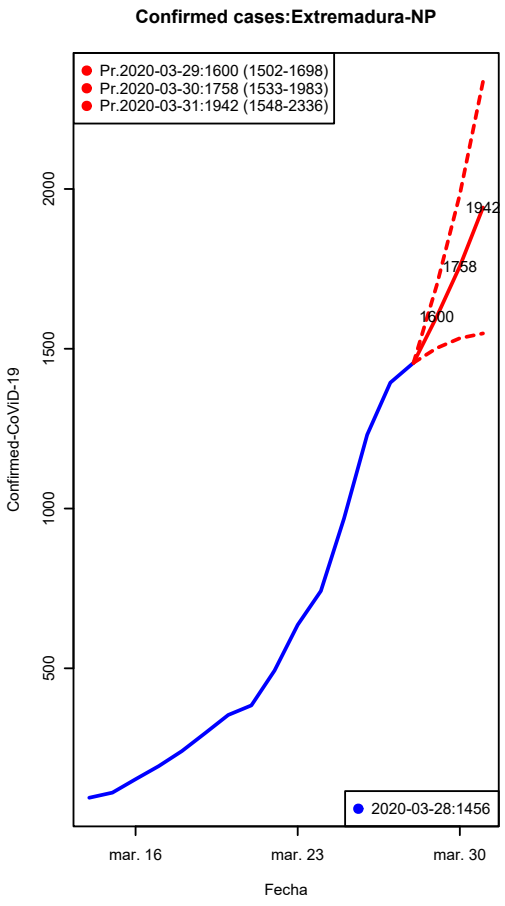
Confirmed cases: C. Valenciana

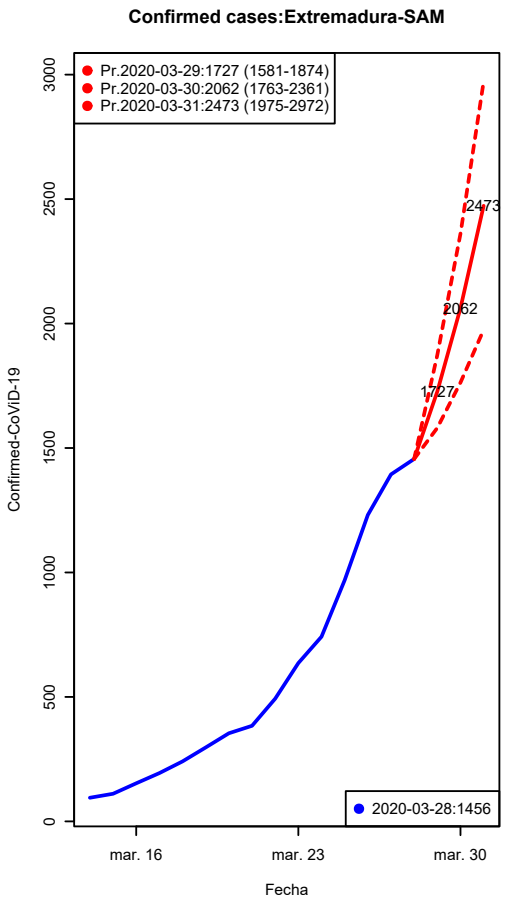


Confirmados Fallecidos

Confirmed cases: Extremadura

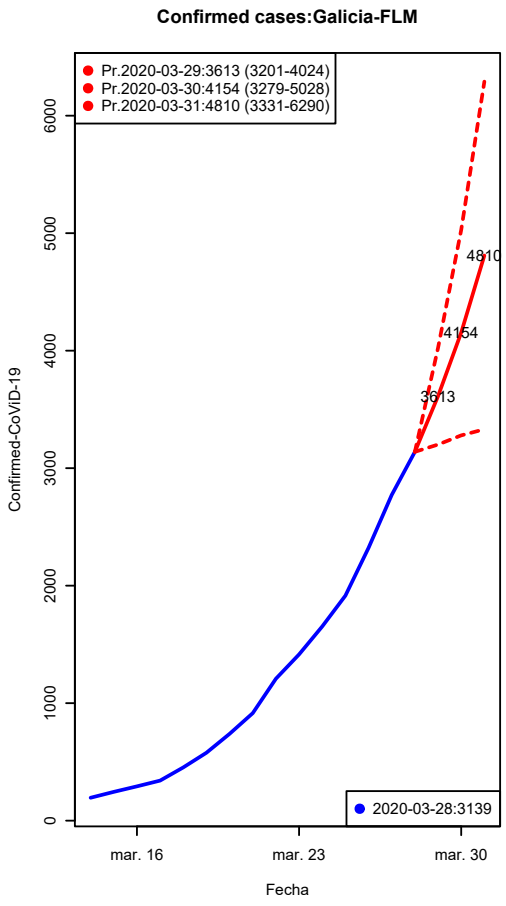


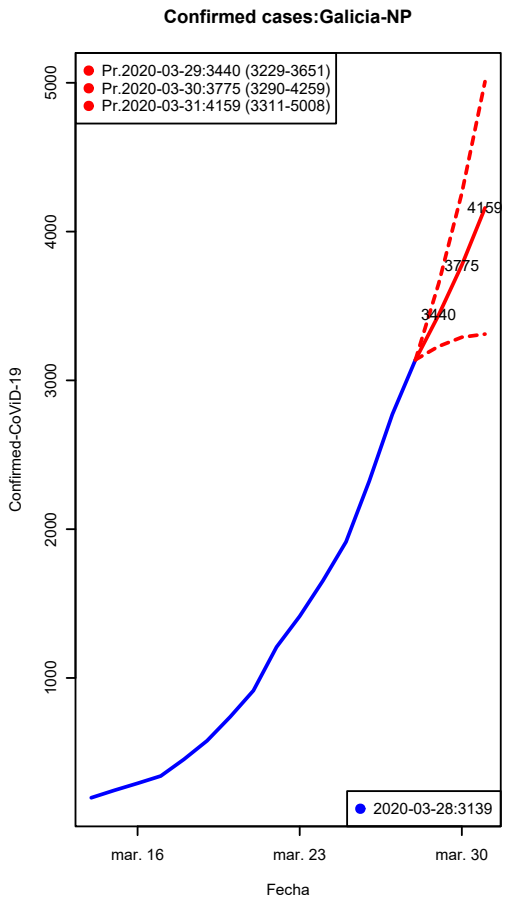


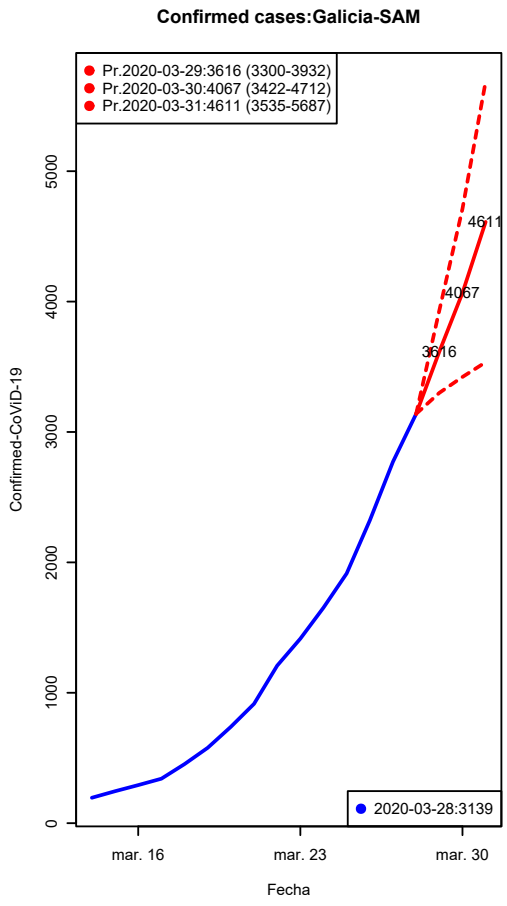


Confirmados Fallecidos

Confirmed cases: Galicia

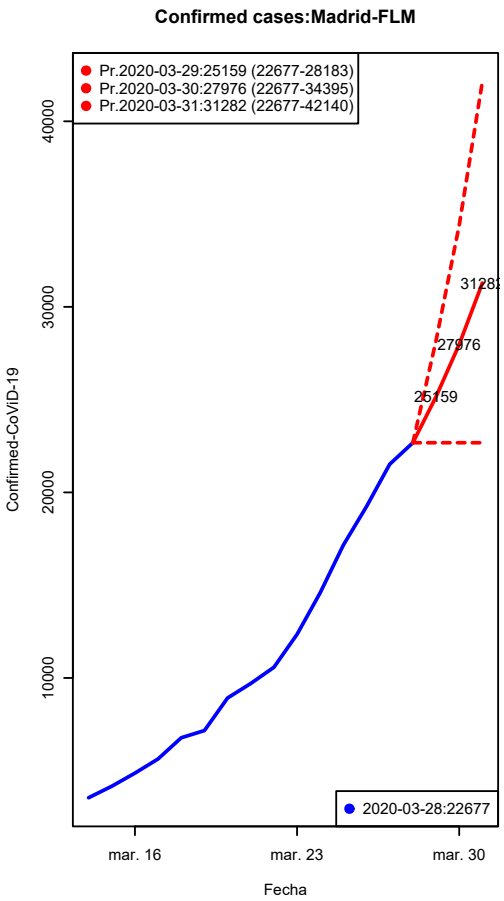


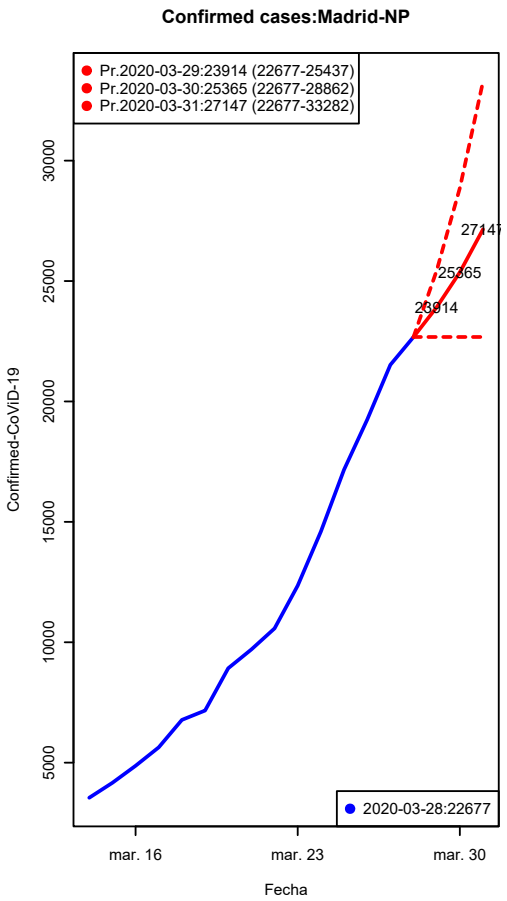


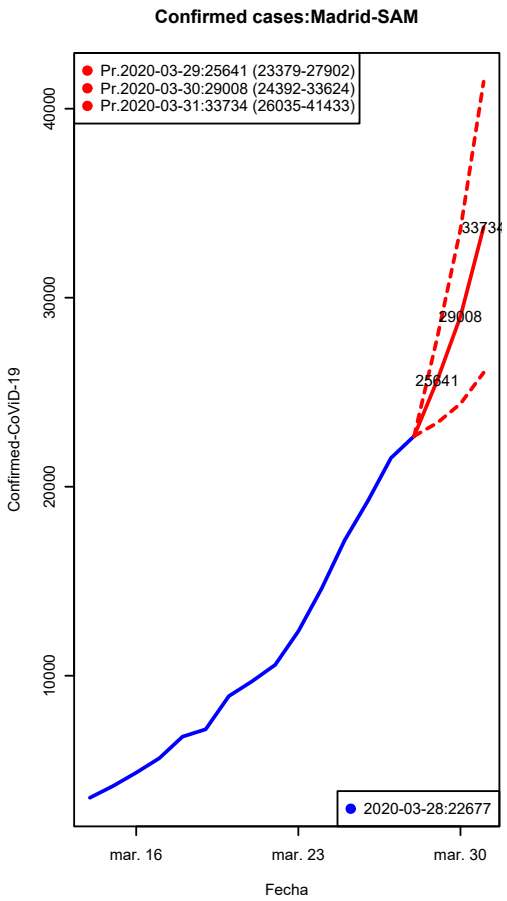


Confirmados Fallecidos

Confirmed cases: Madrid

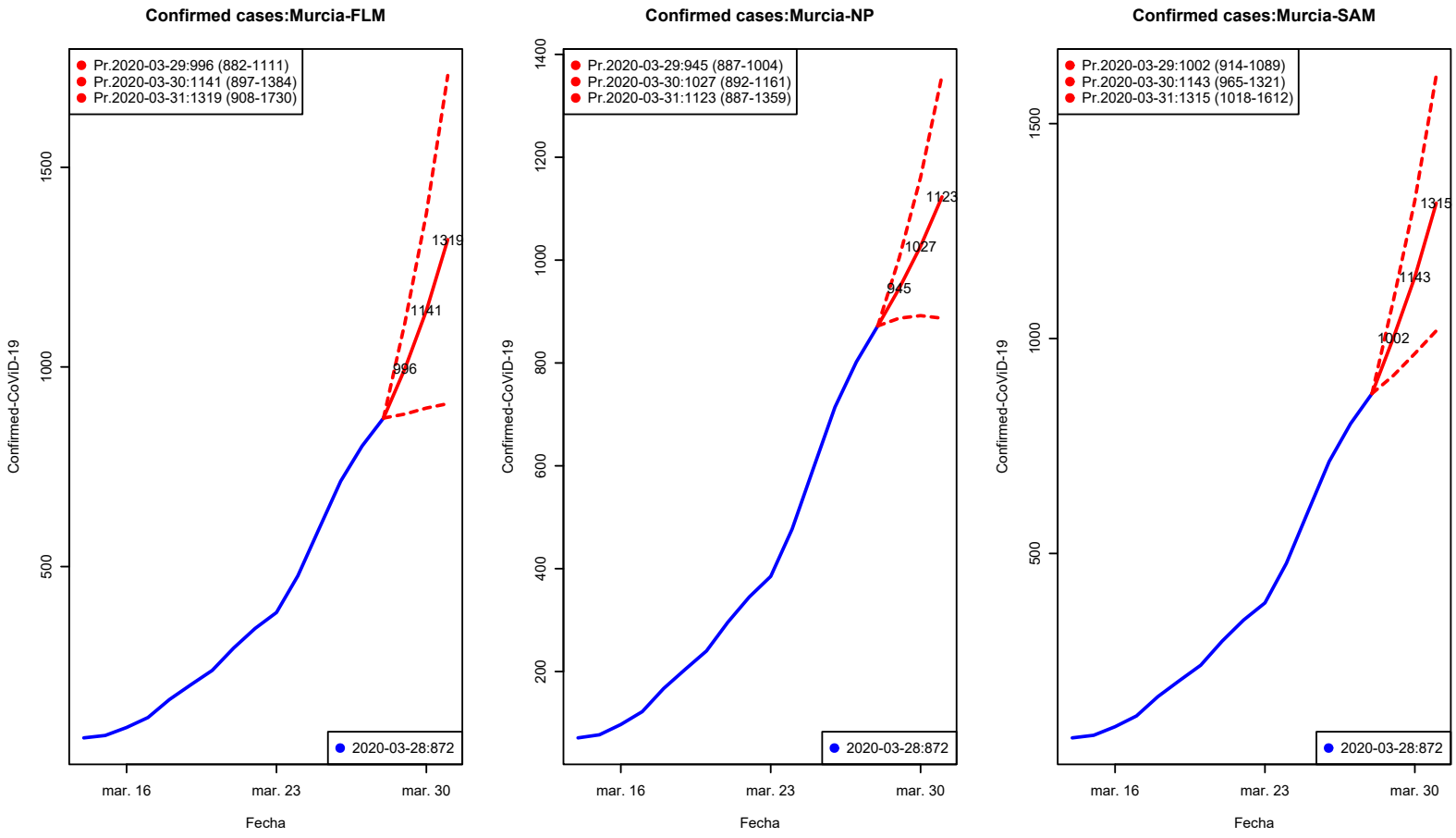






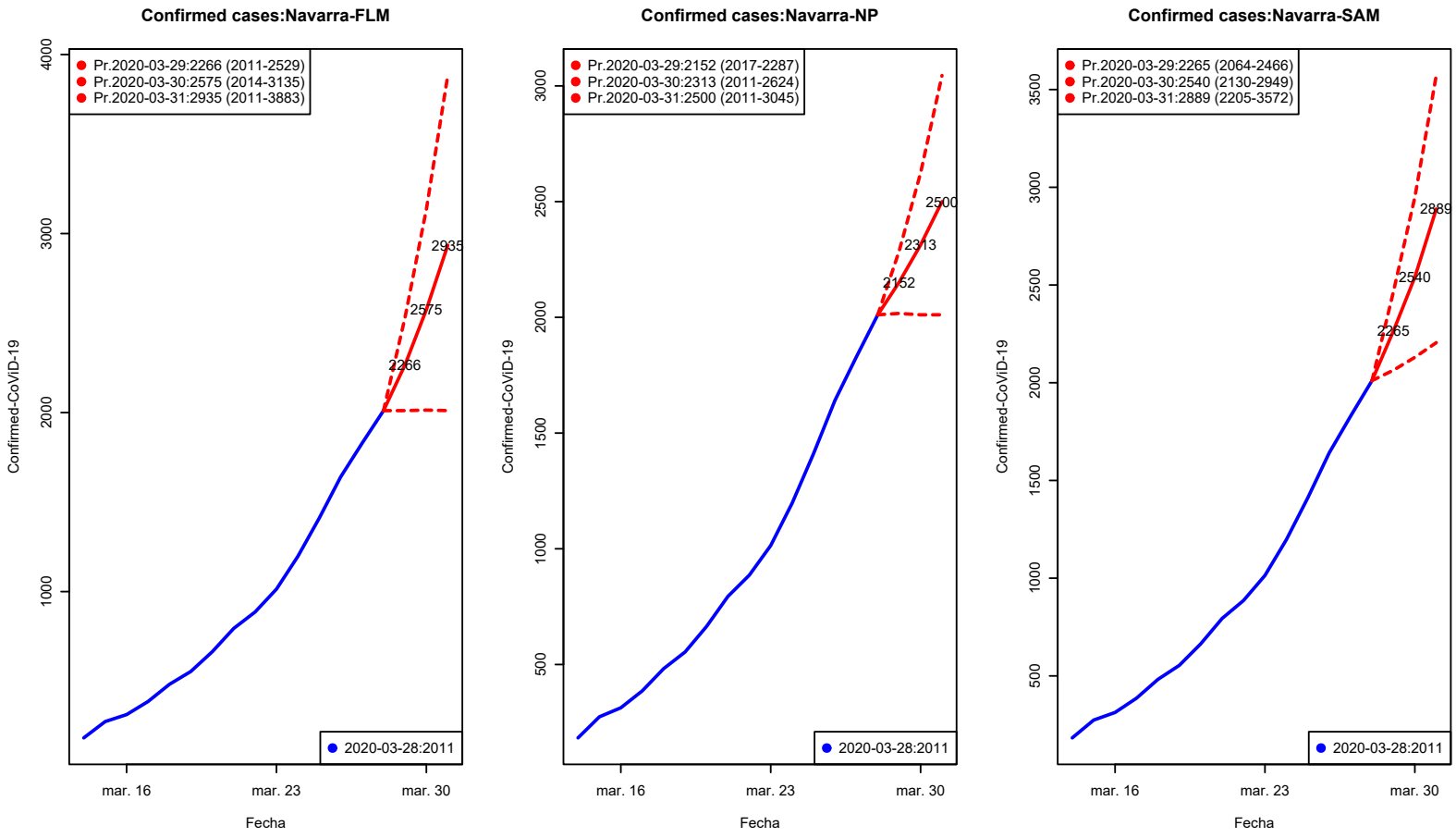
Confirmados Fallecidos

Confirmed cases: Murcia



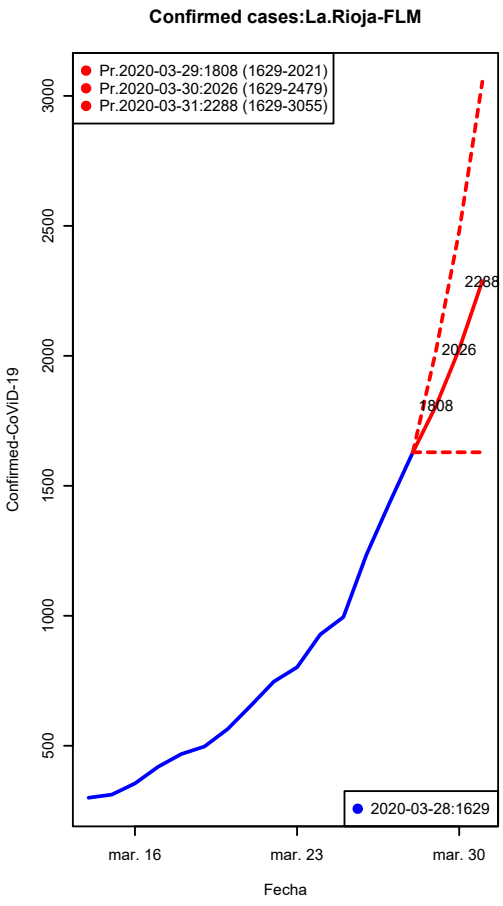
Confirmados Fallecidos

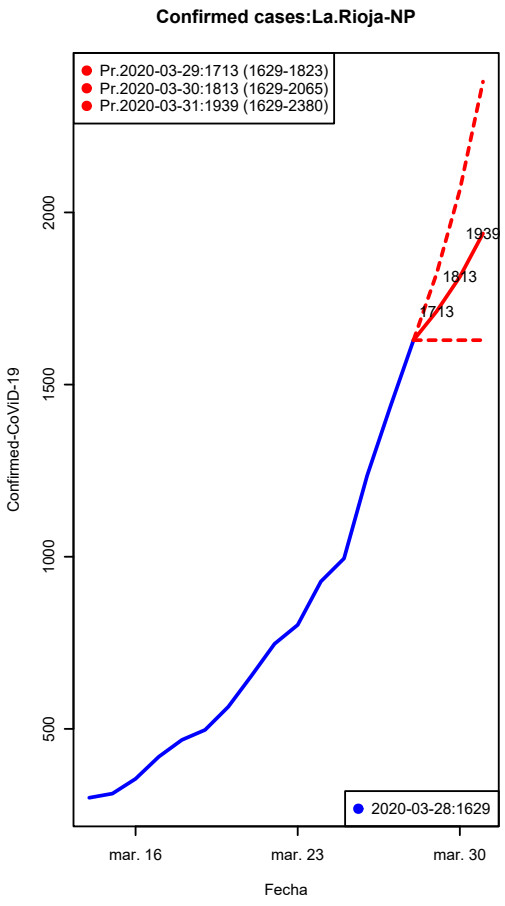
Confirmed cases: Navarra

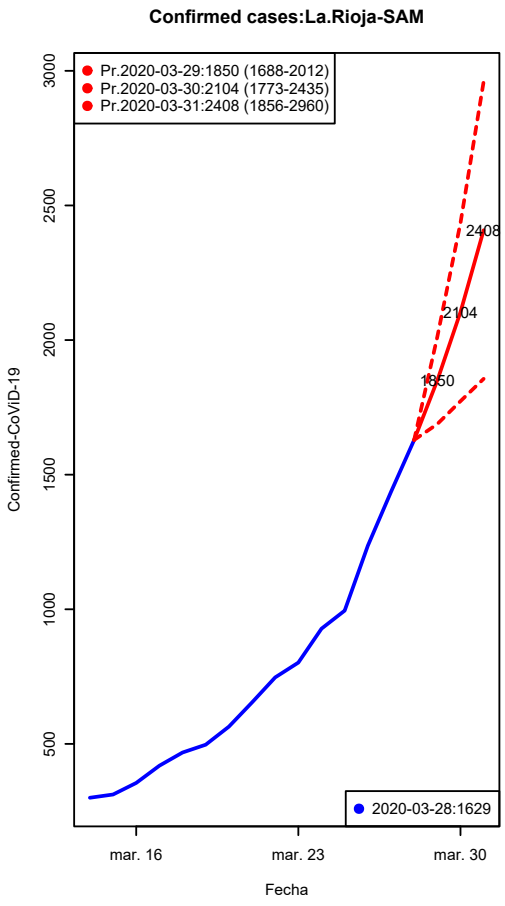


Confirmados Fallecidos

Confirmed cases: La Rioja







Confirmados Fallecidos

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- Predicciones

2 Fallecidos
- Predicciones

Modelos para fallecidos por CoViD-19

Número de datos funcionales: 1666
Países/Regiones distintos incorporados: 34
Predicciones: España Andalucía Aragón Castilla-La Mancha Castilla y León Cataluña Extremadura Galicia Euskadi Madrid La Rioja C. Valenciana Mod Lineal Mod NP Mod Aditivo

Horiz	Medida	FLM	NP	SAM
H1	σ_R^2	0.069	0.068	0.066
H1	$\sigma_R^2(rob.)$	0.041	0.012	0.038
H1	r^2	0.188	0.341	0.226
H2	σ_R^2	0.201	0.211	0.187
H2	$\sigma_R^2(rob.)$	0.154	0.099	0.138
H2	r^2	0.291	0.381	0.337
H3	σ_R^2	0.518	0.584	0.475
H3	$\sigma_R^2(rob.)$	0.388	0.139	0.298
H3	r^2	0.325	0.369	0.378

Tabla Fallecidos Modelo Lineal.

	Last	N:H1-lw	N:H1-fit	N:H1-up	N:H2-lw	N:H2-fit	N:H2-up
España	6528	6836	7705	8573	7297	8951	10605
Andalucía	207	218	246	274	236	289	342
Aragón	93	96	108	120	104	127	151
Castilla.La.Mancha	539	571	644	717	629	767	906
Castilla.y.León	380	421	474	527	472	572	672
Cataluña	1226	1394	1567	1740	1569	1895	2221
Euskadi	265	269	304	339	282	348	415
Extremadura	100	110	123	136	123	149	174
Galicia	60	65	73	82	72	88	103
Madrid	3082	3128	3538	3947	3217	3997	4776
C..Valenciana	267	293	329	366	322	391	460
La.Rioja	68	69	78	87	72	90	107

Table: Previsión fallecidos: Modelo lineal - Horizonte 1 y 2 días.

Confirmados Fallecidos

Tabla Fallecidos Modelo No Paramétrico.

	Last	N:H1-lw	N:H1-fit	N:H1-up	N:H2-lw	N:H2-fit	N:H2-up
España	6528	7335	7570	7806	7761	8657	9554
Andalucía	207	235	243	250	260	289	317
Aragón	93	95	99	102	94	107	120
Castilla.La.Mancha	539	605	624	643	666	740	814
Castilla.y.León	380	457	470	484	542	595	647
Cataluña	1226	1498	1541	1584	1843	2011	2179
Euskadi	265	274	283	293	269	306	342
Extremadura	100	113	116	120	123	137	151
Galicia	60	70	72	74	73	81	90
Madrid	3082	3420	3531	3642	3627	4049	4472
C..Valenciana	267	321	330	340	367	404	441
La.Rioja	68	85	88	91	94	104	113

Table: Previsión fallecidos: Modelo No Paramétrico - Horizonte 1 y 2 días.

Confirmados Fallecidos

Tabla Fallecidos Ratio Incremento Modelo Lineal.

	Last	RI:H1-lw	RI:H1-fit	RI:H1-up	RI:H2-lw	RI:H2-fit	RI:H2-up
España	0.147	0.047	0.180	0.313	0.118	0.371	0.624
Andalucía	0.182	0.052	0.187	0.322	0.138	0.394	0.649
Aragón	0.593	0.027	0.158	0.288	0.116	0.365	0.614
Castilla.La.Mancha	0.203	0.060	0.195	0.330	0.166	0.423	0.679
Castilla.y.León	0.183	0.107	0.246	0.385	0.242	0.505	0.767
Cataluña	0.146	0.137	0.278	0.419	0.280	0.545	0.811
Euskadi	0.198	0.016	0.148	0.279	0.062	0.313	0.563
Extremadura	0.135	0.094	0.227	0.359	0.232	0.485	0.737
Galicia	0.271	0.086	0.219	0.353	0.202	0.456	0.709
Madrid	0.118	0.015	0.148	0.281	0.044	0.297	0.550
C..Valenciana	0.140	0.095	0.232	0.369	0.204	0.463	0.721
La.Rioja	0.045	0.016	0.148	0.281	0.061	0.313	0.565

Table: Previsión Fallecidos Ratio incremento: Modelo lineal - Horizonte 1 y 2 días.

Confirmados Fallecidos

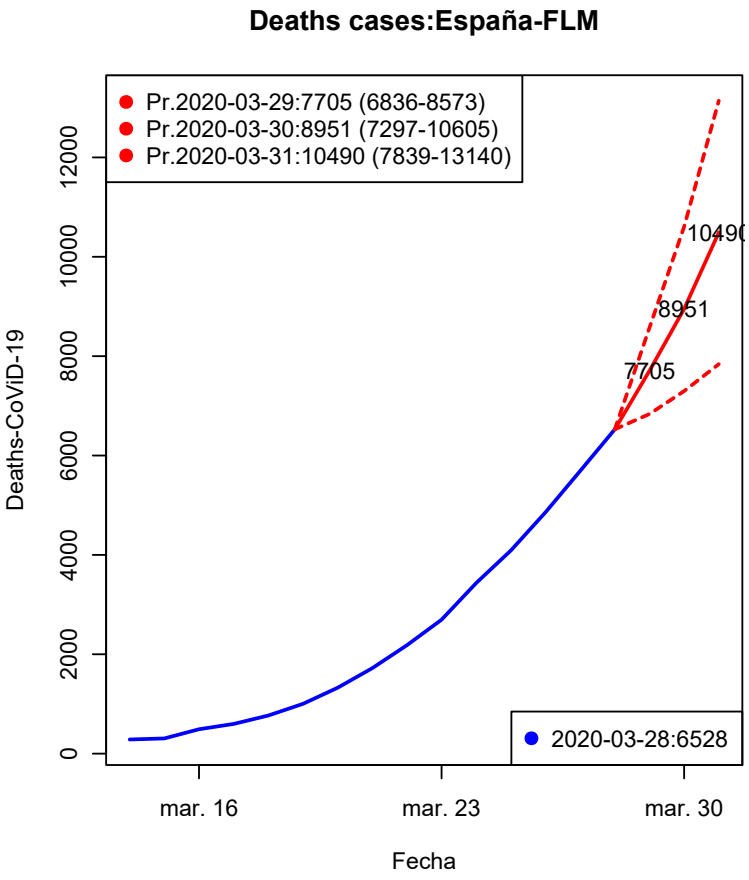
Tabla Fallecidos Ratio Incremento Modelo No Paramétrico.

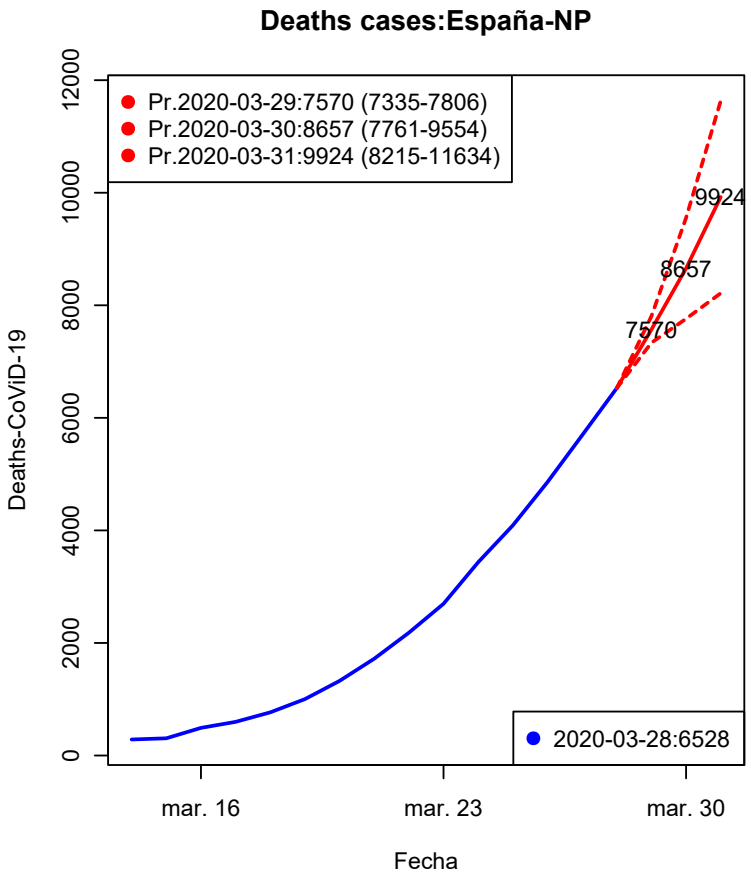
	Last	RI:H1-lw	RI:H1-fit	RI:H1-up	RI:H2-lw	RI:H2-fit	RI:H2-up
España	0.147	0.124	0.160	0.196	0.189	0.326	0.463
Andalucía	0.182	0.136	0.172	0.207	0.256	0.393	0.530
Aragón	0.593	0.025	0.061	0.098	0.013	0.152	0.290
Castilla.La.Mancha	0.203	0.123	0.158	0.193	0.236	0.373	0.510
Castilla.y.León	0.183	0.201	0.237	0.272	0.426	0.563	0.700
Cataluña	0.146	0.222	0.257	0.292	0.503	0.640	0.777
Euskadi	0.198	0.032	0.068	0.105	0.016	0.153	0.291
Extremadura	0.135	0.128	0.163	0.199	0.229	0.366	0.504
Galicia	0.271	0.162	0.197	0.232	0.213	0.349	0.486
Madrid	0.118	0.109	0.146	0.182	0.177	0.314	0.451
C..Valenciana	0.140	0.202	0.237	0.272	0.374	0.511	0.648
La.Rioja	0.045	0.253	0.294	0.335	0.375	0.515	0.654

Table: Previsión Fallecidos Ratio incremento: Modelo No Paramétrico - Horizonte 1 y 2 días.

Confirmados Fallecidos

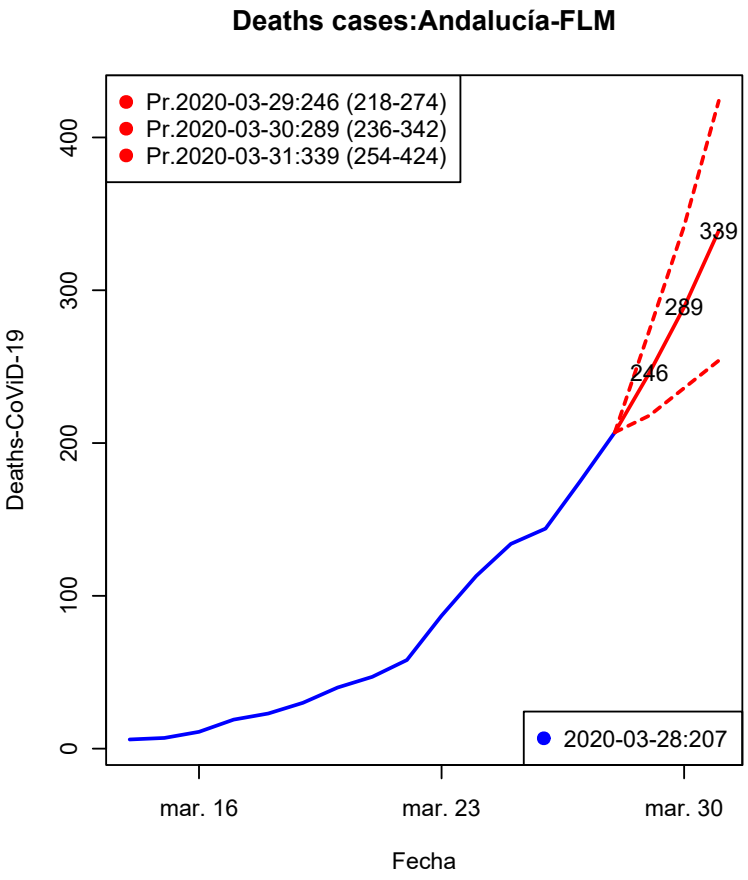
Fallecidos: España

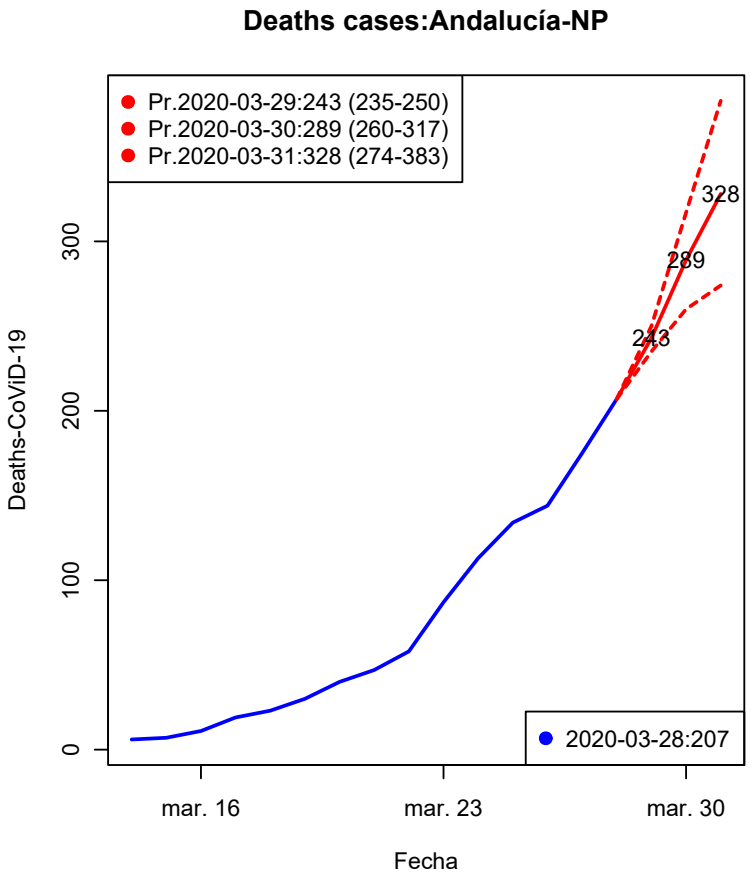




Confirmados Fallecidos

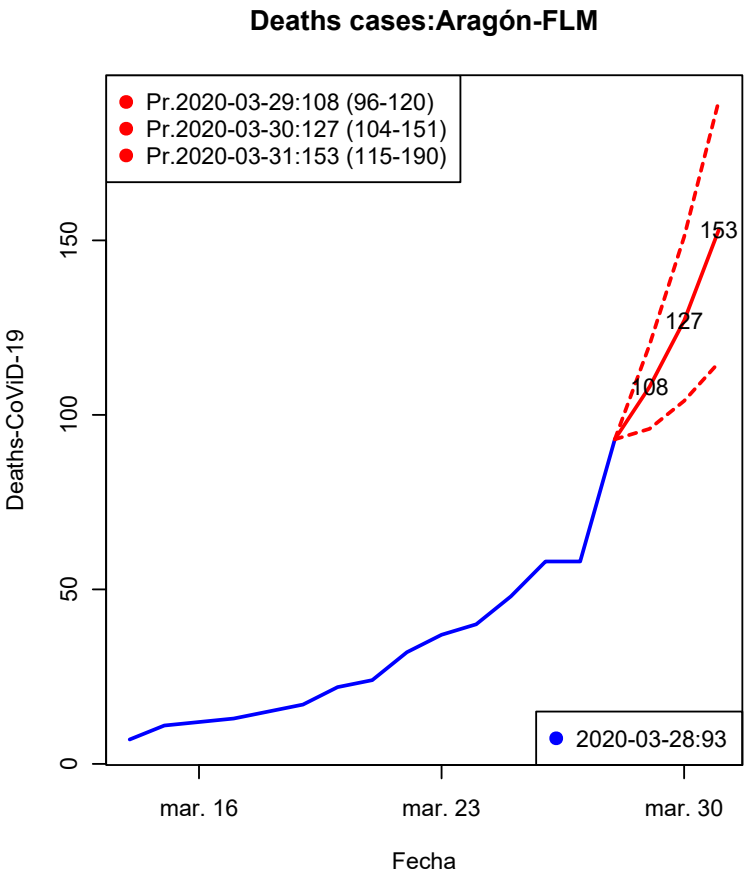
Fallecidos: Andalucía

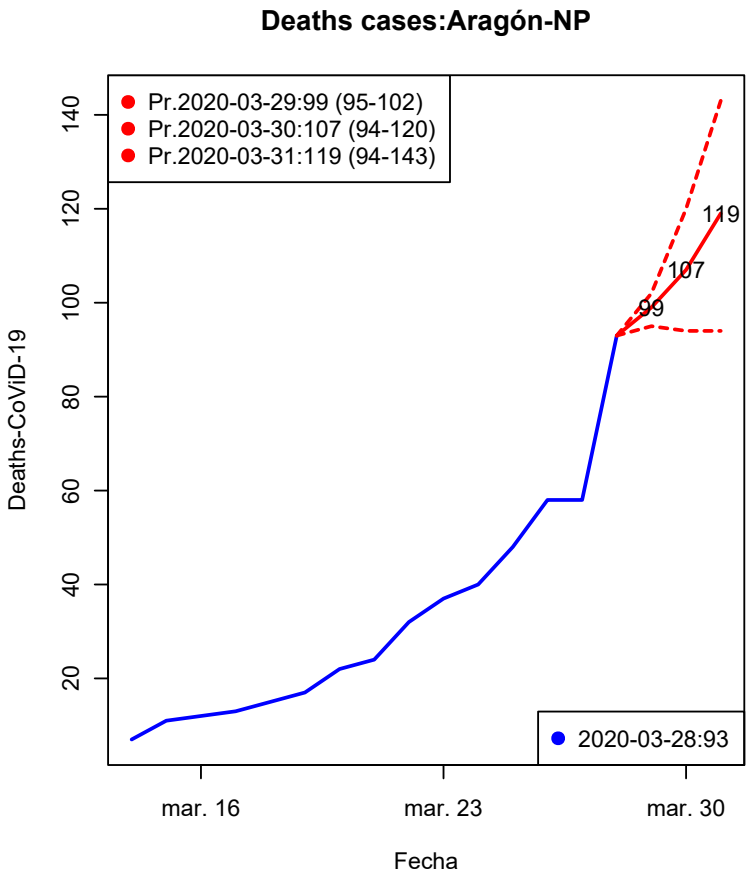




Confirmados Fallecidos

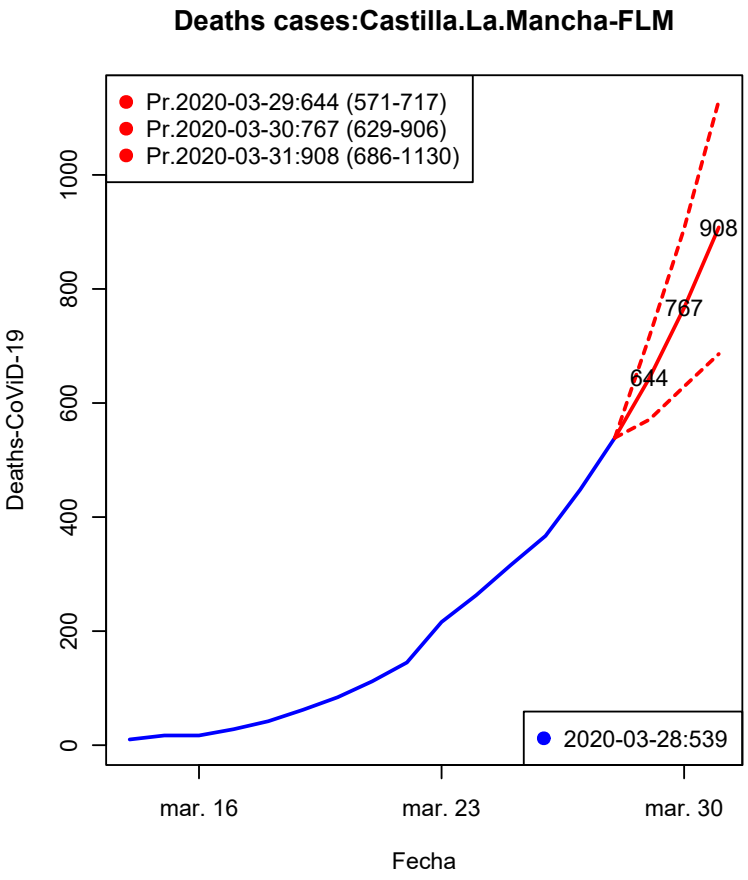
Fallecidos: Aragón

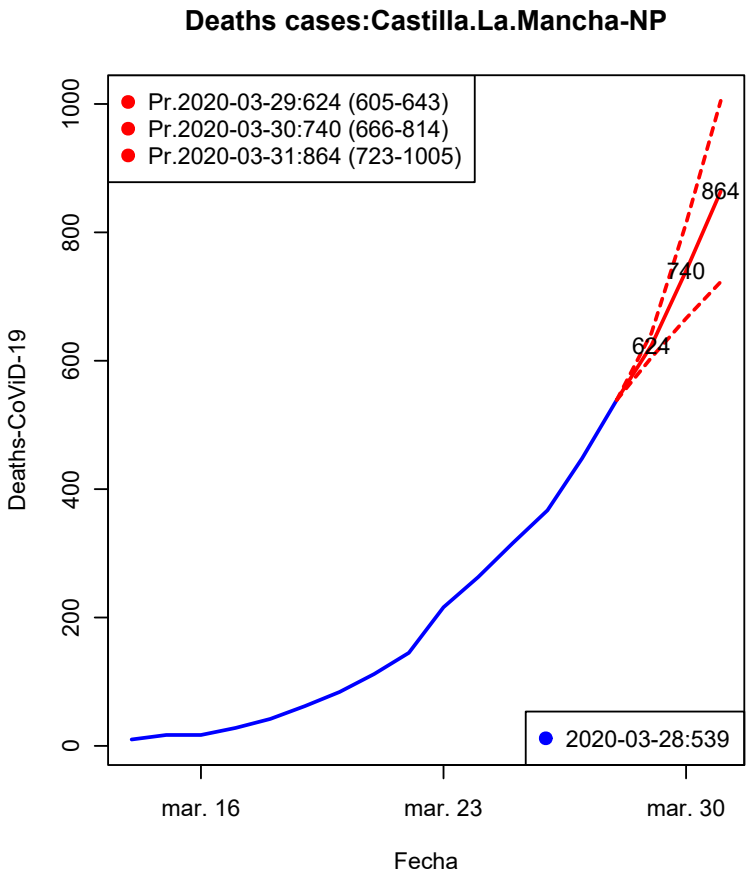




Confirmados Fallecidos

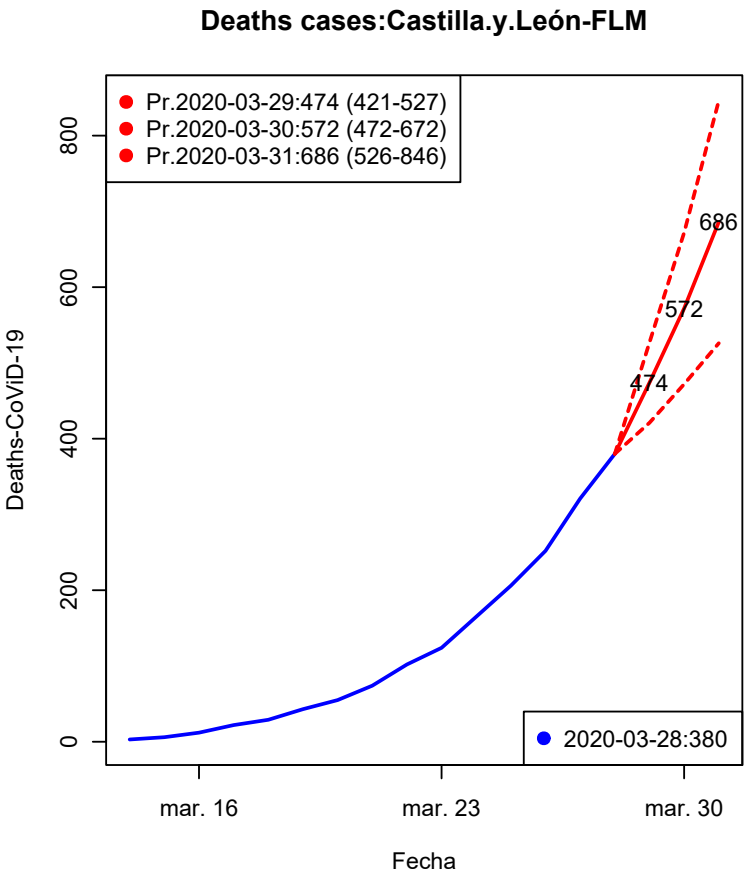
Fallecidos: Castilla-La Mancha

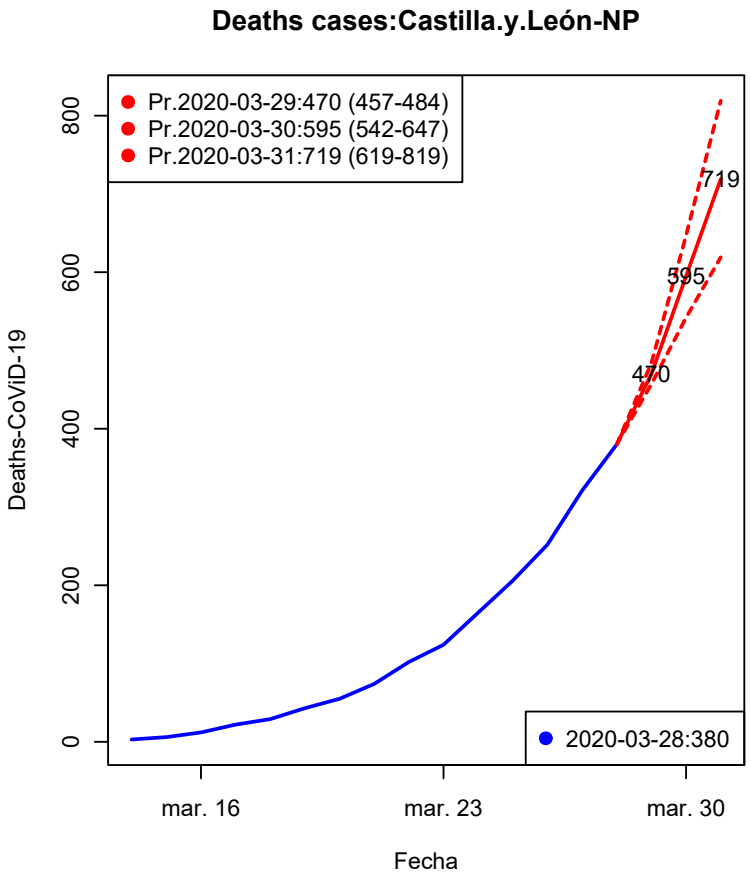




Confirmados Fallecidos

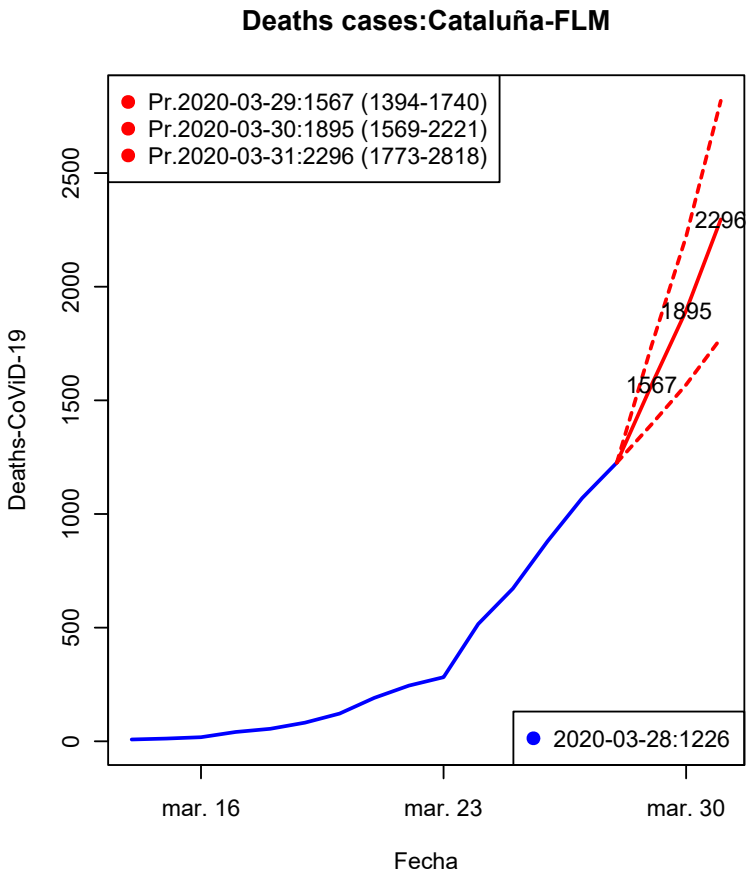
Fallecidos: Castilla y León

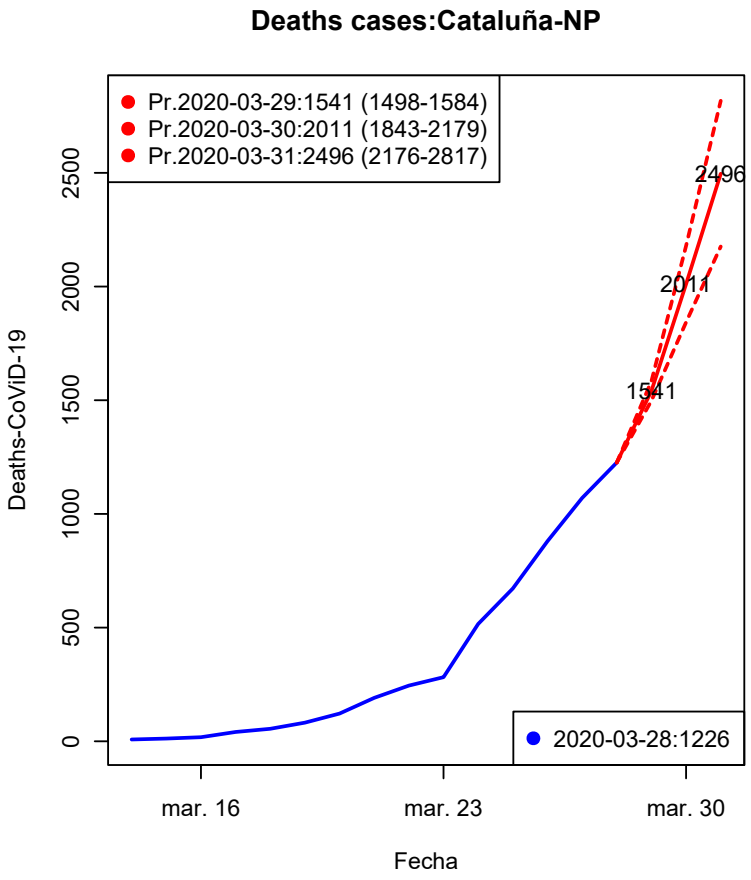




Confirmados Fallecidos

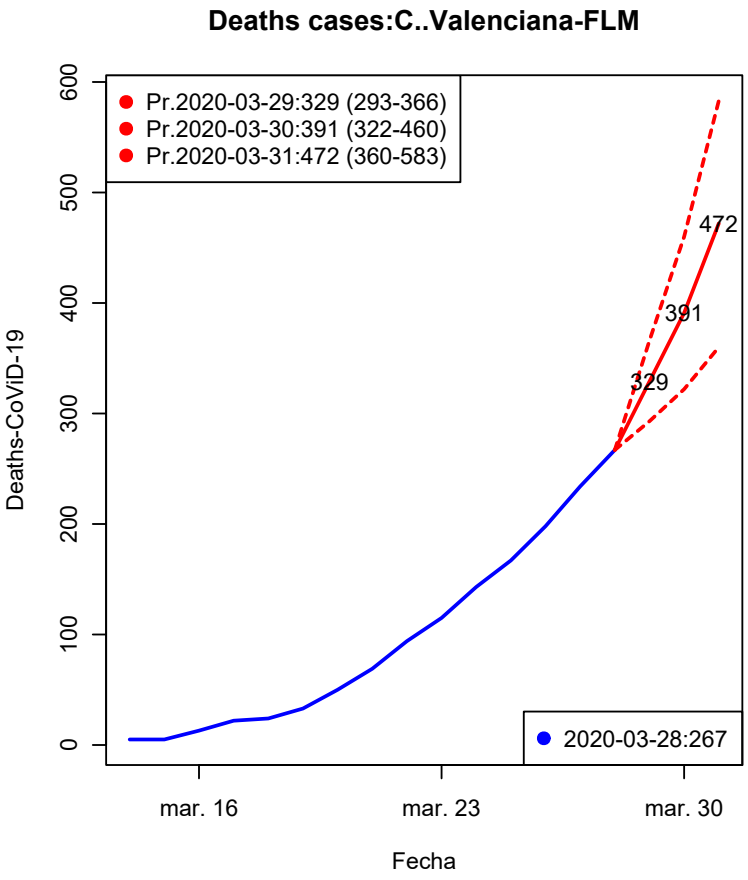
Fallecidos: Cataluña

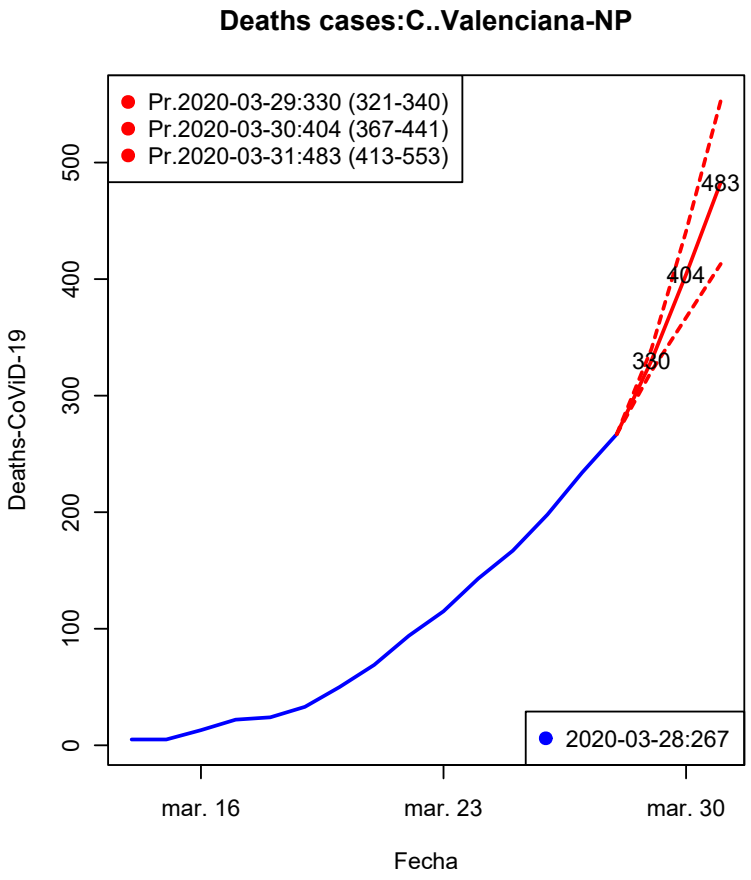




Confirmados Fallecidos

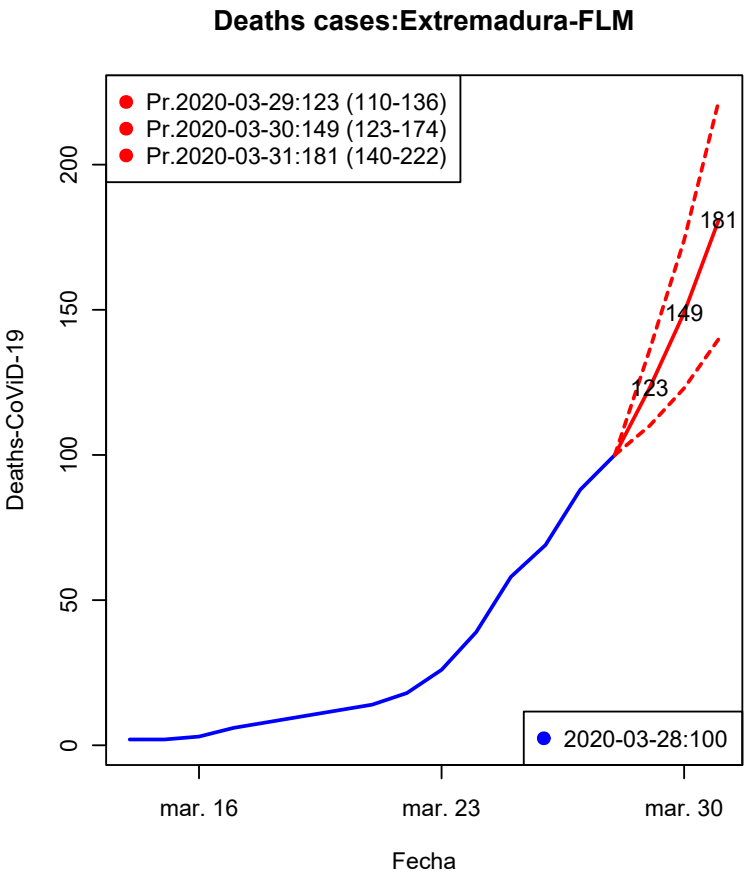
Fallecidos: C. Valenciana

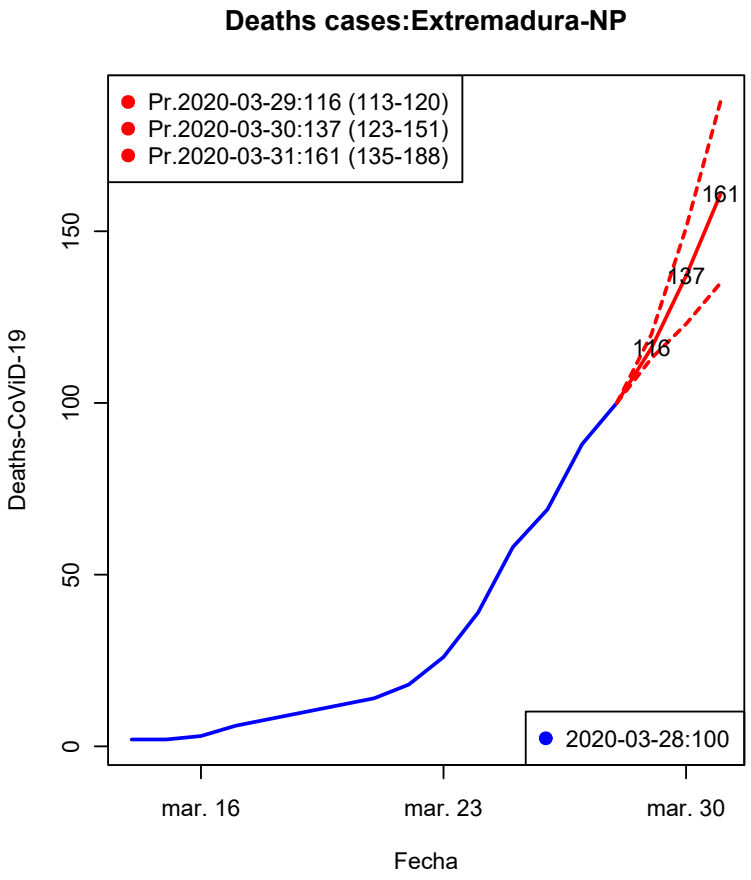




Confirmados Fallecidos

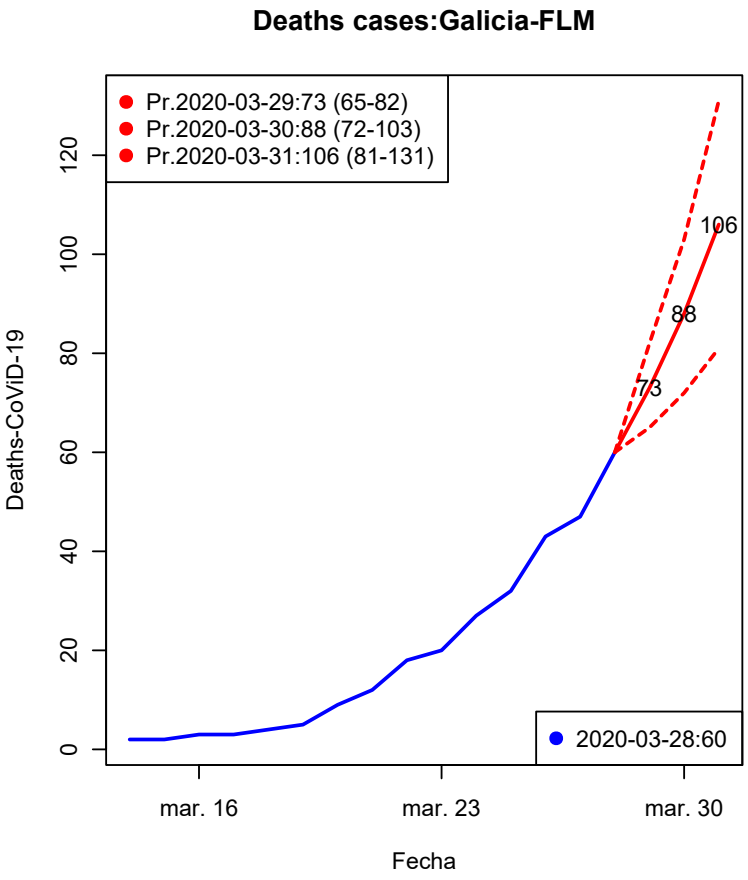
Fallecidos: Extremadura

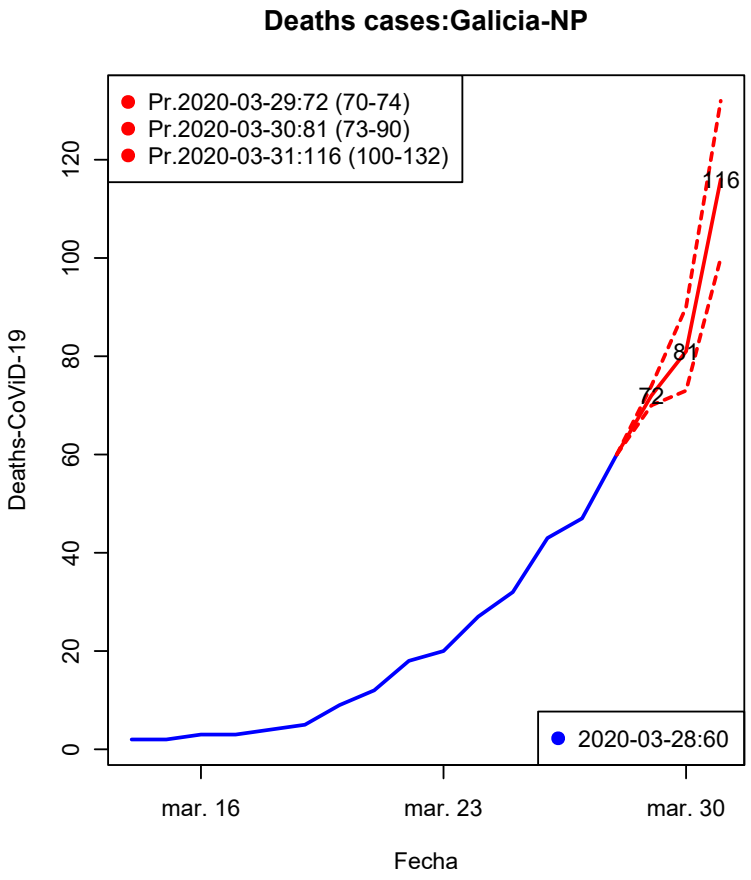




Confirmados Fallecidos

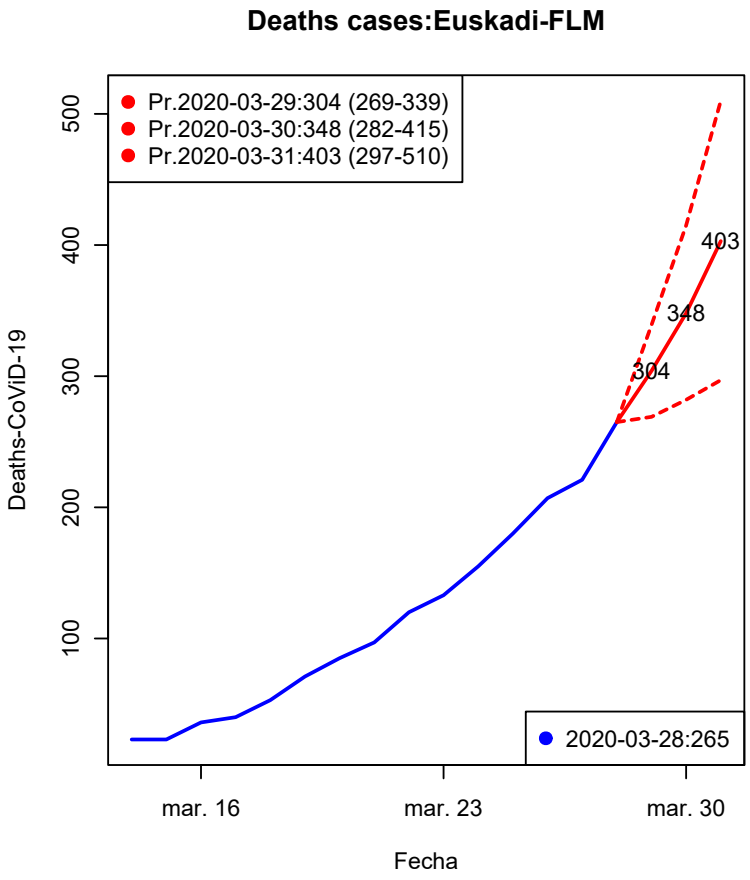
Fallecidos: Galicia

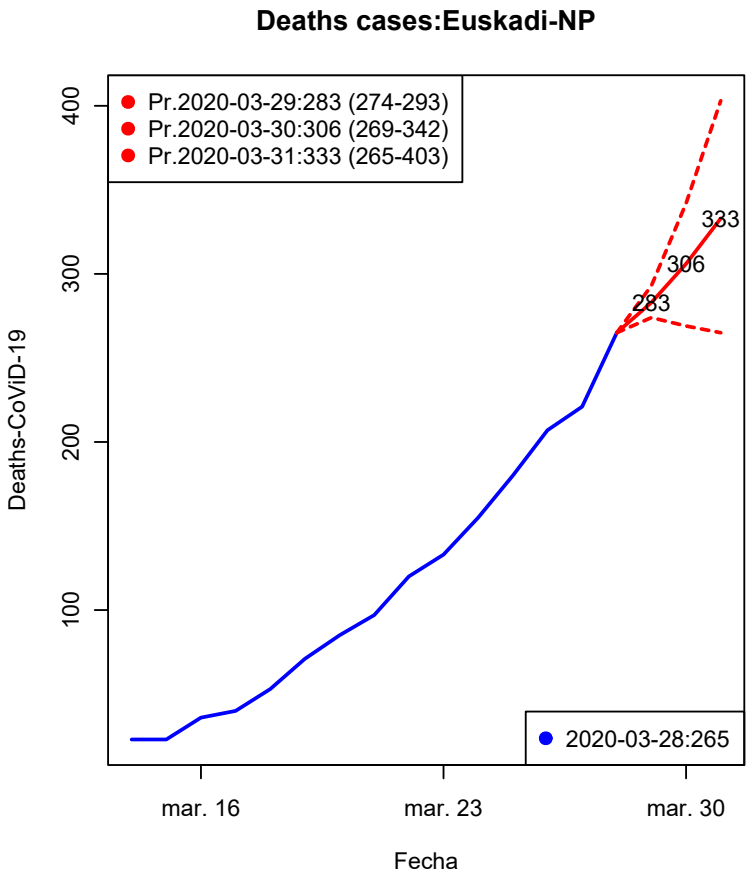




Confirmados Fallecidos

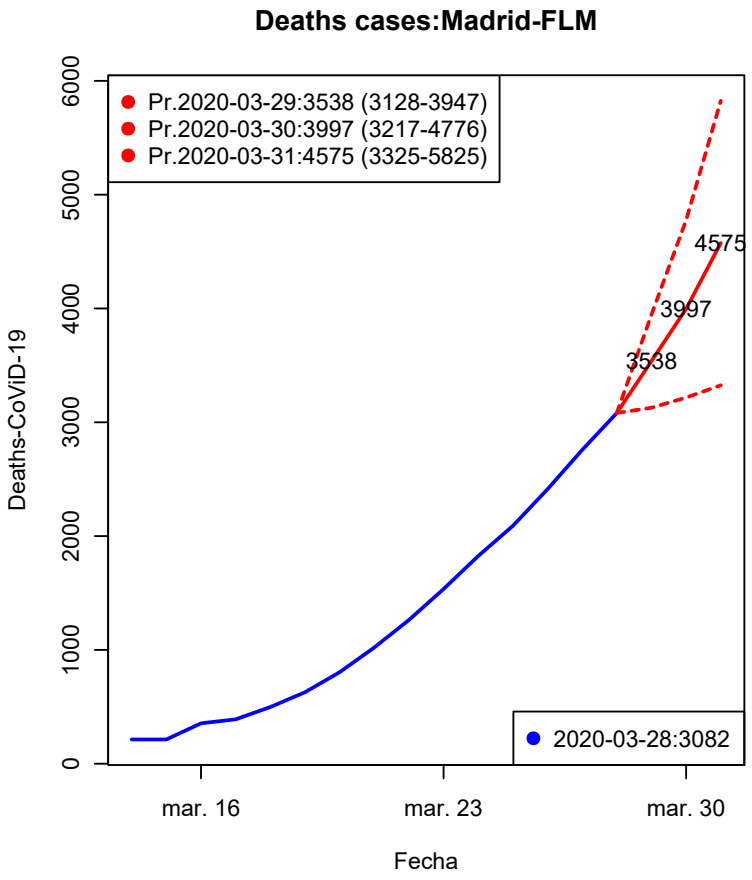
Fallecidos: Euskadi

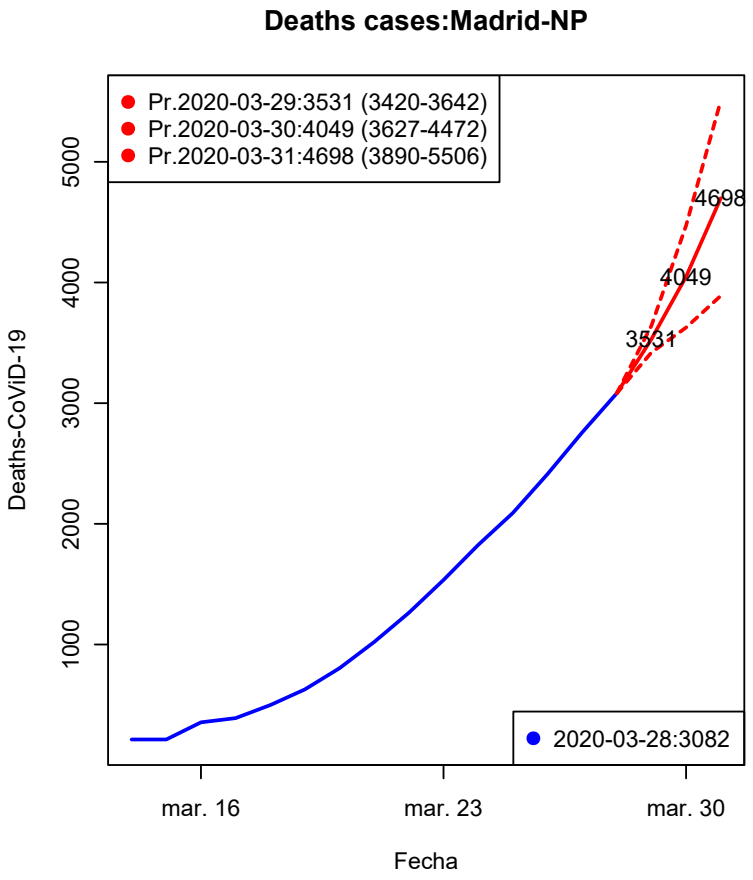




Confirmados Fallecidos

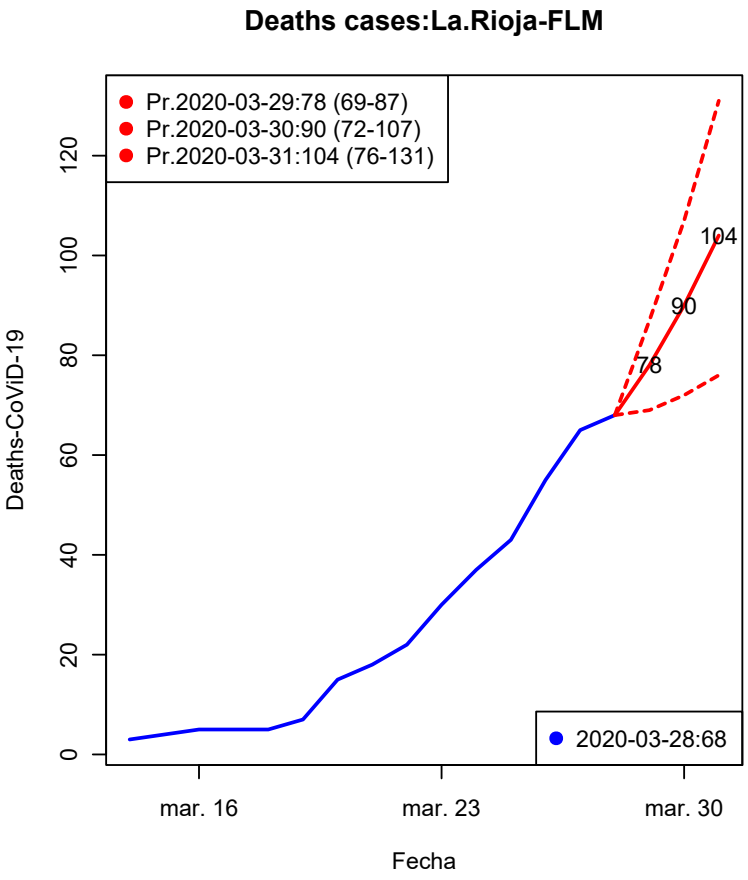
Fallecidos: Madrid

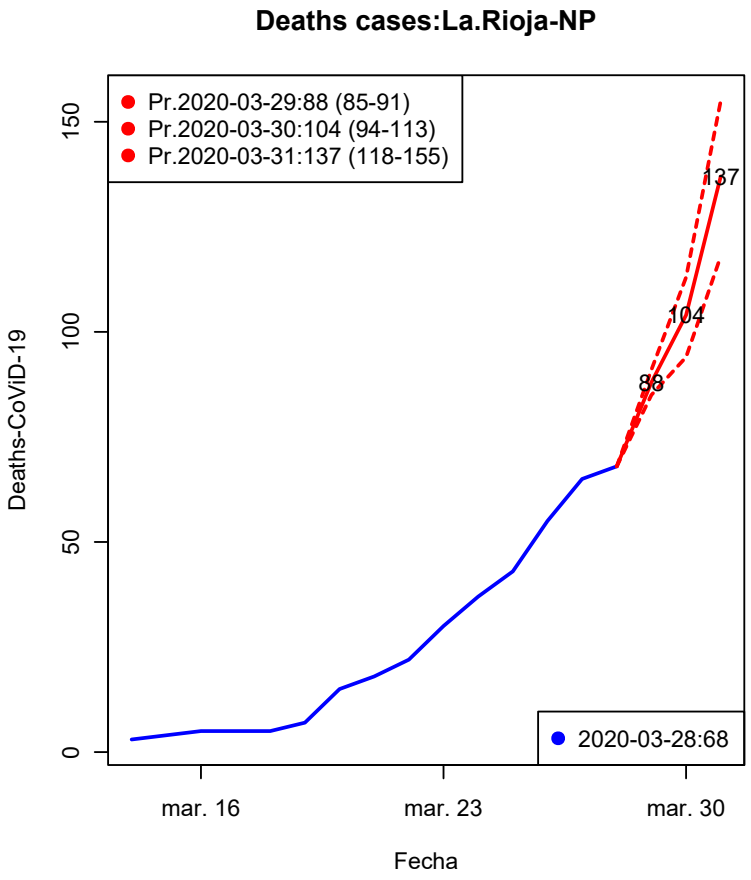




Confirmados Fallecidos

Fallecidos: La Rioja





Confirmados Fallecidos

Breve descripción del Modelo de predicción

Objetivo: Predecir ratio de incremento a 1, 2, o 3 días: $r^{(k)}(t) = \frac{x_{t+k} - x_t}{x_t + 1}$
Información usada: Pasado de esta variable a un retardo durante los últimos 15 días: $R^{(1)} = \{r^{(1)}(-14), \ldots, r^{(1)}(0)\}$.
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 Cruise Ship) son filtrados por inconsistencia, presunta falta de veracidad o por valores 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: $f(R^{(1)}) = \int_{-14}^{0} R^{(1)}(t)\beta(t)dt$
- NP: f es una estimación no paramétrica tipo núcleo.
- SAM: f es una combinación aditiva de funciones suaves de las componentes principales.