Appendix 3. Overview of included studies (N=94) according to study characteristics and summary of climate impacts on health outcomes. Studies are presented in alphabetical order according to the first author's last name.

	First Author	Year	Country	Years of included publications	Years of the studies included in the reviews	# of articles	Meta-analysis	Specific Area of focus	Specific Population of interest	Climate Impact	Health Outcome	Summary of findings
1	Alderman	2012	Australia	2004-2011	1931-2007	35	No			Extreme weather	Infectious diseases Mortality Health systems Mental health Pregnancy and birth Other	Floods are associated with infectious diseases (water- and vector-borne diseases), mortality (e.g., drowning), exacerbation of chronic illnesses, mental health issues (e.g., PTSD), hospital admissions, pregnancy outcomes and injuries.
2	Amegah	2016	Ghana	1995-2014	1960-2010	23	No	Sub-saharan Africa		Meteorological	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Nutritional Skin diseases and allergies	Temperature and temperature variability are suggested to be associated with infectious diseases, such as Ebola, cardiovascular diseases, mortality, cholera outbreaks, meningitis, undernutrition in children, respiratory outcomes, such as asthma, and skin diseases.
3	An	2018	United States	2002-2017	2002-2016	50	No			General	Nutritional	Climate change is associated with obesity. This association can be explained in 4 ways, such that climate change may impact obesity, obesity may impact climate change, both factors may be associated with common causes, or both factors may influence each other.

4	Augustin	2008	Germany	1996-2006	NS	320	No	Germany		Meteorological	Skin diseases and allergies	Although skin and allergic diseases are climate sensitive, there is not sufficient evidence to suggest a prediction concerning skin and allergic diseases linked to climate change in Germany.
5	Babaie	2018	Iran	2007-2017	1970-2015	14	No	Iran		Meteorological	Infectious diseases	Temperature, precipitation and humidity are associated with the risk of transmission of Malaria.
6	Bai	2013	China	1995-2011	1951-2010	57	No	China		Meteorological	Infectious diseases	Variability in temperature, precipitation and wind are associated with the risk of transmission of mosquito-borne diseases.
7	Benevolenza	2019	United States	2006-2017	2005-2015	13	No		Vulnerable populations	Extreme weather	Mental health Pregnancy and birth Other	Extreme weather events are associated with an exacerbation of pre-existing chronic health conditions, mental health issues (e.g., PTSD, isolation) and adverse birth outcomes.
8	Berhane	2016	Ethiopia	NS	NS	23	No	Ethiopia		Meteorological Extreme weather	Infectious diseases Nutritional	Meteorological factors and extreme weather events are associated with under- and mal- nutrition and the increased risk of climate sensitive infectious diseases (e.g., malaria, diarrhea, zoonotic infections, etc.).
9	Bernhardt	2019	Germany	1997-2017	NS	464	No			Meteorological	Infectious diseases	Rising temperatures are predicted to be associated with myiasis in the future.
10	Binazzi	2019	Italy	NS	1994-2013	8	Yes		Workers	Meteorological	Occupational health and injuries	High temperatures are positively associated with occupational injuries.
11	Bonafede	2016	Italy	2000-2014	1985-2010	8	No		Workers	Meteorological	Occupational health and injuries	Extreme temperature (particularly heat) is associated with occupational injuries.

12	Brown	2013	United Kingdom	2004-2012	1975-2012	38	No	Europe		Extreme weather	Infectious diseases	Floods are associated with infectious diseases, including water-, rodent- and vector-borne diseases (from weeks to months after flooding).
13	Bunker	2016	Germany	1995-2015	1974-2013	61	Yes		Elderly	Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes Other	Higher and lower temperatures are associated with cardiovascular and respiratory morbidity and mortality. Heat is also associated with diabetes and genitourinary infections.
14	Campbell	2018	Australia	1964-2017	NS	188	No			Meteorological	Mortality Health systems	Most studies exploring the heat impacts on health focus on mortality outcomes, followed by hospital admissions and ambulance call outs.
15	Cann	2013	United Kingdom	1973-2010	NS	83	No			Extreme weather	Infectious diseases	Extreme water-related events are associated with outbreaks of water-related infectious diseases.
16	Carolan-Olah	2014	Australia	1997-2012	1988-2009	7	No			Meteorological	Pregnancy and birth	High temperatures are associated with preterm birth.
17	Cheng	2014	China	1990-2013	1941-2012	25	No		Adults, Elderly, Children	Meteorological	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Other	Diurnal temperature range is associated with mortality and cardiovascular and respiratory outcomes, hospital admissions, and Hand Foot Mouth disease in children and genitourinary outcomes among the elderly.
18	Coates	2019	Denmark	2003-2018	NS	72	No			Meteorological	Infectious diseases	Some meteorological factors (temperature, humidity) are positively associated with Hand Foot Mouth disease (HFMD). Precipitation, wind speed and sunshine are not associated with HFMD.

19	Cong	2017	China	1994-2015	1982-2013	26	Yes			Meteorological	Respiratory, cardiovascular, and neurological outcomes	Temperature drop is associated with asthma.
20	Cunrui	2011	Australia	1997-2010	1961-2100	14	No			Meteorological	Mortality	Higher temperature is associated with heat-related mortality.
21	deSousa	2018	Brazil	1976-2016	NS	106	No			Meteorological	Infectious diseases Respiratory, cardiovascular, and neurological outcomes	Meteorological factors (e.g., temperature, precipitation) are associated with infectious diseases (e.g., dengue, malaria) and cardiovascular and respiratory outcomes.
22	Dhimal	2015	Nepal	1956-2014	1948-2098	50	No	Nepal		Meteorological	Infectious diseases	Higher temperatures are associated with the distribution of vector-borne diseases.
23	Doocy	2013	United States	1975-2011	1974-2008	60	No			Extreme weather	Mortality Other	Cyclones are associated with mortality (e.g., drowning) and injuries.
24	Duan	2019	China	2010-2018	2000-2016	51	Yes	Southeast and East Asia		Meteorological	Infectious diseases	Some meteorological factors (mean maximum temperature, rainfall, humidity and sunshine) are positively associated with Hand Foot Mouth disease (HFMD), whereas air pressure is negatively associated with this disease and wind speed is not associated with HFMD.
25	Fan	2015	China	2004-2013	1985-2012	33	Yes			Meteorological	Infectious diseases	Temperature is positively associated with transmission and incidence of Dengue.
26	Fernandez	2015	Australia	1995-2014	NS	83	No			Extreme weather	Mental health	Floods are associated with negative mental health outcomes (e.g., PTSD, increased anxiety, depression, use of psychotropic medication). Conflicting evidence concerning suicide,

												tobacco, alcohol and substance abuse.
27	Flouris	2018	Greece	1954-2018	NS	111	Yes		Workers	Meteorological	Occupational health and injuries	High temperatures are positively associated with occupational heat strains, dehydration, kidney diseases and injuries.
28	Gao	2019	China	1994-2018	1969-2015	16	Yes			Meteorological	Mental health	Temperature increase is associated with suicide. No association between sunlight duration and suicide.
29	Gao	2014	China	1996-2012	1971-2010	37	No		Children	Meteorological	Infectious diseases Respiratory, cardiovascular, and neurological outcomes Skin diseases and allergies	Ambient humidity is associated with gastrointestinal, respiratory and allergic diseases in children.
30	Ghanizadeh	2017	Iran	2009-2016	1990-2015	13	No			Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes	Meteorological factors, such as temperature and humidity, are associated with cardiopulmonary health. Cold temperatures are also associated with mortality from heart diseases.
31	Ghazani	2018	Australia	2006-2017	1991-2011	11	No			Meteorological	Infectious diseases	Higher temperature is associated with bacterial gastrointestinal infections. Humidity and rainfall may influence this association.
32	Gracia	2015	Sweden	2003-2011	1959-2008	9	No	Europe		Meteorological	Infectious diseases	Temperature is positively associated with Human Puumala Hantavirus in some regions of Europe. Results concerning precipitation and humidity are contradictory or null.
33	Hajat	2010	United Kingdom	1994-2008	1973-2003	11	No			Meteorological	Mortality	Ambient heat is associated with mortality.

34	Hedlund	2014	Sweden	1970-2012	1750-2009	29	No	Arctic, sub-Arctic	Vulnerable populations	Meteorological Extreme weather	Infectious diseases	Higher temperatures and flooding are associated with food- and water-borne diseases. This association is weaker for vector- and rodent-borne diseases. Air temperature and humidity seem to be associated with air-borne diseases.
35	Hii	2016	Sweden	2007-2015	2003-2012	9	No	Malaysia		Meteorological	Infectious diseases	Some meteorological factors (temperature, rainfall and humidity) are associated with Dengue, although these associations are inconsistent at times.
36	Huang	2016	Taiwan	1990-2014	1978-2011	19	Yes			General	Skin diseases and allergies	Climate change, in general, may be associated with skin and soft-tissue infections.
37	Kampe	2016	United Kingdom	1998-2015	1971-2010	13	No	High-income countries		Meteorological	Other	Higher temperature is associated with unintentional injuries.
38	Khader	2015	Jordan	2003-2014	1991-2012	78	No	Eastern Mediterranian	Vulnerable countries	Meteorological Extreme weather Air quality	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Mental health Pregnancy and birth Nutritional	High temperature is associated with mortality. Temperature, humidity and precipitation are associated with vector-, food- and water-borne diseases. Air pollution is associated with respiratory outcomes, although some findings are inconsistent. Higher temperature is associated with mental health outcomes and hospital admissions. Higher temperature may also be associated with adverse birth outcomes. Meteorological and extreme weather events are associated with food insecurity.
39	Klinger	2014	United Kingdom	2011-2013	NS	20	No			Extreme weather	Health systems	Extreme weather events may lead to power outages which may pose challenges to healthcare quality.

40	Kuehn	2017	United States	2002-2017	NS	28	No		Pregnant people	Meteorological	Pregnancy and birth	Extreme heat exposure is associated with adverse birth outcomes (e.g. stillbirth, birth weight).
41	Lake	2017	United Kingdom	NS	NS	66	No	Europe		General	Respiratory, cardiovascular, and neurological outcomes	Climate change may be associated with ragweed pollen allergy.
42	Lal	2019	Australia	1982-2011	NS	36	Yes		Children	Meteorological	Infectious diseases	Rainfall is associated with childhood diarrhea, although this association differed according to season and latitude.
43	Lal	2015	Australia	NS	NS	16	No	New Zealand		Meteorological	Infectious diseases	Temperature variability, higher temperature and rainfall are associated with enteric diseases.
44	Lawton	2019	Australia	2000-2015	NS	71	No			Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes	Heat exposure is associated with heat stroke, long-term neurological outcomes (e.g., cerebellar injury) and heat-related mortality.
45	Levi	2018	Italy	2003-2017	1977-2014	184	No		Workers	Meteorological	Occupational health and injuries	Heat exposure is associated with occupational injuries.
46	Levy	2016	United States	1972-2013	1948-2010	208	No			Meteorological Extreme weather	Infectious diseases	Temperature is associated with bacterial diarrhea and drought is associated with all-cause diarrhea, although few studies explored the association between drought and diarrhea.
47	Leyva	2017	Asia	2009-2017	NS	30	No		Elderly	Meteorological Extreme weather Air quality	Infectious diseases Mortality Respiratory, cardiovascular, and	Meteorological factors, extreme weather events (e.g. typhoon, floods) and air pollution are associated with mortality and morbidity, especially cardiovascular- and respiratory-specific. Higher temperature is associated with

											neurological outcomes Health systems Mental health	vector-borne diseases. Heat and cold temperatures are associated with hospital admissions. Flooding is associated with mental health outcomes (e.g. PTSD, depression).
48	Li	2018	China	1988-2017	NS	81	No	China		Meteorological Extreme weather	Infectious diseases	Meteorological factors (temperature, precipitation, humidity, air pressure) and extreme weather events (floods, typhoons) are associated with Dengue fever in China.
49	Lian	2015	China	2003-2014	NS	20	Yes			Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes	Higher and lower temperatures are associated with stroke-related mortality and low temperatures are also associated with stroke-related morbidities.
50	Liu	2015	United States	1990-2014	NS	61	No			Air quality	Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Pregnancy and birth Other	Wildfire smoke exposure is associated with mortality, respiratory outcomes and hospital admissions. Wildfire smoke exposure could also be associated with cardiovascular, ophthalmic and pregnancy outcomes, although more research is needed.
51	Madaniyazi	2015	Australia	2004-2013	1961-2100	15	No			Air quality	Mortality	Air pollution is associated with future mortality.
52	Matysiak	2017	Puerto Rico	2001-2005	NS	26	No	Puerto Rico (United-States)		Meteorological Extreme weather	Infectious diseases	Meteorological factors (higher temperature and increased rainfall) are associated with vector-borne diseases, such as Dengue and Zika. Extreme weather events are less researched, but the few studies investigating this association suggest no association between hurricanes

												and floods and vector-borne diseases.
53	Moghadamnia	2017	Iran	2011-2016	1979-2013	26	Yes			Meteorological	Mortality	Higher and lower temperature are associated with cardiovascular mortality.
54	Naish	2014	Australia	NS	1931-2010	16	No			Meteorological	Infectious diseases	Meteorological factors (especially temperature, rainfall and humidity) are associated with Dengue.
55	Nichols	2009	United Kingdom	1999-2008	NS	36	No			Meteorological Extreme weather Air quality	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Mental health Nutritional Skin diseases and allergies Other	Meteorological factors (e.g., higher temperature) are associated with mortality and various infectious diseases. Increased UV exposure is associated with skin cancer and cataracts. Extreme weather events are associated with mortality, injury, mental health outcomes, malnutrition, and food- and water-borne diseases. Air pollution is associated with cardio-respiratory outcomes.
56	Odame	2018	United States	2006-2017	1893-2013	14	Yes		Rural populations	Meteorological	Mortality	Higher temperature is associated with all-cause mortality and cardiovascular specific mortality.
57	Park	2017	Korea	1920-2015	1961-2013	10	Yes			Meteorological	Other	Higher temperature is associated with acute gouty arthritis.
58	Phalkey	2015	Germany	1989-2012	1982-2008	15	No	Low to middle-income countries	Children	Meteorological Extreme weather	Nutritional	Meteorological factors (rainfall, temperature) and extreme weather events are associated with childhood undernutrition.
59	Philipsborn	2016	Georgia	NS	1973-2010	28	Yes			Meteorological	Infectious diseases	Higher temperature is associated with Diarrheagenic Escherichia coli. No significant relationship between rainfall and E. coli.
60	Phung	2015	Australia	2004-2013	NS	13	No	Southeast Asia		Meteorological	Infectious diseases	Meteorological factors (temperature, humidity) and extreme weather

										Extreme weather		events (flooding) are associated with vector- and water-borne infectious diseases.
61	Porpora	2019	Italy	1964-2019	NS	78	No			Other	Pregnancy and birth	Environmental pollutants may be associated with preterm birth, however this association remains unclear due to conflicting evidence.
62	Poursafa	2015	Iran	2001-2013	NS	15	No			Meteorological	Pregnancy and birth	Meteorological factors (higher temperature, lower temperature, humidity, sunlight intensity) are associated with adverse birth outcomes (low birth weight, preterm birth, hypertension, eclampsia).
63	Racloz	2012	Australia	NS	NS	63	No			Meteorological	Infectious diseases	Higher temperature, increased precipitation and humidity are associated with Dengue.
64	Rataj	2016	Germany	1981-2012	1978-2008	17	No	Low to middle income countries		Extreme weather	Mental health Other	Extreme weather events are associated with mental health outcomes (e.g., PTSD, anxiety, depression) and injuries.
65	Reid	2016	United States	1990-2015	NS	53	No		Susceptible populations	Air quality	Mortality Respiratory, cardiovascular, and neurological outcomes Mental health Pregnancy and birth	Wildfire smoke exposure is associated with respiratory outcomes (e.g., asthma) and mortality. Wildfire smoke exposure may be associated with cardiovascular, birth, and mental health outcomes, but more research is needed.
66	Rifkin	2018	United States	1995-2017	1992-2016	16	No			Meteorological Extreme weather	Other	Temperature and extreme weather events (hurricanes) are associated with sleep quality.
67	Salve	2018	India	NS	NS	11	No	India		Meteorological	Mortality Health systems Nutritional	Increase in temperature is associated with all-cause mortality, cause-specific mortality (e.g., myocardial

												infarctions, stroke, heart diseases), hospitalizations (e.g., heat-related admissions, neonatal intensive unit admissions), and food insecurity and malnutrition, via agricultural issues.
68	Sanderson	2017	United Kingdom	1988-2017	1900-2101	63	No			Meteorological	Mortality	Higher temperatures and heat waves are associated with mortality and heat-related mortality is likely to increase with increased temperatures.
69	Sawatzky	2018	Canada	2005-2016	NS	85	No	Arctic and Subarctic		General	Health systems	Climate change, in general, is associated with a strain in public health resources, via population health issues and surveillance systems may guide future adaptation to climate change.
70	Semenza	2012	Sweden	1998-2009	1995-2007	722	No			Meteorological	Infectious diseases	Meteorological factors (temperature, rainfall) are associated with some food- and water-borne diseases.
71	Stanke	2013	United Kingdom	1967-2011	1876-1879 and 1961-2010	87	No			Extreme weather	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Mental health Nutritional Other	Droughts are associated with malnutrition, mortality, infectious diseases, cardiovascular and respiratory outcomes, mental health (e.g., increased worry, anxiety), injuries, and cancer.
72	Stensgaard	2019	Denmark	1995-2017	NS	20	No			Meteorological	Infectious diseases	Meteorological factors (temperature, precipitation, humidity) are associated with schistosomiasis and increasing temperatures are likely to affect the geographic range of this parasite.
73	Sun	2018	China	1999-2017	1974-2014	30(revie	Yes			Meteorological	Mortality	Heat and cold exposure are associated with myocardial

						w)23meta-analysis					Respiratory, cardiovascular, and neurological outcomes Health systems	infarctions (MI) and hospitalization for MI. Heat exposure is associated with MI-specific mortality.
74	Swynghedauw	2009	France	NS	NS	NS	No			Meteorological Extreme weather	Infectious diseases Mortality Skin diseases and allergies Other	Heat and cold exposure are associated with mortality and more specifically, respiratory- and cardiovascular-specific mortality. Exposure to UV is associated with skin cancer and cataracts. Higher temperatures are associated with infectious diseases (mosquito- and food-borne diseases) and extreme weather events are associated with undernutrition and food-borne diseases.
75	Tall	2014	Australia	1946-2009	1886-2006	22	No	Australia		Extreme weather	Infectious diseases	There is no strong evidence for the association between flooding and the Ross River Virus.
76	Varghese	2018	Australia	1983-2017	1922-2017	26	No		Workers	Meteorological	Occupational health and injuries	Heat is associated with occupational injuries in many contexts of work (e.g., agriculture, transport, construction, fishing).
77	Veenema	2017	United States	2006-2016	NS	47	No			Extreme weather	Infectious diseases Mortality Mental health	Extreme water-related weather events are associated with mortality, water- and vector-borne infectious diseases, mental health issues (e.g., PTSD, depression, anxiety).
78	Vilcins	2018	Australia	NS	NS	72	No		Children	Other	Nutritional	Certain environmental risk factors (e.g., sanitation, cooking fuels), which could be aggravated by climate change, may be associated with childhood stunting.
79	Vins	2015	United States	1995-2005	NS	82	No			Extreme weather	Mental health	Drought is likely associated with adverse mental health outcomes.

80	Waits	2018	Finland	1970-2017	NS	43	No	Arctic		Meteorological	Infectious diseases	Meteorological factors (especially higher temperature and precipitation) are associated with infectious diseases (e.g. tick borne diseases, tularemia) in the Arctic.
81	Wald	2019	United States	2009-2018	NS	17	No	United States		Meteorological	Health systems	Higher temperature is associated with emergency department (heat-related visits) visits and costs for healthcare systems.
82	Welch	2019	United States	NS	NS	91	No			Meteorological	Infectious diseases	Meteorological factors (temperature, precipitation) are associated with Salmonella.
83	Wimalawansa	2016	United States	NS	NS	NS	No	Tropical Countries	Workers	Meteorological Other	Occupational health and injuries	Increasing temperatures and environmental pollution (e.g., heavy metals, fertilizers) are associated with occupational health outcomes, such as chronic kidney disease of multifactorial origin.
84	Witt	2015	Germany	NS	NS	33	Yes		Chronic lung disease patients	Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes	Heat is associated with lung disease outcomes and mortality in patients with chronic lung diseases.
85	Xu	2018	Australia	2004-2016	1978-2013	19	No		Children	Meteorological	Respiratory, cardiovascular, and neurological outcomes	Heat and cold temperatures are associated with childhood asthma.
86	Xu	2012	Australia	2000-2012	1983-2010	33	No		Children	Meteorological	Infectious diseases Mortality Respiratory, cardiovascular, and neurological outcomes Health systems	Heat and cold are associated with hospital admissions and mortality in children. Temperature is also associated with various infectious diseases (e.g., HFMD, malaria), respiratory diseases (e.g., asthma) and skin outcomes (e.g, eczema). For example, high temperature is associated with Hand Foot Mouth

											Skin diseases and allergies Other	Disease and renal diseases and low temperature is associated with eczema.
87	Xu	2016	Australia	2001-2015	NS	60	Yes			Meteorological	Mortality	Heat waves are associated with mortality and it seems that the intensity of heatwaves is particularly important compared to length of heatwave.
88	Xu	2014	Australia	1998-2012	1983-2009	12	No		Children	Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Other	Heat waves are associated with hospital admissions, respiratory diseases, renal diseases, fever and electrolyte imbalances. Evidence concerning the association between heatwaves and children mortality is inconsistent.
89	Youssouf	2014	France	1990-2011	1987-2008	94	No			Air quality	Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Pregnancy and birth	Wildfire smoke exposure is associated with mortality, respiratory and cardiovascular outcomes, hospital admissions. Wildfire smoke exposure may also be associated with adverse birth outcomes (low birth weight).
90	Yu	2015	Australia	1998-2012	1961-1990 et 2020-2100	20	No			Meteorological	Infectious diseases	Meteorological factors (temperature, rainfall, humidity) may be associated with future malaria transmission, although findings are inconsistent, partly according to geographical focus.
91	Yu	2012	Australia	1997-2008	1973-2006	15	Yes		Elderly	Meteorological	Mortality	Heat and cold temperatures are associated with mortality for the elderly, although heat-related associations seem stronger than cold-related associations.

92	Zhang	2007	Australia	NS	NS	NS	No		People with disabilities	General	Other	Climate change, in general, may be associated with disability-adjusted life years (DALY), and the cost of DALY could be particularly important in low to middle income countries.
93	Zhang	2017	China	1997-2016	1981-2012	36	No		Pregnant people	Meteorological	Pregnancy and birth	High temperature is associated with adverse birth outcomes, such as preterm birth, low birth weight and stillbirth. Low temperature is also associated with some adverse birth outcomes, including preterm birth and low birth, although the evidence is stronger for high temperature than for low temperatures.
94	Zuo	2015	Australia	NS	NS	173	No			Meteorological	Mortality Respiratory, cardiovascular, and neurological outcomes Health systems Mental health Skin diseases and allergies Other	Heat waves are associated with mortality, hospital admissions, sunburn, heat exhaustion, cardiovascular outcomes (e.g., heart attacks) and mental health outcomes.

*NS = non-specified