

**S3 Table. Model vulnerability agreement, by species core area. Values in bold indicate core areas where all three model results exceeded the climate vulnerability threshold.**

LME	Species	IBA	Season	Shallow SWT	Deep SWT	Sea Ice Cover	Large Copepods	Euphausiids	Benthic Infauna
Aleutian Islands	ANMU	Buldir & Near Islands Marine	Summer	67%	67%			0%	
Aleutian Islands	ANMU	Buldir Island Colony	Summer	67%	67%			33%	
Aleutian Islands	ANMU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>			67%	
Aleutian Islands	ANMU	Koniuji-Atka Island Colony	Summer	<b>100%</b>	<b>100%</b>			67%	
Aleutian Islands	BLKI	Buldir Island Colony	Summer	67%	67%			33%	
Aleutian Islands	CRAU	Buldir Island Colony	Summer	67%	67%		67%	33%	
Aleutian Islands	CRAU	Gareloi Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	33%	
Aleutian Islands	FTSP	Buldir Island Colony	Summer	67%	67%		67%	33%	
Aleutian Islands	FTSP	Koniuji-Atka Island Colony	Summer	<b>100%</b>	<b>100%</b>		33%	67%	
Aleutian Islands	GWGU	Buldir & Near Islands Marine	Summer	33%	67%			33%	
Aleutian Islands	GWGU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>			67%	
Aleutian Islands	GWGU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>			67%	
Aleutian Islands	GWGU	Fenimore Pass & Atka Island Marine	Winter	<b>100%</b>	<b>100%</b>			67%	
Aleutian Islands	GWGU	Kiska Island Colonies	Summer	67%	67%			33%	
Aleutian Islands	LEAU	Gareloi Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	33%	
Aleutian Islands	LEAU	Kiska Island Marine	Summer	67%	67%		33%	33%	
Aleutian Islands	LEAU	Segula & Davidof Islands Colonies	Summer	33%	67%		33%	33%	
Aleutian Islands	LESP	Buldir Island Colony	Summer	67%	67%		67%	33%	
Aleutian Islands	NOFU	Chagulak Island Marine	Summer	<b>100%</b>	<b>100%</b>			0%	
Aleutian Islands	NOFU	Chagulak Island Marine	Winter	<b>100%</b>	<b>100%</b>			<b>100%</b>	
Aleutian Islands	NOFU	Seguam Island Marine	Summer	<b>100%</b>	<b>100%</b>			33%	
Aleutian Islands	PAAU	Buldir & Near Islands Marine	Summer	67%	67%		33%	67%	
Aleutian Islands	PAAU	Buldir Island Colony	Summer	67%	67%		67%	33%	
Aleutian Islands	PAAU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	67%	
Aleutian Islands	PAAU	Gareloi Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	33%	
Aleutian Islands	RLKI	Buldir Island Colony	Summer	67%	67%			33%	
Aleutian Islands	WHAU	Amchitka Pass 180W51N	Summer	67%	67%		33%	33%	

<b>LME</b>	<b>Species</b>	<b>IBA</b>	<b>Season</b>	<b>Shallow SWT</b>	<b>Deep SWT</b>	<b>Sea Ice Cover</b>	<b>Large Copepods</b>	<b>Euphausiids</b>	<b>Benthic Infauna</b>
Aleutian Islands	WHAU	Buldir & Near Islands Marine	Summer	67%	67%		33%	33%	
Aleutian Islands	WHAU	Buldir Island Colony	Summer	67%	67%		67%	33%	
Aleutian Islands	WHAU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	67%	
Aleutian Islands	WHAU	Fenimore Pass & Atka Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	67%	
Aleutian Islands	WHAU	Gareloi Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	33%	
Aleutian Islands	WHAU	Kagamil Island Marine	Summer	<b>100%</b>	<b>100%</b>		0%	0%	
Aleutian Islands	WHAU	Kiska Island Marine	Summer	67%	67%		33%	33%	
Aleutian Islands	WHAU	Seguam Island Marine	Summer	<b>100%</b>	<b>100%</b>		33%	33%	
Eastern Bering Sea	BLKI	Cape Peirce & Cape Newenham	Summer	<b>100%</b>		<b>100%</b>		0%	
Eastern Bering Sea	BLKI	Ilnik Marine	Summer	<b>100%</b>				0%	
Eastern Bering Sea	BLKI	Izembek Lagoon & Bechevin Bay	Summer	<b>100%</b>				67%	
Eastern Bering Sea	BLKI	St. Matthew & Hall Islands Colonies	Summer	<b>100%</b>				67%	
Eastern Bering Sea	BLKI	Unimak & Akutan Passes	Summer	<b>100%</b>	<b>100%</b>			33%	
Eastern Bering Sea	BLSC	Northern Alaska Peninsula Coastal	Spring	67%					33%
Eastern Bering Sea	BLSC	Northern Alaska Peninsula Coastal	Spring	<b>100%</b>					33%
Eastern Bering Sea	BLSC	Port Moller	Fall	<b>100%</b>					33%
Eastern Bering Sea	BLSC	Port Moller	Spring	<b>100%</b>					33%
Eastern Bering Sea	CRAU	St. Matthew & Hall Islands Colonies	Summer	<b>100%</b>			0%	67%	
Eastern Bering Sea	CRAU	Unimak & Akutan Passes	Winter	<b>100%</b>	<b>100%</b>		33%	<b>100%</b>	
Eastern Bering Sea	FTSP	Bering Sea Shelf Edge 173W58N	Summer	<b>100%</b>	67%		33%	67%	
Eastern Bering Sea	FTSP	Bering Sea Shelf Edge 178W61N	Summer	<b>100%</b>	67%	<b>100%</b>	33%	0%	
Eastern Bering Sea	GLGU	Bering Sea Shelf 170W58N	Winter	<b>100%</b>		<b>100%</b>		67%	
Eastern Bering Sea	GLGU	Bering Sea Shelf Edge 174W59N	Winter	<b>100%</b>	67%			<b>100%</b>	
Eastern Bering Sea	GWGU	Bering Sea Shelf 163W56N	Winter	<b>100%</b>	<b>100%</b>			33%	
Eastern Bering Sea	GWGU	Bering Sea Shelf 165W56N	Winter	<b>100%</b>				33%	
Eastern Bering Sea	GWGU	Bering Sea Shelf 166W56N	Winter	<b>100%</b>	<b>100%</b>			33%	
Eastern Bering Sea	GWGU	Bering Sea Shelf 166W57N	Winter	<b>100%</b>	<b>100%</b>			33%	
Eastern Bering Sea	GWGU	Bering Sea Shelf Edge 166W55N	Winter	<b>100%</b>	<b>100%</b>			<b>100%</b>	
Eastern Bering Sea	GWGU	Bering Sea Shelf Edge 168W56N	Winter	<b>100%</b>	<b>100%</b>			33%	

<b>LME</b>	<b>Species</b>	<b>IBA</b>	<b>Season</b>	<b>Shallow SWT</b>	<b>Deep SWT</b>	<b>Sea Ice Cover</b>	<b>Large Copepods</b>	<b>Euphausiids</b>	<b>Benthic Infauna</b>
Eastern Bering Sea	GWGU	Cape Tanak Marine	Winter	100%	100%			100%	
Eastern Bering Sea	GWGU	Izembek Lagoon & Bechevin Bay	Fall	100%				67%	
Eastern Bering Sea	GWGU	Northern Alaska Peninsula Coastal	Fall	100%				33%	
Eastern Bering Sea	GWGU	Port Moller	Fall	100%				33%	
Eastern Bering Sea	GWGU	Unimak & Akutan Passes	Summer	100%	100%			33%	
Eastern Bering Sea	KIEI	Cape Vancouver Marine	Spring	100%		100%			67%
Eastern Bering Sea	KIEI	Northern Alaska Peninsula Coastal	Spring	100%					33%
Eastern Bering Sea	KIEI	Nushagak & Kvichak Bays	Spring	100%		100%			67%
Eastern Bering Sea	KIMU	Unimak & Akutan Passes	Summer	100%	100%			33%	
Eastern Bering Sea	LEAU	St. Matthew & Hall Islands Colonies	Summer	100%		100%	0%	33%	
Eastern Bering Sea	NOFU	Bering Sea Shelf Edge 174W59N	Summer	100%	67%			67%	
Eastern Bering Sea	NOFU	St. Matthew & Hall Islands Colonies	Summer	100%				67%	
Eastern Bering Sea	PAAU	St. Matthew & Hall Islands Colonies	Summer	100%		100%	0%	33%	
Eastern Bering Sea	PAAU	St. Paul Island Colony	Summer	100%			33%	33%	
Eastern Bering Sea	RLKI	St. George Island Marine	Summer	100%	100%			33%	
Eastern Bering Sea	RLKI	St. George Island Marine	Winter	100%	100%			33%	
Eastern Bering Sea	SOSH	Unimak & Akutan Passes	Summer	100%	100%			33%	
Eastern Bering Sea	STEI	Izembek Lagoon & Bechevin Bay	Fall	100%					67%
Eastern Bering Sea	STEI	Izembek Lagoon & Bechevin Bay	Spring	100%					33%
Eastern Bering Sea	STEI	Jacksmith Bay to Cape Pierce	Spring	100%		100%			33%
Eastern Bering Sea	STEI	Kuskokwim Bay	Spring	100%		100%			67%
Eastern Bering Sea	STEI	Northern Alaska Peninsula Coastal	Fall	100%					33%
Eastern Bering Sea	STEI	Northern Alaska Peninsula Coastal	Spring	100%					33%
Eastern Bering Sea	STEI	Port Moller	Fall	100%					33%
Eastern Bering Sea	STEI	Port Moller	Spring	100%					33%
Eastern Bering Sea	STSH	Unimak & Akutan Passes	Summer	100%	100%			33%	
Eastern Bering Sea	TBMU	St. Matthew & Hall Islands Colonies	Summer	100%				67%	
Eastern Bering Sea	WHAU	Unimak & Akutan Passes	Summer	100%	100%		33%	0%	
Eastern Bering Sea	WHAU	Unimak & Akutan Passes	Winter	100%	100%		33%	100%	

<b>LME</b>	<b>Species</b>	<b>IBA</b>	<b>Season</b>	<b>Shallow SWT</b>	<b>Deep SWT</b>	<b>Sea Ice Cover</b>	<b>Large Copepods</b>	<b>Euphausiids</b>	<b>Benthic Infauna</b>
Eastern Bering Sea	WWSC	Ilnik Marine	Winter	100%					33%
Eastern Bering Sea	WWSC	Northern Alaska Peninsula Coastal	Spring	67%					33%
Northern Bering Sea	BLKI	Diomed Islands Colonies	Summer	100%				0%	
Northern Bering Sea	CRAU	Diomed Islands Colonies	Summer	67%		67%	33%	0%	
Northern Bering Sea	CRAU	Savoonga Colonies	Summer	100%		33%	33%	0%	
Northern Bering Sea	CRAU	Southwest Cape Colonies	Summer	67%		100%	0%	0%	
Northern Bering Sea	CRAU	Western St. Lawrence Island Marine	Summer	67%		67%	0%	33%	
Northern Bering Sea	LEAU	Savoonga Colonies	Summer	100%		33%	33%	0%	
Northern Bering Sea	PAAU	Bering Strait	Summer	67%		67%	33%	0%	
Northern Bering Sea	PAAU	Diomed Islands Colonies	Summer	67%		67%	33%	0%	
Northern Bering Sea	PAAU	King Island Colony	Summer	100%			0%	0%	
Northern Bering Sea	SPEI	East Norton Sound	Summer	33%		67%			0%
Northern Bering Sea	SPEI	St. Lawrence Island Polynya	Winter	100%		100%			33%
Northern Bering Sea	SPEI	Western St. Lawrence Island Marine	Summer	67%		100%			0%
Gulf of Alaska	ALTE	Eastern Kodiak Island Marine	Summer	100%				33%	
Gulf of Alaska	ANMU	Castle Rock Colonies	Summer	67%				33%	
Gulf of Alaska	ANMU	Cherni Island Complex Colonies	Summer	100%				33%	
Gulf of Alaska	ANMU	Shumagin Islands Marine	Summer	100%	67%			0%	
Gulf of Alaska	BLKI	Barren Islands Colonies	Summer	67%				0%	
Gulf of Alaska	BLKI	Castle Rock Colonies	Summer	67%				33%	
Gulf of Alaska	BLKI	Semidi Islands Colonies	Summer	67%	67%			0%	
Gulf of Alaska	BLKI	Spitz Island Colony	Summer	67%				0%	
Gulf of Alaska	BLSC	Kachemak Bay	Winter	67%					33%
Gulf of Alaska	BLSC	Marmot Bay	Winter	100%					67%
Gulf of Alaska	CAAU	Castle Rock Colonies	Summer	67%			0%	33%	
Gulf of Alaska	CAAU	Cherni Island Complex Colonies	Summer	100%			33%	33%	
Gulf of Alaska	CAAU	Gulf of Alaska Shelf 155W57N	Summer	67%	100%		0%	0%	
Gulf of Alaska	GWGU	Bird Island Colony	Summer	100%				33%	
Gulf of Alaska	GWGU	Cape Douglas to Amalik Bay	Fall	67%	100%			0%	

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Gulf of Alaska	GWGU	Cold & Morzhovoi Bays	Summer	<b>100%</b>				33%	
Gulf of Alaska	GWGU	Gulf of Alaska Shelf 151W58N	Winter	67%	67%			67%	
Gulf of Alaska	GWGU	Gulf of Alaska Shelf Edge 163W54N	Winter	<b>100%</b>	<b>100%</b>			67%	
Gulf of Alaska	GWGU	Kenai Fjords	Fall	67%	33%			33%	
Gulf of Alaska	GWGU	Kenai Fjords	Summer	67%				0%	
Gulf of Alaska	GWGU	Lower Cook Inlet 153W59N	Winter	67%				67%	
Gulf of Alaska	GWGU	Sanak Islands Marine	Summer	<b>100%</b>	<b>100%</b>			0%	
Gulf of Alaska	HADU	Cape Douglas to Amalik Bay	Fall	67%	<b>100%</b>				33%
Gulf of Alaska	KIMU	Kachemak Bay	Summer	67%				0%	
Gulf of Alaska	LESP	Cherni Island Complex Colonies	Summer	<b>100%</b>			33%	33%	
Gulf of Alaska	MAMU	Kachemak Bay	Summer	67%				0%	
Gulf of Alaska	NOFU	Semidi Islands Colonies	Summer	67%				0%	
Gulf of Alaska	PAAU	Castle Rock Colonies	Summer	67%			0%	33%	
Gulf of Alaska	PAAU	Koniuji-Shumagin Islands Colonies	Summer	<b>100%</b>	<b>100%</b>		0%	0%	
Gulf of Alaska	PAAU	Semidi Islands Colonies	Summer	67%			0%	0%	
Gulf of Alaska	PAAU	Shumagin Islands Marine	Summer	<b>100%</b>	<b>100%</b>		0%	0%	
Gulf of Alaska	PIGU	Kenai Fjords	Summer	67%	33%				33%
Gulf of Alaska	STEI	Chiniak Bay	Winter	<b>100%</b>					33%
Gulf of Alaska	STEI	Clam Gulch	Spring	67%					67%
Gulf of Alaska	STEI	Kamishak Bay	Spring	67%					67%
Gulf of Alaska	STEI	Sitkinak Strait	Spring	67%					67%
Gulf of Alaska	WWSC	Cape Douglas to Amalik Bay	Winter	67%					67%
Gulf of Alaska	WWSC	Eastern Kodiak Island Marine	Winter	67%	<b>100%</b>				33%
Gulf of Alaska	WWSC	Kachemak Bay	Winter	67%					33%
All models agree				<b>86/138 (62%)</b>	<b>42/68 (62%)</b>	<b>12/19 (63%)</b>	<b>0/46 (0%)</b>	<b>6/107 (6%)</b>	<b>0/31 (0%)</b>