MTSG Green Turtle Extrapolatons

Index Site #	Index site	Past (AN)	Past (Y)	Present (An)	Present (Y)	Interval (y)	Formula for *r*	*r*
							= (Pres. AN/PastAN) ^ (1/PastY-PresY)	
1	Michoacan (Mexico)	25,000	1970	484	2000	30	= (484/25000) ^ (1/30)	0.88
2	Galapagos Is. (Ecuador)	1400	1984	1400	2001	n/a	n/a	n/a
3	French Frigate Shoals (Hawaii, USA)	378	1978	574	2000	18	= (574/378) ^ (1/22)	1.02
4	Ogasawara Is. (Japan)	1300	1889	96	2001	73	= (96/1300) ^ (1/112)	0.97
5	Heron Island (sGBR, Australia)	400	1969	562	1999	30	= (562/400) ^ (1/30)	1.01
6	Raine Island (nGBR, Australia)	50,000	1980	50,000	2000	n/a	n/a	n/a
7	Berau Is. (Indonesia)	36,000	1940	4500	1984	44	= (4500/36000) ^ (1/44)	0.95
8	Philippine Turtle Islands	4886	1951	3198	1985	34	= (3198/4886) ^ (1/34)	0.99
9	Sabah Turtle Islands (Malaysia)	1854 / 853	1968 / 1986	3251	1999	18 / 13	r1 = (853/1854) ^ (1/18), r2 = (3251/853) ^ (1/13)	1.11
10	Sarawak (Borneo, Malaysia)	15472	1953	2074	1988	35	= (2074/15472) ^ (1/35)	0.94
11	Terrenganu (Peninsular Malaysia)	3096	1961	1057	1993	32	= (1057/3096) ^ (1/32)	0.97
12	Gulf of Thailand (Thailand)	135	1983	85	2001	18	= (85/135)^(1/18)	0.97
13	Suka Made (E. Java, Indonesia)	291	1984	132	1995		= (132/291)^(1/11)	0.93
14	Pangumbahan (W. Java, Indonesia)	8333	1950	1333	1980	30	= (1333/8333) ^ (1/30)	0.94
15	Thamihla Kyun (Myanmar)	14823	1898	833	1999	113	= (833/14823)^(1/113)	0.97
16	Gujarat (India)	289	1981	154	2000		= (154/289) ^ (1/19)	0.97
17	Hawkesbay and Sandspit (Pakistan)	429	1985	200	1997		= (200/429) ^ (1/12)	0.94
18	Karan Is. (Saudi Arabia)	750	1970	750	1990	n/a	n/a	n/a
19	Ras al Hadd (Oman)	6000	1979	6000	2001	n/a	n/a	n/a
20	Sharma (PDR Yemen)	1750	1972	750	1999	27	= (750/1750) ^ (1/17)	0.95
21	Seychelles Is.	12000 / 1700	1900 / 1968	4145	1996	68 / 28	r1= (1700/12000) ^ (1/68), r2= (4145/1700) ^ (1/28)	r1= 0.97, r2= 1.03

Formula for *A*	*A*	Trend for extrapolation	interval
= (Pres. AN - Past AN) / (Pres Y - Past Y)			= Past Y - year of earliest trend assumption
= (25000-484) / (2000-1970)	817.2	stable until 1970, declining to 2001	= 1970 - 1960 = 10 y
n/a	n/a	stable	n/a
= (574-378) / (2000-1978)	8	stable until 1978, increasing to 2001	n/a
= (1400-135) / (1993-1920)	10.7	declining since 1860	= 1880-1860= 20 y
= (562-400) / (1999-1969)	5.4	stable before 1969, increasing since	n/a
n/a	n/a	stable	n/a
= (36000-4500) / (1984-1940)	715.9	declining since 1934	= 1940 - 1934 = 6 y
= (4886-3198) / (1985-1951)	49.6	declining since 1930	= 1951 - 1930 = 21 y
A 1 = (1854-853) / (1986-1968), *A* 2 = (3251-853) / (1999-1986)	*A* 1 = 55.6, *A* 2 = 184.4	declined 1933 to 1986, increased sinnce	= 1968 - 1933 = 35 y
= (15472-2074) / (1988-1953)	382.8/	declined from 1933 to 1989, stable since	= 1953 - 1933 = 20 y
= (3096-1057) / (1993-1961)	63.7	declining since 1933	= 1961 - 1933 = 28 y
= (135-85)/(2001-1983)	2.7	declining since 1950	= 1973 - 1950 = 23 y
= (291-135)/(1995-1984)	14.2	declining since 1950	= 1980 - 1950 = 30 y
= (8333-1333) / (1980-1950)	233.3	declining since 1934	= 1950 - 1934 = 16 y
= (14823-833) / (2000-1886)	122.7	declining since 1886	n/a
= (154-289) / (2000-1981)	7.1	stable until 1981, declining since	= 1981 - 1967 = 14 y
= (200-429) / (1997-1985)	19.1	declining since 1985	n/a
n/a	n/a	stable	n/a
n/a	n/a	stable	n/a
= (1750-750) / (1999-1900)	37	declining since 1950	= 1972 - 1950 = 22 y
A1=(12000-1700) / (1968-1900), A2=(4145-1700) / (1994-1968)	A1 = 151.5, A2 = 94.0	stable until 1900, decreasing to 1968 (N1968 = ca. 1700 [Mortimer 1984]), increasing to 1996, stable since	n/a

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Backward Extrapolation			Forward Extrapolation			
Linear	Exponential	interval	Linear	Exponential	Index Site #	
= Past N + interval(A)	= Past N / r^interval	= 2001 - Present Y	= Present N - interval(A)	= Present N * r ^interval		
= 25,000 + 10 (817.2) = 33,172	= 25,000/0.88^10 =89,765	= 2001 - 2000 = 1 y	= 484 - 1(817) = 0	= 484 * 0.88^1 = 426	1	
n/a	n/a	n/a	n/a	n/a	2	
n/a	n/a	= 2001 - 2000 = 1 y	= 574 + 1(8.0) = 582	= 574 * 1.02^1 = 585	3	
= 1300+20(10.7)=1514	= 1300/0.97^20 = 2390	= 2001 - 1993 = 8 y	n/a	n/a	4	
n/a	n/a	= 2001 - 1999 = 2 y	= 562 + 2(5.4) = 573	= 562 * 1.01^2 = 573	5	
n/a	n/a	n/a	n/a	n/a	6	
= 36000 + 6(715.9) = 40295	= 36000 / 0.95^6 = 48973	= 2001 - 1984 = 17 y	= 4500 - 17(715.9) = 0	= 4500 * 0.95^17 = 1881	7	
= 4886+21*(49.6) = 5928	= 4886 / 0.99^21 = 6034	= 2001 - 1985 = 16 y	=3198-16*(49.6) = 2404	=3198 * 0.99^16 = 2723	8	
= 1854 + 35(56) = 3814	= 1854 / 0.96^35 = 7738	= 2001 - 1999 = 2 y	= 3251 + 2 (184.4) = 3620	= 3251 * 1.11^2 = 4006	9	
= 15472 + 20(382.8) = 23128	= 15472 / 0.94^20 = 53332	n/a	n/a	n/a	10	
= 3096 + 28(63.7) = 4880	= 3096 / 0.97^28 = 7264	= 2001 - 1993 = 8 y	= 1057 - 8(63.7) = 547	= 1057 * 0.97^8 = 828	11	
= 135 +23(2.77) = 198	= 135/0.97^23 = 272	n/a	n/a	n/a	12	
= 291 +14.2(30)=717	=291/0.93^30=2566	n/a	n/a	n/a	13	
= 8333 + 16(233.3) = 12066	= 8333 / 0.94^16 = 22426	= 2001 - 1980 = 21 y	= 1333 - 21(233.3) = 0	= 1333 * 0.94^21 = 363	14	
n/a	n/a	= 2001 - 1999 = 2 y	= 833-2*(122.7) = 587	= 833 * 0.97^2 = 783	15	
= 289 + 14(7.1) = 388	= 289 / 0.97^14 = 443	= 2001 - 2000 = 1 y	= 154 - 7.1 = 147	= 154 * 0.97^1 = 149	16	
n/a	n/a	= 2001 - 1997 = 4 y	= 200 - 4(19.1) = 124	= 200 * 0.94^4 = 156	17	
n/a	n/a	n/a	n/a	n/a	18	
n/a	n/a	n/a	n/a	n/a	19	
= 1750 + 22(37) = 2564	= 1750 / 0.95^22 = 5409	= 2001 - 1999 = 2 y	= 750 - 2(37) = 676	= 750 * 0.95^2 = 677	20	
n/a	n/a	= 2001 - 1994 = 7 y	= 4145 + 7(94) = 4803	= 4145 * 1.03^7 = 5097	21	

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	Index Site #	Index site	Past (AN)	Past (Y)	Present (An)	Present (Y)	Interval (y)	Formula for *r*	*r*
								= (Pres. AN/PastAN) ^ (1/PastY-PresY)	
	22	Comoros Is.	1,850	1973	5000	2000		= (5000/1850) ^ (1/27)	1.04
	23	Europa Is. (Isles Eparces)	463	1987	360	1994	7	= (360/463) ^ (1/7)	0.96
	24	Tromelin Is. (Isles Eparces)	1639	1987	1445	1994	7	= (1445/1639) ^ (1/7)	0.98
	25	Turkey	1000	1982	348	1999	18	= (348/1000) ^ (1/17)	0.94
	26	Bioko Is. (Equatorial Guinea)	2,075	1940	489	1998	48	= (489/2,075) ^ (1/58)	0.97
	27	Bijagos Is. (Guinea-Bissau)	2000	1990	2465	2000	10	= (2465/2000) ^ (1/10)	1.02
	28	Ascension Island	2670	1978	3709	2001	21	= (3709/2670)^(1/21)	1.01
	29	Isla Trindade (Brazil)	3000	1981	3000	2000	n/a	n/a	n/a
	30	Suriname	1657	1979	1771	1995	16	= (1771/1657) ^ (1/16)	1.004
	31	Aves Island (Venezuela)	1050	1947	388	1994	47	= (388/1050) ^ (1/47	0.98
	32	Tortuguero (Costa Rica)	25,000	1975	58,000	1996	21	= (58000/25000) ^ (1/22)	1.04
	33	Yucatan Peninsula (Mexico)	82	1990	298	2000		= (298/82) ^ (1/10)	1.14
	34	Florida (USA)	366	1980	759	2000	12	= (759/366) ^ (1/20)	1.04

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Formula for *A*	*A*	Trend for extrapolation	interval
= (Pres. AN - Past AN) / (Pres Y - Past Y)			= Past Y - year of earliest trend assumption
= (5000-1850) / (2000-1973)	116.6	stable until 1973, increasing since then	n/a
= (463-360) / (1994-1987)	14.7	stable until 1987, decreasing since	n/a
= (1639-1445) / (1994-1987)	27.7	stable until 1987, decreasing since	n/a
= (1000-348) / (1999-1982)	38.3	declined since 1900	= 1982 - 1900 = 82 y
= (2075-489) / (1998-1940)	27.3	declining since 1900	= 1940 - 1900 = 40 y
= (2465-2000) / (2000-1990)	46.5	stable until 1990, increasing since	n/a
= (3709-2670)/(1999-1978)	49.5	increasing since 1978	n/a
n/a	n/a	stable	n/a
= (1771-1657) / (1995-1979)	7.1	stable until 1979, increasing since	n/a
= (1050-388) / (1994-1947)	14.1	declining 1866 - 1994, stable since	= 1947 - 1860 = 87 y
= (58000-25000) / (1996-1975)	1,571	increasing to present	n/a
= (298-82) / (2000-1990)	21.6	stable until 1990, increasing since	n/a
= (1321-366) / (1992-1980)	19.6	increasing since 1980	n/a

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Backward Extrapolation			Forward Extrapolation			
Linear	Exponential	interval	Linear	Exponential	Index Site #	
= Past N + interval(A)	= Past N / r^interval	= 2001 - Present Y	= Present N - interval(A)	= Present N * r ^interval		
n/a	n/a	= 2001 - 2000 = 1 y	= 5000 + 116.6 = 5117	= 5000 * 1.04 ^ 1 = 5200	22	
n/a	n/a	= 2001 - 1994 = 7 y	= 360 - 7(14.7) = 257	= 360 * 0.96^7 = 271	23	
n/a	n/a	= 2001 - 1994 = 7 y	= 1445 - 7(27.7) = 1251	= 1445 * 0.98^7 = 1254	24	
= 1000 + 62(38.3) = 3374	= 1000 / 0.94^62 = 46,352	= 2001 - 1999 = 2 y	= 348 - 2(38.3) = 271	= 348 * 0.94^2 = 307	25	
= 2075 + 40(27.3) = 3,167	= 2075 / 0.97^40 = 7015	= 2001 - 1998 = 3 y	= 489 - 3(27.3) = 407	= 489 * 0.97^3 = 446	26	
n/a	n/a	= 2001 - 2000 = 1 y	= 2465 + 1 (46.5) = 2511	= 2465 * 1.02^1 = 2514	27	
n/a	n/a	n/a	n/a	n/a	28	
n/a	n/a	n/a	n/a	n/a	29	
n/a	n/a	= 2001 - 1995 = 6 y	= 1771 + 6(7.1) = 1814	= 1771 * 1.004^6 = 1814	30	
= 1050 + 87(14.1) = 2277	= 1050 / 0.98^87 = 6088	n/a	n/a	n/a	31	
n/a	n/a	= 2001 - 1996 = 5 y	= 58,000 + 5(1511) = 65855	= 58,000 * 1.04^5 = 70566	32	
n/a	n/a	= 2001 - 2000 = 1 y	= 298 + 21.6 = 320	= 298 * 1.14^1 = 340	33	
n/a	n/a	= 2001 - 2000 = 1 y	= 759 + 1(19.6) = 779	= 759 * 1.04^1 = 789	34	