

References For Transfer functions in Micropalaeontology

Compiled by Peter Frenzel for MIO 2, Graz 2011

1. General (selection)

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3. Ostracoda

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Types of Transfer functions (based on associations)

slightly modified from Guiot & Vernal 2007, ostracod studies added in bold

Type of approach	Family	Sub-family	Method (and selected references)	Order	
Calibration	Ordination techniques	Indirect gradient analyses	Regression on principal components (Imbrie & Kipp 1979)	Linear or quadratic	
			Regression on correspondence factors (Roux 1979; Cronin & Dowsett 1990? , Mourguiart & Carbonel 1994 , Wirrmann & Mourgiart 1994)	Linear or unimodal	
		Direct gradient analyses	Partial least Square (PLS) (Braak et al. 1993)	Linear	
			Canonical correlation (Guiot et al. 1983)	Linear	
			Canonical correspondence analyses (Gasse & Tekaiia 1983, Alin & Cohen 2003)	Unimodal	
			Weighted averaging – binomial regression (WA-BR) (Wrozyina et al. 2009, Frenzel et al. 2010 , Pérez et al. 2010 , Pérez et al. in press)	Linear or quadratic	
			Weighted-averaging – Partial least squares (WA-PLS) (Korkhola & Weckström 2000, Frenzel & Viehberg 2005 , Mezquita et al. 2005 , Viehberg et al. 2006 , Mischke et al. 2007 , Frenzel et al. 2010 , Mischke et al. 2010)	Unimodal	
			Logistic regression (Braak & Looman 1986)	Unimodal	
		Generalized models (GLM)	Non-parametric models	Generalized additive model (GAM) (Gersonde et al. 2005)	Non-linear
				Artificial neural network (ANN) (Malmgren & Nordlund 1996)	Non-linear
Similarity	Presence / absence		Indicator species method (ISM) (Iversen 1944)	Non-linear	
			Mutual climatic range method (MCR) (Hutson 1980)	Non-linear	
			Mutual ostracod temperature range method (MOTR) (Horne 2007 , Horne & Mezquita 2008 , Horne & Martens 2011)	Non-linear	
			Modern analogue technique (MAT) (Hutson 1980)	Non-linear	
	Abundances	Unconstrained		MAT constrained with external variable (Guiot et al. 1993)	Non-linear
				MAT constrained geographically (SIMMAX) (Pflaumann et al. 1996)	Non-linear
		Response surface		Response surface method (Bartlein et al. 1986)	Non-linear
				Revised analogue method (RAM) (Waelbroeck et al. 1998)	Non-linear