HCS Portal - High Level Sitemap

MAIN MENU

Awareness

UNDERSTAND
Health & Climate

Climate & Health explained

Terminology

Awareness raising materials

Progress dashboard
- SDGs
- Sendai Monitor
- ...

Guidance / Learn

TAKE ACTION
How-to

1. Enabling environment

2. Develop Capacity

3. Research

4. Develop Products & services
- Assess
- Monitor Risk
- Anticipate

5. Plan & Apply

6. Evalute

Tools

EXPLORE
Resource Library

Training

Training materials

Guidance

Case studies

Research & scientific publications

Products & Services

Data & datasets

Awareness rasing materials

Search all Resource Library

People

CONNECT
Events & Communities

Meetings & Conferences

Communities of practice

Expert teams

Organizations
- Academic & scientific institutions
- WMO Regional Centers
- National Met Services
- Service & data providers

Opportunities

Programmes, Projects, Initiatives

Specific entry points

COUNTRIES
& Regions

HAZARDS &
HEALTH RISKS

THEMES

Overview

SECONDARY MENU (HEADER)

NEWS & MEDIA

CONTACT

LOGIN / PROFILE

SEARCH

SECONDARY MENU (FOOTER)

QUICK LINKS

ABOUT

LEGAL

Logo

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

Quick Links
Lorem ipsum
Dolor sit amet
Numque semper

About
Lorem ipsum
Dolor sit amet
Numque semper
Pellentesque

Legal
Editorial Policy
Terms of Use

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

> Climate & Health linkages explained

> Terminology

> Awareness raising materials

> Progress dashboard

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

> Climate & Health linkages explained

> Terminology

> Awareness raising materials

> Progress dashboard

Understand Health & Climate	**Take Action How-to**	Explore Resource Library	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

Climate Services Development process >

1.
Enabling environment

2.
Develop capacity

3.
Research

4.
Develop Products & Services
Assess
> Vulnerability & adaptation assessments

Monitor Risk
> Risk monitoring and integrated surveillance systems
> Core analytics : indicators, thresholds, models, maps

Anticipate
> Risk forecasting tools
> Early Warning Systems
> Projections & scenarios

5.
Plan & Apply
> Risk management / Communication tools
> Adaptation plans
> Action plans
> Mitigation plans
> Emergency response plans
> Decision support

6.
Evaluate

Understand Health & Climate	Take Action How-to	**Explore Resource Library**	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

Products & Services

Assess

> Vulnerability, risk & adaptation assessments

Monitor Risk

> Risk monitoring & integrated surveillance systems
> Core analytics: indicators, thresholds, models, maps

Anticipate

> Risk forecasting tools
> Early Warning Systems
> Projections & scenarios

Plan & Apply

> Risk management / communication tools
> Adaptation plans
> Action plans
> Mitigation plans
> Emergency response planning
> Decision support

Resources

> Training
> Training materials
> Guidance
> Case studies
> Research & scientific publications
> Awareness raising materials
> Data & datasets

Search all library >

Understand Health & Climate	Take Action How-to	Explore Resource Library	**Connect Events & Communities**	Countries & Regions	Hazards & Health Risks	Themes

> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

Logo

| Understand Health & Climate | Take Action How-to | Explore Resource Library | Connect Events & Communities | **Countries & Regions** | Hazards & Health Risks | Themes |

Countries

| Chi

India (15)
Colombia (14)
Chile (12)
United States (12)
Mexico (11)
Nigeria (10)
Nepal (9)
China (7)
Malaysia (7)

Regions

WMO Regions

> Africa
> Asia
> Europe
> North/Central America & Caribbean
> South America
> South-West Pacific

WHO Regions

> Africa
> Americas
> Eastern Mediterranean
> Europe
> South-East Asia
> Western Pacific

Landscapes

> Coastal
> Desert & Arid
> Forest
> Island / SIDS
> Mountain & Polar
> Rural
> Urban

6

Logo

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	**Hazards & Health Risks**	Themes

Air Pollution

Air Allergens

Diseases - Communicable, Non-communicable

Cyclone - Hurricane, Tropical Cyclone, Typhoon

Cold Wave - Extreme Cold

Drought - pronounced absence of rainfall

Heat Wave - Extreme Heat

Flooding - Inundation, Flash Floods

Foodborne Outbreaks

Lightening

NBC - Nuclear, Biological, Chemical

Sand and Dust

Solar Radiation

Storm - Thunderstorm, Wind Storm, Winter Storm

Water Quality

Wild Fire

| Understand Health & Climate | Take Action How-to | Explore Resource Library | Connect Events & Communities | Countries & Regions | Hazards & Health Risks | **Themes** |

Ecological change

Food security and agriculture

Healthcare Infrastructure

Human Mobility / Migration

Mitigation / Sustainability

Occupational Health

Urban Risk & Planning

Logo

| Understand Health & Climate | Take Action How-to | **Explore Resource Library** | Connect Events & Communities | Countries & Regions | Hazards & Health Risks | Themes |

Products & Services

Assess

>   Vulnerability, risk & adaptation assessments

Monitor Risk

>   Risk monitoring & integrated surveillance systems

>   Core analytics: indicators, thresholds, models, maps

Anticipate

>   Risk forecasting tools

>   Early Warning Systems

>   Projections & scenarios

Plan & Apply

>   Risk management / communication tools

>   Adaptation plans

>   Action plans

>   Mitigation plans

>   Emergency response planning

>   Decision support

Resources

>   Training

>   Training materials

>   Guidance

>   Case studies

>   Research & scientific publications

>   Awareness raising materials

>   Data & datasets

Search all library >

Home > Explore Resource Library

Case studies

Filter the list by

> Hazards & Health Risks

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List ⊕ Map

| Search Case studies | **GO** |

40 Items

Case study

Ecuador–Peru cooperation for climate-informed dengue surveillance: creating an interdisciplinary multinational team

WHO / WMO

This case study shows how a collaboration between experts in Ecuador and Peru was established to address a shared problem of endemic dengue transmission in the border areas of the two countries. A transnational and multidisciplinary ...

2016 |Biological Hazard | Ecuador, Peru | Enable Environment

Case study

Training a new generation of professionals to use climate information in public health decision-making

WHO / WMO

This case study describes a training programme specifically developed to enhance the capacity of health professionals to use climate information, focusing on building core competencies and based on five modules. In addition to training....

2016 | Global | Develop Capacity

Case study

Analysis of the health impacts of climate variability in four major South American cities

WHO / WMO

This case study found that despite a significant association between several diseases and climate conditions in multiple South American cities, the incompatibility of temporal and spatial scales of health and climate data....

2016 | Heat Wave, Cold Wave, Flooding, Drought | Americas | Research
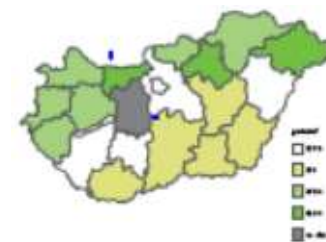
Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary

WHO / WMO

This case study from Hungary is a particularly good example of the research required to identify and use climate-specific indicators to monitor and forecast pollen conditions...

2016 | Air Quality, Allergens | Hungary | Develop Products & Services

1, 2, 3, 4, 5, 6, 7, 8 …. Next >

Key resources

Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary
WHO / WMO

Case study

Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO

More >

1

Home > Explore Resource Library

Updated Jun 2019

Case studies

Filter the list by

> **Hazards & Health Risks**

> **Countries & Regions**

> **Themes**

> **Landscapes**

> **Spatial Scale**

> **Action Steps**

> **Year**

List   Map

Search Case studies

GO

40 items

Updated Jun 2019

Case studies

Filter the list by

> Hazards & Health Risks

☐ Air Pollution (2)
☐ Air Allergens (3)
☐ Diseases (5)
☐ Cyclone (7)
☐ Cold Wave (1)
☐ Drought (17)
☑ **Heat Wave (4)**
☐ Flooding (8)
☐ Sand and Dust (2)
☐ Solar Radiation (3)
☐ Water Quality (4)
☐ Wild Fire (1)
☐ Wind Storm (2)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List Map

| Search Case studies | GO |

4 items for: Heat Wave [x]

Case study

Innovative heat wave early warning system and action plan in Ahmedabad, India

WHO / WMO

This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events …

2016 | Heat Wave | India | Develop Products & Services

Case study

Protecting the elderly from heat and cold stress in Hong Kong: Using climate information and client-friendly communication technology

WHO / WMO

This case study focuses on building community and citizen capacity to uptake climate information. Hong Kong is an example of an innovative service and mobile phone application for families of senior citizens to locate and contact them during …

2016 | Heat Wave | China | Develop Capacity

Case study

Iterative development and testing of a heat warning and information system in Alberta, Canada

WHO / WMO

This case study is an example of research which inform product development, on the possibilities to use climate as a predictor to establish operational forecasts and early warnings. A range of quantitative analyses to identify the relevant variables…

2016 | Heat Wave | Canada | Research

Case study

SUPREME: An integrated heat health warning system for Quebec.

WHO / WMO

This case study illustrates the development of early warning systems focused on heat waves. It comprised an integrated platform that provided access to indicators relating exposure to extreme temperature hazards, socioeconomic characteristics…

2016 | Heat Wave | Canada | Develop Products & Services

Updated Jun 2019

Innovative heat wave early warning system and action plan in Ahmedabad, India

Source(s): World Health Organization (WHO), World Meteorological Organization (WMO)
Year: 2016

This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events, improving their preparedness and capacity to care for patients with heat-related illnesses.

A coalition of academic, health and environmental groups partnered with the AMC in 2011 to create an early warning system and heat preparedness plan as a roadmap to save lives during dangerous heat waves (2).

In collaboration with the Ahmedabad Municipal Corporation, the Ahmedabad Heat and Climate Study Group consists of Natural Resources Defense Council; Indian Institute of Public Health, Gandhinagar; Emory University; and Icahn School of Medicine at Mount Sinai, in New York City. Dr Peter Webster and Dr Violeta Toma of Georgia Institute of Technology provided the long-term temperature forecasts for the Ahmedabad health early warning system. The project was supported in part by the Climate and Development Knowledge Network.

Heat wave early warning system
Ahmedabad, India

Partners involved

> University of Washington
> Georgia Tech
> Climate & Development Knowledge Network
> Icahn School of Medicine at Mount Sinai
> Natural Resources Defense Council (NRDC)
> Indian Institute of Public Health

⬇ **English - Download [PDF, 35kb]**
⬇ **Français - Download [PDF, 41kb]**
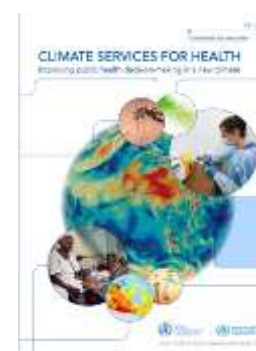
Tags
Heat Wave
Desert & Arid | National | Asia | India
Develop Products & Services | Prepare: Action Plans

Related Resources

Climate Services for Health Fundamentals and Case Studies for improving public health decision-making in a new climate
2018 | WHO / WMO
Climate services for health are an emerging technical field for both the health and climate communities. The Climate Services for Health Case Study Project showcases 40 examples...

Lorem ipsum dolor sit amet
2017 | WHO
Nam mollis ipsum ipsum, a rhoncus quam pharetra vulputate. In sit amet tortor quis mi pellentesque venenatis sit amet eu massa. Vivamus hendrerit auctor quam, non posuere neque maximus quis. Maecenas vel dapibus metus. Fusce condimentum nisi et egestas imperdiet. ...

Understand Health & Climate	Take Action How-to	**Explore Resource Library**	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

Products & Services

Assess

> Vulnerability, risk & adaptation assessments

Monitor Risk

> Risk monitoring & integrated surveillance systems

> Core analytics: indicators, thresholds, models, maps

Anticipate

> Risk forecasting tools

> Early Warning Systems

> Projections & scenarios

Plan & Apply

> Risk management / communication tools

> Adaptation plans

> Action plans

> Mitigation plans

> Emergency response planning

> Decision support

Resources

> Training

> Training materials

> Guidance

> Case studies

> Research & scientific publications

> Awareness raising materials

> Data & datasets

Search all library >

Updated Jun 2019

Case studies

Filter the list by

> Hazards & Health Risks

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

▦ List ◉ Map

| Search Case studies | | **GO** |

40 Items

Case study

Ecuador–Peru cooperation for climate-informed dengue surveillance: creating an interdisciplinary multinational team

WHO / WMO

This case study shows how a collaboration between experts in Ecuador and Peru was established to address a shared problem of endemic dengue transmission in the border areas of the two countries. A transnational and multidisciplinary …

2016 |Biological Hazard | Ecuador, Peru | Enable Environment

Case study

Training a new generation of professionals to use climate information in public health decision-making

WHO / WMO

This case study describes a training programme specifically developed to enhance the capacity of health professionals to use climate information, focusing on building core competencies and based on five modules. In addition to training.…

2016 | Global | Develop Capacity

Case study

Analysis of the health impacts of climate variability in four major South American cities

WHO / WMO

This case study found that despite a significant association between several diseases and climate conditions in multiple South American cities, the incompatibility of temporal and spatial scales of health and climate data.…

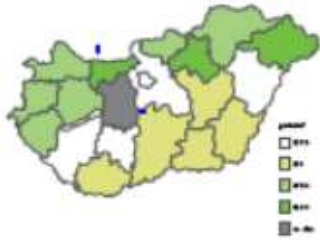2016 | Heat Wave, Cold Wave, Flooding, Drought | Americas | Research

Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary

WHO / WMO

This case study from Hungary is a particularly good example of the research required to identify and use climate-specific indicators to monitor and forecast pollen conditions…

2016 | Air Quality, Allergens | Hungary | Develop Products & Services

Key resources

Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary
WHO / WMO

Case study

Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO

More >

1, 2, 3, 4, 5, 6, 7, 8 …. Next >

1

Home > Explore Resource Library

Case studies

Filter the list by

> Hazards & Health Risks

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List   Map

Search Case studies   GO

40 items

Home > Explore Resource Library

Case studies

Filter the list by

> Hazards & Health Risks

☐ Air Pollution (2)
☐ Air Allergens (3)
☐ Diseases (5)
☐ Cyclone (7)
☐ Cold Wave (1)
☐ Drought (17)
☑ **Heat Wave (4)**
☐ Flooding (8)
☐ Sand and Dust (2)
☐ Solar Radiation (3)
☐ Water Quality (4)
☐ Wild Fire (1)
☐ Wind Storm (2)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

⊞ List   ⊕ Map

| Search Case studies | | **GO** |

4 items for: Heat Wave [x]

Case study
Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO

This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events …

2016 | Heat Wave | India | Develop Products & Services

Case study
Protecting the elderly from heat and cold stress in Hong Kong: Using climate information and client-friendly communication technology
WHO / WMO

This case study focuses on building community and citizen capacity to uptake climate information. Hong Kong is an example of an innovative service and mobile phone application for families of senior citizens to locate and contact them during …

2016 | Heat Wave | China | Develop Capacity

Case study
Iterative development and testing of a heat warning and information system in Alberta, Canada
WHO / WMO

This case study is an example of research which inform product development, on the possibilities to use climate as a predictor to establish operational forecasts and early warnings. A range of quantitative analyses to identify the relevant variables…

2016 | Heat Wave | Canada | Research

Case study
SUPREME: An integrated heat health warning system for Quebec.
WHO / WMO

This case study illustrates the development of early warning systems focused on heat waves. It comprised an integrated platform that provided access to indicators relating exposure to extreme temperature hazards, socioeconomic characteristics…

2016 | Heat Wave | Canada | Develop Products & Services

Updated Jun 2019

Innovative heat wave early warning system and action plan in Ahmedabad, India

Source(s): World Health Organization (WHO), World Meteorological Organization (WMO)
Year: 2016

Heat wave early warning system
Ahmedabad, India

This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events, improving their preparedness and capacity to care for patients with heat-related illnesses.

A coalition of academic, health and environmental groups partnered with the AMC in 2011 to create an early warning system and heat preparedness plan as a roadmap to save lives during dangerous heat waves (2).

In collaboration with the Ahmedabad Municipal Corporation, the Ahmedabad Heat and Climate Study Group consists of Natural Resources Defense Council; Indian Institute of Public Health, Gandhinagar; Emory University; and Icahn School of Medicine at Mount Sinai, in New York City. Dr Peter Webster and Dr Violeta Toma of Georgia Institute of Technology provided the long-term temperature forecasts for the Ahmedabad health early warning system. The project was supported in part by the Climate and Development Knowledge Network.

Partners involved

> University of Washington
> Georgia Tech
> Climate & Development Knowledge Network
> Icahn School of Medicine at Mount Sinai
> Natural Resources Defense Council (NRDC)
> Indian Institute of Public Health

⬇ **English - Download [PDF, 35kb]**
⬇ **Français - Download [PDF, 41kb]**
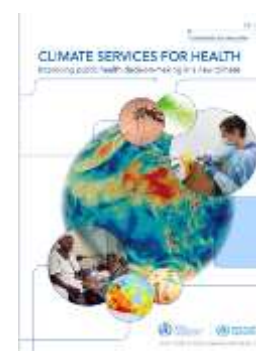
Tags
Heat Wave
Desert & Arid | National | Asia | India
Develop Products & Services | Prepare: Action Plans

Related Resources

Climate Services for Health Fundamentals and Case Studies for improving public health decision-making in a new climate
2018 | WHO / WMO
Climate services for health are an emerging technical field for both the health and climate communities. The Climate Services for Health Case Study Project showcases 40 examples...

Lorem ipsum dolor sit amet
2017 | WHO
Nam mollis ipsum ipsum, a rhoncus quam pharetra vulputate. In sit amet tortor quis mi pellentesque venenatis sit amet eu massa. Vivamus hendrerit auctor quam, non posuere neque maximus quis. Maecenas vel dapibus metus. Fusce condimentum nisi et egestas imperdiet. ...

Understand Health & Climate	Take Action How-to	**Explore Resource Library**	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

Products & Services

Assess

> Vulnerability, risk & adaptation assessments

Monitor Risk

> Risk monitoring & integrated surveillance systems
> Core analytics: indicators, thresholds, models, maps

Anticipate

> Risk forecasting tools
> Early Warning Systems
> Projections & scenarios

Plan & Apply

> Risk management / communication tools
> Adaptation plans
> Action plans
> Mitigation plans
> Emergency response planning
> Decision support

Resources

> Training
> Training materials
> Guidance
> Case studies
> Research & scientific publications
> Awareness raising materials
> Data & datasets

Search all library >

Updated Jun 2019

Case studies

Filter the list by

> Hazards & Health Risks

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List   Map

Search Case studies   **GO**

40 Items

Case study

Ecuador–Peru cooperation for climate-informed dengue surveillance: creating an interdisciplinary multinational team

WHO / WMO

This case study shows how a collaboration between experts in Ecuador and Peru was established to address a shared problem of endemic dengue transmission in the border areas of the two countries. A transnational and multidisciplinary …

2016 | Biological Hazard | Ecuador, Peru | Enable Environment

Case study

Training a new generation of professionals to use climate information in public health decision-making

WHO / WMO

This case study describes a training programme specifically developed to enhance the capacity of health professionals to use climate information, focusing on building core competencies and based on five modules. In addition to training.…

2016 | Global | Develop Capacity

Case study

Analysis of the health impacts of climate variability in four major South American cities

WHO / WMO

This case study found that despite a significant association between several diseases and climate conditions in multiple South American cities, the incompatibility of temporal and spatial scales of health and climate data.…

2016 | Heat Wave, Cold Wave, Flooding, Drought | Americas | Research
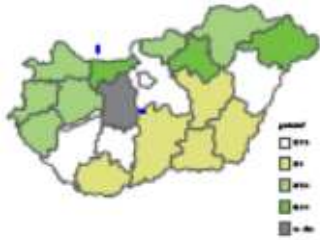
Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary

WHO / WMO

This case study from Hungary is a particularly good example of the research required to identify and use climate-specific indicators to monitor and forecast pollen conditions…

2016 | Air Quality, Allergens | Hungary | Develop Products & Services

Key resources

Case study

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary
WHO / WMO

Case study

Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO

More >

1, 2, 3, 4, 5, 6, 7, 8 …. Next >

1

Updated Jun 2019

Case studies

Filter the list by

> **Hazards & Health Risks**

> **Countries & Regions**

> **Themes**

> **Landscapes**

> **Spatial Scale**

> **Action Steps**

> **Year**

List　Map

Search Case studies

GO

40 items

Updated Jun 2019

Case studies

Filter the list by

> Hazards & Health Risks

- ☐ Air Pollution (2)
- ☐ Air Allergens (3)
- ☐ Diseases (5)
- ☐ Cyclone (7)
- ☐ Cold Wave (1)
- ☐ Drought (17)
- ☑ **Heat Wave (4)**
- ☐ Flooding (8)
- ☐ Sand and Dust (2)
- ☐ Solar Radiation (3)
- ☐ Water Quality (4)
- ☐ Wild Fire (1)
- ☐ Wind Storm (2)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

[≡ List] [⊕ Map]

    Search Case studies   **GO**

4 items for: Heat Wave [x]

Case study
Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO
This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events …
2016 | Heat Wave | India | Develop Products & Services

Case study
Protecting the elderly from heat and cold stress in Hong Kong: Using climate information and client-friendly communication technology
WHO / WMO
This case study focuses on building community and citizen capacity to uptake climate information. Hong Kong is an example of an innovative service and mobile phone application for families of senior citizens to locate and contact them during …
2016 | Heat Wave | China | Develop Capacity

Case study
Iterative development and testing of a heat warning and information system in Alberta, Canada
WHO / WMO
This case study is an example of research which inform product development, on the possibilities to use climate as a predictor to establish operational forecasts and early warnings. A range of quantitative analyses to identify the relevant variables…
2016 | Heat Wave | Canada | Research

Case study
SUPREME: An integrated heat health warning system for Quebec.
WHO / WMO
This case study illustrates the development of early warning systems focused on heat waves. It comprised an integrated platform that provided access to indicators relating exposure to extreme temperature hazards, socioeconomic characteristics…
2016 | Heat Wave | Canada | Develop Products & Services

Home > Explore Resource Library > Case studies   Updated Jun 2019

Innovative heat wave early warning system and action plan in Ahmedabad, India

Source(s): World Health Organization (WHO), World Meteorological Organization (WMO)
Year: 2016

This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events, improving their preparedness and capacity to care for patients with heat-related illnesses.

A coalition of academic, health and environmental groups partnered with the AMC in 2011 to create an early warning system and heat preparedness plan as a roadmap to save lives during dangerous heat waves (2).

In collaboration with the Ahmedabad Municipal Corporation, the Ahmedabad Heat and Climate Study Group consists of Natural Resources Defense Council; Indian Institute of Public Health, Gandhinagar; Emory University; and Icahn School of Medicine at Mount Sinai, in New York City. Dr Peter Webster and Dr Violeta Toma of Georgia Institute of Technology provided the long-term temperature forecasts for the Ahmedabad health early warning system. The project was supported in part by the Climate and Development Knowledge Network.

Heat wave early warning system
Ahmedabad, India

Partners involved

> University of Washington
> Georgia Tech
> Climate & Development Knowledge Network
> Icahn School of Medicine at Mount Sinai
> Natural Resources Defense Council (NRDC)
> Indian Institute of Public Health

⤓ **English - Download [PDF, 35kb]**

⤓ **Français - Download [PDF, 41kb]**
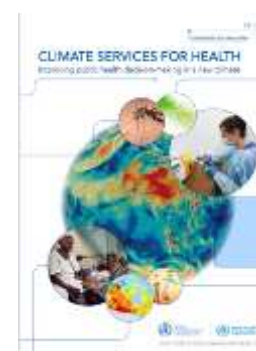
Tags
Heat Wave
Desert & Arid | National | Asia | India
Develop Products & Services | Prepare: Action Plans

Related Resources

Climate Services for Health Fundamentals and Case Studies for improving public health decision-making in a new climate
2018 | WHO / WMO
Climate services for health are an emerging technical field for both the health and climate communities. The Climate Services for Health Case Study Project showcases 40 examples...

Lorem ipsum dolor sit amet
2017 | WHO
Nam mollis ipsum ipsum, a rhoncus quam pharetra vulputate. In sit amet tortor quis mi pellentesque venenatis sit amet eu massa. Vivamus hendrerit auctor quam, non posuere neque maximus quis. Maecenas vel dapibus metus. Fusce condimentum nisi et egestas imperdiet. ...

News & Media | Contact | My profile | Search ⚲

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	Hazards & Health Risks	Themes

> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

Updated Jun 2019

Communities of practice

Filter the list by

> Hazards & Health Risks

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List   Map

Search Communities of Practice   **GO**

22 Items

News

21 May 2019

New communities have blossomed at the First Global Forum for Heat and Health in Hong Kong

1 2 3 4 5

Community of practice

Open Network: Health

Open Network is a Future Earth service that provides spaces where researchers and professionals from around the world can gather to do the work needed to build transitions to a sustainable world.

Global | Dolor sit

Community of practice

Clim-Health Africa

Clim-Health Africa's goal is to strengthen the resilience of African countries and communities through improved management of public health effects of climate variability and resource planning for climate-sensitive health outcomes, moving from the current reactive mode to a proactive mode…

Regional | Africa

Community of practice

Global Heat Health Information Network (GHHIN)

The Global Heat Health Information Network is a professional network of academics, government representatives at all levels, professional associations, international organizations, donor organizations, private sector and non-governmental organizations eager ...

Global | Heat Waves

Community of practice

Global Consortium on Climate and Health Education (GCCHE)

The Global Consortium on Climate and Health Education, carried forward by the Mailman School and signed by 115 health professions schools and programs around the world, aims to educate tomorrow's leaders on the health impacts of climate change…

Global | Education

1, 2, 3, 4, 5, 6, 7, 8 …. Next >

1
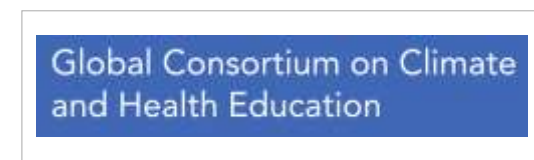
Communities of practice

Filter the list by

> Hazards & Health Risks

- ☐ Cold Wave (1)
- ☐ Drought (4)
- ☑ **Heat Wave (1)**
- ☐ Flooding (8)
- ☐ Sand and Dust (2)
- ☐ Solar Radiation (3)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

List   Map

Search Communities of Practice   **GO**

1 items for: Heat Wave [x]

Community of practice

Global Heat Health Information Network (GHHIN)

The Global Heat Health Information Network is a professional network of academics, government representatives at all levels, professional associations, international organizations, donor organizations, private sector and non-governmental organizations eager ...

Global | Heat Waves

GLOBAL HEAT HEALTH INFORMATION NETWORK

News & Media | Contact | My profile | Search ⚲

Understand Health & Climate	Take Action How-to	Explore Resource Library	Connect Events & Communities	Countries & Regions	**Hazards & Health Risks**	Themes

Air Pollution

Air Allergens

Diseases - Communicable, Non-communicable

Cyclone - Hurricane, Tropical Cyclone, Typhoon

Cold Wave - Extreme Cold

Drought - pronounced absence of rainfall

Heat Wave - Extreme Heat

Flooding - Inundation, Flash Floods

Foodborne Outbreaks

Lightening

NBC - Nuclear, Biological, Chemical

Sand and Dust

Solar Radiation

Storm - Thunderstorm, Wind Storm, Winter Storm

Water Quality

Wild Fire

7

Air Pollution

Cyclone - Hurricane, Tropical Cyclone, Typhoon

Heat Wave

> Marked warming of the air, or the invasion of very warm air, over a large area; it usually lasts from a few days to a few weeks. *WMO - No. 182*

⬇ **Download the profile**

Hazard profile

> Overview

> Heat health explained

Related working tools

> Products & Services

Resources
- > Training
- > Training materials
- > Guidance
- > Case studies
- > Awareness raising materials
- > Research & scientific publications
- > Data & datasets

Connect
- > Meetings & conferences
- > Communities of practices
- > Expert teams
- > Organizations
- > Opportunities
- > Programs, Projects, Initiatives

> Search all working tools

GLOBAL HEAT HEALTH
INFORMATION NETWORK

Visit the community

Overview

News
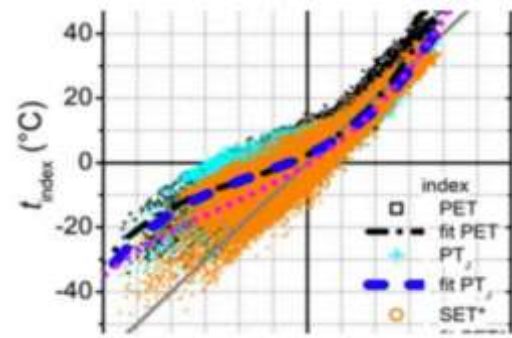
2 Jun 2019

New Guidance on Selection of Appropriate Thermal Indices for Applications in Human Biometeorological Studies

All news on Heat Waves >

① ② ③ ④ ⑤

Heat waves, or hot weather that lasts for several days, can have a significant impact on society and are associated with a rise in morbidity and mortality. The impact of heat waves on human health can be catastrophic.

Learn more >

1994 - 2013

93 million affected
160,000 deaths

Take action

Assess — Monitor Risk — Anticipate — Plan & Apply — Evaluate

Products & services

Vulnerability & adaptation assessment
Mapping the vulnerability of human health to extreme heat in the United States
United States Environmental Protection Agency (EPA)
2018

Vulnerability & adaptation assessment
Heat wave vulnerability mapping for India
Multidisciplinary Digital Publishing Institute (MDPI)
2017

View all >

Guidance

Guidance
Protecting health from climate change: vulnerability and adaptation assessment
World Health Organization (WHO)
2013

View all >

1

Research

Counteracting Urban Heat Island Effects in a Global Climate Change Scenario
Central Europe, European Union (EU)
Urban Heat Islands (UHI)
2018

Where is action taken

Meetings & Conferences

Meeting/Conference
First Global Forum for Heat and Health
Hong Kong
17-20 Dec 2018

Expert teams

Expert team
Lorem ipsum dolor sit
Numque semper

Expert team
Lorem ipsum dolor sit
Numque semper

Updated Jun 2019

Heat Wave

⬇ Download the profile

GLOBAL HEAT HEALTH INFORMATION NETWORK

Visit the community

Heat health explained

Both high and low temperatures, indoors and outdoors, pose substantial risks to human health, including increases in mortality, morbidity and health service use (Ryti et al., 2016; WMO, 2015).

v expand

Health Impacts

◯ Severe dehydration
◯ Acute cerebrovascular accidents
◯ Heat cramps
◯ Heat exhaustion
◯ Heat syncope (fainting)
◯ Heat edema (swelling)
◯ Heat stroke
◯ Exacerbation of preexisting chronic conditions

Mechanism
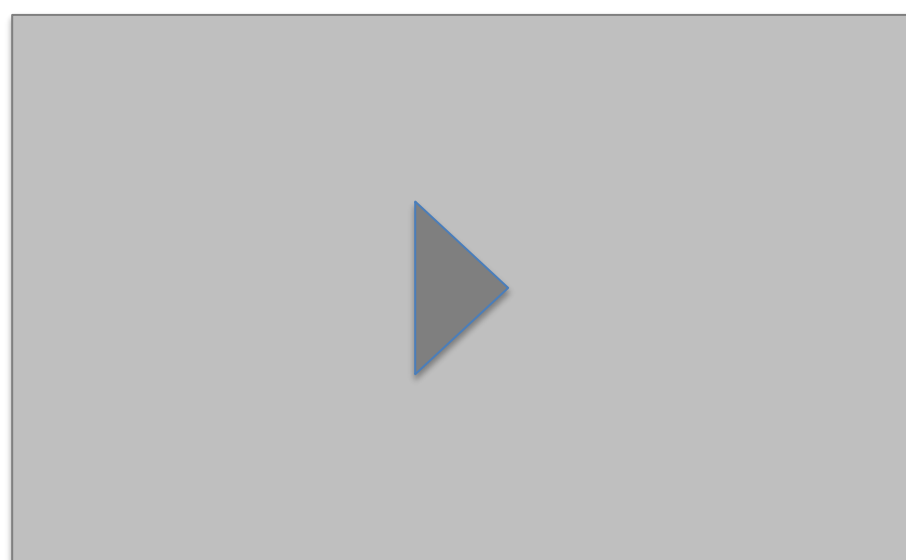
Hot environments can overwhelm the body's heat-dissipating mechanisms, resulting in a rise of core temperature. When exposed to high temperatures, the body undergoes a physiological process to increase blood flow to the skin and initiate sweating. The evaporation of sweat helps the body cool off and maintain a safe body temperature.

his physiological response can strain the cardiovascular system, causing a number of negative health impacts, or even death in persons with impaired cardiovascular systems due to existing health conditions. Additionally, heatwaves can exacerbate ozone smog causing harm to people with respiratory illnesses, such as asthma.
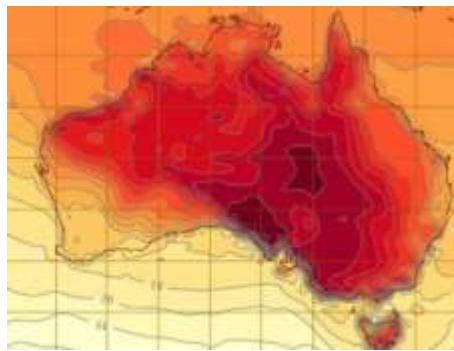
Where is it a health problem?
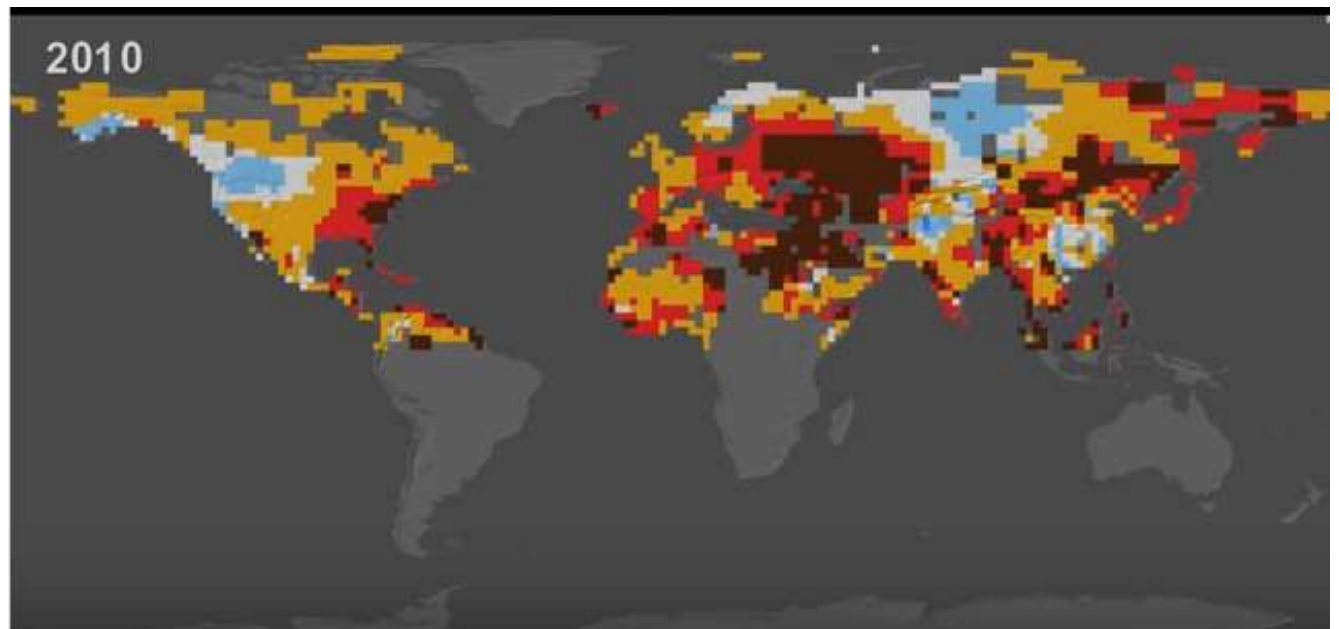
Heat waves are a global problem

Areas particularly impacted by a significant number of excess deaths from heatwaves:

- Southern and Eastern Asia
- Europe
- United States of America (parts)
- Australia

Case studies

Building evidence that effective heat alert systems save lives in southeast Australia

In the January 2009 heat wave, a prototype heat wave alert system had just been introduced, based on research identifying a threshold temperature above which excess mortality occurred in Melbourne, Australia. more >

1 2 3 4 5

Home > Hazards & Health Risks

Heat Wave

Filter the list by

> Types

Assess

☐ Vulnerability & adaptation assessments (3)

Monitor Risk

☐ Risk monitoring and integrated surveillance systems (1)

☐ Core analytics : indicators, thresholds, models, maps (2)

Anticipate

☐ Risk forecasting tools (2)

☐ Early Warning Systems (1)

Plan & Apply

☐ Risk management / Communication (1)

☐ Adaptation plans (2)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

Products & Services ▼

[List] [Map]

Search Products & Services	GO

14 items

Health product/service

Heat-Health Watch – UK

UK Met Office

This service operates annually between June and mid-September to forecast maximum day and nighttime temperatures and monitor temperatures. Once a heat threshold is passed, warnings are sent to health professionals and updated on their website.

Heat Waves | United Kingdom | Risk monitoring and integrated surveillance systems

Health product/service

Heat Health Watch Warning System - France

Meteo France

Advisories and monitoring of high temperatures occurs in France between June and August. The Met service coordinates and collaborates with the Ministry of Health to issue warnings about potential heatwaves.

Heat Waves | France | Risk monitoring and integrated surveillance systems

Health product/service

Heat Wave Service - Australia

Bureau of Meteorology Australia

National heatwave monitoring and forecasting service for Australia. Provides monitoring from the past two three day periods and forecasts heatwaves for the next three to five days.

Heat Waves | Australia | Risk monitoring and integrated surveillance systems

Health product/service

National Weather Service – United States of America

US National Oceanic and Atmospheric Administration

Heat-health warning system for the U.S. Each NWS Forecast Office issues a specific one for their region. They also provide a contiguous U.S. forecast map of maximum and minimum temperatures in real-time and maximum heat index forecasts.

Heat Waves | United States of America | Risk monitoring and integrated surveillance systems

Key resources

Health product/service

Climate-specific pollen indicators and population exposure monitoring tools to better manage the allergy season in Hungary
WHO / WMO

Health product/service

Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO

More >

Updated Jun 2019

Heat Wave

Filter the list by

> **Types**

> **Countries & Regions**

> **Themes**

> **Landscapes**

☐ Coastal
☐ Desert & Arid
☐ Forest
☐ Island / SIDS
☐ Mountain & Polar
☐ Rural
☐ Urban

> **Spatial Scale**

> **Action Steps**

> **Year**

Products & Services   ▼

Resources
> Training
> Training materials
> Guidance
> Case studies
> Awareness raising materials
> Research & scientific publications
> Data & datasets

Connect
> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

GO

une and mid-September to forecast maximum day temperatures. Once a heat threshold is passed, and updated on their website.

itoring and integrated surveillance systems

stem - France
Meteo France
Advisories and monitoring of high temperatures occurs in France between June and August. The Met service coordinates and collaborates with the Ministry of Health to issue warnings about potential heatwaves.
Heat Waves | France | Risk monitoring and integrated surveillance systems

Health product/service
Heat Wave Service - Australia
Bureau of Meteorology Australia
National heatwave monitoring and forecasting service for Australia. Provides monitoring from the past two three day periods and forecasts heatwaves for the next three to five days.
Heat Waves | Australia | Risk monitoring and integrated surveillance systems

Health product/service
National Weather Service – United States of America
US National Oceanic and Atmospheric Administration
Heat-health warning system for the U.S. Each NWS Forecast Office issues a specific one for their region. They also provide a contiguous U.S. forecast map of maximum and minimum temperatures in real-time and maximum heat index forecasts.
Heat Waves | United States of America | Risk monitoring and integrated surveillance systems

Logo

| Understand Health & Climate | Take Action How-to | Explore Resource Library | Connect Events & Communities | **Countries & Regions** | Hazards & Health Risks | Themes |

Countries

| Chi |

India (15)
Colombia (14)
Chile (12)
United States (12)
Mexico (11)
Nigeria (10)
Nepal (9)
China (7)
Malaysia (7)

Regions

WMO Regions

> Africa
> Asia
> Europe
> North/Central America & Caribbean
> South America
> South-West Pacific

WHO Regions

> Africa
> Americas
> Eastern Mediterranean
> Europe
> South-East Asia
> Western Pacific

Landscapes

> Coastal
> Desert & Arid
> Forest
> Island / SIDS
> Mountain & Polar
> Rural
> Urban

Updated Jun 2019

Solomon Islands

Country profile

> Overview

Related working tools

> **Products & services**

Resources
> Training
> Training materials
> Guidance
> Case studies
> Awareness raising materials
> Research & scientific publications
> Data & datasets

Connect
> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

> **Search all working tools**

⬇ **Download the profile**

Overview

Solomon Islands is a scattered archipelago of over 900 small islands located in the 'Ring of Fire', the earthquake belt of the Pacific Region. Geographically, the islands are a combination of mountainous lands and low-lying coral atolls... more >

Key recommendations

1 Institutionalize climate change in the ministry of health and medical services organizational structure

2 Strengthen implementation of the climate change and health strategic action plan

3 **Assess health vulnerability, impacts and adaptive capacity to climate change**

Conduct a national assessment of climate change impacts, vulnerability and adaptation for health in collaboration with the Climate Change Division, Ministry of Environment, Climate Change and Disaster Management (MECCDM). Cover both community and health care facilities in the assessment and use results of the assessment for policy prioritization and allocation of resources.

> Learn how to conduct an assessment

> Find relevant resources

> Connect to get help

4 Strengthen integrated risk surveillance and early warning systems

6 Address barriers to accessing international climate change finance to support health adaptation

+ Climate Hazards relevant for health

Sea level rise

Cyclone	4.5	
Drought	3.4	
Flooding	0.1	

0.4–0.9 m

Further rise in Solomon Islands by 2090 (3)

High emissions scenario (RCP8.5). With variation in models and emissions scenarios.

Risk scores as per © INFORM Hazard & Exposure Index
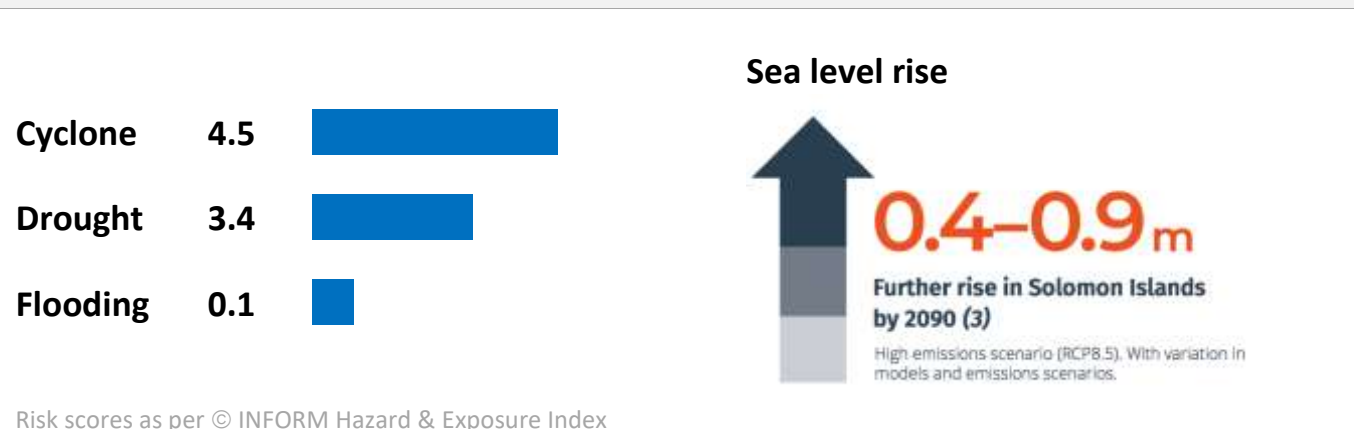
+ Health Impacts

○ Heat stress

○ Infectious/vector-borne diseases

○ Non communicable diseases

○ Food and nutrition security

+ Health sector response: Measuring Progress

A Empowerment: Supporting health leadership

B Evidence: Building the investment case

C Implementation: Preparedness for climate risks

D Resources: Facilitating access to climate and health finance

WMO REGIONAL CENTERS

> Pacific RCC-Network, Auckland

> Pacific RCC-Network, Camberra

> Pacific RCC-Network, Melbourne

NATIONAL METEOROLOGICAL & HYDROLOGICAL SERVICE

> **https://www.met.gov.sb**

Responsible Ministry:
Ministry of Environment, Climate Change, Disaster Management and Meteorology

PROGRAMMES / PROJECTS / INITIATIVES

> Climate Change and Health in Small Island Developing States
  WHO Special Initiative in collaboration with UNFCCC Secretariat and Fijian Presidency of COP-23

> Building Resilience of Health Systems in Pacific Island LDCs to Climate Change
  WHO Project

National Integrated Surveillance Systems

District Health Information Software 2 (DHIS2) - Solomon Islands

DHIS2 pilot project has been launched in January 2019 in Solomon Islands.
Wider use of DHIS2 could result in more accurate reporting on the lorem ipsum dolor sit amet numque semper…

Air pollution & Health

Percent of total **deaths** attributable to
household air pollution (2012)
Deaths from
- ischemic heart disease
- stroke
- lung cancer
- chronic obstructive pulmonary disease (18 years +)
- acute lower respiratory infections (under 5 years)

Total Deaths:
1,900

[27%]

Attributable to
household air
pollution
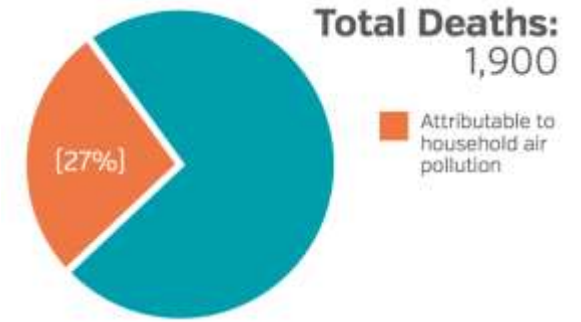
Health vulnerability to climate change

SDG indicators related to health and climate change
Many of the public health gains we have made in recent decades are at risk due to the
direct and indirect impacts of climate variability and climate change. Sustainable
development across sectors can strengthen health resilience to climate change.

1. Nopoverty

25.1% **Share of population living in poverty** by the
national poverty line (2013) (14,15)

3. Goodhealth andwell-being

50 **Universal Health Coverage** Service Coverage Index
(2015)a (16)

5.2% **Current health expenditure** as percentage of gross domestic product
(GDP) (2016) (17)

20 **Under-five mortality rate** (per 1000 live births) (2017) (18)

6. Cleanwater

14 **Total number of weather-related disasters** recorded between
2000–2018c (20)

52.000 **Highest total number of persons** affected by a single weather-
related disaster between 2000–2018c (20)

13. Strengthen resilience and adaptive capacity to climate change and natural disasters

64% **Total population** using at least basic drinking-water
services (2015)b (19)

31% **Total population** using at least basic sanitation services (2015)b (19)

Solomon Islands

Filter the list by

> **Types**

- [ ] Academic & Research Institutions (1)
- [ ] Governmental Organizations (3)
- [ ] National Meteorological & Hydrological Services (1)
- [ ] Regional Collaborating Centers (3)

> **Hazards & Risks**

> **Themes**

> **Landscapes**

> **Spatial Scale**

> **Action Steps**

> **Year**

Organizations ▼

List   Map

Search Solomon Islands content

GO

7 items

Solomon Islands - government
Governmental Organization | Solomon Islands

National Meteorological & Hydrological Service
Governmental Organization | Solomon Islands

National Disaster Management Office (NDMO)
Governmental Organization | Solomon Islands

Pacific Disaster Center (PDC)
Academic & Research Institution | United States of America

Pacific RCC-Network, Auckland
Regional Collaboration Center | Australia

Pacific RCC-Network, Camberra
Regional Collaboration Center | Australia

### Pacific RCC-Network, Melbourne
Regional Collaboration Center | Australia

Key resources

Organization
National Meteorological & Hydrological Service

Organization
Pacific Disaster Center (PDC)

More >

4

Solomon Islands

Filter the list by

> Types

☐ Academic & Research Institutions (1)

☐ Governmental Organizations (3)

☐ National Meteorological & Hydrological Services (1)

☐ Regional Collaborating Centers (3)

> Countries & Regions

> Themes

> Landscapes

> Spatial Scale

> Action Steps

> Year

Products & Services ▼

Resources

> Training

> Training materials

> Guidance

> Case studies

> Awareness raising materials

> Research & scientific publications

> Data & datasets

Connect

> Meetings & conferences

> Communities of practices

> Expert teams

Organizations

> Opportunities

> Programs, Projects, Initiatives

...lands

...**rological**

...lands

Office

...lands

Pacific Disaster Center (PDC)
Academic & Research Institution | United States of America

Pacific RCC-Network, Auckland
Regional Collaboration Center | Australia

Pacific RCC-Network, Camberra
Regional Collaboration Center | Australia

Pacific RCC-Network, Melbourne
Regional Collaboration Center | Australia

Key resources

Organization
National Meteorological & Hydrological Service

Organization
Pacific Disaster Center (PDC)

More >

GO

Climate Services Development process >

1.
Enabling environment

2.
Develop capacity

3.
Research

4.
Develop Products & Services

Assess

> Vulnerability & adaptation assessments

Monitor Risk

> Risk monitoring and integrated surveillance systems

> Core analytics : indicators, thresholds, models, maps

Anticipate

> Risk forecasting tools

> Early Warning Systems

> Projections & scenarios

5.
Plan & Apply

> Risk management / Communication tools

> Adaptation plans

> Action plans

> Mitigation plans

> Emergency response planning

> Decision support

6.
Evaluate

Climate Services Development process >

1.
Enabling environment

2.
Develop capacity

3.
Research

4.
Develop Products & Services

Assess

> Vulnerability & adaptation assessments

Monitor Risk

5.
Plan & Apply

> Risk management / Communication tools

> Adaptation plans

> Action plans

> Mitigation plans

> Emergency response planning

> Decision support

6.
Evaluate

Updated Jun 2019

Take Action How-to

Climate Services Development process

Developing climate services for health: a holistic process

Video explaining
The process
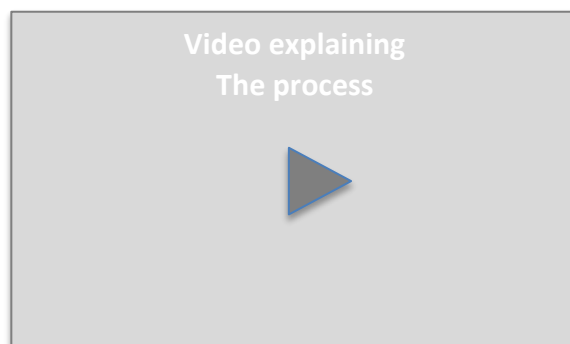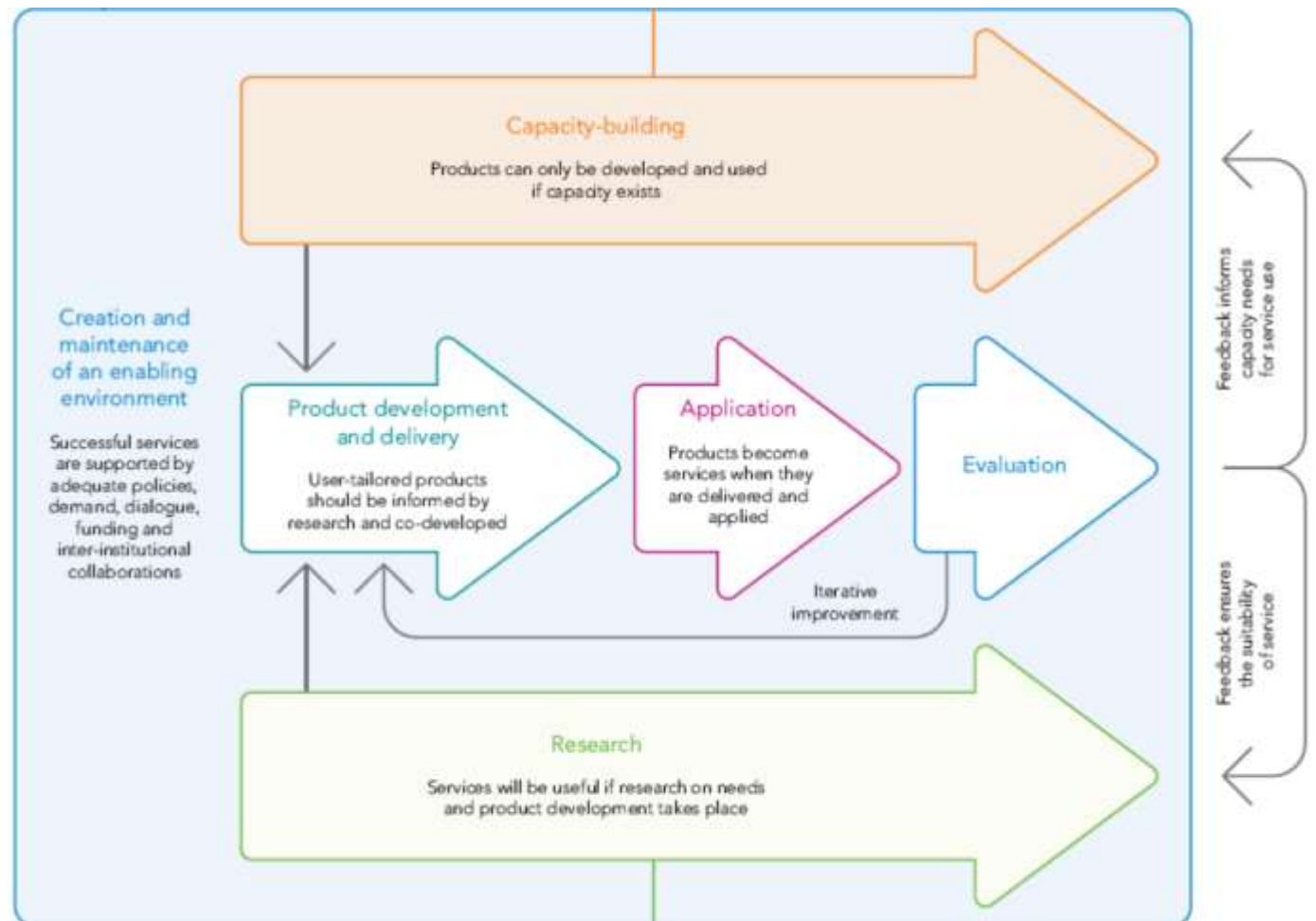
By definition, climate services are an end-to-end multifaceted process through which a partnership creates a fit-for-purpose information solution. The process of developing a climate service starts with an active discussion between climate information producers and users about specific problems, such as the context, ultimate application, and user specifications. It starts with the question, "What is the climate-sensitive health problem, decision, or policy relevant research question that needs to be addressed, and what is its spatial and temporal dimension?"

Following careful problem definition, six common components frequently comprise the approaches taken to develop and deliver climate products and services for health. These include activities to create an enabling environment, build capacity, conduct research, develop and deliver products and services, apply the knowledge, and evaluate the products and user experience. Each component serves a specific goal in the overall process, as shown in Figure 1.1.

It is highly recommended that an assessment of readiness is conducted to identify available building blocks, resources, and the level of readiness for each phase of development. Although this is not a strictly sequential process, the components of enabling, the components of enabling environment, capacity, and research set the foundations and readiness levels to adequately advance to product and service development and delivery, application and evaluation. Additionally, maintaining the enabling environment and strengthening capacities should occur in parallel to activities focused on the design, development, and application of weather and climate services.

Updated Jun 2019

4. Develop Products & Services

Climate Services Development process

Action Steps

> **Enabling environment**

> **Develop capacity**

> **Research**

> **4. Develop Products & Services**
  Assess
  > Vulnerability & adaptation assessments
  Monitor Risk
  > Risk monitoring and integrated surveillance systems
  > Core analytics : indicators, thresholds, models , maps
  Anticipate
  > Risk forecasting tools
  > Early Warning Systems
  > Projections & scenarios

> **5. Plan & Apply**

> **6. Evaluate**

Co-development and delivery of health-tailored climate products and services

Goal
Collaboratively design and create tailored information products that are integrated and interoperable to user specifications, which provide decision-makers and communities with timely and relevant information to manage health risks specific to climate and weather.

Video explaining
4. Develop Products & Services

Tailored climate products

Tailored climate products are most frequently the result of partnerships that process and present climate data or information, either alone or in combination with other types of data or information, in such a way that makes the information usable for a specific purpose.

Climate services

Climate services on the other hand, refer to the needs-driven processes that bring about the production and delivery of climate information relevant for managing climate-sensitive health risks.

Categories of tailored products

Health decision tools which use climate information to understand and predict health risks commonly fall into the following categories

Assess	> Vulnerability & adaptation assessments	Brief explanation
Monitor Risk	> Risk monitoring and integrated surveillance systems	Brief explanation
	> Core analytics : indicators, thresholds, models , maps	Brief explanation
Anticipate	> Risk forecasting tools	Brief explanation
	> Early Warning Systems	Brief explanation
	> Projections & scenarios	Brief explanation

The transformation and translation of climate information products to useful tailored climate-informed health decision tools often involves the development of a combination of separate but interlinked products, which are needed to forecast health risks or produce early warnings. Each product must have a sufficient degree of quality, reliability, usability, suitability and responsiveness to changing needs. The degree to which these criteria are met determines how, and if, the information can be further applied, and whether health decision-makers will trust the information enough to use it confidently for decision-making.

3

Updated Jun 2019

Risk forecasting tools

Related working tools

Resources
> Training
> Training materials
> Guidance
> Case studies
> Awareness raising materials
> Research & scientific publications
> Data & datasets

Connect
> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

How to implement

What it is used for

1. It can be used to anticipate when and where climate conditions may increase the likelihood for health impacts to occur.
2. These risks can be estimated by integrating forecasts of weather, climate and other relevant conditions at different timescales into mathematical or statistical disease transmission or incidence models.
3. The risk management of diverse health hazards may require weather and climate forecasts with different lead times.

Video explaining
Risk forecasting tools

▶

More >

Learn how to

Hazard: Any ▼

Examples
> Seasonal forecast for wildland fire smoke hazards in urban and rural areas in Manitoba, Canada

View all >

Case studies & Best Practices
> Forecasting wildland fire smoke hazards in urban and rural areas in Manitoba, Canada

View all >

Guidance
> WMO Guidelines on Biometeorology and Air Quality Forecasts

View all >

Training
> Forecasts Training on seasonal forecasting using the IRI Climate Predictability Tool and Data Library

View all >

Solutions to common climate service challenges

1. Working with available data to develop fit-for-purpose products and services;
2. Drawing upon and developing sufficient foundational capacities to support climate services;
3. Generating adequate demand and endorsement to mainstream climate service application;
4. Securing and sustaining sufficient financial and human resources;
5. Communicating climate information and risks effectively.

Updated Jun 2019

Risk forecasting tools

Related working tools

Resources

> Training
> Training materials
> Guidance
> Case studies
> Awareness raising materials
> Research & scientific publications
> Data & datasets

Connect

> Meetings & conferences
> Communities of practices
> Expert teams
> Organizations
> Opportunities
> Programs, Projects, Initiatives

How to implement

What is used for

4. It can be used to anticipate when and where climate conditions may increase the likelihood for health impacts to occur.
5. These risks can be estimated by integrating forecasts of weather, climate and other relevant conditions at different timescales into mathematical or statistical disease transmission or incidence models.
6. The risk management of diverse health hazards may require weather and climate forecasts with different lead times.

Video explaining
Risk forecasting tools

More >

Learn how to

Examples
> Seasonal forecast for wildland fire smoke hazards in u Manitoba, Canada

Case studies & Best Practices
> Forecasting wildland fire smoke hazards in urban and Manitoba, Canada

Guidance
> WMO Guidelines on Biometeorology and Air Quality F

Training
> Forecasts Training on seasonal forecasting using the IRI Climate Predictability Tool and Data Library

Hazard: ▼

Air Quality, Allergens
Cyclone, Storm
Cold Wave
Drought
Epidemic & Pandemic
Flooding
Sand and Dust
Solar Radiation
Water Quality
Wild Fire

View all >

Solutions to common climate service challenges

1. Working with available data to develop fit-for-purpose products and services;
2. Drawing upon and developing sufficient foundational capacities to support climate services;
3. Generating adequate demand and endorsement to mainstream climate service application;
4. Securing and sustaining sufficient financial and human resources;
5. Communicating climate information and risks effectively.

Updated Jun 2019

Risk forecasting tools
Case studies ▼

Filter the list by

> **Hazards & Health Risks**

> **Countries & Regions**

> **Themes**

> **Landscapes**

> **Spatial Scale**

> **Action Steps**

> **Year**

List   Map

Search Case studies   **GO**

4 items for: Heat wave [x]

Case study
Innovative heat wave early warning system and action plan in Ahmedabad, India
WHO / WMO
This case study describes a complete end-to-end climate service used to inform city-scale heat health action plans and improve local health professionals' awareness of predicted extreme heat events …
2016 | Heat Wave | India | Risk forecasting tools

Case study
Protecting the elderly from heat and cold stress in Hong Kong: Using climate information and client-friendly communication technology
WHO / WMO
This case study focuses on building community and citizen capacity to uptake climate information. Hong Kong is an example of an innovative service and mobile phone application for families of senior citizens to locate and contact them during …
2016 | Heat Wave | China | Risk forecasting tools

Case study
Iterative development and testing of a heat warning and information system in Alberta, Canada
WHO / WMO
This case study is an example of research which inform product development, on the possibilities to use climate as a predictor to establish operational forecasts and early warnings. A range of quantitative analyses to identify the relevant variables…
2016 | Heat Wave | Canada | Risk forecasting tools

Case study
SUPREME: An integrated heat health warning system for Quebec.
WHO / WMO
This case study illustrates the development of early warning systems focused on heat waves. It comprised an integrated platform that provided access to indicators relating exposure to extreme temperature hazards, socioeconomic characteristics…
2016 | Heat Wave | Canada | Risk forecasting tools