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Supplement of

Assessing land–ocean connectivity via Submarine Groundwater Discharge (SGD) in the Ria Formosa Lagoon (Portugal): combining radon measurements and stable isotope hydrology

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Table S1. Dataset of stable isotopes in water used in the study, including historical data (Carreira 1991). The table includes sample name or designation (Site), Geographical location, the date of collection, salinity of the sample (when available), the number of replicates collected and analyzed (n), and observations to help locate the information in either space (within/outside the lagoon, for example) or timing with regards to the tide.

Site	Lat (N)	Lon (W)	Date	Salinity	$\delta^{18}\text{O}$ (‰ VSMOW)	\pm s.d. (‰ VSMOW)	n	$\delta^2\text{H}$ (‰ VSMOW)	\pm s.d. (‰ VSMOW)	n	Observations
Seawater											
Southern coast	-	-	1982	-	0.98	0.28	28	4.47	2.67	10	Carreira (1991)
SE coast	36°59'16''	7°46'28''	05/12/2009	35.69	1.43	0.52	3	5.17	0.88	3	This Study
SW coast	37°03'03''	8°07'13''	01/12/2009	35.20	1.30	0.16	3	4.8	0.50	3	This Study
Groundwater											
Average	-	-	1982	-	-4.4	0.15	25	-25.8	1.55	25	Carreira (1991)
Ramalhete	37°00'22''	7°58'05''	01/2007	5.5	-4.00	0.01	2	-23.85	1.0	2	Inside lagoon, W sector
Montenegro	37°02'08''	7°57'41''	01/2007	0	-4.62	0.01	2	-27.60	1.0	2	Coastal plain, W sector
Gambelas	37°02'36''	7°58'34''	01/2007	0	-4.67	0.02	2	-27.79	1.0	2	Coastal plain, W sector
Bela Salema	37°04'33''	7°55'57''	01/2007	0	-4.52	0.00	2	-	-	-	Coastal plain, W sector
Sta Barbara Nexe	37°06'56''	7°56'00''	01/2007	0	-4.51	0.00	2	-24.27	1.0	2	N of coastal Plain
Rio Seco	37°10'34''	7°54'51''	06/12/2009	1.85	-3.46	0.28	3	-22.6	0.5	3	Coastal plain, W sector
Chelote	37°03'06''	7°55'30''	06/12/2009	1.06	-3.73	0.20	3	-23.5	0.3	3	Coastal plain, W sector
Casa Costa	37°06'19''	7°59'39''	06/12/2009	0.45	-4.28	0.16	3	-25.9	0.3	3	Coastal plain, W sector
Ramalhete	37°00'22''	7°58'05''	08/12/2009	4.89	-3.78	0.23	3	-21.9	0.3	3	Inside lagoon, W sector
Ramalhete	37°00'22''	7°58'05''	08/12/2009	4.78	-4.01	0.17	3	-22.5	0.4	3	Inside lagoon, W sector
Deserta	36°58'08''	7°52'27''	04/12/2009	0.61	-3.83	0.26	3	-25.8	0.7	3	Barrier Islands
Deserta	36°58'08''	7°52'27''	04/12/2009	1.59	-3.58	0.32	3	-24.9	0.8	3	Barrier Islands
Rio Seco	37°01'34''	7°54'51''	08/12/2010	1.05	-3.84	0.17	3	-17.5	1.4	3	Coastal plain, E sector
Pechao Serra	37°04'12''	7°52'27''	08/12/2010	1.0	-4.46	0.16	3	-21.7	0.6	3	Coastal plain, E sector
Pechao Gimno	37°03'36''	7°52'15''	08/12/2010	1.0	-5.09	0.26	3	-24.8	1.5	3	Coastal plain, E sector
Zona industrial	37°02'05''	7°54'00''	08/12/2010	1.02	-4.32	0.15	3	-21.5	0.7	3	Coastal plain, E sector
Porewater											
Pw_a	37°00'32''	7°59'42''	01/2007	36.0	0.8	0.1	2	5.5	2.0	2	Spring tides
Pw_b	37°00'26''	7°59'34''	01/2007	35.5	0.5	0.1	2	8.2	0.8	2	Spring Tides
Pw_c	37°00'21''	7°59'24''	01/2007	34.5	0.4	0.1	2	3.3	0.05	2	Spring Tides
Pw_d	37°00'14''	7°59'15''	01/2007	34.5	0.3	0.1	2	3.5	1.8	2	Spring Tides
Pw_e	37°00'03''	7°58'56''	01/2007	23.0	-1.3	0.1	2	-7.3	1.6	2	Spring Tides
Pw_f	37°00'01''	7°58'52''	01/2007	21.0	-1.4	0.1	2	-8.4	1.9	2	Spring Tides

Site	Lat (N)	Lon (W)	Date	Salinity	$\delta^{18}\text{O}$ (‰ VSMOW)	\pm s.d. (‰ VSMOW)	n	$\delta^2\text{H}$ (‰ VSMOW)	\pm s.d. (‰ VSMOW)	n	Observations
Pw_h	36°59'54''	7°58'42''	01/2007	36.0	0.8	0.1	2	6.0	2.0	2	Spring Tides
P_B5	37°00'03''	7°58'56''	16/12/2010	41.11	-0.02	0.13	3	4.3	0.7	3	Neap tides
P_D3	37°00'03''	7°58'56''	16/12/2010	42.79	0.22	0.10	3	6.3	0.5	3	Neap Tides
P_D5	37°00'03''	7°58'56''	16/12/2010	43.05	0.55	0.12	3	7.3	0.8	3	Neap Tides
P_A2	37°00'03''	7°58'56''	16/12/2010	39.05	0.82	0.18	3	6.7	0.7	3	Neap Tides
P_A2	37°00'03''	7°58'56''	16/12/2010	38.98	0.04	0.20	3	2.5	1.1	3	Neap Tides
P_A2	37°00'03''	7°58'56''	04/01/2011	36.01	0.59	0.26	3	6.2	0.9	3	Spring tides
P_A4	37°00'03''	7°58'56''	04/01/2011	39.73	-0.20	0.24	3	2.7	1.4	3	Spring Tides
P_C2	37°00'03''	7°58'56''	04/01/2011	37.35	-0.03	0.21	3	5.2	0.8	3	Spring Tides
P_C5	37°00'03''	7°58'56''	04/01/2011	38.41	-0.08	0.30	3	4.6	2.1	3	Spring Tides
P_E3	37°00'03''	7°58'56''	04/01/2011	42.99	-0.15	0.25	3	5.4	0.9	3	Spring Tides
P_F4	37°00'03''	7°58'56''	04/01/2011	42.80	0.50	0.31	3	8.2	1.8	3	Spring Tides
P_B2	37°00'03''	7°58'56''	16/12/2010	41.41	0.53	0.12	3	7.8	0.9	3	Neap Tides
P_E1	37°00'03''	7°58'56''	16/12/2010	43.38	0.37	0.31	3	6.4	1.7	3	Neap Tides
P_A1	37°00'03''	7°58'56''	16/12/2010	40.76	0.62	0.15	3	7.9	0.6	3	Neap Tides
P_C1	37°00'03''	7°58'56''	16/12/2010	42.90	0.33	0.21	3	5.9	0.8	3	Neap Tides
P_C1	37°00'03''	7°58'56''	16/12/2010	42.85	0.13	0.20	3	3.4	1.1	3	Neap Tides
P_A1	37°00'03''	7°58'56''	16/12/2010	41.31	0.64	0.27	3	6.1	2.2	3	Neap Tides
P_F4	37°00'03''	7°58'56''	12/01/2011	42.07	0.87	0.28	3	8.4	1.4	3	Spring Tides
P_B5	37°00'03''	7°58'56''	12/01/2011	38.76	0.96	0.24	3	8.5	2.2	3	Spring Tides
P_A1	37°00'03''	7°58'56''	12/01/2011	37.34	0.82	0.24	3	8.1	1.1	3	Spring Tides
P_D3	37°00'03''	7°58'56''	12/01/2011	40.24	0.49	0.20	3	6.1	1.0	3	Spring Tides
P_D5	37°00'03''	7°58'56''	12/01/2011	38.64	0.94	0.41	3	7.8	2.4	3	Spring Tides
Surface water											
<i>Lagoon</i>											
Qta. do Lago	37°01'49''	8°01'36''	07/2007	22.0	-0.2	0.1	2	-3.4	0.6	2	Flood tide
3B	37°00'08''	7°58'48''	07/2007	36.0	0.8	0.1	2	6.5	0.05	2	Flood tide
2	36°59'49''	7°55'49''	07/2007	36.0	0.9	0.05	2	6.2	1.2	2	Flood tide
3	37°00'03''	7°55'01''	07/2007	36.0	0.9	0.1	2	7.3	0.6	2	Flood tide
4	36°59'23''	7°54'07''	07/2007	35.5	0.8	0.05	2	6.3	0.2	2	Flood tide
A	36°58'37''	7°52'20''	07/2007	35.5	0.8	0.05	2	6.0	0.7	2	Flood tide
<i>W Sector, LT</i>											
1	37°00'28''	7°56'24''	02/12/2009	36.09	1.61	0.17	3	7.1	0.7	3	Low tide slack
2	36°59'49''	7°55'49''	02/12/2009	34.75	2.04	0.37	3	7.9	0.6	3	Low tide slack

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3	37°00'03''	7°55'01''	02/12/2009	33.57	2.05	0.43	3	7.6	0.5	3	Low tide slack
4	36°59'23''	7°54'07''	02/12/2009	33.82	1.78	0.26	3	7.1	0.3	3	Low tide slack
5	36°58'42''	7°52'57''	02/12/2009	33.84	0.64	0.08	3	6.6	0.6	3	Low tide slack
1B	37°00'20''	7°56'44''	02/12/2009	34.63	0.53	0.32	3	7.3	1.0	3	Low tide slack
2B	37°00'17''	7°57'49''	02/12/2009	35.76	-0.82	0.34	3	5.3	0.6	3	Low tide slack
3B	37°00'08''	7°58'48''	02/12/2009	35.33	-0.75	0.19	3	6.2	0.6	3	Low tide slack
4B	36°59'37''	7°58'03''	02/12/2009	33.84	-0.69	0.12	3	6.4	0.4	3	Low tide slack
5B	36°59'06''	7°57'31''	02/12/2009	34.11	-0.37	0.18	3	6.9	0.5	3	Low tide slack
<i>W Sector, HT</i>											
5	36°58'42''	7°52'57''	02/12/2009	35.46	-0.03	0.31	3	6.4	0.4	3	High tide slack
4	36°59'23''	7°54'07''	02/12/2009	34.96	-0.16	0.24	3	6.6	0.3	3	High tide slack
3	37°00'03''	7°55'01''	02/12/2009	35.28	-0.11	0.40	3	6.9	0.4	3	High tide slack
2	36°59'49''	7°55'49''	02/12/2009	33.79	0.26	0.32	3	6.6	0.4	3	High tide slack
1	37°00'28''	7°56'24''	02/12/2009	34.73	0.43	0.21	3	6.9	0.2	3	High tide slack
5B	36°59'06''	7°57'31''	02/12/2009	35.86	0.41	0.33	3	7.2	0.2	3	High tide slack
4B	36°59'37''	7°58'03''	02/12/2009	35.36	0.58	0.17	3	7.3	0.5	3	High tide slack
3B	37°00'08''	7°58'48''	02/12/2009	35.56	0.66	0.22	3	5.1	0.7	3	High tide slack
2B	37°00'17''	7°57'49''	02/12/2009	35.46	0.86	0.13	3	6.0	0.7	3	High tide slack
1B	37°00'20''	7°56'44''	02/12/2009	34.98	0.86	0.12	3	6.6	0.6	3	High tide slack
<i>E Sector, LT</i>											
A	36°58'37''	7°52'20''	05/12/2009	35.31	0.98	0.10	3	6.9	0.5	3	Low tide slack
B	36°59'02''	7°51'42''	05/12/2009	36.78	0.78	0.21	3	6.4	1.1	3	Low tide slack
C	37°00'16''	7°49'31''	05/12/2009	35.96	0.78	0.10	3	6.5	0.6	3	Low tide slack
D	37°00'50''	7°48'22''	05/12/2009	34.29	0.87	0.17	3	6.5	0.7	3	Low tide slack
E	37°02'00''	7°47'38''	05/12/2009	36.11	0.81	0.18	3	6.3	0.9	3	Low tide slack
F	36°59'55''	7°51'22''	05/12/2009	33.39	1.34	0.18	3	8.4	0.7	3	Low tide slack
G	37°00'24''	7°52'10''	05/12/2009	35.84	1.19	0.09	3	8.0	0.5	3	Low tide slack
H	37°01'19''	7°50'11''	05/12/2009	35.95	1.35	0.16	3	8.5	0.5	3	Low tide slack
J	37°00'18''	7°46'52''	05/12/2009	35.69	0.91	0.14	3	6.5	1.0	3	Low tide slack
<i>E Sector, HT</i>											
H	37°01'19''	7°50'11''	05/12/2009	36.46	0.88	0.18	3	4.6	1.2	3	High tide slack
A	36°58'37''	7°52'20''	05/12/2009	37.18	0.84	0.21	3	6.5	1.0	3	High tide slack
B	36°59'02''	7°51'42''	05/12/2009	35.96	0.91	0.09	3	7.0	0.8	3	High tide slack
C	37°00'16''	7°49'31''	05/12/2009	35.91	0.87	0.20	3	6.8	0.9	3	High tide slack
D	37°00'50''	7°48'22''	05/12/2009	35.61	0.86	0.21	3	7.6	1.4	3	High tide slack
E	37°02'00''	7°47'38''	05/12/2009	37.84	0.91	0.08	3	7.7	0.8	3	High tide slack
F	36°59'55''	7°51'22''	05/12/2009	37.18	0.84	0.29	3	7.3	1.4	3	High tide slack

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G	37°00'24''	7°52'10''	05/12/2009	35.84	0.92	0.19	3	7.8	0.9	3	High tide slack
<i>Beach drainage</i>											
BD_1	37°00'14''	7°59'15''	07/2007	35.0	0.8	0.1	2	5.8	0.2	2	Spring Tides
BD_2	37°00'03''	7°58'56''	07/2007	31.0	0.2	0.1	2	1.9	0.2	2	Spring Tides
BD_3	37°00'03''	7°58'56''	07/2007	35.0	0.8	0.1	2	5.6	0.5	2	Spring Tides
BD_G	37°00'01''	7°58'52''	07/2007	35.0	0.8	0.1	2	5.1	1.2	2	Spring Tides
<i>WWTP Faro</i>											
Settling Basin 1	37°01'02''	7°57'24''	07/2007	2.00	-3.6	0.05	2	-20.2	1.0	2	
Settling Basin 2	37°00'58''	7°57'23''	07/2007	0.50	-3.3	0.05	2	-19.6	1.0	2	
Outlet Ramalhete	37°01'00''	7°57'27''	07/2007	16.0	-2.3	0.1	2	-11.4	1.0	2	
<i>Surf. reservoirs</i>											
Qta do Lago res.	37°01'58''	8°01'34''	07/2007	20.0	-0.3	0.05	2	-	-	-	Spring Tides
Ludo	37°02'07''	7°59'31''	07/2007	1.0	-3.7	0.05	2	-21.4	1.0	2	Ribeira de S. Lourenço
<i>Gilao River</i>											
Ponte Romana	37°09'08''	7°39'42''	08/12/2010	0.30	-3.15	0.23	3	-16.7	1.4	3	
Banco de Areia	37°08'31''	7°39'25''	08/12/2010	2.62	-3.80	0.08	3	-16.9	0.8	3	
Tavira	37°06'36''	7°38'59''	08/12/2010	29.58	-0.15	0.12	3	-1.2	0.3	3	