

Supplementary Materials for the article entitled: “Long-term concentrations and exportations of four dissolved macronutrients from two agroforestry catchments in NW Spain”, authored by R. da Silva Dias, J.M. Mirás-Avalos and A. Paz-González

Table S1. P-values from the Kolmogorov-Smirnoff tests comparing the temporal (on a yearly basis) distribution of sodium and potassium concentrations in waters from the Valiñas catchment. Yellow indicates those differences that are not significant.

Sodium	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2003	1													
2004	0,008215	1												
2005	0,004243	0,2174	1											
2006	0,7297	0,00292	0,01071	1										
2007	2,74E-06	0,1053	0,3269	1,01E-05	1									
2008	2,26E-13	3,35E-07	0,00914	7,61E-11	0,00173	1								
2009	2,16E-08	0,00385	0,01507	2,78E-08	0,3886	0,00067	1							
2010	0,001332	0,5203	0,6713	0,00019	0,2123	0,00014	0,01994	1						
2011	1,66E-12	7,27E-05	0,00565	5,43E-10	0,07833	0,0857	0,06838	0,00102	1					
2012	1,08E-06	0,00666	0,2335	8,90E-07	0,1015	5,53E-05	0,6595	0,09955	0,01954	1				
2013	0,5128	0,03075	0,07158	0,6688	0,00049	4,99E-06	1,02E-05	0,00511	7,66E-06	0,00033	1			
2014	0,9791	0,1524	0,07217	0,8505	0,0045	2,36E-05	0,00039	0,03375	4,63E-05	0,0013	0,913	1		
2015	0,3119	0,141	0,09781	0,1899	0,00779	0,00034	0,00049	0,1247	5,27E-05	0,00667	0,278	0,645	1	
2016	0,9046	0,2116	0,2828	0,9778	0,08673	0,01195	0,01119	0,0746	0,01505	0,04092	0,977	0,953	0,259	1

Potassium	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2003	1													
2004	0,034	1												
2005	0,051	0,011	1											
2006	0,073	0,263	0,256	1										
2007	0,099	0,057	0,504	0,108	1									
2008	1,70E-12	3,60E-11	3,50E-05	1,00E-07	2,60E-05	1								
2009	5,50E-11	5,80E-10	0,0003	1,30E-06	2,70E-05	0,0007	1							
2010	0,142	0,002	0,617	0,073	0,664	5,60E-05	0,0002	1						
2011	6,00E-04	6,20E-05	0,166	0,018	0,134	0,0007	0,019	0,374	1					
2012	1,70E-06	2,50E-06	0,181	0,001	0,005	9,40E-07	0,004	0,006	0,052	1				
2013	0,327	0,396	0,838	0,88	0,613	0,009	0,007	0,46	0,301	0,104	1			
2014	0,772	0,211	0,405	0,621	0,269	0,0005	0,0004	0,47	0,139	0,02	0,796	1		
2015	0,732	0,269	0,068	0,393	0,154	2,70E-05	5,90E-05	0,195	0,022	0,003	0,391	0,459	1	
2016	0,62	0,802	0,415	0,516	0,226	0,005	0,011	0,283	0,148	0,122	0,686	0,586	0,408	1

Table S2. P-values from the Kolmogorov-Smirnoff tests comparing the temporal (on a yearly basis) distribution of calcium and magnesium concentrations in waters from the Valiñas catchment. Yellow indicates those differences that are not significant.

Calcium	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2003	1													
2004	0,041	1												
2005	0,007	0,071	1											
2006	0,001	0,62	0,064	1										
2007	6,00E-03	0,001	0,254	2,10E-02	1									
2008	2,20E-16	2,20E-16	1,46E-09	1,02E-12	2,65E-05	1								
2009	9,20E-08	1,29E-07	0,0004	2,61E-06	2,67E-05	0,0007	1							
2010	0,002	0,013	0,277	0,027	0,664	5,57E-05	0,0002	1						
2011	1,10E-05	2,30E-05	0,016	2,00E-03	0,134	0,0007	0,019	0,374	1					
2012	1,99E-07	4,85E-06	0,011	1,00E-04	0,005	9,39E-07	0,004	0,06	0,052	1				
2013	0,813	0,842	0,093	0,501	0,613	0,009	7,00E-03	0,46	0,301	0,104	1			
2014	0,129	0,425	0,116	0,111	0,269	5,00E-04	0,0004	0,47	0,139	0,02	0,796	1		
2015	0,416	0,85	0,166	0,589	0,154	2,71E-05	5,96E-05	0,195	0,022	0,003	0,391	0,459	1	
2016	0,385	162	0,024	0,112	0,226	0,005	0,011	0,283	0,148	0,122	0,686	0,586	0,408	1

Magnesium	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2003	1													
2004	0,06	1												
2005	0,0009	0,055	1											
2006	0,966	0,022	0,002	1										
2007	9,10E-07	8,80E-05	0,171	5,21E-07	1									
2008	1,30E-08	1,70E-05	0,002	2,73E-07	0,047	1								
2009	1,60E-06	1,68E-05	0,008	2,49E-06	0,023	0,153	1							
2010	0,0003	0,031	0,858	0,0009	0,261	0,028	0,014	1						
2011	6,10E-08	1,00E-04	0,046	1,60E-07	0,562	0,253	0,192	0,153	1					
2012	3,70E-07	9,20E-05	0,033	1,96E-06	0,01	0,015	0,482	0,051	0,032	1				
2013	0,625	0,178	0,185	0,748	0,022	0,021	0,011	0,138	0,022	0,034	1			
2014	0,589	0,386	0,007	0,784	0,001	0,006	0,0007	0,0077	0,0002	0,001	0,676	1		
2015	0,463	0,647	0,131	0,485	0,005	0,002	0,0004	0,104	0,001	0,003	0,668	0,411	1	
2016	0,872	0,245	0,16	0,994	0,072	0,057	0,036	0,138	0,025	0,032	0,987	0,953	0,665	1

Table S3. P-values from the Kolmogorov-Smirnoff tests comparing the temporal (on a yearly basis) distribution of sodium, potassium, calcium and magnesium concentrations in waters from the Abelar catchment. Yellow indicates those differences that are not significant.

Sodium	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	1									
2008	0,02139	1								
2009	0,009604	0,0857	1							
2010	0,5653	4,14E-07	6,33E-10	1						
2011	0,005437	0,003542	0,4038	4,48E-09	1					
2012	0,3945	0,005193	0,02405	0,0003483	0,02073	1				
2013	0,01119	1,53E-09	7,88E-10	0,0002712	3,38E-10	6,17E-06	1			
2014	0,01317	2,45E-09	7,36E-10	0,0002563	1,36E-10	4,33E-06	0,6314	1		
2015	0,01879	4,04E-09	2,10E-08	0,0005585	7,36E-09	3,10E-06	0,3226	0,5182	1	
2016	0,0004278	5,81E-07	6,38E-07	1,30E-06	7,09E-07	3,07E-05	0,08978	0,006572	0,002051	1

Potassium	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	1									
2008	0,016	1								
2009	0,815	0,008	1							
2010	0,862	0,002	0,858	1						
2011	0,009	0,343	0,002	0,003	1					
2012	0,003	0,199	0,0007	0,0002	0,66	1				
2013	0,739	0,06	0,821	0,728	0,089	0,026	1			
2014	0,157	0,111	0,146	0,237	0,446	0,173	0,377	1		
2015	0,055	0,592	0,109	0,053	0,876	0,802	0,235	0,896	1	
2016	0,136	0,512	0,288	0,27	0,786	0,6	0,474	0,977	0,999	1

Calcium	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	1									
2008	0,016	1								
2009	0,815	0,008	1							
2010	0,862	0,002	0,858	1						
2011	0,009	0,343	0,002	0,003	1					
2012	0,003	0,199	0,0007	0,0002	0,66	1				
2013	0,739	0,06	0,821	0,728	0,089	0,026	1			
2014	0,157	0,111	0,146	0,237	0,446	0,173	0,377	1		
2015	0,056	0,592	0,109	0,053	0,876	0,802	0,235	0,896	1	
2016	0,136	0,512	0,288	0,27	0,786	0,6	0,474	0,977	0,999	1

Magnesium	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2007	1									
2008	0,411	1								
2009	0,364	0,07	1							
2010	0,119	3,00E-03	1,20E-02	1						
2011	0,072	0,002	0,001	7,66E-01	1					
2012	0,136	0,002	0,004	0,2	0,243	1				
2013	6,54E-07	1,82E-08	8,99E-13	1,17E-09	2,94E-09	5,22E-07	1			
2014	9,09E-07	3,66E-10	2,60E-12	3,09E-11	1,36E-10	1,38E-07	0,459	1		
2015	1,87E-06	3,74E-09	2,37E-11	2,24E-10	9,58E-10	5,52E-07	0,051	0,719	1	
2016	2,60E-05	3,72E-07	3,68E-07	4,15E-07	2,72E-07	3,07E-05	0,0007	0,00099	0,00068	1

Figure S1. Time series seasonal decomposition plots for sodium concentrations at the outlet of the Valiñas catchment during the study period (2003-2016).

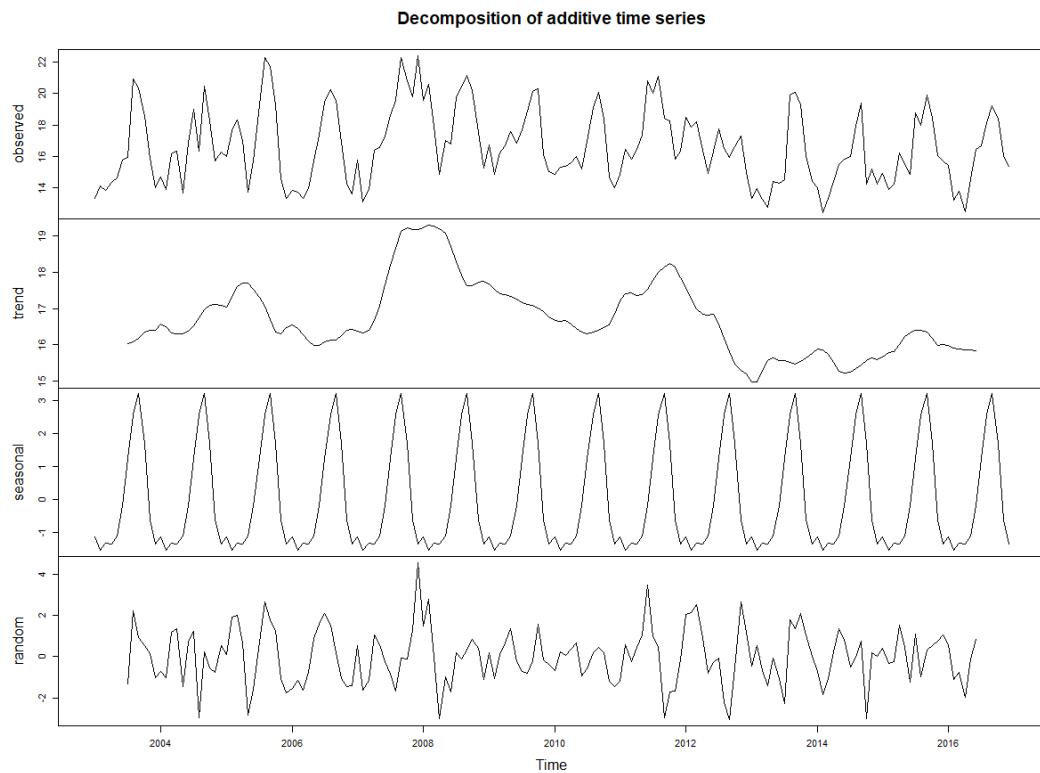


Figure S2. Time series seasonal decomposition plots for potassium concentrations at the outlet of the Valiñas catchment during the study period (2003-2016).

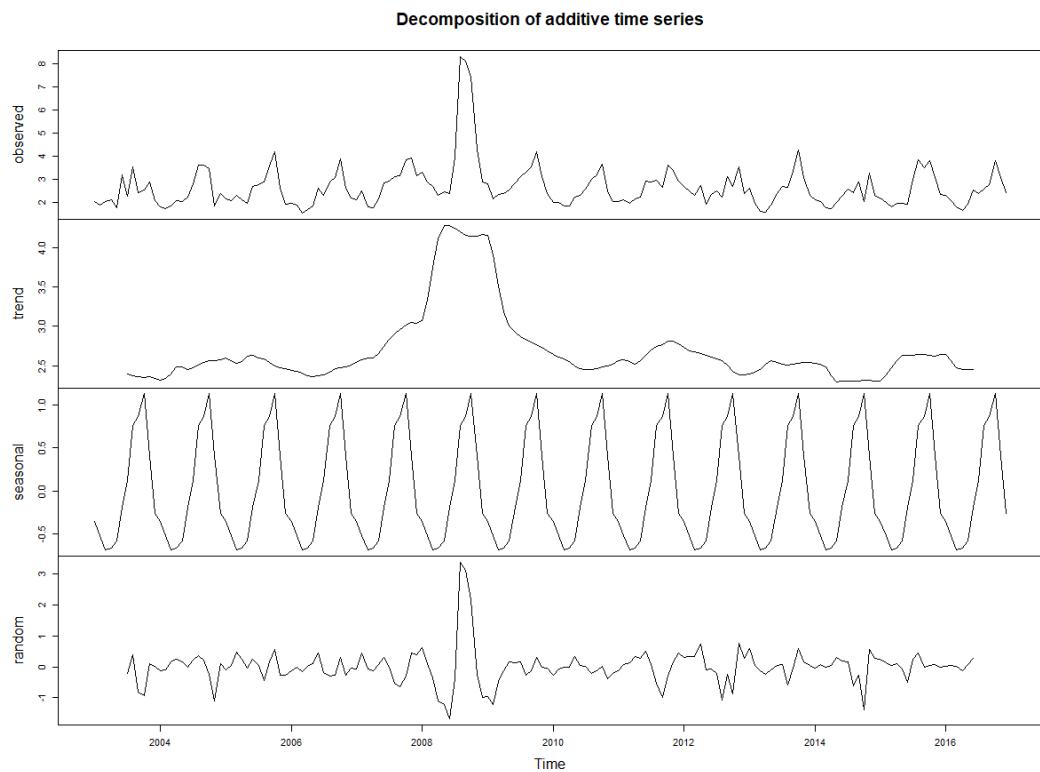


Figure S3. Time series seasonal decomposition plots for calcium concentrations at the outlet of the Valiñas catchment during the study period (2003-2016).

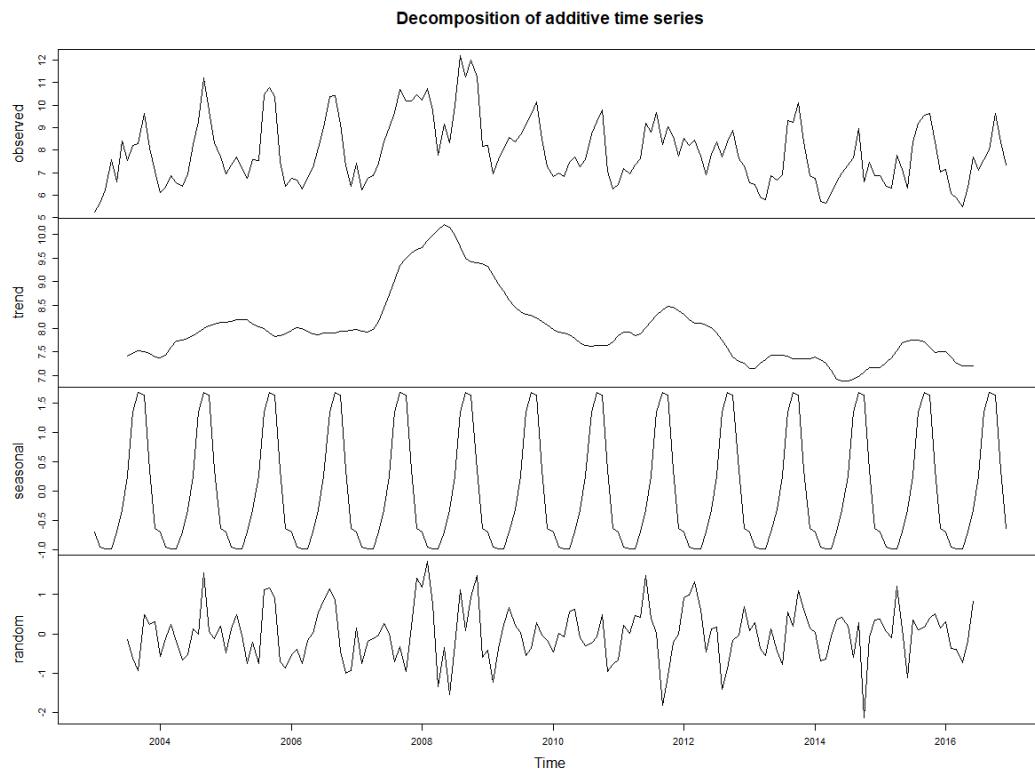


Figure S4. Time series seasonal decomposition plots for magnesium concentrations at the outlet of the Valiñas catchment during the study period (2003-2016).

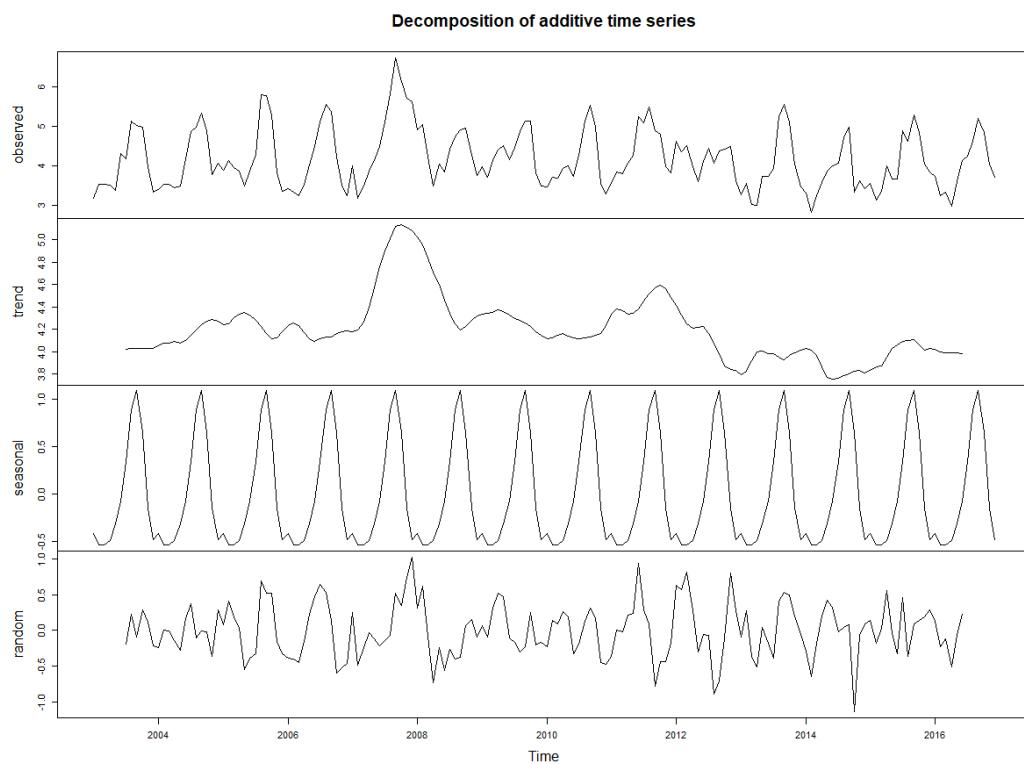


Figure S5. Time series seasonal decomposition plots for sodium concentrations at the outlet of the Abelar catchment during the study period (2003-2016).

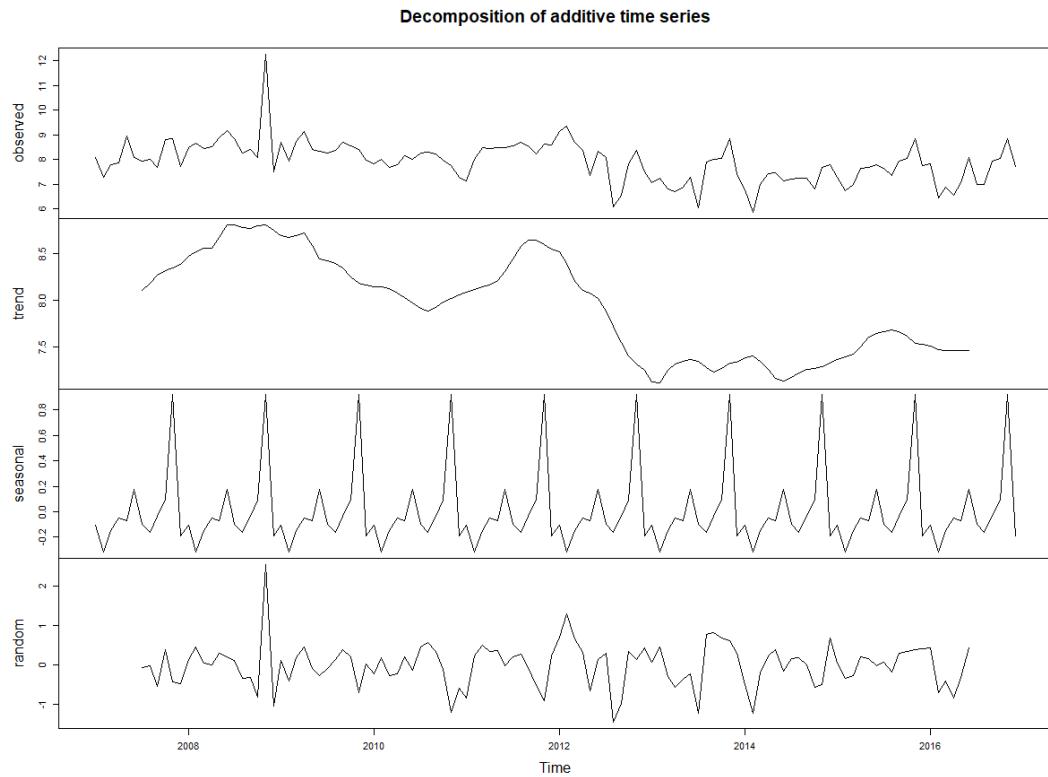


Figure S6. Time series seasonal decomposition plots for potassium concentrations at the outlet of the Abelar catchment during the study period (2003-2016).

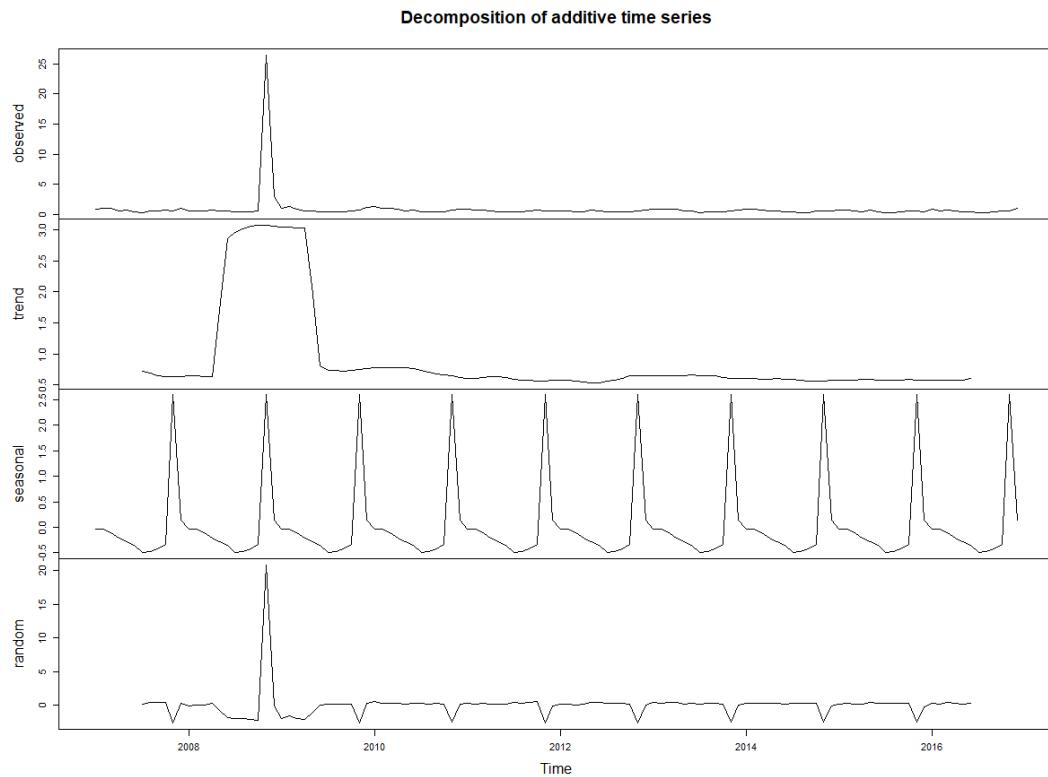


Figure S7. Time series seasonal decomposition plots for calcium concentrations at the outlet of the Abelar catchment during the study period (2003-2016).

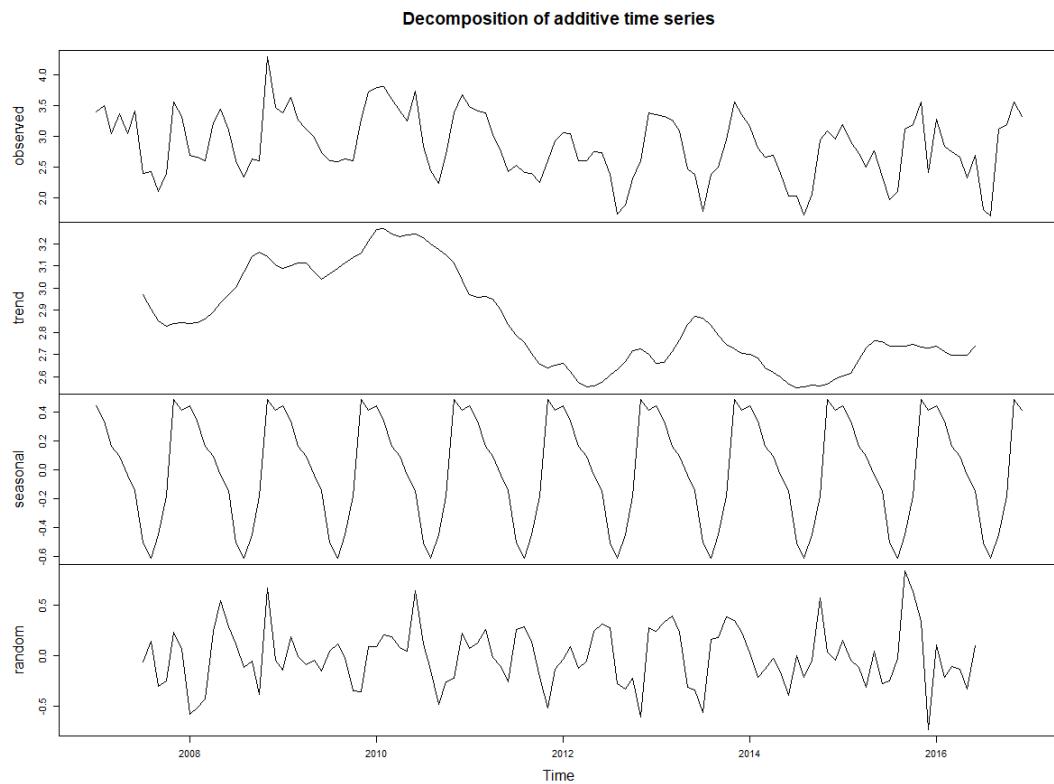


Figure S8. Time series seasonal decomposition plots for magnesium concentrations at the outlet of the Abelar catchment during the study period (2003-2016).

