

Appendix 1 - Table 1

Linear trend analysis of non-marine SO₄²⁻ in precipitation at UK monitoring sites 1986-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

Site	slope	se	t_val	t_df	t_prob	sigslope
Stoke Ferry	-3.0610	0.6128	4.995	10	0.001	-3.0610
High Muffles	-2.0060	0.6574	3.052	10	0.012	-2.0060
Preston Montford	-0.7790	0.9001	0.865	10	0.407	
Flatford Mills	-3.6040	0.7125	5.057	10	0.000	-3.6040
Thorganby	-2.4080	1.1719	2.055	10	0.067	
Jenny Hurn	-4.7900	0.8817	5.433	10	0.000	-4.7900
Wardlow Hay Cop	-1.4800	0.6322	2.341	10	0.041	-1.4800
Bottesford	-4.8090	0.7266	6.619	10	0.000	-4.8090
Woburn	-3.5150	0.6058	5.802	10	0.000	-3.5150
Compton	-3.2970	0.9557	3.449	10	0.006	-3.2970
Driby	-2.6530	0.7876	3.368	10	0.007	-2.6530
Barcombe Mills	-1.5870	0.4544	3.493	10	0.006	-1.5870
Glen Dye	-0.2300	0.7861	0.293	9	0.776	
Whiteadder	-1.3930	0.5654	2.463	10	0.033	-1.3930
Redesdale	-1.3510	0.6268	2.155	10	0.057	
Bannisdale	-0.3780	0.3305	1.143	10	0.280	
Cow Green Reservoir	-0.7010	0.3539	1.982	10	0.076	
Hillsborough Forest	-1.5070	0.8724	1.727	7	0.128	
Eskdalemuir	-0.4840	0.1258	3.851	10	0.003	-0.4840
Goonhilly	-0.2730	0.4059	0.673	10	0.516	
Yarner Wood	0.0160	0.4124	0.038	10	0.970	
Loch Dee	-0.7710	0.4224	1.826	10	0.098	
Beddgelert	-1.5200	0.8512	1.785	9	0.108	
Tycanol Wood	-0.3910	0.2678	1.461	10	0.175	
Llyn Brianne	-0.3900	0.2183	1.787	10	0.104	
Achanarras	-0.8490	0.3012	2.818	10	0.018	-0.8490
Pumlumon	-0.1390	0.3707	0.376	7	0.718	
Balquhidder	-0.2070	0.4458	0.464	10	0.653	
Lough Navar	-0.0600	0.1405	0.425	10	0.680	
Strathvaich Dam	-0.1900	0.2802	0.679	9	0.514	
River Mharcaidh	-0.6060	0.2779	2.182	10	0.054	
Polloch	-0.5740	0.4342	1.322	5	0.243	

Appendix 1 - Table 2

Linear trend analysis of NO₃⁻ in precipitation at UK monitoring sites 1986-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

Site	slope	se	t_val	t_df	t_prob	sigslope
Stoke Ferry	-0.8217	0.3990	2.059	10	0.066	
High Muffles	-0.4056	0.3579	1.133	10	0.284	
Preston Montford	0.5035	0.5013	1.004	10	0.339	
Flatford Mills	-0.8636	0.4820	1.792	10	0.103	
Thorganby	-0.5175	0.3317	1.560	10	0.150	
Jenny Hurn	-0.5594	0.3686	1.518	10	0.160	
Wardlow Hay Cop	0.3916	0.3875	1.011	10	0.336	
Bottesford	-0.9965	0.3576	2.786	10	0.019	-0.9965
Woburn	-0.3392	0.4032	0.841	10	0.420	
Compton	-0.7762	0.3956	1.962	10	0.078	
Driby	-0.1259	0.3961	0.318	10	0.757	
Barcombe Mills	-0.2832	0.3716	0.762	10	0.464	
Glen Dye	0.6455	0.4385	1.472	9	0.175	
Whiteadder	-0.1608	0.4001	0.402	10	0.696	
Redesdale	0.1469	0.3202	0.459	10	0.656	
Bannisdale	0.4056	0.1476	2.748	10	0.021	0.4056
Cow Green Reservoir	0.0594	0.1986	0.299	10	0.771	
Hillsborough Forest	0.2333	0.5875	0.397	7	0.703	
Eskdalemuir	0.3042	0.1231	2.470	10	0.033	0.3042
Goonhilly	0.5664	0.3700	1.531	10	0.157	
Yarner Wood	1.0000	0.3642	2.746	10	0.021	1.0000
Loch Dee	0.1643	0.2229	0.737	10	0.478	
Beddgelert	0.2000	0.3260	0.613	9	0.555	
Tycanol Wood	0.3357	0.1772	1.895	10	0.087	
Llyn Brianne	0.4021	0.1177	3.418	10	0.007	0.4021
Achanarras	0.0315	0.2882	0.109	10	0.915	
Pumlumon	0.6333	0.2001	3.165	7	0.016	0.6333
Balquhidder	0.3007	0.3229	0.931	10	0.374	
Lough Navar	0.4755	0.1408	3.378	10	0.007	0.4755
Strathvaich Dam	0.1727	0.1157	1.492	9	0.170	
River Mharcaidh	0.1853	0.1907	0.972	10	0.354	
Polloch	0.0000	0.2020	0.000	5	1.000	

Appendix 1 - Table 3

Linear trend analysis of NH₄⁺ in precipitation at UK monitoring sites 1986-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

Site	slope	se	t_val	t_df	t_prob	sigslope
Stoke Ferry	-1.1713	0.7303	1.604	10	0.140	
High Muffles	0.2727	0.6595	0.414	10	0.688	
Preston Montford	-0.2657	0.6729	0.395	10	0.701	
Flatford Mills	-1.3636	0.8771	1.555	9	0.154	
Thorganby	-0.4010	1.8026	0.222	9	0.829	
Jenny Hurn	-0.6294	0.9480	0.664	10	0.522	
Wardlow Hay Cop	0.9790	0.5805	1.686	10	0.123	
Bottesford	-0.5769	0.7649	0.754	10	0.468	
Woburn	-0.3671	0.6914	0.531	10	0.607	
Compton	-0.5245	0.9725	0.539	10	0.601	
Driby	-0.7657	0.7929	0.966	10	0.357	
Barcombe Mills	-1.4441	0.6269	2.303	10	0.044	-1.4441
Glen Dye	0.5091	0.5545	0.918	9	0.383	
Whiteadder	-0.0909	0.4836	0.188	10	0.855	
Redesdale	0.8951	0.6845	1.308	10	0.220	
Bannisdale	0.4790	0.2890	1.657	10	0.128	
Cow Green Reservoir	0.6154	0.2129	2.890	10	0.016	0.6154
Hillsborough Forest	-0.5000	1.1047	0.453	7	0.665	
Eskdalemuir	0.5280	0.2551	2.070	10	0.065	
Goonhilly	0.3986	0.4511	0.884	10	0.398	
Yarner Wood	1.0455	0.5022	2.082	10	0.064	
Loch Dee	-0.3566	0.3938	0.906	10	0.386	
Beddgelert	0.7545	0.4282	1.762	9	0.112	
Tycanol Wood	0.3671	0.2409	1.524	10	0.158	
Llyn Brianne	0.3846	0.1731	2.222	10	0.051	
Achanarras	-1.0000	0.0000		1		
Pumlumon	0.4667	0.3898	1.197	7	0.270	
Balquhidder	0.4441	0.2757	1.610	10	0.138	
Lough Navar	0.5105	0.1505	3.391	10	0.007	0.5105
Strathvaich Dam	0.2000	0.0647	3.091	9	0.013	0.2000
River Mharcaidh	-0.0804	0.1700	0.473	10	0.646	
Polloch	-0.2143	0.2095	1.023	5	0.353	

Appendix 1 - Table 4

Linear trend analysis of non-marine Cl⁻ in precipitation at UK monitoring sites 1986-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Stoke Ferry	-1.4580	1.2060	1.209	10	0.254	
High Muffles	3.6080	2.2220	1.624	10	0.135	
Preston Montford	-2.3530	3.7460	0.628	10	0.544	
Flatford Mills	-1.3530	1.1320	1.195	10	0.260	
Thorganby	-5.4930	2.3440	2.344	10	0.041	-5.4930
Jenny Hurn	-6.3600	2.1800	2.918	10	0.015	-6.3600
Wardlow Hay Cop	-1.8810	2.9580	0.636	10	0.539	
Bottesford	-4.1430	1.4160	2.926	10	0.015	-4.1430
Woburn	-2.1150	1.4090	1.501	10	0.164	
Compton	-0.6570	2.4100	0.273	10	0.791	
Driby	-0.4200	2.2400	0.187	10	0.855	
Barcombe Mills	-8.4200	6.7950	1.239	10	0.244	
Glen Dye	5.9450	1.2760	4.659	9	0.001	5.9450
Whiteadder	2.4860	1.8950	1.312	10	0.219	
Redesdale	-1.3570	1.8600	0.729	10	0.483	
Bannisdale	0.2800	3.5150	0.080	10	0.938	
Cow Green Reservoir	2.9130	1.1380	2.560	10	0.028	2.9130
Hillsborough Forest	-2.0670	3.4600	0.597	7	0.569	
Eskdalemuir	-0.4620	1.7830	0.259	10	0.801	
Goonhilly	1.3810	8.3020	0.166	10	0.871	
Yarner Wood	-3.1850	4.0650	0.784	10	0.451	
Loch Dee	-2.7620	2.7700	0.997	10	0.342	
Beddgelert	-2.5180	4.0810	0.617	9	0.553	
Tycanol Wood	1.7410	4.4420	0.392	10	0.703	
Llyn Brianne	-0.8150	2.2720	0.359	10	0.727	
Achanarras	-4.0910	3.4150	1.198	10	0.259	
Pumlumon	-4.2000	3.6610	1.147	7	0.289	
Balquhidder	1.6990	3.0560	0.556	10	0.590	
Lough Navar	-12.3460	6.4190	1.923	10	0.083	
Strathvaich Dam	1.0910	3.7700	0.289	9	0.779	
River Mharcaidh	1.5170	2.7680	0.548	10	0.596	
Polloch	-9.6790	7.4570	1.298	5	0.251	

Appendix 1 - Table 5

Trends in precipitation weighted mean concentrations of non-marine SO₄²⁻ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	0.1500	0.5349	0.280	8	0.786	
Yarner Wood	0.6860	0.3808	1.802	8	0.109	
Barcombe Mills	-1.5840	0.6508	2.434	8	0.041	-1.584
Compton	-1.6660	0.6592	2.527	8	0.035	-1.666
Flatford Mills	-3.2280	0.9429	3.423	8	0.009	-3.228
Woburn	-3.9890	0.8089	4.932	8	0.001	-3.989
Tycanol Wood	-0.3780	0.3937	0.960	8	0.365	
Llyn Brianne	-0.6170	0.2614	2.361	8	0.046	-0.617
Pumlumon	-0.1390	0.3707	0.376	7	0.718	
Stoke Ferry	-3.5950	0.8526	4.217	8	0.003	-3.595
Preston Montford	-1.4290	1.2087	1.183	8	0.271	
Bottesford	-5.4810	0.9871	5.553	8	0.001	-5.481
Beddgelert	0.4150	0.4667	0.889	7	0.404	
Wardlow Hay Cop	-1.8180	0.6797	2.674	8	0.028	-1.818
Driby	-3.8580	0.9418	4.097	8	0.003	-3.858
Jenny Hurn	-5.0340	1.2910	3.899	8	0.005	-5.034
Thorganby	-3.1290	0.7105	4.404	5	0.007	-3.129
High Muffles	-3.0870	0.6997	4.412	8	0.002	-3.087
Bannisdale	-0.7020	0.4454	1.577	8	0.153	
Hillsborough Forest	-1.5070	0.8724	1.727	7	0.128	
Lough Navar	0.0550	0.1816	0.304	8	0.769	
Cow Green Reservoir	-0.9900	0.4823	2.052	8	0.074	
Loch Dee	-0.5890	0.6037	0.975	8	0.358	
Redesdale	-1.2500	0.8740	1.430	8	0.191	
Eskdalemuir	-0.6140	0.1700	3.613	8	0.007	-0.614
Whiteadder	-1.4930	0.8240	1.812	8	0.108	
Balquhidder	0.1170	0.5958	0.197	8	0.849	
Polloch	-0.5740	0.4342	1.322	5	0.243	
Glen Dye	-0.0360	0.9529	0.038	8	0.971	
River Mharcaidh	-0.2040	0.3440	0.592	8	0.570	
Strathvaich Dam	-0.0440	0.3272	0.133	8	0.897	
Achanarras	-0.9220	0.3499	2.635	8	0.030	-0.922

Appendix 1 - Table 6

Trends in precipitation weighted mean concentrations of NH₄⁺ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	0.7091	0.6269	1.131	8	0.291	
Yarner Wood	1.7212	0.5337	3.225	8	0.012	1.7212
Barcombe Mills	-1.6848	0.9064	1.859	8	0.100	
Compton	1.0121	1.1521	0.879	8	0.405	
Flatford Mills	-1.6000	1.0612	1.508	8	0.170	
Woburn	-0.1879	1.0087	0.186	8	0.857	
Tycanol Wood	0.4424	0.3489	1.268	8	0.240	
Llyn Brianne	0.1515	0.2209	0.686	8	0.512	
Pumlumon	0.4667	0.3898	1.197	7	0.270	
Stoke Ferry	-1.6485	1.0359	1.591	8	0.150	
Preston Montford	-0.2545	0.9489	0.268	8	0.795	
Bottesford	-0.8242	1.0776	0.765	8	0.466	
Beddgelert	1.0000	0.6316	1.583	7	0.157	
Wardlow Hay Cop	0.7152	0.8325	0.859	8	0.415	
Driby	-1.4545	1.0892	1.335	8	0.218	
Jenny Hurn	-0.6242	1.3529	0.461	8	0.657	
Thorganby	-0.5765	0.2741	2.103	4	0.103	
High Muffles	-0.4848	0.8695	0.558	8	0.592	
Bannisdale	0.6970	0.3403	2.048	8	0.075	
Hillsborough Forest	-0.5000	1.1047	0.453	7	0.665	
Lough Navar	0.7273	0.1774	4.100	8	0.003	0.7273
Cow Green Reservoir	0.3455	0.2715	1.272	8	0.239	
Loch Dee	-0.0424	0.4022	0.105	8	0.919	
Redesdale	1.3697	0.6500	2.107	8	0.068	
Eskdalemuir	0.5152	0.3538	1.456	8	0.183	
Whiteadder	-0.3636	0.6357	0.572	8	0.583	
Balquhidder	0.7030	0.3798	1.851	8	0.101	
Polloch	-0.2143	0.2095	1.023	5	0.353	
Glen Dye	0.4848	0.6789	0.714	8	0.495	
River Mharcaidh	0.1636	0.1736	0.943	8	0.373	
Strathvaich Dam	0.2424	0.0734	3.305	8	0.011	0.2424
Achanarras	-1.0000			1		

Appendix 1 - Table 7

Trends in precipitation weighted mean concentrations of Cl⁻ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	-4.4000	11.6090	0.379	8	0.715	
Yarner Wood	-9.0850	4.9880	1.821	8	0.106	
Barcombe Mills	-7.8550	9.6590	0.813	8	0.440	
Compton	-3.6000	3.0180	1.193	8	0.267	
Flatford Mills	-0.6790	1.4480	0.469	8	0.652	
Woburn	-1.6910	2.0600	0.821	8	0.435	
Tycanol Wood	-3.7940	5.6910	0.667	8	0.524	
Llyn Brianne	-3.5090	2.9130	1.205	8	0.263	
Pumlumon	-4.2000	3.6610	1.147	7	0.289	
Stoke Ferry	-1.5330	1.5880	0.966	8	0.363	
Preston Montford	-5.0060	5.1060	0.980	8	0.356	
Bottesford	-5.0550	1.3650	3.703	8	0.006	-5.055
Beddgelert	-7.7830	4.8810	1.595	7	0.155	
Wardlow Hay Cop	-5.8180	3.7600	1.547	8	0.160	
Driby	-1.1640	2.9320	0.397	8	0.702	
Jenny Hurn	-7.7270	2.5420	3.039	8	0.016	-7.727
Thorganby	-6.3330	1.2620	5.020	5	0.004	-6.333
High Muffles	1.5330	3.0700	0.499	8	0.631	
Bannisdale	-3.7030	4.1650	0.889	8	0.400	
Hillsborough Forest	-2.0670	3.4600	0.597	7	0.569	
Lough Navar	-20.2970	7.0310	2.887	8	0.020	-20.297
Cow Green Reservoir	2.1940	1.1170	1.965	8	0.085	
Loch Dee	-6.5210	2.5470	2.561	8	0.034	-6.521
Redesdale	-1.2670	1.7040	0.743	8	0.479	
Eskdalemuir	-1.7090	1.9350	0.883	8	0.403	
Whiteadder	3.4060	2.0440	1.666	8	0.134	
Balquhiddy	2.1450	3.7570	0.571	8	0.584	
Polloch	-9.6790	7.4570	1.298	5	0.251	
Glen Dye	5.3700	1.5090	3.559	8	0.007	5.37
River Mharcaidh	1.6670	3.6380	0.458	8	0.659	
Strathvaich Dam	-2.0180	4.0600	0.497	8	0.632	
Achanarras	-8.4120	3.2970	2.551	8	0.034	-8.412

Appendix 1 - Table 8

Trends in precipitation weighted mean concentrations of H⁺ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	-0.0850	0.4401	0.193	8	0.852	
Yarner Wood	-0.0670	0.2800	0.238	8	0.818	
Barcombe Mills	-0.1150	0.4687	0.246	8	0.812	
Compton	-1.3640	1.1143	1.224	8	0.256	
Flatford Mills	-1.5090	0.5957	2.533	8	0.035	-1.509
Woburn	-2.5760	0.5216	4.938	8	0.001	-2.576
Tycanol Wood	-0.5090	0.3538	1.439	8	0.188	
Llyn Brianne	-0.7880	0.3172	2.484	8	0.038	-0.788
Pumlumon	-0.4000	0.4265	0.938	7	0.380	
Stoke Ferry	-2.1270	0.7332	2.902	8	0.020	-2.127
Preston Montford	-1.2730	1.1042	1.153	8	0.282	
Bottesford	-5.7150	1.5567	3.671	8	0.006	-5.715
Beddgelert	-0.2330	0.3272	0.713	7	0.499	
Wardlow Hay Cop	-2.0850	0.7876	2.647	8	0.029	-2.085
Driby	-2.9210	0.6849	4.265	8	0.003	-2.921
Jenny Hurn	-3.9520	1.5252	2.591	8	0.032	-3.952
Thorganby	-6.9460	1.5459	4.493	5	0.006	-6.946
High Muffles	-3.9880	0.6060	6.580	8	0.000	-3.988
Bannisdale	-1.2000	0.5581	2.150	8	0.064	
Hillsborough Forest	-0.5000	0.5358	0.933	7	0.382	
Lough Navar	-0.4610	0.1911	2.411	8	0.042	-0.461
Cow Green Reservoir	-1.6300	0.7402	2.202	8	0.059	
Loch Dee	-0.5330	0.4195	1.271	8	0.239	
Redesdale	-2.1760	0.7977	2.728	8	0.026	-2.176
Eskdalemuir	-1.3640	0.3682	3.703	8	0.006	-1.364
Whiteadder	-1.7330	0.6331	2.738	8	0.026	-1.733
Balquhiddy	-0.1330	0.5253	0.254	8	0.806	
Polloch	-0.6070	0.4670	1.300	5	0.250	
Glen Dye	-0.3090	0.9298	0.332	8	0.748	
River Mharcaidh	-0.5210	0.1825	2.856	8	0.021	-0.521
Strathvaich Dam	-0.5820	0.3395	1.714	8	0.125	
Achanarras	-0.9820	0.3164	3.103	8	0.015	-0.982

Appendix 1 - Table 9

Trends in precipitation weighted mean concentrations of NO₃⁻ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	0.9091	0.4629	1.964	8	0.085	
Yarner Wood	1.6364	0.3470	4.715	8	0.002	1.6364
Barcombe Mills	-0.2364	0.5330	0.443	8	0.669	
Compton	-0.3758	0.4747	0.791	8	0.451	
Flatford Mills	-1.3030	0.6453	2.019	8	0.078	
Woburn	-0.4606	0.5889	0.782	8	0.457	
Tycanol Wood	0.4182	0.2452	1.706	8	0.126	
Llyn Brianne	0.3333	0.1639	2.034	8	0.076	
Pumlumon	0.6333	0.2001	3.165	7	0.016	0.6333
Stoke Ferry	-1.0000	0.5715	1.750	8	0.118	
Preston Montford	0.4000	0.6889	0.581	8	0.577	
Bottesford	-1.3758	0.4842	2.841	8	0.022	-1.3758
Beddgelert	0.8667	0.3327	2.605	7	0.035	0.8667
Wardlow Hay Cop	0.2970	0.4887	0.608	8	0.560	
Driby	-0.7091	0.4745	1.494	8	0.173	
Jenny Hurn	-0.6303	0.5269	1.196	8	0.266	
Thorganby	-0.9516	0.4100	2.321	5	0.068	
High Muffles	-0.8364	0.4436	1.885	8	0.096	
Bannisdale	0.4727	0.2044	2.313	8	0.049	0.4727
Hillsborough Forest	0.2333	0.5875	0.397	7	0.703	
Lough Navar	0.5818	0.1988	2.927	8	0.019	0.5818
Cow Green Reservoir	-0.1394	0.2677	0.521	8	0.617	
Loch Dee	0.2424	0.2953	0.821	8	0.435	
Redesdale	0.1818	0.4143	0.439	8	0.672	
Eskdalemuir	0.2788	0.1651	1.689	8	0.130	
Whiteadder	-0.3697	0.5603	0.660	8	0.528	
Balquhidder	0.6182	0.3815	1.620	8	0.144	
Polloch	0.0000	0.2020	0.000	5	1.000	
Glen Dye	0.7091	0.5352	1.325	8	0.222	
River Mharcaidh	0.3697	0.2559	1.445	8	0.187	
Strathvaich Dam	0.3212	0.0952	3.372	8	0.010	0.3212
Achanarras	-0.2970	0.3239	0.917	8	0.386	

Appendix 1 - Table 10

Trends in precipitation weighted mean concentrations of Na⁺ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	-2.8480	9.6820	0.294	8	0.776	
Yarner Wood	-7.2730	4.1450	1.755	8	0.117	
Barcombe Mills	-5.3270	8.1390	0.655	8	0.531	
Compton	-1.9640	2.6260	0.748	8	0.476	
Flatford Mills	0.2360	1.2480	0.189	8	0.855	
Woburn	-0.4970	1.7580	0.283	8	0.785	
Tycanol Wood	-2.9090	4.9720	0.585	8	0.575	
Llyn Brianne	-2.3450	2.4610	0.953	8	0.368	
Pumlumon	-3.1500	3.1120	1.012	7	0.345	
Stoke Ferry	-0.7330	1.4010	0.523	8	0.615	
Preston Montford	-3.3450	4.3490	0.769	8	0.464	
Bottesford	-1.9450	1.2190	1.596	8	0.149	
Beddgelert	-6.6000	4.0090	1.646	7	0.144	
Wardlow Hay Cop	-3.2610	3.2530	1.002	8	0.346	
Driby	0.5760	2.3810	0.242	8	0.815	
Jenny Hurn	-3.6790	2.0710	1.776	8	0.114	
Thorganby	-1.1170	0.8700	1.283	5	0.256	
High Muffles	4.1150	2.4600	1.673	8	0.133	
Bannisdale	-2.0970	3.6100	0.581	8	0.577	
Hillsborough Forest	-1.4670	3.0070	0.488	7	0.641	
Lough Navar	-15.2420	5.4690	2.787	8	0.024	-15.242
Cow Green Reservoir	2.2240	0.9070	2.454	8	0.040	2.224
Loch Dee	-5.0610	2.0690	2.446	8	0.040	-5.061
Redesdale	-0.2610	1.4480	0.180	8	0.862	
Eskdalemuir	0.9390	2.8660	0.328	8	0.751	
Whiteadder	3.6970	1.8310	2.019	8	0.078	
Balquhidder	2.2300	3.2100	0.695	8	0.507	
Polloch	-8.3570	6.4650	1.293	5	0.253	
Glen Dye	4.9270	1.2500	3.941	8	0.004	4.927
River Mharcaidh	1.6360	3.3640	0.486	8	0.640	
Strathvaich Dam	-0.9520	3.9200	0.243	8	0.814	
Achanarras	-6.5880	3.0060	2.191	8	0.060	

Appendix 1 - Table 11

Trends in precipitation weighted mean concentrations of marine SO₄²⁺ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

Site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	-0.3864	1.1577	0.334	8	0.747	
Yarner Wood	-0.8982	0.5133	1.750	8	0.118	
Barcombe Mills	-0.6036	1.0097	0.598	8	0.566	
Compton	-0.1824	0.3155	0.578	8	0.579	
Flatford Mills	0.0764	0.1488	0.513	8	0.622	
Woburn	-0.0955	0.2117	0.451	8	0.664	
Tycanol Wood	-0.3858	0.5893	0.655	8	0.531	
Llyn Brianne	-0.2615	0.3256	0.803	8	0.445	
Pumlumon	-0.2440	0.3823	0.638	7	0.544	
Stoke Ferry	-0.0773	0.1718	0.450	8	0.665	
Preston Montford	-0.3645	0.4965	0.734	8	0.484	
Bottesford	-0.1979	0.1399	1.415	8	0.195	
Beddgelert	-0.7313	0.4685	1.561	7	0.162	
Wardlow Hay Cop	-0.3582	0.3988	0.898	8	0.395	
Driby	0.0888	0.2905	0.306	8	0.768	
Jenny Hurn	-0.4388	0.2476	1.772	8	0.114	
Thorganby	-0.2642	0.1783	1.482	8	0.177	
High Muffles	0.4630	0.2946	1.572	8	0.155	
Bannisdale	-0.2612	0.4517	0.578	8	0.579	
Hillsborough Forest	-0.1100	0.3551	0.310	7	0.766	
Lough Navar	-0.8309	0.5661	1.468	8	0.180	
Cow Green Reservoir	0.2503	0.1138	2.200	8	0.059	
Loch Dee	-0.5021	0.2311	2.173	8	0.062	
Redesdale	0.0318	0.1860	0.171	8	0.868	
Eskdalemuir	-0.1252	0.2369	0.528	8	0.612	
Whiteadder	0.3355	0.2357	1.423	8	0.192	
Balquhidder	0.2524	0.3821	0.661	8	0.527	
Polloch	-0.9618	0.8001	1.202	5	0.283	
Glen Dye	0.5448	0.1650	3.302	8	0.011	0.5448
River Mharcaidh	0.1915	0.3457	0.554	8	0.595	
Strathvaich Dam	-0.0655	0.4273	0.153	8	0.882	
Achanarras	-0.8297	0.3678	2.256	8	0.054	

Appendix 1 - Table 12

Trends in precipitation weighted mean concentrations of Total SO₄²⁺ for the period 1988-1997 (µeq1⁻¹ yr⁻¹). Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	sigslope
Goonhilly	-0.2360	1.3474	0.175	8	0.865	
Yarner Wood	-0.2120	0.4559	0.465	8	0.654	
Barcombe Mills	-2.1880	1.0612	2.062	8	0.073	
Compton	-1.8480	0.6571	2.813	8	0.023	-1.848
Flatford Mills	-3.1520	1.0335	3.049	8	0.016	-3.152
Woburn	-4.0850	0.8840	4.621	8	0.002	-4.085
Tycanol Wood	-0.7640	0.6879	1.110	8	0.299	
Llyn Brianne	-0.8790	0.4306	2.041	8	0.076	
Pumlumon	-0.3830	0.2894	1.324	7	0.227	
Stoke Ferry	-3.6730	0.9782	3.754	8	0.006	-3.673
Preston Montford	-1.7940	1.2686	1.414	8	0.195	
Bottesford	-5.6790	1.0000	5.679	8	0.000	-5.679
Beddgelert	-0.3170	0.5060	0.626	7	0.551	
Wardlow Hay Cop	-2.1760	0.8595	2.531	8	0.035	-2.176
Driby	-3.7700	1.1174	3.374	8	0.010	-3.77
Jenny Hurn	-5.4730	1.4021	3.903	8	0.005	-5.473
Thorganby	-3.2720	0.7629	4.289	5	0.008	-3.272
High Muffles	-2.6240	0.8366	3.137	8	0.014	-2.624
Bannisdale	-0.9640	0.3820	2.523	8	0.036	-0.964
Hillsborough Forest	-1.6170	0.9118	1.773	7	0.120	
Lough Navar	-0.7760	0.5279	1.469	8	0.180	
Cow Green Reservoir	-0.7390	0.4419	1.673	8	0.133	
Loch Dee	-1.0910	0.5870	1.858	8	0.100	
Redesdale	-1.2180	0.9423	1.293	8	0.232	
Eskdalemuir	-0.7390	0.3087	2.395	8	0.044	-0.739
Whiteadder	-1.1580	0.9075	1.276	8	0.238	
Balquhidder	0.3700	0.7644	0.484	8	0.642	
Polloch	-1.5360	0.8353	1.839	5	0.125	
Glen Dye	0.5090	1.0247	0.497	8	0.633	
River Mharcaidh	-0.0120	0.4824	0.025	8	0.981	
Strathvaich Dam	-0.1090	0.4239	0.257	8	0.803	
Achanarras	-1.7520	0.5363	3.266	8	0.011	-1.752

Appendix 1 - Table 13

Trends in rainfall for the period 1988-1997 (mm yr⁻¹).

Significant trends are listed in the final column.

site	slope	se	t_val	t_df	t_prob	Sigslope
Goonhilly	5.5500	12.4600	0.446	8	0.668	
Yarner Wood	5.8500	14.3700	0.408	8	0.694	
Barcombe Mills	8.9200	9.7000	0.919	8	0.385	
Compton	5.1800	12.2700	0.422	8	0.684	
Flatford Mills	-14.2500	9.6300	1.480	8	0.177	
Woburn	-13.0000	12.1900	1.066	8	0.317	
Tycanol Wood	2.5200	13.1400	0.192	8	0.853	
Llyn Brianne	-22.1900	15.2400	1.456	8	0.184	
Pumlumon	-37.5700	35.9600	1.045	7	0.331	
Stoke Ferry	-4.7600	11.2000	0.425	8	0.682	
Preston Montford	-7.8700	7.3800	1.065	8	0.318	
Bottesford	-4.0500	13.7400	0.295	8	0.775	
Beddgelert	-61.2500	51.5600	1.188	6	0.280	
Wardlow Hay Cop	-4.0500	16.8100	0.241	8	0.815	
Driby	-4.5400	12.2400	0.371	8	0.720	
Jenny Hurn	0.0700	8.6600	0.008	8	0.994	
Thorganby	-6.0300	8.3100	0.726	5	0.501	
High Muffles	1.0800	13.0900	0.083	8	0.936	
Bannisdale	-45.7800	30.4900	1.502	8	0.172	
Hillsborough Forest	-0.1000	13.7100	0.007	7	0.994	
Lough Navar	-2.3000	23.0000	0.100	8	0.923	
Cow Green Reservoir	3.5200	17.2900	0.203	8	0.844	
Loch Dee	-71.2800	30.5600	2.332	8	0.048	-71.28
Redesdale	-31.6500	9.5900	3.300	8	0.011	-31.65
Eskdalemuir	-0.7000	19.4400	0.036	8	0.972	
Whiteadder	-20.2700	11.4100	1.777	8	0.114	
Balquhidder	-74.1300	28.8800	2.567	8	0.033	-74.13
Polloch	-75.7500	36.9300	2.051	5	0.096	
Glen Dye	0.1800	18.6800	0.009	8	0.993	
River Mharcaidh	-24.8600	11.7200	2.121	8	0.067	
Strathvaich Dam	-38.4100	23.7400	1.618	8	0.144	
Achanarras	-13.4200	10.2500	1.309	8	0.227	

Appendix 2

Location of nearby Meteorological Stations, rainfall data from which were applied in analysis in Chapter 7. Data supplied by the UK Meteorological Office.

UKAWMN SITE	METEOROLOGICAL STATION	
	name	grid ref.
1. Loch Coire nan Arr	Plockton	NG 802332
2. Allt a' Mharcaidh	Aviemore	NH 896143
3. Allt na Coire nan Con	Inverailort	NM 764816
4. Lochnagar	Balmoral	NO 260946
5. Loch Chon	Loch Venacher	NN 598063
6. Loch Tinker	Loch Venacher	NN 598063
7. Round Loch of Glenhead	Clatteringshaws	NX 554780
8. Loch Grannoch	Clatteringshaws	NX 554780
9. Dargall Lane	Clatteringshaws	NX 554780
10. Scoat Tarn	Eskmeals	SD 085931
11. Burnmoor Tarn	Eskmeals	SD 085931
12. River Etherow	Emley Moor	SE 222130
13. Old Lodge	Edenbridge	TQ 492472
14. Narrator Brook	Princetown	SX 583740
15. Llyn Llagi	Nantmor	SH 603462
16. Llyn Cwm Mynach	Arthog, Fegla Fach Farm	SH 640153
17. Afon Hafren	Cymystwyth	SN 773749
18. Afon Gwy	Cymystwyth	SN 773749
19. Beagh's Burn	Ballypatrick Forest	ID 176386
20. Bencrom River	Silent Valley	IJ 305216
21. Blue Lough	Silent Valley	IJ 305216
22. Coneyglen Burn	Lough Fea	IH 764865

Appendix 3

Participating organisations.

Project coordination:	ENSIS / Environmental Change Research Centre (ECRC), University College London (UCL)
Chemistry database management:	Centre for Ecology and Hydrology (CEH), Wallingford
Biology database management:	ENSIS / ECRC
Central chemistry analyses:	CEH, Wallingford
Local chemistry analyses:	<ul style="list-style-type: none"> • Freshwater Fisheries Laboratory, Pitlochry, Perth. • Environment Agency, Llanelli
Chemistry AQC:	Water Research Centre (WRc), Medmenham
Continuous stream monitoring:	<ul style="list-style-type: none"> • TES Ltd, Preston • Scottish Environmental Protection Agency (SEPA) • CEH, Wallingford
Macroinvertebrate analyses:	School of Biological Sciences, QMW
Macrophyte analyses:	ENSIS / ECRC, UCL
Epilithic diatom analyses:	ENSIS / ECRC, UCL
Fishery coordination:	Institute of Freshwater Ecology, Wareham
Fish analyses:	<ul style="list-style-type: none"> • Freshwater Fisheries Laboratory, Pitlochry, Perth. • Institute of Freshwater Ecology, Windermere • School of Biological Sciences, QMW • Poly Enterprises Ltd.(PEP), Plymouth • Environment Agency, Llanelli & Caernarvon • Department of Agriculture, Northern Ireland
Sediment trap carbonaceous particle and diatom analyses:	ENSIS / ECRC, UCL

