

Nitrates in groundwater of small aquifers in the western side of Hoya de Huesca (NE Spain)

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SUPPORTING INFORMATION

Table S1. Hydrochemical data of surface (SW) water samples and aquifers (GW) in the western side of Hoya de Huesca County (NE Spain). All coordinates refer to UTM zone 30N.

Aquifer	Type of sample	X	Y	Altitude (m)	Date	T (°C)	pH	CE ($\mu\text{S}/\text{cm}$)	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻ ($\text{mg}\cdot\text{L}^{-1}$)	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
AA	GW	717047	4673973	640	11/04/2016	13.6	7.1	1337	355.0	220.3	167.9	86.6	184.7	20.7	55.9	154.6
AA	GW	717047	4673973	640	18/09/2017	16.6	7.1	1290	346.8	182.0	139.9	78.8	140.7	20.3	59.8	147.3
AA	GW	712741	4680500	760	24/03/2014	13.5	6.8	851	361.9	78.2	90.9	24.3	100.7	35.9	11.3	3.4
AA	GW	717047	4673973	640	24/03/2014	14.6	6.9	1500	313.1	240.9	149.4	101.6	141.3	21.1	52.2	116.3
AA	GW	717047	4673973	640	11/04/2016	14.1	7.2	985	340.7	208.1	53.5	72.4	167.5	28.1	44.6	1.8
AA	GW	717047	4673973	640	18/09/2017	16.9	7.2	1087	352.9	205.5	35.3	74.2	139.8	29.7	59.6	1.6
AA	GW	714327	4678122	681	24/03/2014	13.0	6.9	904	357.9	115.9	94.2	30.1	105.1	31.5	12.1	1.5
AA	GW	714327	4678122	681	11/04/2016	13.1	7.1	795	342.7	117.2	126.8	33.7	151.2	29.8	12.1	1.6
AA	GW	714327	4678122	681	18/09/2017	16.5	7.0	829	330.5	86.3	61.1	34.4	121.7	23.5	19.8	1.2
AA	GW	714850	4678484	669	24/03/2014	12.4	7.2	1035	394.5	104.6	159.7	40.2	82.8	64.5	24.6	0.3
AA	GW	714850	4678484	669	11/04/2016	13.4	7.2	945	375.4	97.0	133.7	39.8	117.7	77.3	26.7	0.8
AA	GW	714850	4678484	669	18/09/2017	16.8	7.7	978	387.6	107.4	134.7	40.1	92.3	48.4	40.6	0.6
HHA	GW	711028	4681536	667	30/05/2017	12.0	7.4	839	348.8	5.0	236.1	34.7	122.1	20.8	23.8	3.2
HHA	GW	709114	4667938	470	24/11/2014	14.3	7.1	926	392.3	72.8	122.0	23.6	180.2	37.2	26.6	3.9
HHA	GW	709114	4667938	470	11/04/2016	15.2	7.2	876	304.0	95.9	137.3	49.4	143.1	36.6	28.3	9.7
HHA	GW	709114	4667938	470	18/09/2017	19.2	7.1	969	326.4	73.1	137.5	50.8	121.1	32.3	44.2	9.0
HHA	GW	709447	4668158	470	24/11/2014	8.6	7.4	964	406.7	82.0	99.0	24.6	156.2	39.9	29.7	3.4
HHA	GW	719033	4663697	443	17/11/2014	12.8	7.6	692	315.8	115.9	13.5	11.8	170.7	39.9	13.8	1.2
HHA	GW	709589	4670958	500	28/03/2014	12.2	7.6	1241	349.7	159.8	173.8	66.7	142.3	42.7	36.9	9.8
HHA	GW	709589	4670958	500	10/11/2014	17.5	8.1	1042	440.2	100.2	91.1	16.1	160.5	30.1	32.7	0.9
HHA	GW	709589	4670958	500	11/04/2016	12.5	7.1	1008	369.3	139.9	151.7	55.0	163.0	38.8	35.7	13.1
HHA	GW	709589	4670958	500	18/09/2017	14.0	6.8	960	387.6	42.9	105.2	46.2	134.9	33.1	45.1	51.1

Aquifer	Type of sample	X	Y	Altitude (m)	Date	T (°C)	pH	CE ($\mu\text{S}/\text{cm}$)	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻ ($\text{mg}\cdot\text{L}^{-1}$)	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
HHA	GW	713980	4669101	460	24/03/2014	11.5	7.0	796	300.9	7.6	168.0	32.3	105.5	23.3	24.1	5.9
HHA	GW	710565	4671015	510	17/03/2014	14.0	7.0	940	313.1	95.8	126.6	38.9	119.0	33.8	24.6	5.0
HHA	GW	710565	4671015	510	10/11/2014	15.3	7.9	926	234.4	88.8	106.9	19.7	121.1	27.8	25.8	4.2
HHA	GW	710565	4671015	510	11/04/2016	14.0	7.0	834	344.8	96.9	122.8	44.7	143.4	35.7	26.0	4.5
HHA	GW	710565	4671015	510	18/09/2017	13.3	6.9	813	330.5	84.1	105.0	42.3	121.3	38.2	39.0	3.9
HHA	GW	710202	4669151	490	26/03/2014	12.8	6.9	877	313.1	49.6	130.5	49.2	110.5	27.8	23.0	3.9
HHA	GW	712872	4671182	490	26/03/2014	13.2	6.8	1355	410.7	50.1	254.0	98.2	142.0	46.1	62.9	6.0
HHA	GW	712872	4671182	490	11/04/2016	13.6	6.9	1124	420.3	40.1	218.8	92.0	173.7	42.2	62.1	5.7
HHA	GW	712872	4671182	490	30/05/2017	14.0	7.2	1272	524.9	45.4	149.0	87.7	145.4	24.9	63.6	5.9
HHA	GW	712872	4671182	490	18/09/2017	16.0	6.8	1146	412.1	42.2	216.2	85.6	147.2	45.4	66.7	5.3
HHA	GW	712151	4671277	500	26/03/2014	14.4	6.7	1080	349.7	26.9	228.7	50.7	135.2	34.1	30.1	3.4
HHA	GW	712151	4671277	500	11/04/2016	14.5	6.9	959	387.6	25.2	198.8	52.9	177.3	38.3	34.1	3.5
HHA	GW	712151	4671277	500	30/05/2017	14.8	7.1	1071	451.8	35.5	220.8	57.1	136.8	31.5	59.3	3.7
HHA	GW	712151	4671277	500	18/09/2017	15.9	6.9	915	367.2	20.9	162.3	46.5	134.9	34.7	43.1	2.8
HHA	GW	714934	4658878	382	31/05/2017	14.7	7.4	1383	581.4	24.7	240.6	96.8	147.6	30.4	82.6	5.3
HHA	GW	709843	4666908	470	26/03/2014	13.9	6.9	978	305.0	86.6	154.9	52.5	110.5	34.6	28.0	6.3
HHA	GW	711206	4673214	525	18/03/2014	13.0	7.4	785	264.3	13.4	166.6	36.0	106.5	26.2	23.8	2.7
HHA	GW	711206	4673214	525	21/11/2014	14.2	7.0	762	330.1	13.6	72.5	18.9	238.6	25.9	24.6	2.4
HHA	GW	711206	4673214	525	11/04/2016	11.6	7.2	675	275.4	13.5	128.6	35.9	133.3	21.8	24.2	2.7
HHA	GW	711206	4673214	525	30/05/2017	13.6	7.5	742	348.8	15.3	119.3	33.8	81.2	21.1	24.5	2.7
HHA	GW	711206	4673214	525	18/09/2017	15.8	7.2	672	285.6	15.7	116.8	35.2	101.6	19.7	36.9	2.2
HHA	GW	711046	4679636	630	26/03/2014	12.8	7.0	804	313.1	3.2	148.8	41.2	105.5	20.6	22.5	2.8
HHA	GW	709114	4667938	470	26/03/2014	13.2	7.0	947	292.8	90.2	150.4	46.4	114.9	34.5	24.6	5.4
HHA	GW	710658	4662040	410	20/11/2014	16.1	7.0	1388	416.2	34.3	221.9	48.0	188.9	61.1	68.1	2.1
HHA	GW	712385	4670600	495	31/03/2014	14.3	6.9	936	427.0	7.0	135.1	41.2	128.1	27.4	24.9	2.1
HHA	GW	710549	4672984	530	28/03/2014	15.0	7.0	764	215.8	65.4	108.4	43.5	74.1	20.9	22.5	37.2
HHA	GW	711089	4680627	650	25/03/2014	11.6	7.2	853	292.8	4.2	193.1	33.2	122.7	22.7	22.8	3.4
HHA	GW	710878	4670891	505	28/03/2014	12.0	7.1	800	317.2	16.6	123.4	42.6	110.2	23.6	21.5	2.3
HHA	GW	714237	4663796	420	20/11/2014	13.5	7.1	1363	358.8	41.3	334.1	46.1	127.3	57.4	69.5	3.7
HHA	GW	712312	4671430	505	26/03/2014	14.4	6.8	1110	346.7	32.5	260.6	55.0	136.9	34.3	32.3	4.0
HHA	GW	713999	4666877	460	20/11/2014	16.6	6.8	1241	593.3	14.8	184.0	19.0	217.0	48.9	39.4	7.8

Aquifer	Type of sample	X	Y	Altitude (m)	Date	T (°C)	pH	CE ($\mu\text{S}/\text{cm}$)	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻ ($\text{mg}\cdot\text{L}^{-1}$)	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
HHA	GW	715633	4666197	435	26/03/2014	15.7	6.8	1345	435.1	23.0	301.6	75.9	142.0	43.4	71.1	34.7
HHA	GW	714795	4666564	444	20/11/2014	13.0	7.5	1286	267.9	170.7	270.0	16.2	222.3	37.9	32.4	31.8
HHA	GW	711013	4666082	460	17/03/2014	14.5	7.0	953	394.5	56.8	92.2	35.0	131.9	26.5	22.5	2.1
HHA	GW	711013	4666082	460	13/11/2014	15.3	7.0	639	397.1	26.9	63.4	14.7	93.4	16.3	23.4	7.8
HHA	GW	711013	4666082	460	11/04/2016	13.6	6.9	893	387.6	70.8	132.8	36.2	160.6	24.5	24.7	2.8
HHA	GW	711013	4666082	460	18/09/2017	20.0	7.1	833	352.9	46.7	82.4	33.4	125.5	24.0	36.0	3.6
HHA	GW	711221	4681589	680	25/03/2014	11.0	7.3	767	260.3	3.1	180.6	29.4	110.5	19.9	20.9	3.4
HHA	GW	712970	4669808	485	31/03/2014	14.7	7.0	914	370.1	16.5	138.2	45.4	123.0	26.4	25.4	4.5
HHA	GW	712161	4670866	500	31/03/2014	14.0	7.0	961	359.9	13.7	175.4	48.3	119.0	31.1	28.1	2.9
PPA	GW	685744	4692467	492	11/11/2014	15.7	8.3	404	200.9	2.1	11.9	4.0	39.5	13.8	4.4	1.0
PPA	GW	710829	4683013	770	25/03/2014	11.1	7.4	828	280.6	1.2	100.0	79.7	114.3	20.3	49.9	3.9
PPA	GW	711823	4683783	840	25/03/2014	12.2	7.3	604	341.6	0.4	31.6	19.4	82.8	20.8	10.5	1.4
PPA	GW	711823	4683783	812	24/11/2014	10.3	7.8	700	354.0	0.1	131.4	5.7	168.3	25.2	5.2	1.5
PPA	GW	712162	4686122	943	23/11/2014	10.6	7.2	608	430.6	0.5	32.9	4.1	122.3	20.8	2.0	1.0
PPA	GW	712048	4683931	750	24/03/2014	12.8	7.3	689	292.7	4.3	97.7	49.1	82.8	19.7	31.7	2.7
PPA	GW	712048	4683931	750	24/11/2014	12.8	7.3	688	320.5	3.3	94.4	25.2	122.1	23.3	33.2	2.5
PPA	GW	712048	4683931	750	29/05/2017	12.9	7.7	695	315.6	2.6	99.4	52.7	69.5	16.9	44.5	3.0
PPA	GW	711130	4682620	730	25/03/2014	13.1	7.1	828	288.7	1.9	213.7	10.5	144.7	28.5	6.2	2.5
PPA	GW	711130	4682620	800	24/11/2014	12.4	7.0	803	382.7	0.8	207.5	7.1	172.6	32.3	6.0	1.4
PPA	GW	711893	4686493	890	19/03/2014	8.9	7.4	435	313.1	2.4	7.1	4.6	76.1	9.8	0.6	0.2
PPA	GW	711893	4686493	941	23/11/2014	8.8	7.1	479	363.6	0.1	14.2	3.4	145.3	10.1	1.2	0.6
PPA	GW	712291	4685412	820	25/03/2014	18.7	7.3	823	272.5	1.2	83.3	78.5	117.0	19.9	53.2	4.1
PPA	GW	712045	4686241	930	23/11/2014	8.5	7.5	475	339.7	0.0	24.6	5.6	106.3	10.9	5.4	1.1
PPA	GW	71199	4686713	1013	23/11/2014	8.5	7.4	560	354.0	0.9	24.6	16.2	113.0	9.3	26.0	1.5
PPA	GW	713621	4690117	1312	21/11/2014	6.6	7.3	525	440.2	0.1	12.0	2.5	67.9	12.4	4.2	1.2
SAA	GW	724858	4659151	456	17/11/2014	15.5	7.5	1173	545.4	77.4	130.4	28.5	153.8	57.6	53.0	4.4
SAA	GW	724710	4667068	551	17/11/2014	15.8	6.9	737	368.4	97.1	9.2	11.2	149.4	12.6	7.3	1.3
SAA	GW	723229	4667068	506	17/11/2014	12.1	6.7	624	119.6	82.6	46.4	18.6	55.3	13.0	21.3	48.7
SBAA	GW	685286	4676869	440	18/09/2017	15.4	7.0	999	369.3	105.7	102.4	55.0	119.2	28.8	60.2	38.0
SBAA	GW	691213	4679985	553	11/04/2016	14.2	7.2	728	297.9	78.3	80.7	32.3	158.7	12.7	22.5	2.6
SBAA	GW	691213	4679985	553	18/09/2017	15.1	7.0	712	289.7	77.0	106.7	29.5	132.6	12.9	41.4	2.4

Aquifer	Type of sample	X	Y	Altitude (m)	Date	T (°C)	pH	CE (µS/cm)	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻ (mg·L ⁻¹)	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
SBAA	GW	701954	4681455	465	11/04/2016	12.4	7.2	979	273.4	1.6	357.6	36.6	225.1	32.1	23.0	2.4
SBAA	GW	701954	4681455	465	18/09/2017	16.1	7.1	923	285.6	1.5	298.8	36.2	155.3	29.3	36.3	2.1
SBAA	GW	699856	4672064	465	19/11/2014	15.5	6.9	910	392.3	126.5	45.0	18.8	176.0	29.3	29.2	1.3
SBAA	GW	699856	4672064	465	11/04/2016	13.0	7.0	832	301.9	134.4	99.2	39.8	149.6	23.2	27.5	1.3
SBAA	GW	699856	4672064	465	18/09/2017	15.5	6.8	778	308.1	98.5	87.4	36.6	122.3	27.4	36.0	1.1
SBAA	GW	690850	4683406	565	11/11/2014	14.1	7.9	1246	564.5	47.2	206.3	20.4	178.6	38.9	43.1	1.1
SBAA	GW	690319	4683389	571	11/11/2014	14.8	8.4	915	401.9	33.1	131.3	13.4	124.5	23.9	32.0	2.2
SBAA	GW	690319	4683389	571	11/04/2016	12.6	7.1	783	338.7	29.0	152.0	28.8	152.0	27.6	28.1	2.4
SBAA	GW	690319	4683389	571	18/09/2017	15.9	7.0	785	346.8	28.1	157.3	26.6	128.2	27.8	40.3	2.0
SBAA	GW	696174	4670492	455	19/11/2014	16.8	7.2	872	282.3	151.7	270.0	16.2	133.3	30.3	34.5	1.2
SBAA	GW	696174	4670492	452	11/04/2016	13.7	7.3	757	246.9	157.6	68.2	38.3	125.0	21.7	30.5	1.3
SBAA	GW	696174	4670492	452	18/09/2017	16.4	7.1	740	248.9	165.3	86.1	36.6	108.5	24.7	52.9	0.9
SBAA	GW	699856	4672064	465	19/11/2014	14.3	6.9	846	382.7	95.9	70.7	18.8	147.0	28.8	28.9	2.0
SBAA	GW	699856	4672064	465	11/04/2016	13.8	7.2	719	281.5	86.5	91.8	36.2	129.0	23.8	25.1	2.1
SBAA	GW	699856	4672064	465	18/09/2017	13.5	6.9	715	277.5	88.1	84.7	35.9	110.1	24.1	49.2	1.9
SBAA	GW	694601	4680623	617	10/11/2014	17.6	8.0	762	382.7	69.9	40.3	11.7	114.1	19.9	30.4	1.1
SBAA	GW	694601	4680623	617	10/11/2014	16.0	7.9	707	315.8	93.6	18.4	6.6	136.2	9.2	11.1	0.5
SBAA	GW	706898	4680163	670	31/03/2014	12.8	7.1	840	313.1	137.8	54.5	26.9	109.5	26.5	8.8	4.8
SBAA	GW	706898	4680163	670	11/04/2016	12.1	7.0	687	326.4	108.6	44.1	25.6	136.5	21.3	9.4	16.8
SBAA	GW	706898	4680163	670	18/09/2017	15.0	7.0	764	314.2	120.6	61.9	24.5	115.3	21.7	17.3	7.9
SBAA	GW	688626	4680022	519	11/04/2016	13.7	7.0	705	373.3	68.5	49.7	26.6	156.6	10.6	20.5	3.2
SBAA	GW	688626	4680022	519	18/09/2017	15.2	6.9	706	352.9	70.4	58.7	28.1	132.8	15.1	41.9	0.7
SBAA	GW	694601	4680623	619	11/04/2016	13.9	7.1	607	304.0	87.3	33.1	18.8	140.4	7.2	11.6	0.9
SBAA	GW	694601	4680623	619	18/09/2017	14.1	6.9	598	293.8	84.4	25.5	17.8	118.4	10.4	35.3	0.6
SW	SW	710437	4666960	465	18/03/2014	11.3	8.1	905	305.0	60.3	142.7	44.2	125.1	32.1	25.1	4.2
SW	SW	714053	4669070	467	30/05/2017	19.2	8.2	764	358.8	15.3	134.5	44.9	82.7	20.5	48.9	3.5
SW	SW	710521	4666931	465	18/03/2014	11.6	7.6	686	239.9	16.5	102.6	36.6	82.2	26.1	22.5	5.0
SW	SW	711028	4681536	667	29/05/2017	14.0	8.2	455	265.8	0.0	60.0	20.4	55.2	10.5	16.8	2.8
SW	SW	711014	4681534	667	29/05/2017	14.0	8.0	478	262.5	0.0	62.1	21.1	59.2	10.5	17.8	2.6
SW	SW	711026	4681512	667	30/05/2017	13.1	7.6	731	318.9	3.0	166.5	30.3	104.8	16.6	21.2	3.0
SW	SW	711072	4661268	410	20/11/2014	8.0	7.4	1109	287.1	8.3	257.3	41.5	125.9	50.5	62.3	2.4

Aquifer	Type of sample	X	Y	Altitude (m)	Date	T (°C)	pH	CE (µS/cm)	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻ (mg·L ⁻¹)	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
SW	SW	710520	4666985	465	18/03/2014	9.5	7.9	4920	300.0	0.0	1546.8	615.3	341.4	270.8	180.1	18.0
SW	SW	711857	4686746	960	19/03/2014	10.8	7.9	456	200.0	0.7	36.9	17.8	69.3	12.0	15.7	2.1
SW	SW	711857	4686746	970	23/11/2014	7.0	7.7	424	282.3	0.0	38.4	8.5	88.9	12.5	13.5	2.3
SW	SW	711857	4686746	970	29/05/2017	21.2	8.2	405	229.2	0.0	40.5	17.9	51.7	9.6	15.2	2.3
SW	SW	712715	4670897	500	30/05/2017	16.8	7.9	765	382.1	20.1	78.1	39.4	89.7	19.8	39.9	2.5
SW	SW	711412	4682584	700	24/03/2014	11.7	8.0	553	239.9	1.8	73.4	25.7	76.8	16.8	18.1	1.9
SW	SW	711412	4682584	699	23/11/2014	9.5	7.7	562	291.8	1.1	56.7	11.0	105.7	17.8	13.3	1.5
SW	SW	712866	4671185	490	26/03/2014	9.0	7.4	1524	406.7	34.3	309.0	121.1	131.1	47.0	111.4	8.9
SW	SW	712866	4671185	490	30/05/2017	17.2	7.6	1002	402.0	22.5	172.7	74.8	86.5	26.8	65.7	6.2
SW	SW	713070	4689209	1253	29/05/2017	12.2	8.3	351	292.4	0.0	0.0	8.5	56.3	4.8	2.5	1.0
SW	SW	714683	4661757	406	31/05/2017	17.1	7.8	1118	491.7	16.0	178.9	102.8	111.9	28.4	83.2	12.5
SW	SW	685400	4682168	422	13/11/2014	14.3	8.2	450	181.8	0.9	22.8	25.4	42.2	7.9	38.0	2.6
SW	SW	713998	4669096	464	30/05/2017	22.4	7.9	952	392.0	14.1	180.9	53.2	95.2	26.2	52.0	6.7
SW	SW	711083	4673264	530	17/03/2014	14.2	8.1	580	211.4	1.7	94.6	24.8	77.4	18.5	19.4	2.1
SW	SW	711023	4673145	530	21/11/2014	7.0	7.7	598	306.2	1.6	106.2	12.3	128.8	20.0	15.2	1.7
SW	SW	711083	4673264	530	30/05/2017	17.2	7.8	739	348.8	25.7	103.0	33.0	78.7	19.9	24.1	2.5
SW	SW	713940	4669074	460	24/03/2014	8.6	8.0	731	284.7	15.8	123.7	40.7	93.6	22.9	23.6	2.6
SW	SW	713940	4669074	460	21/11/2014	8.8	7.7	672	339.7	5.2	124.2	15.6	134.9	15.4	16.1	1.5
SW	SW	697871	4671063	444	19/11/2014	11.1	7.9	878	425.8	33.8	128.4	24.7	134.4	32.8	49.4	4.1
SW	SW	715868	4667139	447	31/05/2017	13.5	8.1	600	309.0	4.3	98.0	28.8	74.5	14.7	27.8	3.2
SW	SW	685725	4671825	424	19/11/2014	6.2	7.8	1305	397.1	25.4	156.9	67.0	136.2	20.6	29.2	4.2
SW	SW	714934	4658878	387	31/05/2017	16.6	7.9	1389	465.1	23.3	293.3	115.0	130.6	26.3	98.3	10.4
SW	SW	710741	4688251	1253	23/11/2014	2.7	7.5	461	354.0	0.3	11.0	5.1	120.0	6.3	2.2	0.9
SW	SW	711329	4678246	635	30/05/2017	15.7	7.9	737	408.6	6.8	198.5	44.7	115.3	25.1	34.5	3.5
TGA	GW	685286	4676869	440	11/04/2016	13.0	7.1	864	352.9	98.7	92.9	51.5	135.0	29.0	47.7	31.8
TGA	GW	685547	4685618	469	13/11/2014	15.1	8.1	589	172.2	73.1	34.7	19.6	32.8	14.3	40.4	1.6
TGA	GW	684897	4688207	482	11/11/2014	15.6	8.0	906	416.2	95.7	53.1	29.8	97.4	26.0	37.0	2.4
TGA	GW	685201	4683262	451	13/11/2014	14.1	8.0	643	315.8	91.3	24.7	8.3	50.3	16.4	8.1	1.1
TGA	GW	684242	4684001	491	13/11/2014	14.7	8.3	710	497.6	27.7	19.7	7.3	45.0	18.4	37.6	1.6

AA = Apiés aquifer; HHA = Hoya de Huesca aquifer; PPA = Pre-Pyrenees aquifer; SAA = Sasos de Alcanadre aquifer; SBAA = Saso de Bolea & Ayerbe aquifer; TGA = Terrazas del Gállego aquifer.

Table S2. Correlation matrix (Pearson's correlation coefficients) between main groundwater ions and electrical conductivity.

		CE	HCO ₃ ⁻	NO ₃ ⁻	SO ₄ ²⁻	Cl ⁻	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺
CE	Pearson Correlation	1	0.486**	0.334**	0.674**	0.678**	0.471**	0.643**	0.717**	0.403**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	108	108	108	108	108	108	108	108	108
HCO ₃ ⁻	Pearson Correlation	0.486**	1	-0.121	0.189	0.159	0.371**	0.403**	0.339**	-0.064
	Sig. (2-tailed)	0.000		0.213	0.050	0.100	0.000	0.000	0.000	0.510
	N	108	108	108	108	108	108	108	108	108
NO ₃ ⁻	Pearson Correlation	0.334**	-0.121	1	-0.155	0.241*	0.188	0.135	0.196*	0.446**
	Sig. (2-tailed)	0.000	0.213		0.110	0.012	0.052	0.165	0.042	0.000
	N	108	108	108	108	108	108	108	108	108
SO ₄ ²⁻	Pearson Correlation	0.674**	0.189	-0.155	1	0.424**	0.366**	0.543**	0.461**	0.097
	Sig. (2-tailed)	0.000	0.050	0.110		0.000	0.000	0.000	0.000	0.317
	N	108	108	108	108	108	108	108	108	108
Cl ⁻	Pearson Correlation	0.678**	0.159	0.241*	0.424**	1	0.101	0.297**	0.761**	0.401**
	Sig. (2-tailed)	0.000	0.100	0.012	0.000		0.299	0.002	0.000	0.000
	N	108	108	108	108	108	108	108	108	108
Ca ²⁺	Pearson Correlation	0.471**	0.371**	0.188	0.366**	0.101	1	0.302**	0.220*	0.096
	Sig. (2-tailed)	0.000	0.000	0.052	0.000	0.299		0.001	0.022	0.321
	N	108	108	108	108	108	108	108	108	108
Mg ²⁺	Pearson Correlation	0.643**	0.403**	0.135	0.543**	0.297**	0.302**	1	0.394**	-0.073
	Sig. (2-tailed)	0.000	0.000	0.165	0.000	0.002	0.001		0.000	0.451
	N	108	108	108	108	108	108	108	108	108
Na ⁺	Pearson Correlation	0.717**	0.339**	0.196*	0.461**	0.761**	0.220*	0.394**	1	0.293**
	Sig. (2-tailed)	0.000	0.000	0.042	0.000	0.000	0.022	0.000		0.002
	N	108	108	108	108	108	108	108	108	108
K ⁺	Pearson Correlation	0.403**	-0.064	0.446**	0.097	0.401**	0.096	-0.073	0.293**	1
	Sig. (2-tailed)	0.000	0.510	0.000	0.317	0.000	0.321	0.451	0.002	
	N	108	108	108	108	108	108	108	108	108

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

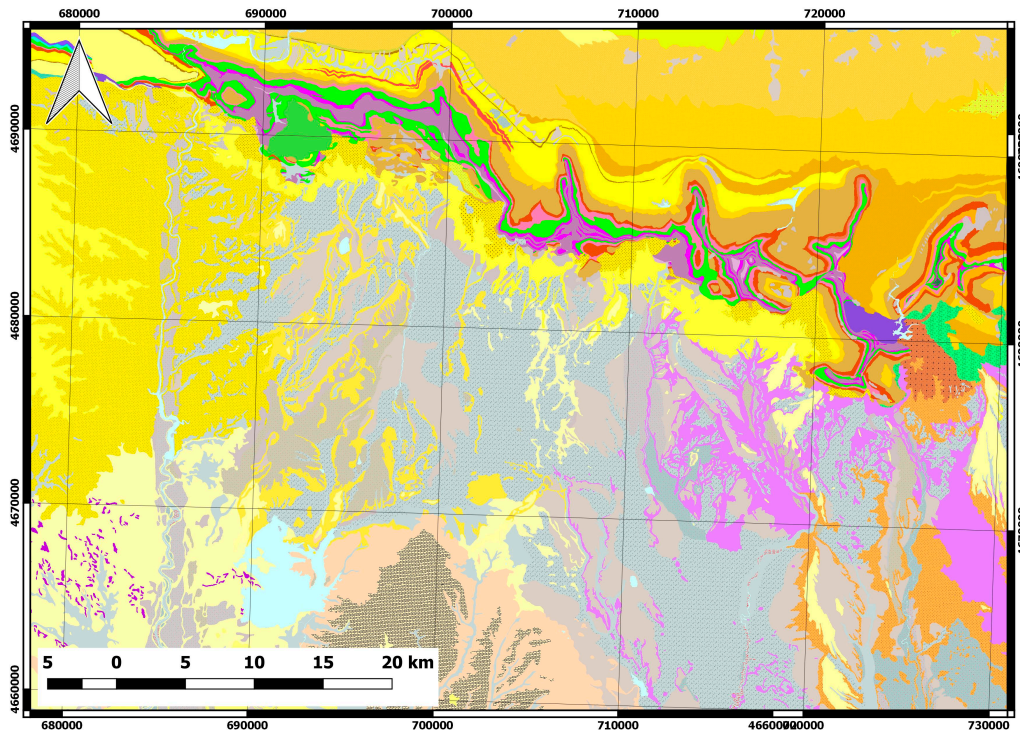


Figure S1. Geological map of the area of study, according to Spanish Geological Survey's (IGME) GEODE-Continuous digital geological map of Spain color code. The legend for zones Z1600 and Z2700 are available at http://info.igme.es/cartografiadigital/datos/geode/leyendas/LEYE_Z1600.pdf and http://info.igme.es/cartografiadigital/datos/geode/leyendas/LEYE_Z2700.pdf, respectively (last access date: December 15, 2019). Descriptive legends (in Spanish language) are available at http://info.igme.es/cartografiadigital/datos/geode/leyendas/DESC_Z1600.pdf and http://info.igme.es/cartografiadigital/datos/geode/leyendas/DESC_Z2700.pdf, respectively (last access date: December 15, 2019).