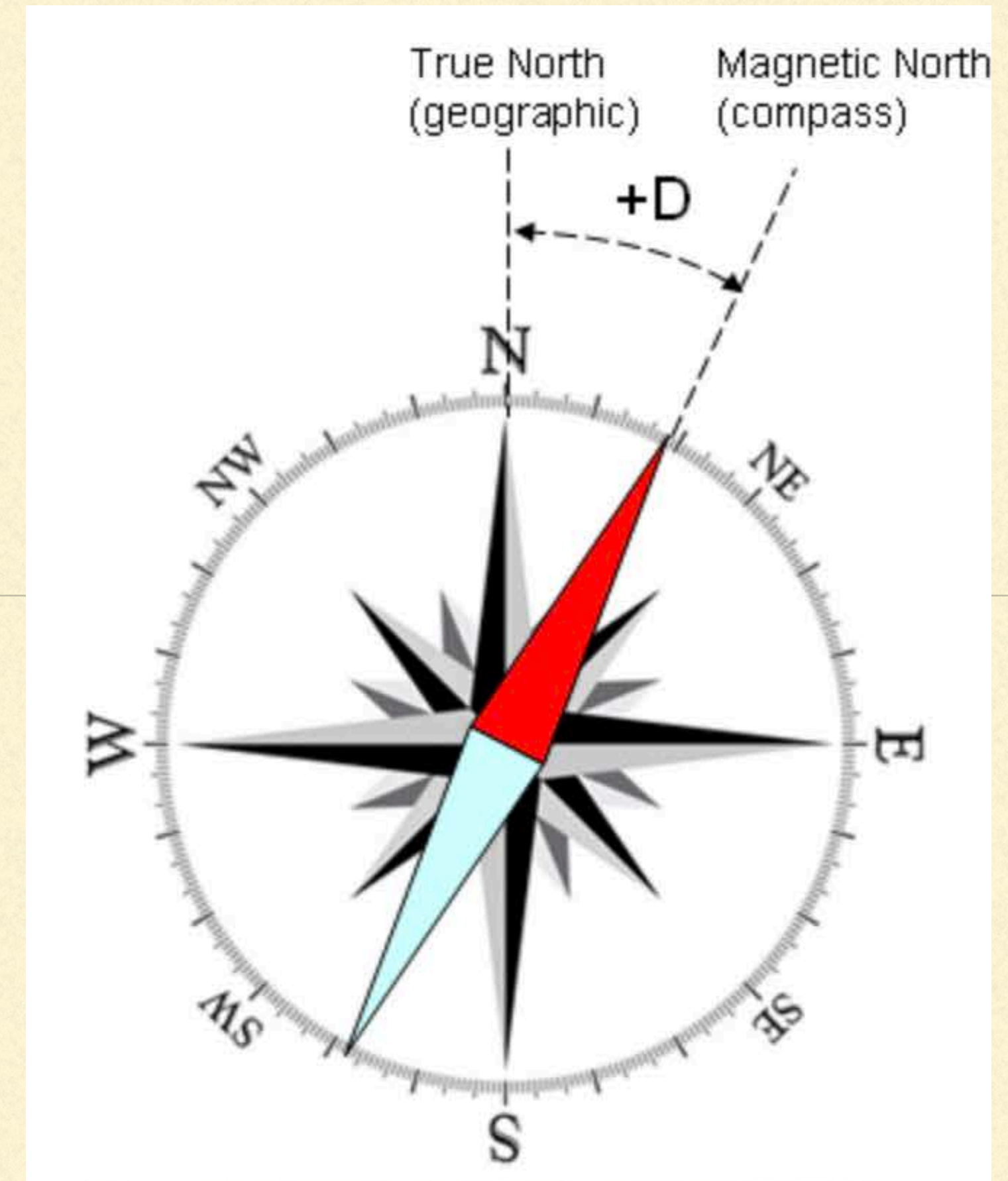
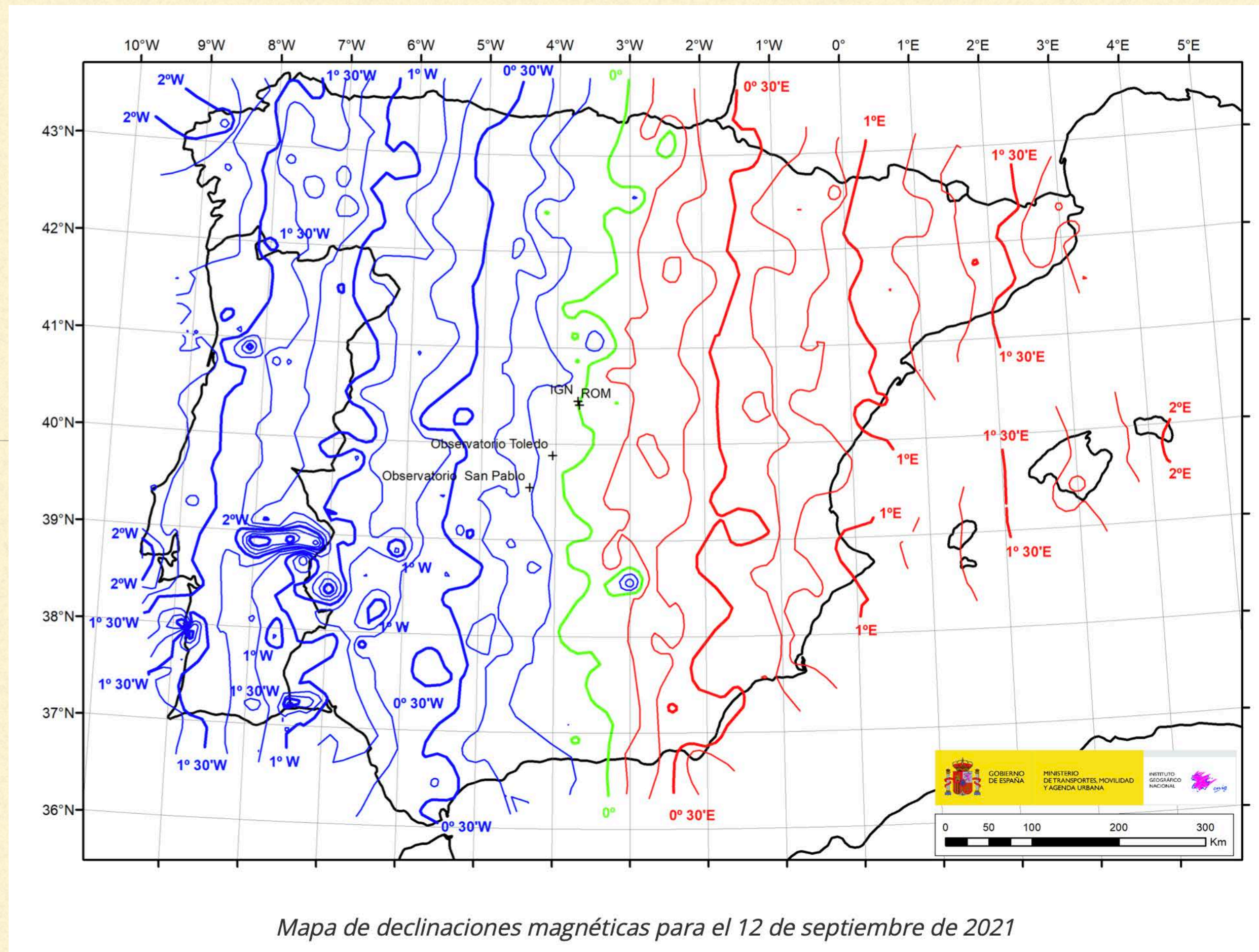


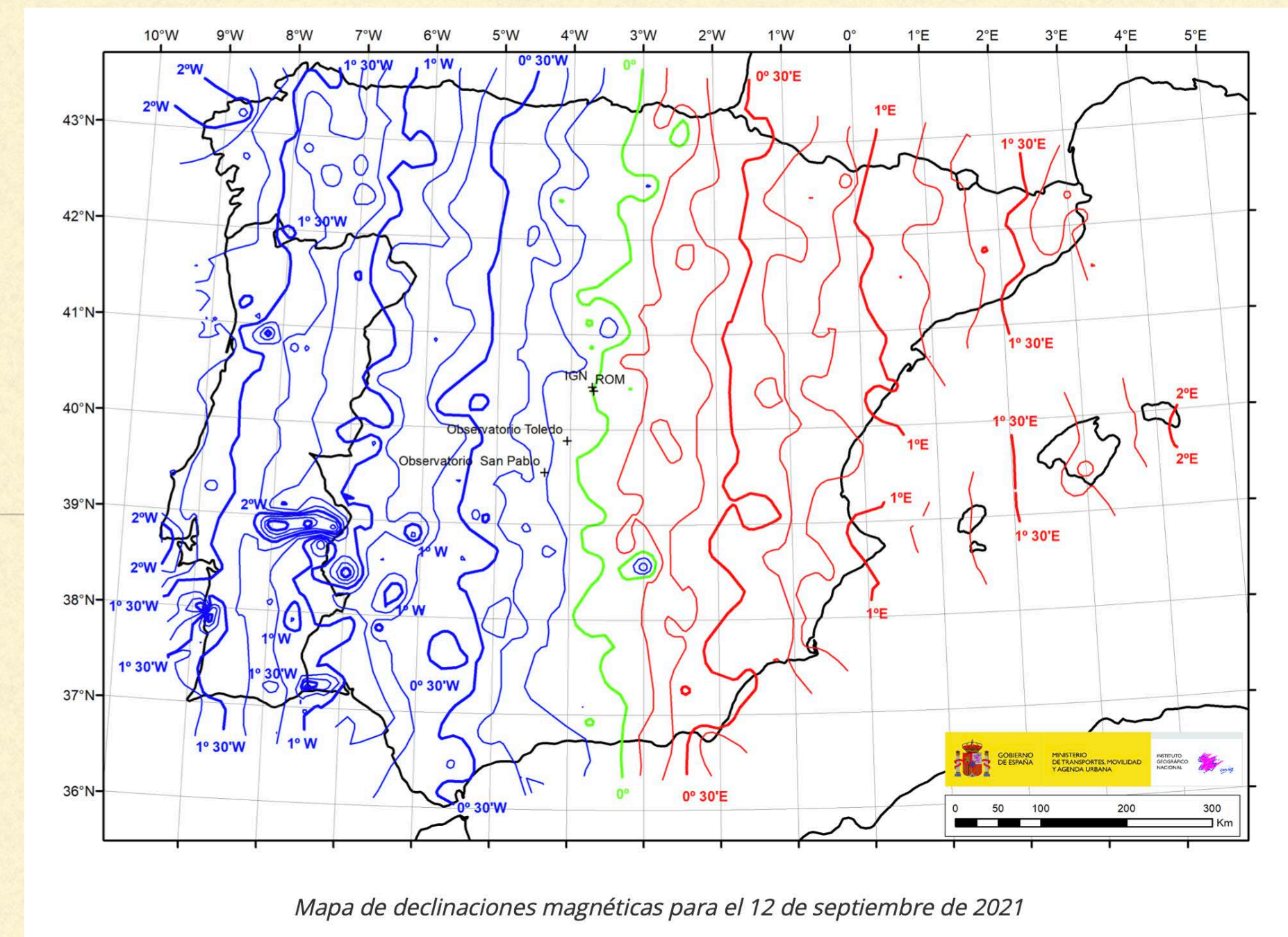
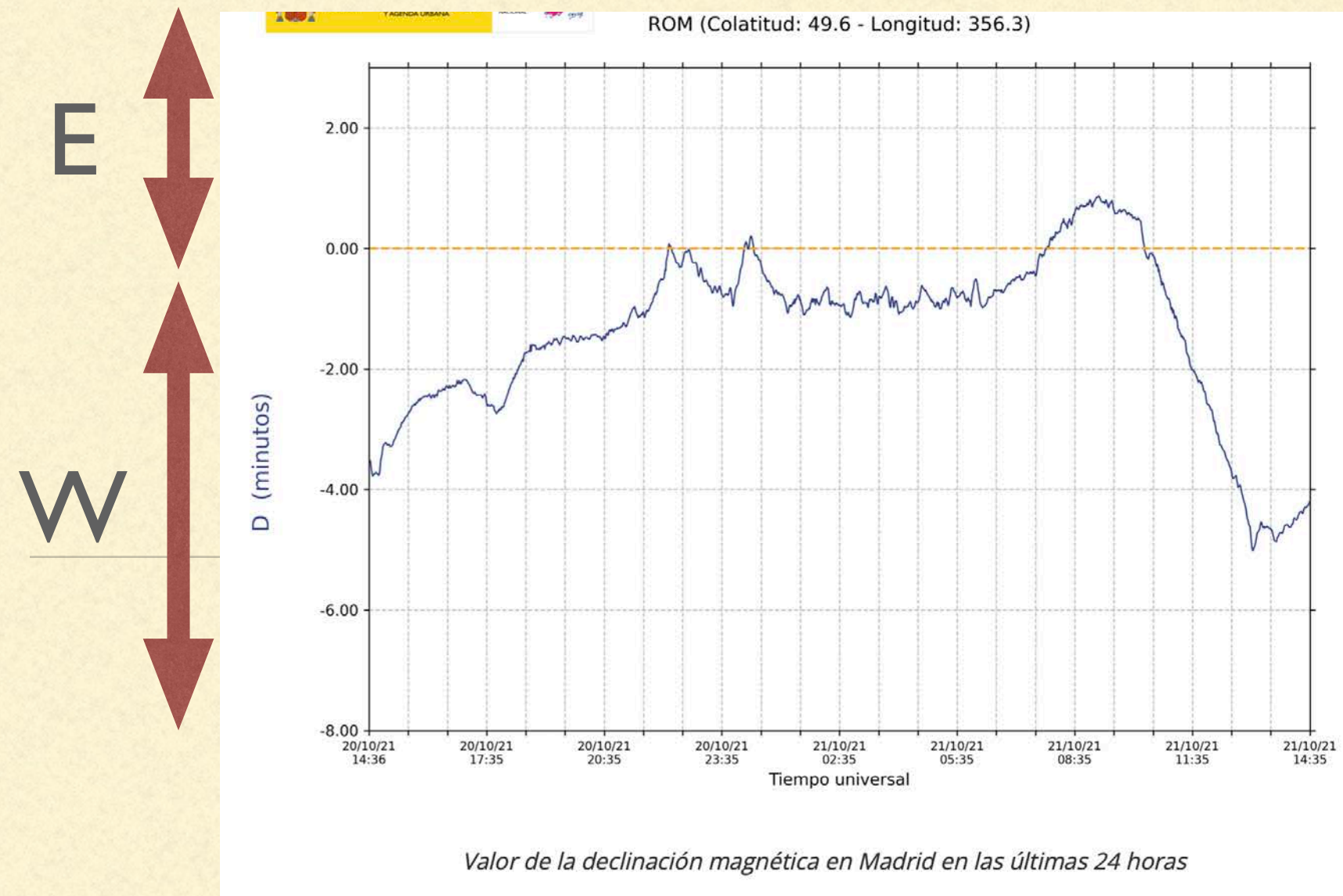
# PASO DE LA LÍNEA AGONA POR MADRID





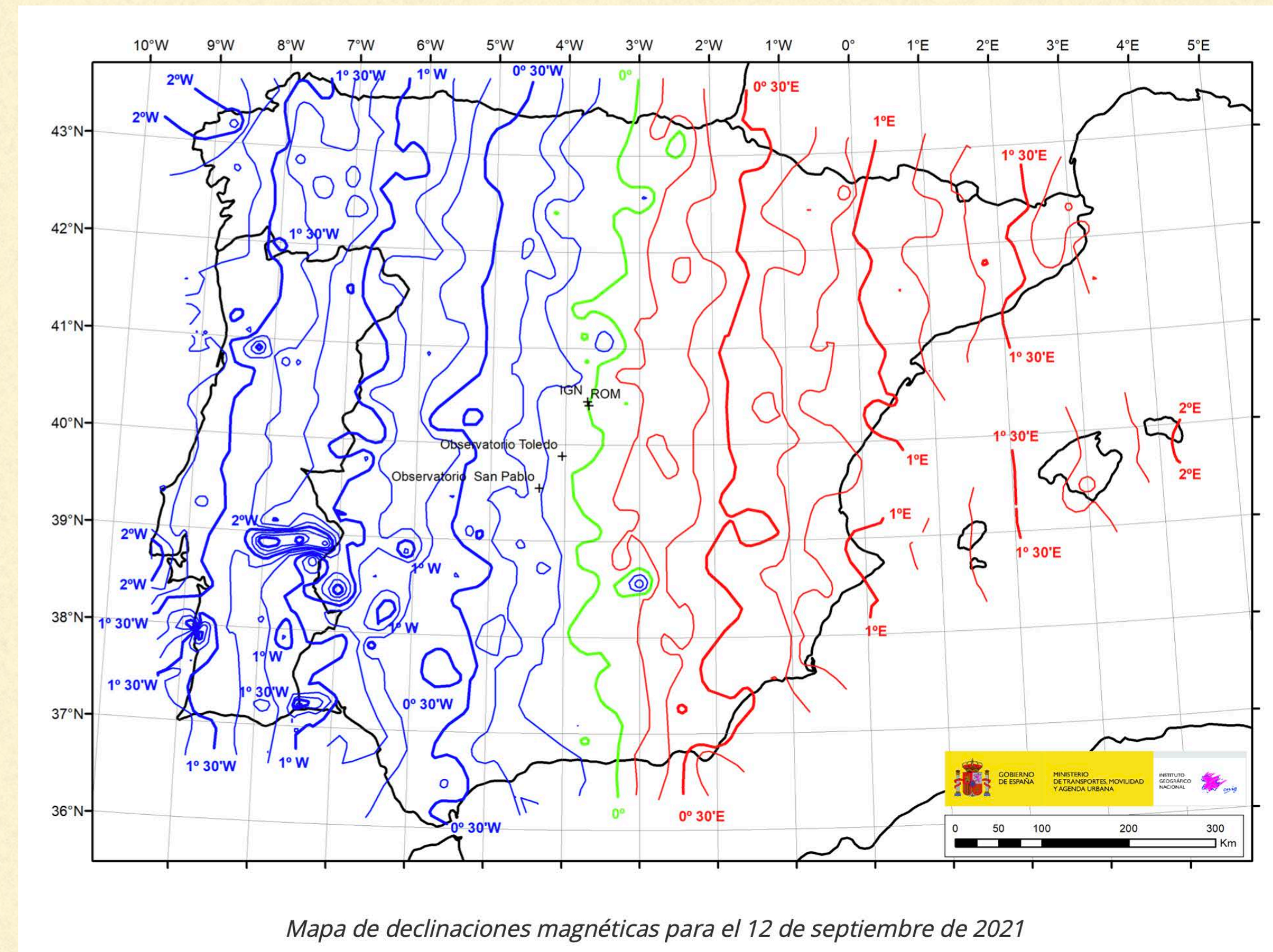
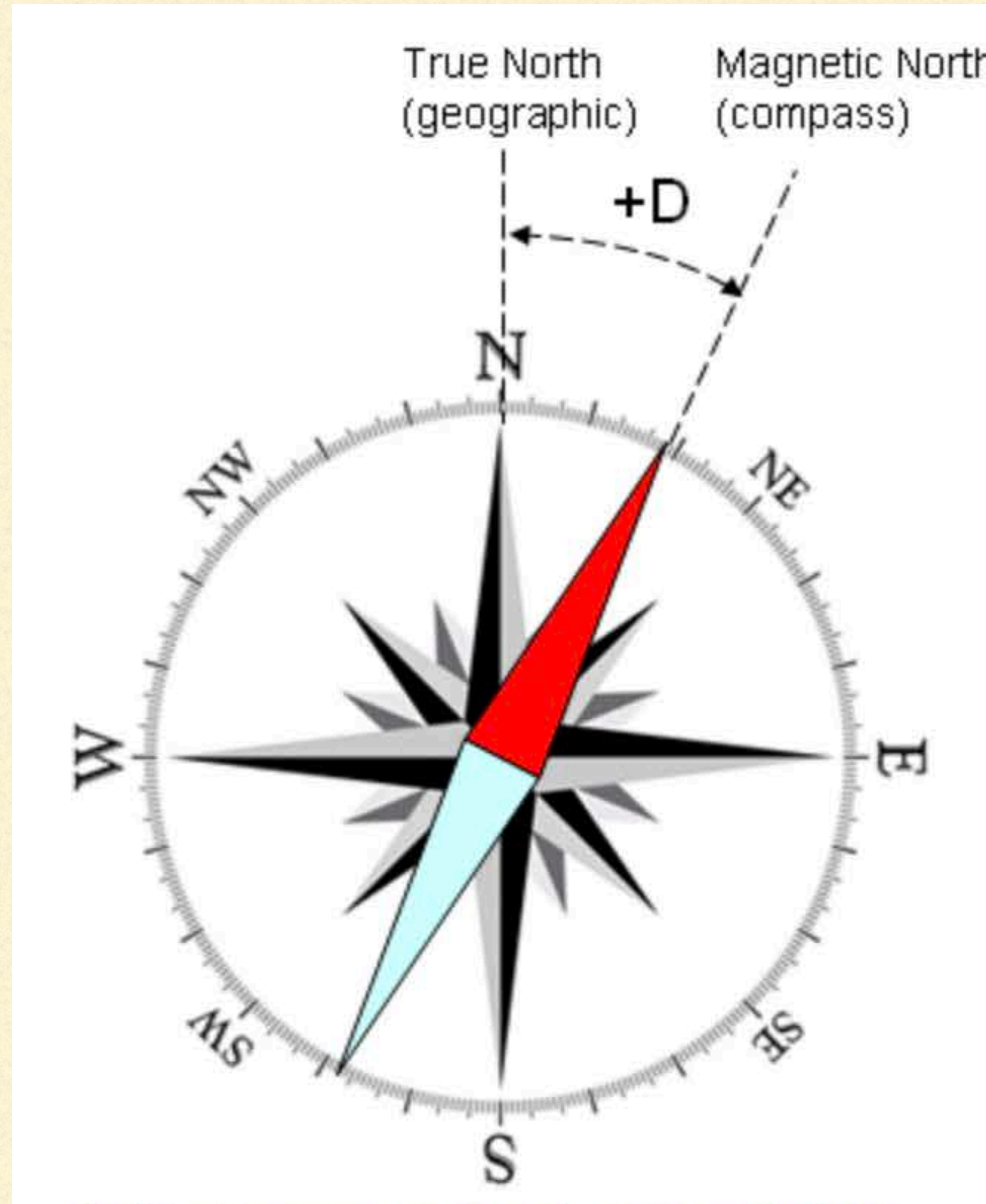
# PASO DE LA LÍNEA AGONA POR MADRID

Desde mediados de agosto





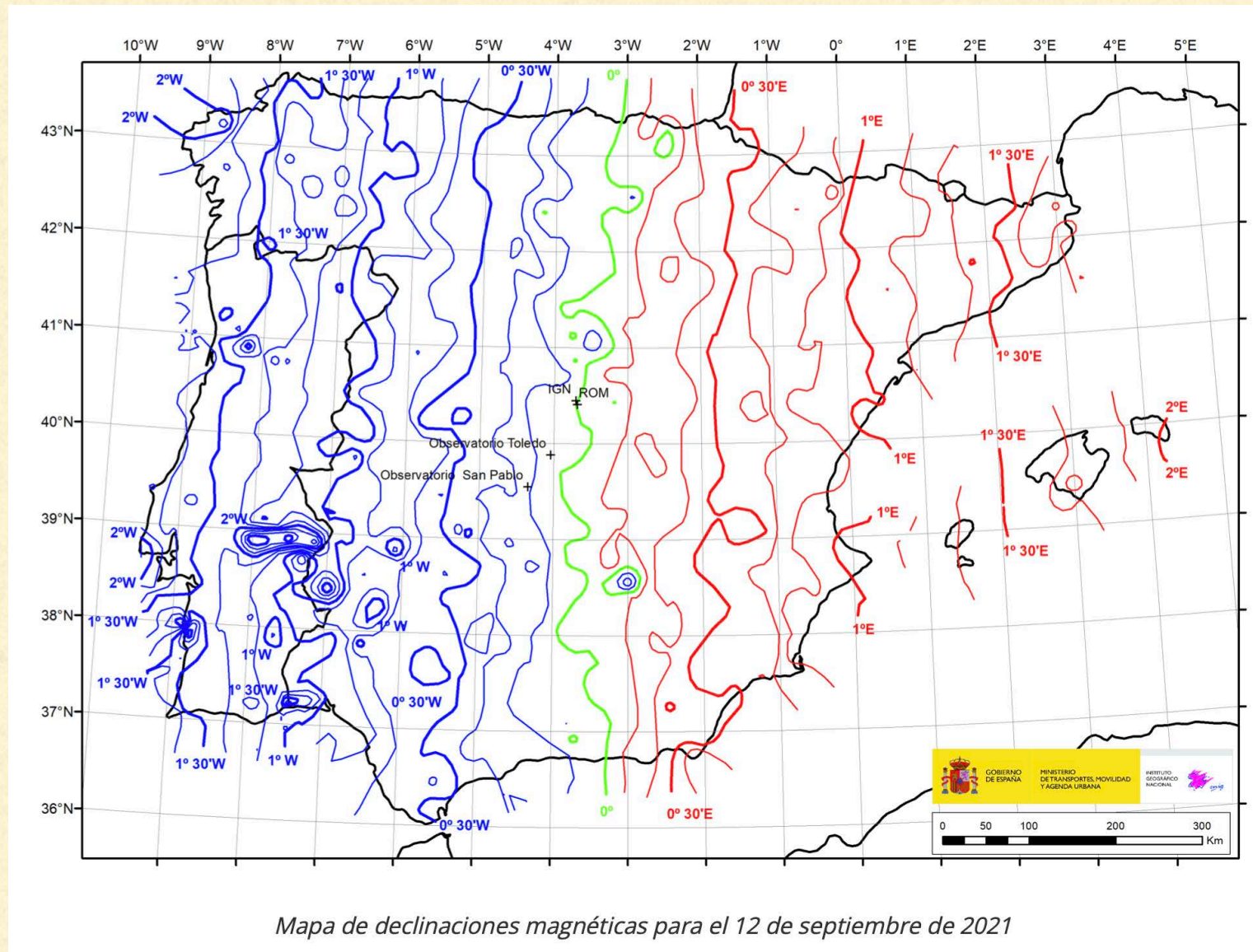
# PASO DE LA LÍNEA AGONA POR MADRID



Datos satélites + estaciones seculares + datos observatorio  
Técnicas de casquetes esféricos.

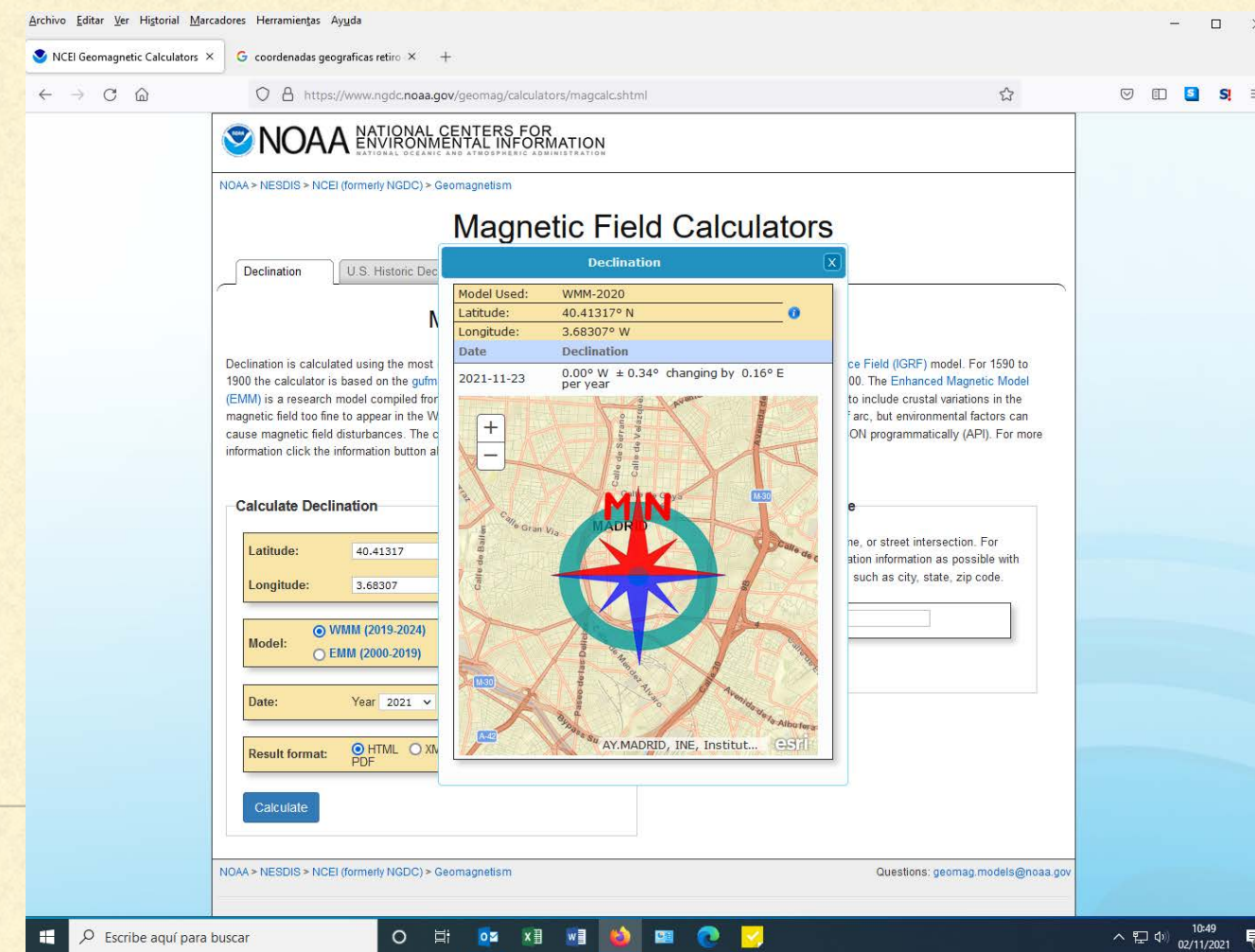


# PASO DE LA LÍNEA AGONA POR MADRID



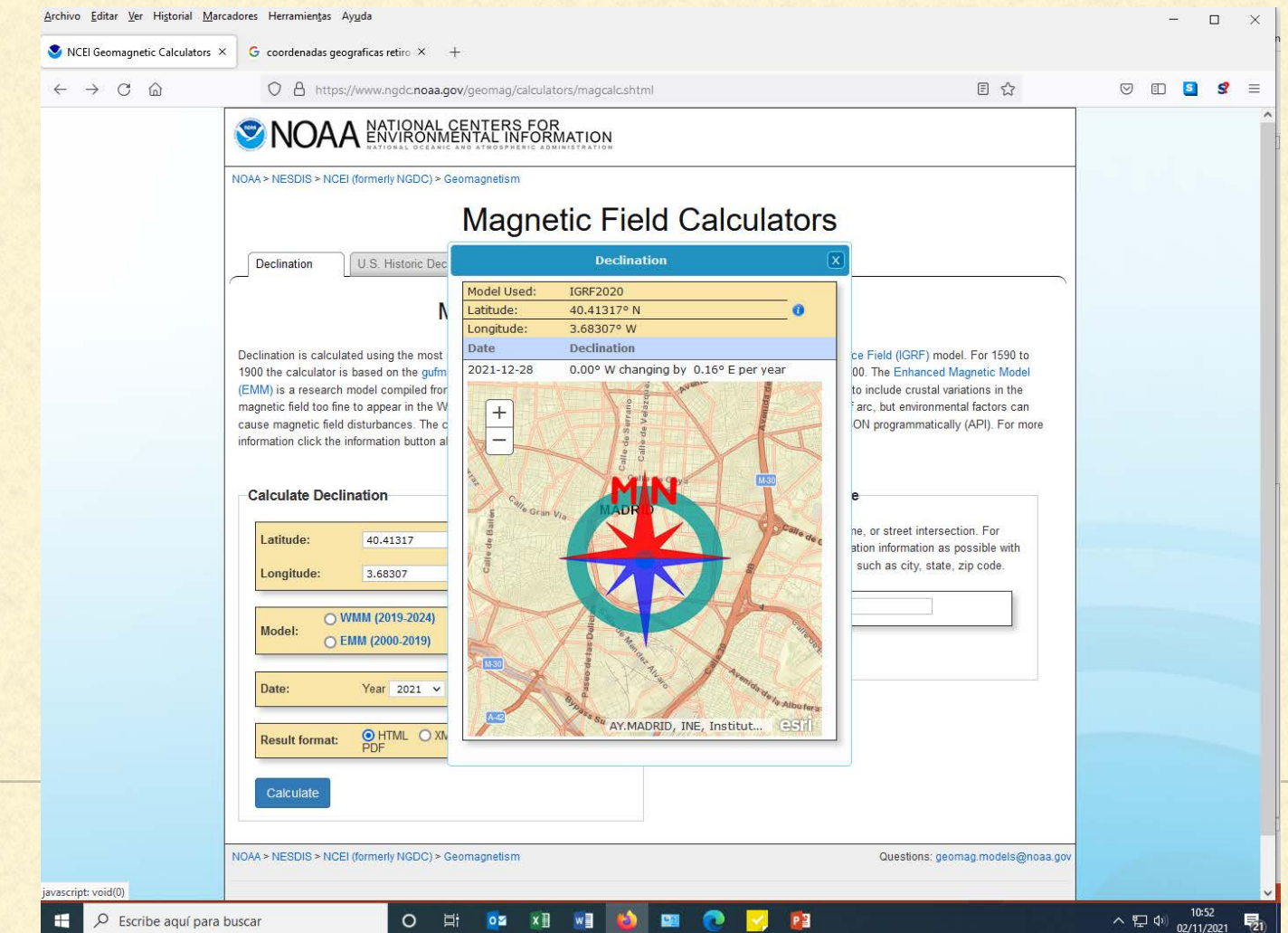
12 Sep 2021

## World Magnetic model



29 Nov 2021

## IGRF 13



28 Dic 2021

modelo CHAOS 7: Principios 2022.



# La razón se debe :

- Son extrapolaciones de modelos.
- Polo a que nos refiramos.
- Existen diversos PN magnéticos:
  - ◆ Polo magnético IGRF ED
  - ◆ DIP Polo magnético IGRF CD
  - ◆ DIP Polo magnético IGRF ED
  - ◆ Polo magnético IGRF CD



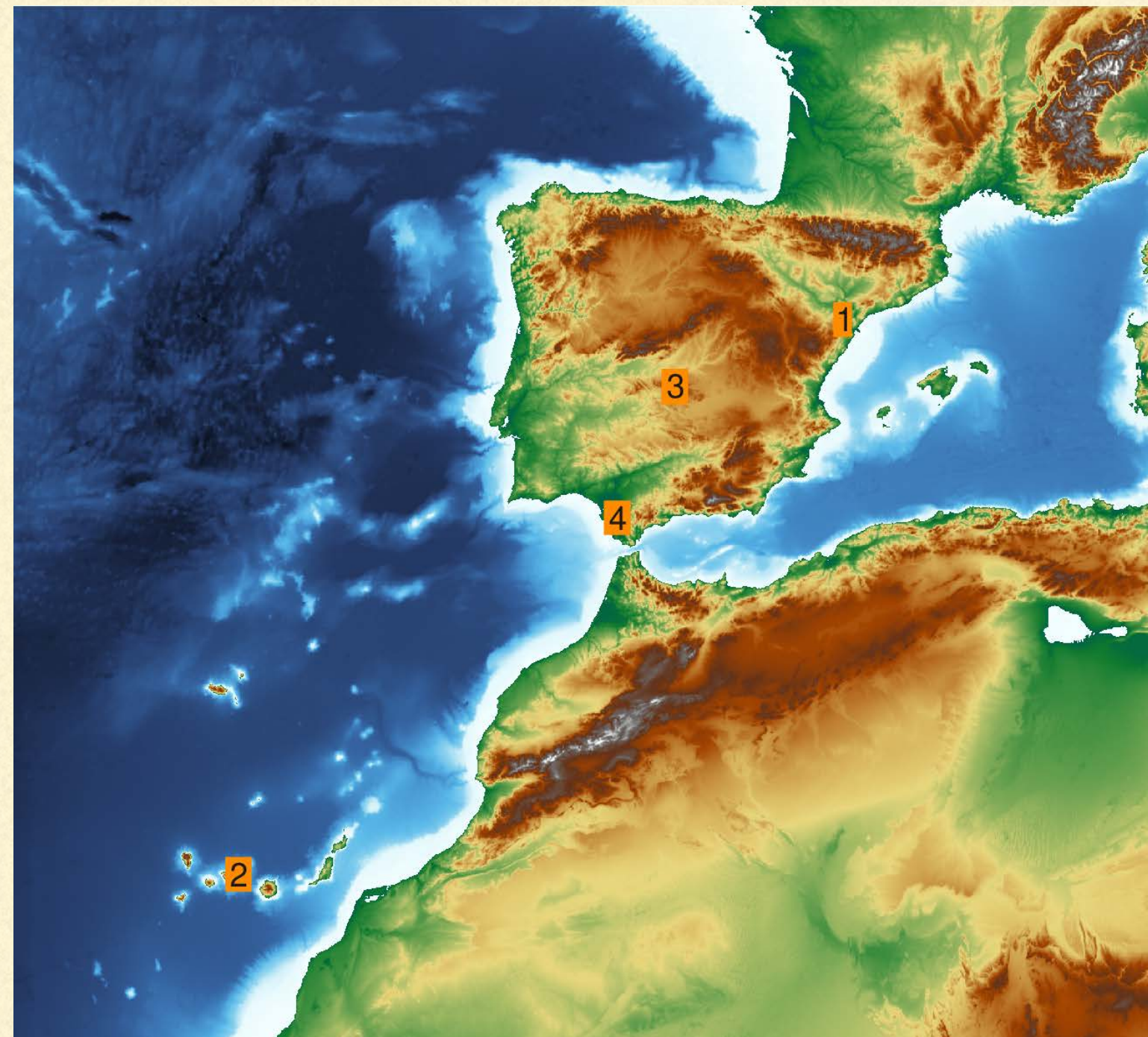
$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] P_n^m(\cos \theta)$$

**Table 2 13th generation International Geomagnetic Reference Field**

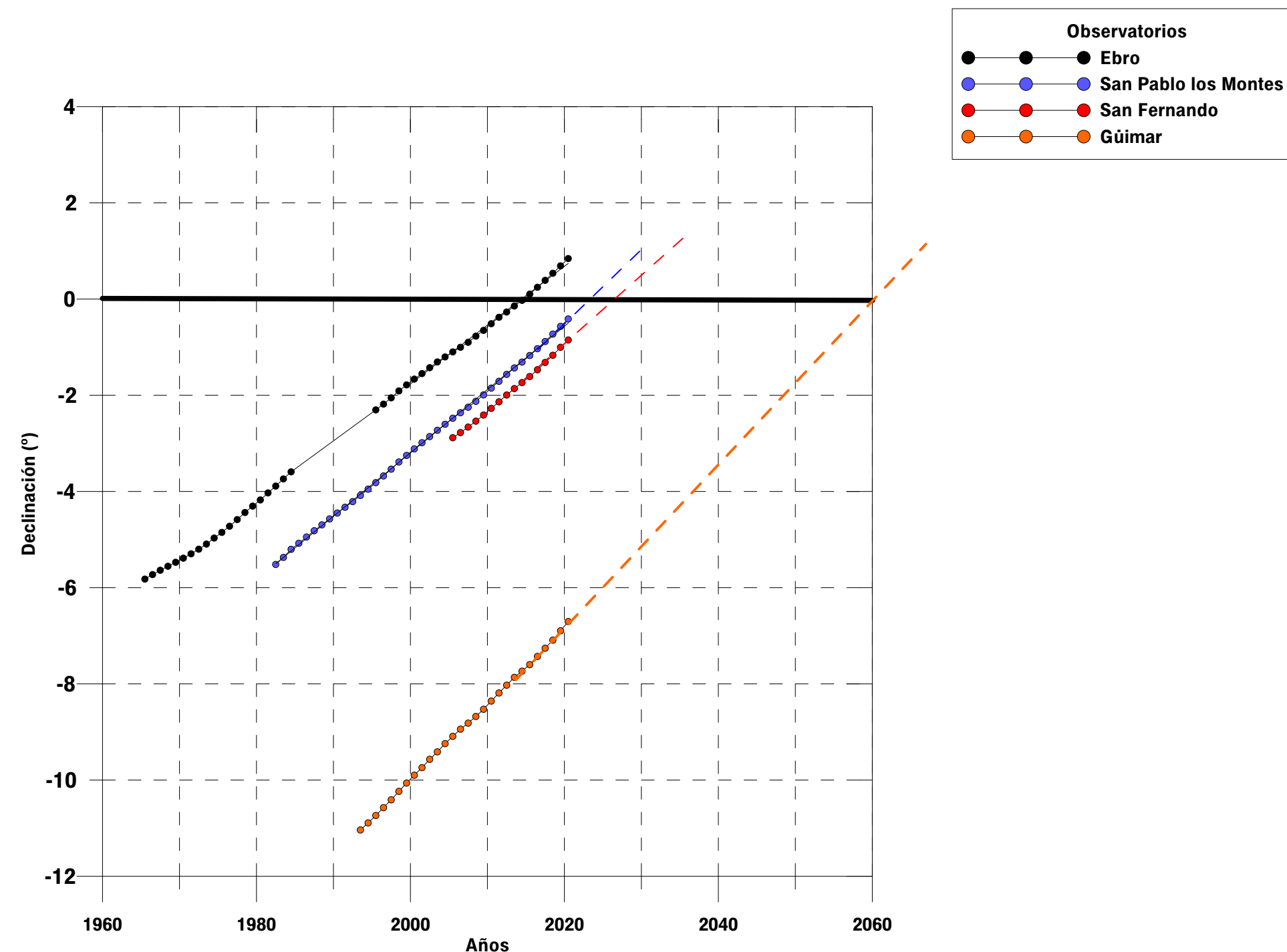
g/h	Deg n	Ord m	IGRF 1900.0	IGRF 1905.0	IGRF 1910.0	IGRF 1915.0	IGRF 1920.0	IGRF 1925.0	IGRF 1930.0	IGRF 1935.0	IGRF 1940.0	DGRF 1945.0	DGRF 1950.0	DGRF 1955.0	DGRF 1960.0
g	1	0	-31543	-31464	-31354	-31212	-31060	-30926	-30805	-30715	-30654	-30594	-30554	-30500	-30421
g	1	1	-2298	-2298	-2297	-2306	-2317	-2318	-2316	-2306	-2292	-2285	-2250	-2215	-2169
h	1	1	5922	5909	5898	5875	5845	5817	5808	5812	5821	5810	5815	5820	5791
g	2	0	-677	-728	-769	-802	-839	-893	-951	-1018	-1106	-1244	-1341	-1440	-1555
g	2	1	2905	2928	2948	2956	2959	2969	2980	2984	2981	2990	2998	3003	3002
h	2	1	-1061	-1086	-1128	-1191	-1259	-1334	-1424	-1520	-1614	-1702	-1810	-1898	-1967
g	2	2	924	1041	1176	1309	1407	1471	1517	1550	1566	1578	1576	1581	1590
h	2	2	1121	1065	1000	917	823	728	644	586	528	477	381	291	206
g	3	0	1022	1037	1058	1084	1111	1140	1172	1206	1240	1282	1297	1302	1302
g	3	1	-1469	-1494	-1524	-1559	-1600	-1645	-1692	-1740	-1790	-1834	-1889	-1944	-1992
h	3	1	-330	-357	-389	-421	-445	-462	-480	-494	-499	-499	-476	-462	-414
g	3	2	1256	1239	1223	1212	1205	1202	1205	1215	1232	1255	1274	1288	1289
h	3	2	3	34	62	84	103	119	133	146	163	186	206	216	224
g	3	3	572	635	705	778	839	881	907	918	916	913	896	882	878
h	3	3	523	480	425	360	293	229	166	101	43	-11	-46	-83	-130
g	4	0	876	880	884	887	889	891	896	903	914	944	954	958	957
g	4	1	628	643	660	678	695	711	727	744	762	776	792	796	800
h	4	1	195	203	211	218	220	216	205	188	169	144	136	133	135
g	4	2	660	653	644	631	616	601	584	565	550	544	528	510	504
h	4	2	-69	-77	-90	-109	-134	-163	-195	-226	-252	-276	-278	-274	-278
g	4	3	-361	-380	-400	-416	-424	-426	-422	-415	-405	-421	-408	-397	-394
h	4	3	-210	-201	-189	-173	-153	-130	-109	-90	-72	-55	-37	-23	3
g	4	4	134	146	160	178	199	217	234	249	265	304	303	290	269
h	4	4	-75	-65	-55	-51	-57	-70	-90	-114	-141	-178	-210	-230	-255
g	5	0	-184	-192	-201	-211	-221	-230	-237	-241	-241	-253	-240	-229	-222
g	5	1	328	328	327	327	326	326	327	329	334	346	349	360	362
h	5	1	-210	-193	-172	-148	-122	-96	-72	-51	-33	-12	3	15	16
g	5	2	264	259	253	245	236	226	218	211	208	194	211	230	242
h	5	2	53	56	57	58	58	58	60	64	71	95	103	110	125
g	5	3	5	-1	-9	-16	-23	-28	-32	-33	-33	-20	-20	-23	-26
h	5	3	-33	-32	-33	-34	-38	-44	-53	-64	-75	-67	-87	-98	-117
g	5	4	-86	-93	-102	-111	-119	-125	-131	-136	-141	-142	-147	-152	-156
h	5	4	-124	-125	-126	-126	-125	-122	-118	-115	-113	-119	-122	-121	-114
g	5	5	-16	-26	-38	-51	-62	-69	-74	-76	-76	-82	-76	-69	-63
h	5	5	3	11	21	32	43	51	58	64	69	82	80	78	81
g	6	0	63	62	62	61	61	61	60	59	57	59	54	47	46
g	6	1	61	60	58	57	55	54	53	53	54	57	57	57	58

**Modelo estudio casquetes esféricos (Sep 21)**  
**Modelo CHAOS 7: Principios 2022.**





- Instituto Geográfico Nacional  
 1 Ebro (EBR)  
 Instituto Geográfico Nacional (IGN)  
 2 Guimar-Tenerife (GUI)  
 3 San Pablo-Toledo (SPT)  
 The Real Instituto y Observatorio de la Armada (ROA)  
 4 San Fernando (SFS)



Ebro (Mayo 2014)  
 San Pablo L.M. - 19 Ene 23  
 San Fernando - 20 Nov 26  
 Güimar - ~ 2047

↑  
**IGRF 13**  
 ↓

Toda la Península a lo largo de esta década

**Modelo estudio casquetes esféricos (Sep 21)**  
**Modelo CHAOS 7: Principios 2022.**