

C– Reptiles and amphibians introduced to Great Britain, United States and Australia

Table C3. Cumulative CLIMATE matches^a based on eight rainfall parameters for successful and failed introductions^b of exotic reptiles and amphibians introduced to Great Britain, California and Florida.

Failed species in Britain (released but failed to establish) ^c	Climate 10	Climate 9	Climate 8	Climate 7	Climate 6	Climate 5	Climate 4	Climate 3	Climate 2	Climate 1	Climate 0
<i>Amphisbaena alba</i>	0	0	0	7	27	133	193	194	194	194	194
<i>Aparasphenodon brunoi</i>	0	0	0	0	0	0	0	0	0	0	194
<i>Bombina bombina</i>	0	4	40	79	130	171	194	194	194	194	194
<i>Bufo viridus</i>	0	5	45	117	164	184	194	194	194	194	194
<i>Chalcides ocellatus</i>	0	0	0	18	141	188	194	194	194	194	194
<i>Chelydra serpentina</i>	0	0	0	30	133	187	194	194	194	194	194
<i>Chrysemys picta</i>	0	0	0	0	14	72	108	169	189	194	194
<i>Discoglossus pictus</i>	0	0	44	83	108	172	193	194	194	194	194
<i>Dolichophis jugularis</i>	0	0	0	0	15	66	152	178	194	194	194
<i>Elaphe obsoleta</i>	0	0	0	0	0	9	74	140	171	189	194
<i>Eleutherodactylus johnstonei</i>	0	0	0	0	0	0	0	0	0	0	194
<i>Emys orbicularis</i>	0	45	118	161	182	193	194	194	194	194	194
<i>Hemidactylus turcicus</i>	0	0	0	0	43	160	194	194	194	194	194
<i>Hyla albomarginata</i>	0	0	0	0	0	0	0	1	48	112	194
<i>Hyla arborea</i>	2	104	177	191	194	194	194	194	194	194	194
<i>Hyla meridionalis</i>	0	0	0	22	81	152	181	191	194	194	194
<i>Lampropeltis getula</i>	0	0	21	55	160	190	194	194	194	194	194
<i>Lampropeltis triangulum</i>	0	0	0	15	54	149	194	194	194	194	194
<i>Leptophis depressirostris</i>	0	0	0	0	20	44	114	188	194	194	194
<i>Litoria ewingii</i>	0	21	182	193	194	194	194	194	194	194	194
<i>Mauremys caspica</i>	0	0	0	0	15	66	152	176	192	194	194
<i>Natrix maura</i>	0	0	20	65	161	191	193	194	194	194	194
<i>Natrix tessellata</i>	0	5	48	67	137	175	193	194	194	194	194
<i>Pelobates fuscus</i>	0	78	163	191	194	194	194	194	194	194	194
<i>Pelodiscus sinensis</i>	0	0	38	84	170	192	194	194	194	194	194
<i>Podarcis dugesii</i>	0	0	2	29	92	132	182	194	194	194	194
<i>Podarcis sicula</i>	0	0	0	4	35	108	170	189	192	194	194
<i>Pseudacris regilla</i>	0	1	61	117	164	194	194	194	194	194	194
<i>Pseudocordylus microlepidotus</i>	0	0	0	0	18	53	102	163	182	191	194
<i>Rana pipiens</i>	0	0	0	0	15	74	108	169	192	194	194
<i>Salamandra salamandra</i>	0	94	168	191	193	194	194	194	194	194	194
<i>Scinax rubra</i>	0	0	0	0	0	95	177	190	193	194	194
<i>Speleomantes genei</i>	0	0	0	0	0	0	0	0	0	52	194

<i>Tarentola delalandii</i>	0	0	2	29	92	132	182	194	194	194	194
<i>Tarentola mauritanica</i>	0	0	2	29	93	136	187	194	194	194	194
<i>Terrapene carolina</i>	0	0	0	0	0	20	83	145	171	190	194
<i>Testudo graeca</i>	0	0	0	0	15	66	152	178	194	194	194
<i>Thamnophis sirtalis</i>	0	0	0	0	0	9	78	143	174	194	194
<i>Timon lepidus</i>	0	2	32	94	155	194	194	194	194	194	194
Successful species established in Britain^c											
<i>Alytes obstetricians</i>	0	94	177	191	194	194	194	194	194	194	194
<i>Lacerta bilineata</i>	0	26	140	177	191	194	194	194	194	194	194
<i>Podarcis muralis</i>	0	68	166	187	191	194	194	194	194	194	194
<i>Rana bergeri</i>	0	0	0	0	0	0	1	70	133	168	194
<i>Rana esculenta</i>	0	94	177	191	194	194	194	194	194	194	194
<i>Rana lessonae</i>	0	79	177	191	194	194	194	194	194	194	194
<i>Rana perezi</i>	0	0	2	38	121	167	189	194	194	194	194
<i>Rana ridibunda</i>	0	79	160	187	192	194	194	194	194	194	194
<i>Trituris alpestris</i>	0	93	172	187	191	194	194	194	194	194	194
<i>Triturus carnifex</i>	0	0	38	60	115	160	186	193	194	194	194
<i>Xenopus laevis</i>	0	41	126	186	192	194	194	194	194	194	194
<i>Zamenis longissima</i>	0	8	89	121	187	194	194	194	194	194	194
Failed species in California^d (released but failed to establish)											
<i>Alligator mississippiensis</i>	0	1	21	59	72	94	117	123	138	154	172
<i>Andrias japonicus</i>	0	0	0	0	0	9	49	78	111	137	172
<i>Anolis carolinensis</i>	0	1	34	79	114	141	161	165	171	172	172
<i>Boa constrictor</i>	0	0	17	68	88	100	117	145	159	168	172
<i>Bufo marinus</i>	0	0	9	63	85	108	130	149	164	167	172
<i>Caiman crocodilus</i>	0	0	7	40	61	72	89	119	143	154	172
<i>Corallus caninus</i>	0	0	0	0	0	0	3	21	29	56	172
<i>Corallus hortulanus</i>	0	0	0	16	32	63	75	86	128	142	172
<i>Cordylus giganteus</i>	0	0	0	0	8	35	61	89	113	142	172
<i>Ctenosaura hemilopha</i>	0	0	0	0	0	0	4	8	11	26	172
<i>Drymarchon corais</i>	0	0	0	0	7	29	82	112	140	147	172
<i>Elaphe guttata</i>	0	1	31	66	90	116	133	152	157	164	172
<i>Eumeces obsoletus</i>	0	0	0	1	9	40	84	121	151	160	172
<i>Gehyra mutilata</i>	0	0	0	15	45	77	105	127	148	157	172
<i>Geochelone carbonaria</i>	0	0	0	0	3	22	33	66	97	137	172
<i>Glyptemys muhlenbergii</i>	0	0	0	4	22	46	71	100	127	146	172
<i>Graptemys geographica</i>	0	1	26	71	85	90	107	113	137	152	172
<i>Graptemys pseudogeographica</i>	0	1	22	61	73	87	107	119	132	149	172
<i>Heloderma horridum</i>	0	0	2	31	67	85	101	127	148	154	172
<i>Hemidactylus garnotii</i>	0	5	22	67	90	111	125	143	155	164	172

<i>Hemiphyllodactylus typus</i>	0	0	0	16	60	99	114	136	150	159	172
<i>Hyla wrightorum</i>	0	0	0	5	9	10	19	60	111	134	172
<i>Iguana iguana</i>	0	0	4	53	81	107	123	143	155	162	172
<i>Kinosternon subrubrum</i>	0	1	34	66	84	103	118	137	153	158	172
<i>Lampropeltis triangulum</i>	0	1	42	104	147	165	172	172	172	172	172
<i>Lamprophis fuliginosus</i>	0	15	71	111	129	152	161	166	172	172	172
<i>Lepidodactylus lugubris</i>	0	2	36	69	90	111	119	142	154	161	172
<i>Leptodeira annulata</i>	0	0	2	32	67	85	93	121	146	157	172
<i>Macrochelys temminckii</i>	0	1	21	58	71	90	111	120	132	149	172
<i>Malaclemys terrapin</i>	0	0	4	11	18	44	81	117	143	162	172
<i>Mauremys reevesii</i>	0	0	1	11	29	90	141	164	170	172	172
<i>Naja haje</i>	0	1	92	150	161	167	169	170	170	172	172
<i>Nerodia sipedon</i>	0	1	34	77	88	96	117	139	157	166	172
<i>Notophthalmus viridescens</i>	0	1	39	77	93	109	126	141	159	171	172
<i>Opheodrys aestivus</i>	0	1	34	72	88	107	120	132	152	155	172
<i>Palea steindachneri</i>	0	0	0	15	45	77	105	136	151	160	172
<i>Phrynosoma cornutum</i>	0	0	2	30	64	94	119	138	147	154	172
<i>Pseudemys concinna</i>	0	1	34	72	88	107	120	130	152	154	172
<i>Pseudemys floridana</i>	0	0	0	0	7	41	80	104	122	142	172
<i>Python molurus</i>	0	4	32	53	71	77	95	122	147	157	172
<i>Python reticulatus</i>	0	0	1	13	49	63	83	93	111	144	172
<i>Sceloporus jarrovi</i>	0	0	0	0	7	29	70	124	136	151	172
<i>Sceloporus poinsettii</i>	0	0	0	1	8	33	71	125	141	161	172
<i>Sceloporus serrifer</i>	0	0	9	33	57	71	82	91	107	141	172
<i>Terrapene carolina</i>	0	1	38	76	88	108	125	141	159	171	172
<i>Terrapene ornata</i>	0	2	27	67	81	97	112	120	134	149	172
<i>Thamnophis sauritus</i>	0	1	34	75	88	96	121	141	159	171	172
<i>Varanus exanthematicus</i>	0	1	30	62	75	93	112	136	154	160	172
<i>Varanus salvator</i>	0	0	1	30	63	75	85	94	111	146	172

**Successful species
established in California^d**

<i>Ambystoma tigrinum</i>	1	4	55	95	106	118	137	153	164	172	172
<i>Apalone spinifera</i>	7	9	57	96	106	118	127	141	155	160	172
<i>Chamaeleo jacksonii</i>	0	0	16	60	78	99	114	133	141	150	172
<i>Chelydra serpentina</i>	0	1	45	118	158	167	172	172	172	172	172
<i>Eleutherodactylus coqui</i>	0	1	45	118	158	167	172	172	172	172	172
<i>Hemidactylus turcicus</i>	0	56	136	169	172	172	172	172	172	172	172
<i>Nerodia fasciata</i>	0	1	22	59	71	92	111	120	133	152	172
<i>Rana berlandieri</i>	4	5	10	10	10	14	42	84	97	111	172
<i>Rana catesbeiana</i>	7	25	132	172	172	172	172	172	172	172	172
<i>Rana sphenocephala</i>	7	25	132	172	172	172	172	172	172	172	172
<i>Tarentola mauritanica</i>	0	17	97	128	136	151	159	162	167	171	172

<i>Trachemys scripta</i>	1	3	78	126	147	162	172	172	172	172	172
<i>Xenopus laevis</i>	0	17	73	107	128	147	155	161	170	172	172
Failed species in Florida^e (released but failed to establish)											
<i>Anolis conspersus</i>	0	0	0	6	14	34	59	78	96	106	106
<i>Atelopus zeteki</i>	0	0	0	0	13	28	54	75	92	106	106
<i>Basiliscus basiliscus</i>	0	0	0	14	32	78	106	106	106	106	106
<i>Bufo arenarum</i>	0	17	99	106	106	106	106	106	106	106	106
<i>Bufo blombergi</i>	0	0	0	0	6	15	36	59	79	99	106
<i>Bufo schneideri</i>	0	20	100	106	106	106	106	106	106	106	106
<i>Chelus fimbriatus</i>	0	0	13	63	94	106	106	106	106	106	106
<i>Cordylus cordylus</i>	0	19	100	106	106	106	106	106	106	106	106
<i>Cyclura cornuta</i>	0	0	4	13	37	59	79	102	106	106	106
<i>Cynops pyrrhogaster</i>	0	0	0	1	37	55	90	100	106	106	106
<i>Eunectes murinus</i>	0	5	43	63	95	106	106	106	106	106	106
<i>Eunectes notaeus</i>	0	20	93	106	106	106	106	106	106	106	106
<i>Geochelone denticulata</i>	0	10	43	63	94	106	106	106	106	106	106
<i>Hemidactylus brookii</i>	0	66	104	106	106	106	106	106	106	106	106
<i>Hymenochirus boettgeri</i>	0	0	0	10	24	55	76	100	106	106	106
<i>Kinosternon scorpioides</i>	0	12	91	106	106	106	106	106	106	106	106
<i>Laudakia stellio</i>	0	0	0	11	56	91	106	106	106	106	106
<i>Lissemys punctata</i>	0	0	20	66	103	106	106	106	106	106	106
<i>Malayemys subtrijuga</i>	0	0	21	61	82	104	106	106	106	106	106
<i>Pachymedusa dacnicolor</i>	0	4	6	62	95	106	106	106	106	106	106
<i>Podocnemis lewyana</i>	0	0	0	4	15	33	66	82	106	106	106
<i>Podocnemis sextuberculata</i>	0	0	0	13	41	61	81	104	106	106	106
<i>Podocnemis unifilis</i>	0	0	13	25	69	106	106	106	106	106	106
<i>Python regius</i>	0	0	0	21	62	83	106	106	106	106	106
<i>Python reticulatus</i>	0	10	67	102	106	106	106	106	106	106	106
<i>Sphaerodactylus macrolepis</i>	0	0	4	7	23	47	67	82	106	106	106
<i>Trachemys dorbigni</i>	0	0	0	2	48	82	104	106	106	106	106
<i>Trachemys stejnegeri</i>	0	0	4	7	23	47	67	82	106	106	106
<i>Tupinambis teguixin</i>	0	9	56	104	106	106	106	106	106	106	106
<i>Typhlops lumbricalis</i>	0	6	16	44	62	81	104	106	106	106	106
<i>Varanus exanthematicus</i>	0	0	13	57	96	106	106	106	106	106	106
<i>Varanus salvator</i>	0	54	88	105	106	106	106	106	106	106	106
<i>Xenopus laevis</i>	0	27	101	106	106	106	106	106	106	106	106
Successful species established in Florida^e											
<i>Acrochordus javanicus</i>	0	11	55	74	104	105	106	106	106	106	106
<i>Agama agama</i>	0	3	12	34	93	106	106	106	106	106	106
<i>Ameiva ameiva</i>	0	5	94	106	106	106	106	106	106	106	106

<i>Anolis chlorocyanus</i>	0	0	4	13	37	59	79	102	106	106	106
<i>Anolis cristatellus</i>	0	0	4	14	43	61	80	104	106	106	106
<i>Anolis cybotes</i>	0	0	4	13	37	59	79	102	106	106	106
<i>Anolis distichus</i>	0	4	11	24	50	72	87	106	106	106	106
<i>Anolis equestris</i>	0	2	14	40	60	78	101	106	106	106	106
<i>Anolis ferreus</i>	0	0	3	6	15	40	59	79	100	106	106
<i>Anolis garmani</i>	0	2	23	50	73	84	106	106	106	106	106
<i>Anolis porcatus</i>	0	2	16	44	62	81	104	106	106	106	106
<i>Anolis sagrei</i>	0	57	105	106	106	106	106	106	106	106	106
<i>Aspidoscelis motaguae</i>	0	0	6	41	93	106	106	106	106	106	106
<i>Basiliscus vittatus</i>	0	11	46	65	102	106	106	106	106	106	106
<i>Boa constrictor</i>	0	21	93	106	106	106	106	106	106	106	106
<i>Bufo marinus</i>	0	100	106	106	106	106	106	106	106	106	106
<i>Caiman crocodilus</i>	0	0	7	55	96	106	106	106	106	106	106
<i>Calotes mystaceus</i>	0	16	69	102	106	106	106	106	106	106	106
<i>Calotes versicolor</i>	0	58	103	106	106	106	106	106	106	106	106
<i>Chamaeleo calypratus</i>	0	2	26	61	81	106	106	106	106	106	106
<i>Cnemidophorus lemniscatus</i>	0	0	13	44	70	106	106	106	106	106	106
<i>Cosymbotus platyurus</i>	0	80	106	106	106	106	106	106	106	106	106
<i>Ctenosaura pectinata</i>	0	4	6	39	94	106	106	106	106	106	106
<i>Ctenosaura similis</i>	0	0	6	40	69	106	106	106	106	106	106
<i>Eleutherodactylus coqui</i>	0	0	4	7	23	47	68	84	106	106	106
<i>Eleutherodactylus planirostris</i>	0	25	95	105	106	106	106	106	106	106	106
<i>Gekko gecko</i>	0	73	104	106	106	106	106	106	106	106	106
<i>Gonatodes albogularis</i>	0	2	16	44	64	106	106	106	106	106	106
<i>Hemidactylus frenatus</i>	0	75	101	106	106	106	106	106	106	106	106
<i>Hemidactylus garnotii</i>	0	97	106	106	106	106	106	106	106	106	106
<i>Hemidactylus mabouia</i>	0	34	101	106	106	106	106	106	106	106	106
<i>Hemidactylus turcicus</i>	0	57	105	106	106	106	106	106	106	106	106
<i>Iguana iguana</i>	0	11	66	101	106	106	106	106	106	106	106
<i>Leiocephalus carinatus</i>	0	7	23	51	73	84	106	106	106	106	106
<i>Leiocephalus schreibersi</i>	0	0	4	13	37	59	79	102	106	106	106
<i>Leiolepis belliana</i>	0	0	59	100	106	106	106	106	106	106	106
<i>Mabuya multifasciata</i>	0	91	106	106	106	106	106	106	106	106	106
<i>Osteopilus septentrionalis</i>	0	2	16	44	62	81	105	106	106	106	106
<i>Chondrodactylus bibronii</i>	0	0	57	106	106	106	106	106	106	106	106
<i>Phelsuma madagascariensis</i>	0	21	59	79	103	106	106	106	106	106	106
<i>Python molurus</i>	0	67	102	106	106	106	106	106	106	106	106
<i>Ramphotyphlops braminus</i>	0	89	106	106	106	106	106	106	106	106	106
<i>Sphaerodactylus argus</i>	0	2	23	50	73	84	106	106	106	106	106
<i>Sphaerodactylus elegans</i>	0	2	16	44	62	81	104	106	106	106	106

<i>Tarentola annularis</i>	0	4	63	100	106	106	106	106	106	106	106
<i>Tarentola mauritanica</i>	0	0	0	1	27	106	106	106	106	106	106
<i>Varanus niloticus</i>	0	27	101	106	106	106	106	106	106	106	106

^aClimate matches are counts of the number of the number of meteorological stations in the target jurisdiction at each level of match. For a meteorological station in the target jurisdiction to score highly, it must match closely all eight climatic variables of at least one meteorological station in the species' overseas range. Level 10 represents the highest level of climate match. Climate matches are cumulative values, ie they include numbers of meteorological station scoring at the given level plus all higher levels. For example, Climate 9 includes data for climate match scores in the two highest match levels (9 and 10). For CLIMATE match inputs, we used world range maps compiled from on-line databases and literature searches.

^bData on successful and failed introductions of exotic reptiles and amphibians were collated from literature sources by Kraus (in prep. 2008). Introduction records for a species were excluded from the data if identification to species level was uncertain or there was uncertainty over their release, or the outcome of the introduction (established or failed).

^cFor Great Britain (Scotland, England and Wales), only species introduced from outside the British Isles were included.

^dFor California, species translocated from the eastern states of the USA were included to increase the sample size, but any species originally native within California were excluded.

^eFor Florida, only exotic species introduced from outside the USA were included.