WER SRI LANKA 2019

## Climate Change and Health

**Climate change**

Over the last 50 years, human activities particularly the burning of fossil fuels have released sufficient quantities of carbon dioxide and other greenhouse gases to trap additional heat in the lower atmosphere and affect the global climate.

Over the last 130 years, the world has been warmed by approximately 0.85°C. Each of the last 3 decades has been successively warmer than any preceding decades since 1850. Sea levels are rising, glaciers are melting and precipitation patterns are changing. Extreme weather events are becoming more intense and frequent.

**What is the impact of climate change on health**

Although global warming may bring some localized benefits, such as fewer winter deaths in temperate climates and increased food production in certain areas, the overall health effects of a changing climate are likely to be overwhelmingly negative. Climate change affects social and environmental determinants of health clean air, safe drinking water, sufficient food and secure shelter.

**Extreme heat**

Extreme high air temperatures contribute directly to deaths from cardiovascular and respiratory disease, particularly among elderly people. In the heat wave of summer 2003 in Europe for example, more than 70 000 excess deaths were recorded.

High temperatures also raise the levels of ozone and other pollutants in the air that exacerbate cardiovascular and respiratory diseases.

Pollen and other aeroallergen levels are also higher in extreme heat. These can trigger asthma, which affects around 300 million people. Ongoing temperature increases are expected to increase this burden.

**Natural disasters and variable rainfall patterns**

Globally, the number of reported weather-related natural disasters has more than tripled since the 1960s. Every year, these disasters result in over 60 000 deaths, mainly in developing countries.

Rising sea levels and increasingly extreme weather events will destroy homes, medical facilities and other essential services. More than half of the world's population lives within 60 km of the sea. People may be forced to move, which in turn heightens the risk of a range of health effects, from mental disorders to communicable diseases.

Increasingly variable rainfall patterns are likely to affect the supply of fresh water. A lack of safe water can compromise hygiene and increase the risk of diarrhoeal disease, which kills over 500 000 children aged under 5 years, every year. In extreme cases, water scarcity leads to drought and famine. By the late 21st century,

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climate change is likely to increase the frequency and intensity of drought at regional and global scale.

Floods are also increasing in frequency and intensity, and the frequency and intensity of extreme precipitation is expected to continue to increase throughout the current century. Floods contaminate freshwater supplies, heighten the risk of water-borne diseases, and create breeding grounds for disease-carrying insects such as mosquitoes. They also cause drownings and physical injuries, damage homes and disrupt the supply of medical and health services.

Rising temperatures and variable precipitation are likely to decrease the production of staple foods in many of the poorest regions. This will increase the prevalence of malnutrition and under-nutrition, which currently cause 3.1 million deaths every year.

**Patterns of infection**

Climatic conditions strongly affect water-borne diseases and diseases transmitted through insects, snails or other cold blooded animals.

Changes in climate are likely to lengthen the transmission seasons of important vector-borne diseases and to alter their geographic range. For example, climate change is projected to widen significantly the area of China where the snail-borne disease schistosomiasis occurs.

Malaria is strongly influenced by climate. Transmitted by *Anopheles* mosquitoes, malaria kills over 400 000 people every year  mainly African children under 5 years old. The *Aedes* mosquito vector of dengue is also highly sensitive to climate conditions, and studies suggest that climate change is likely to continue to increase exposure to dengue.

**Measuring the health effects**

Measuring the health effects from climate change can only be very approximate. Nevertheless, a WHO assessment, taking into account only a subset of the possible health impacts, and assuming continued economic growth and health progress, concluded that climate change is expected to cause approximately 250 000 additional deaths per year between 2030 and 2050; 38 000 due to heat exposure in elderly people, 48 000 due to diarrhoea, 60 000 due to malaria, and 95 000 due to childhood under-nutrition.

**Who is at risk?**

All populations will be affected by climate change, but some are more vulnerable than others. People living in small island developing states and other coastal regions, megacities, and mountainous and polar regions are particularly vulnerable.

Children in particular, children living in poor countries are among the most vulnerable to the resulting health risks and will be exposed longer to the health consequences. The health effects are also expected to be more severe for elderly people and people with infirmities or pre-existing medical conditions.

Areas with weak health infrastructure mostly in developing countries  will be the least able to cope without assistance to prepare and respond.

Climate change, together with other natural and human-made health stressors, influences human health and disease in numerous ways. Some existing health threats will intensify and new health threats will emerge. Not everyone is equally at risk. Important considerations include age, economic resources, and location.

**Actions to prepare for  climate change**

We can responsibly manage the problems facing our environment by taking sensible steps toward protecting human health and safety. Whether measures are meant to reduce future climate change impacts or to address the health impacts of climate change that are happening already, early action provides the greatest health benefits.

Reducing the release of heat-trapping gases like $CO_2$ can help protect our health and well-being by decreasing impacts on our climate system. Activities that reduce the amount of heat-trapping $CO_2$ in the atmosphere are many of the same things we already know in preventing health problems. Active modes of transport like biking or walking can help reduce traffic-related air pollution and encourage physical activity, which has public health benefits including reduced rates of obesity, heart disease, and diabetes.

Source:

Climate Effects on Health. Center for Disease Control and Prevention. Available at: https://www.cdc.gov/climateandhealth/effects/default.htm

Climate Change and Human Health. World Health Organization. Available at: https://www.who.int/globalchange/mediacentre/news/cop24-event5Dec2018/en/

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## Table 1: Selected notifiable diseases reported by Medical Officers of Health    26th - 01st Feb 2019 (5th Week)

| RDHS Division | Dengue Fever A | B | Dysentery A | B | Encephalitis A | B | Enteric Fever A | B | Food Poisoning A | B | Leptospirosis A | B | Typhus Fever A | B | Viral Hepatitis A | B | Human Rabies A | B | Chickenpox A | B | Meningitis A | B | Leishmaniasis A | B | WRCD T* | C** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Colombo | 232 | 1457 | 3 | 6 | 0 | 1 | 0 | 2 | 0 | 1 | 3 | 18 | 0 | 5 | 0 | 2 | 0 | 0 | 6 | 55 | 1 | 9 | 0 | 0 | 47 | 100 |
| Gampaha | 134 | 858 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 11 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 47 | 0 | 2 | 0 | 14 | 51 | 97 |
| Kalutara | 53 | 404 | 4 | 8 | 0 | 3 | 0 | 1 | 0 | 25 | 11 | 69 | 0 | 1 | 0 | 0 | 0 | 0 | 24 | 118 | 1 | 15 | 0 | 3 | 60 | 90 |
| Kandy | 70 | 358 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 16 | 0 | 11 | 0 | 0 | 0 | 1 | 2 | 24 | 0 | 5 | 1 | 2 | 56 | 100 |
| Matale | 17 | 79 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 14 | 0 | 2 | 7 | 51 | 56 | 98 |
| NuwaraEliya | 8 | 34 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 6 | 0 | 1 | 0 | 0 | 2 | 7 | 4 | 8 | 0 | 0 | 17 | 100 |
| Galle | 42 | 172 | 3 | 6 | 1 | 2 | 0 | 1 | 0 | 0 | 6 | 29 | 1 | 12 | 0 | 1 | 0 | 0 | 8 | 45 | 2 | 8 | 0 | 1 | 65 | 96 |
| Hambantota | 29 | 169 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 4 | 25 | 0 | 1 | 0 | 0 | 21 | 48 | 3 | 4 | 2 | 94 | 72 | 100 |
| Matara | 54 | 273 | 0 | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 3 | 12 | 0 | 14 | 1 | 3 | 0 | 0 | 9 | 39 | 0 | 2 | 11 | 66 | 61 | 100 |
| Jaffna | 153 | 1053 | 2 | 16 | 0 | 2 | 1 | 2 | 0 | 1 | 2 | 11 | 21 | 138 | 0 | 0 | 0 | 0 | 7 | 22 | 0 | 3 | 0 | 0 | 24 | 93 |
| Kilinochchi | 9 | 43 | 1 | 4 | 1 | 1 | 0 | 4 | 0 | 0 | 1 | 10 | 3 | 7 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 4 | 45 | 100 |
| Mannar | 4 | 31 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 96 |
| Vavuniya | 8 | 49 | 0 | 1 | 0 | 1 | 1 | 7 | 0 | 2 | 3 | 9 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 1 | 42 | 95 |
| Mullaitivu | 2 | 15 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 61 | 60 |
| Batticaloa | 36 | 227 | 1 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 0 | 1 | 0 | 0 | 60 | 100 |
| Ampara | 6 | 31 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 23 | 0 | 1 | 0 | 0 | 51 | 100 |
| Trincomalee | 6 | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 32 | 78 |
| Kurunegala | 36 | 251 | 0 | 8 | 1 | 5 | 0 | 1 | 2 | 2 | 3 | 29 | 1 | 5 | 1 | 8 | 0 | 0 | 14 | 80 | 0 | 7 | 11 | 92 | 56 | 99 |
| Puttalam | 12 | 91 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 1 | 4 | 0 | 0 | 0 | 0 | 6 | 18 | 0 | 0 | 0 | 1 | 58 | 100 |
| Anuradhapura | 12 | 76 | 1 | 4 | 2 | 5 | 0 | 0 | 0 | 0 | 8 | 34 | 3 | 7 | 2 | 4 | 0 | 0 | 12 | 66 | 5 | 9 | 13 | 57 | 39 | 98 |
| Polonnaruwa | 7 | 45 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 11 | 0 | 1 | 0 | 2 | 0 | 0 | 5 | 40 | 0 | 4 | 3 | 26 | 58 | 95 |
| Badulla | 19 | 98 | 0 | 6 | 0 | 1 | 1 | 2 | 3 | 3 | 1 | 32 | 1 | 12 | 0 | 4 | 0 | 0 | 3 | 24 | 2 | 21 | 0 | 2 | 61 | 100 |
| Monaragala | 13 | 73 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 40 | 8 | 19 | 2 | 3 | 0 | 0 | 2 | 29 | 5 | 16 | 2 | 4 | 65 | 100 |
| Ratnapura | 48 | 225 | 2 | 15 | 0 | 9 | 0 | 1 | 0 | 2 | 15 | 73 | 1 | 2 | 0 | 2 | 0 | 0 | 7 | 51 | 4 | 22 | 7 | 13 | 41 | 100 |
| Kegalle | 33 | 183 | 1 | 4 | 1 | 3 | 0 | 0 | 0 | 14 | 4 | 19 | 1 | 4 | 0 | 1 | 0 | 0 | 11 | 53 | 1 | 2 | 1 | 3 | 60 | 100 |
| Kalmune | 24 | 131 | 2 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 23 | 0 | 1 | 0 | 0 | 55 | 100 |
| **SRILANKA** | **1067** | **6521** | **24** | **150** | **6** | **38** | **5** | **27** | **3** | **64** | **82** | **475** | **47** | **280** | **7** | **39** | **0** | **3** | **156** | **857** | **28** | **144** | **61** | **435** | **53** | **97** |

## Table 2: Vaccine-Preventable Diseases & AFP    26th – 01st Feb 2019 (5th Week)

| Disease | No. of Cases by Province | | | | | | | | | Number of cases during current week in 2019 | Number of cases during same week in 2018 | Total number of cases to date in 2019 | Total number of cases to date in 2018 | Difference between the number of cases to date in 2019 & 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | W | C | S | N | E | NW | NC | U | Sab | | | | | |
| AFP* | 00 | 02 | 00 | 00 | 00 | 01 | 00 | 00 | 00 | 03 | 00 | 11 | 04 | 175 % |
| Diphtheria | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Mumps | 01 | 01 | 00 | 00 | 00 | 03 | 01 | 00 | 00 | 06 | 06 | 34 | 19 | 78.9 % |
| Measles | 01 | 00 | 02 | 02 | 01 | 00 | 00 | 00 | 01 | 07 | 01 | 24 | 11 | 118.1 % |
| Rubella | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| CRS** | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Tetanus | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 00 | 0 % |
| Neonatal Tetanus | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Japanese Encephalitis | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 00 | 04 | 0 % |
| Whooping Cough | 00 | 00 | 00 | 00 | 00 | 01 | 00 | 00 | 00 | 01 | 01 | 09 | 06 | 50 % |
| Tuberculosis | 79 | 30 | 35 | 05 | 14 | 10 | 25 | 12 | 11 | 221 | 118 | 862 | 749 | 15 % |

**Key to Table 1 & 2**

**Provinces:**     **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

**RDHS Divisions:**   **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna,
**KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam,
**AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

**Data Sources:**

**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,
**Special Surveillance:  AFP\* (**Acute Flaccid Paralysis ), Japanese Encephalitis
**CRS\*\* =**Congenital Rubella Syndrome
**NA** = Not Available

### Dengue Prevention and Control Health Messages

# Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them free of water collection.

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological  Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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