

**Supplementary S1 - Results of PERMANOVA and t-statistics analyses****Table S1 - results of PERMANOVA analyses on environmental data**

Source	df	SS	MS	Pseudo-F	<i>p</i>	Unique perms
Ar	3	148.76	49.587	161.73	0.0002	4983
De	1	64.975	64.975	211.92	0.0002	4968
ArxDe	3	80.357	26.786	87.362	0.0002	4989
Res	16	4.9057	0.30661			
Total	23	299				

  

<i>Pair-wise Within level '20' of factor 'Depth'</i>				
Levels	t	P(perm)	Unique perms	<i>p</i> (MC)
AI, AC	12.875	0.0956	10	0.0002
AI, NC	11.589	0.103	10	0.0002
AI, NI	11.575	0.0992	10	0.0002
AC, NC	7.3428	0.0994	10	0.0006
AC, NI	12.486	0.096	10	0.0002
NC, NI	9.3845	0.0996	10	0.0008

  

<i>Pair-wise Within level '50' of factor 'Depth'</i>				
Levels	t	P(perm)	Unique perms	<i>p</i> (MC)
AI, AC	8.5327	0.1024	10	0.0004
AI, NC	12.998	0.1014	10	0.0002
AI, NI	6.7712	0.103	10	0.0006
AC, NC	19.689	0.0952	10	0.0002
AC, NI	8.5662	0.1064	10	0.0004
NC, NI	19.987	0.096	10	0.0002

  

<i>Pair-wise Within level 'AI' of factor 'Area'</i>				
Levels	t	P(perm)	Unique perms	<i>p</i> (MC)
20, 50	9.1493	0.1016	10	0.0006

  

<i>Pair-wise Within level 'AC' of factor 'Area'</i>				
Levels	t	P(perm)	Unique perms	<i>p</i> (MC)
20, 50	12.181	0.104	10	0.0002

  

<i>Pair-wise Within level 'NC' of factor 'Area'</i>				
Levels	t	P(perm)	Unique perms	<i>p</i> (MC)
20, 50	9.8307	0.1036	10	0.0006

Pair-wise <i>Within level 'NI' of factor 'Area'</i>				
Levels	t	P(perm)	Unique perms	p(MC)
20, 50	13.595	0.1034	10	0.0002

**Table S2 - results of PERMANOVA analyses on Species Richness results**

Source	df	SS	MS	Pseudo-F	p	Unique perms
Ar	3	9.7917	3.2639	3.7302	0.0258	4910
De	1	5.0417	5.0417	5.7619	0.0284	4712
ArxDe	3	5.7917	1.9306	2.2063	0.1124	4982
Res	16	14	0.875			
Total	23	34.625				

Pair-wise *Within level '20' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	p(MC)
AI, AC	0.5	0.8928	4	0.644
AI, NC	2.5	0.1936	3	0.0656
AI, NI	2	0.2996	3	0.1048
AC, NC	1.8708	0.2034	4	0.1296
AC, NI	1.6036	0.3008	3	0.1974
NC, NI	0.70711	1	1	0.515

Pair-wise *Within level '50' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	p(MC)
AI, AC	4	0.1014	3	0.018
AI, NC	2.1213	0.2986	2	0.0982
AI, NI	3.5355	0.0998	3	0.02
AC, NC	1	1	1	0.358
AC, NI	1	1	1	0.3748
NC, NI	1.4142	0.6	2	0.2428

**Table S3 - results of PERMANOVA analyses on Abundances results**

Source	df	SS	MS	Pseudo-F	p	Unique perms
Ar	3	3.99E+06	1.33E+06	1.502	0.2402	4984
De	1	22850	22850	2.58E-02	0.8716	4949

ArxDe	3	2.82E+07	9.41E+06	10.632	0.004	4988
Res	16	1.42E+07	8.85E+05			
Total	23	4.64E+07				

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*Pair-wise Within level '20' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	p(MC)
AI, AC	1.4643	0.3064	10	0.2128
AI, NC	1.5178	0.3016	10	0.192
AI, NI	0.10837	0.8056	10	0.9164
AC, NC	2.6305	0.1006	10	0.0636
AC, NI	1.3725	0.2954	10	0.2346
NC, NI	1.622	0.2094	10	0.182

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*Pair-wise Within level '50' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	p(MC)
AI, AC	5.3544	0.0926	10	0.004
AI, NC	3.1881	0.0992	9	0.0354
AI, NI	8.2771	0.1018	10	0.0008
AC, NC	5.1243	0.085	10	0.0054
AC, NI	0.89824	0.503	10	0.4116
NC, NI	5.5403	0.1038	10	0.0068

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**Table S4 - results of PERMANOVA analyses on Diversity Species index results**

Source	df	SS	MS	Pseudo-F	p	Unique perms
Ar	3	3.2249	1.075	12.003	0.0008	4988
De	1	1.44E-03	1.44E-03	1.61E-02	0.8994	4942
ArxDe	3	1.5307	0.51022	5.6973	0.0076	4988
Res	16	1.4329	8.96E-02			
Total	23	6.1899				

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*Pair-wise Within level '20' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	p(MC)
AI, AC	2.9018	0.0966	10	0.0452
AI, NC	0.56418	0.5984	10	0.6008
AI, NI	0.94464	0.4984	10	0.399
AC, NC	2.5516	0.198	10	0.0628

AC, NI	1.7313	0.1046	10	0.1624
NC, NI	0.44655	1	10	0.6746

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Pair-wise *Within level '50' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	$p$ (MC)
AI, AC	1.103	0.4016	10	0.3312
AI, NC	15.393	0.0982	10	0.0002
AI, NI	1.0771	0.2954	10	0.3464
AC, NC	5.0136	0.0964	10	0.0068
AC, NI	1.4546	0.4022	10	0.2168
NC, NI	17.4	0.0924	10	0.0002

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**Table S5 - results of PERMANOVA analyses on Evenness results**

Source	df	SS	MS	Pseudo-F	$p$	Unique perms
Ar	3	0.33881	0.11294	7.8499	0.0032	4991
De	1	1.33E-02	1.33E-02	0.92478	0.3478	4958
ArxDe	3	0.24122	8.04E-02	5.5888	0.007	4988
Res	16	0.23019	1.44E-02			
Total	23	0.82352				

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Pair-wise *Within level '20' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	$p$ (MC)
AI, AC	2.0161	0.1992	10	0.1188
AI, NC	1.0439	0.4978	10	0.3522
AI, NI	1.3941	0.3022	10	0.2418
AC, NC	0.82729	0.4016	10	0.454
AC, NI	0.73957	0.5016	10	0.5036
NC, NI	0.19879	0.8986	10	0.8496

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Pair-wise *Within level '50' of factor 'Depth'*

Levels	t	P(perm)	Unique perms	$p$ (MC)
AI, AC	1.5291	0.4102	10	0.2148
AI, NC	16.598	0.0986	10	0.0002
AI, NI	0.70713	0.4958	10	0.5306
AC, NC	5.0442	0.0996	10	0.005
AC, NI	1.3148	0.3952	10	0.2714



Levels	t	P(perm)	Unique perms	$p(\text{MC})$
20, 50	1.404	0.1988	10	0.1928

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Pair-wise *Within level 'NC' of factor 'Area'*

Levels	t	P(perm)	Unique perms	$p(\text{MC})$
20, 50	1.6996	0.1976	10	0.109

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Pair-wise *Within level 'NI' of factor 'Area'*

Levels	t	P(perm)	Unique perms	$p(\text{MC})$
20, 50	5.1197	0.0916	10	0.0186

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