

# TOGETHER WE CAN BUILD RESILIENCE AGAINST CLIMATE CHANGE

By Dutch Caribbean Nature Alliance

The Dutch Caribbean Nature Alliance (DCNA) released a special edition of their free digital newsletter 'BioNews' highlighting the challenges facing the Dutch Caribbean in the fight against climate change. Using internationally accepted climate change predictions and research reports, impacts both above and below water have been defined for all six islands, stressing the need for immediate action to build resilience against the effects of climate change. Loss of nature has far reaching negative consequences for the local population since nature serves as both one of the most important sources of income and offers protection against extreme weather conditions.

### Climate Change Related Drivers of Impact

High levels of carbon emissions are the main drivers of global warming, and experts predict that if gone unchecked, global warming will have catastrophic effects. For small island nations, especially those within the Caribbean, this is of dire importance.

With even small increases in temperatures, drastic changes can be felt within this region. Scarcity of freshwater and intensifying of droughts and storms are some of the most pressing concerns within the Caribbean.

### Importance of nature

Effects of climate changes such as warmer and more acidic seawater – which can cause coral bleaching



Photo: Hans Leijnse, via DCNA

– and extreme weather conditions – which can cause longer periods of drought and more powerful hurricanes – can damage ecosystems such as coral reefs, mangrove forests, seagrass fields, tropical rain forests and caves.

The deterioration of the environmental conditions

consequences. The ecosystems serve as important tourist attractions.

Less nature means fewer tourists, resulting in a decrease in employment and income. In addition, the loss of coral reefs, mangroves and vegetation will provide less coastal protection in extreme weather condi-

ward Islands in 2017.

### Climate Proofing

In the Dutch Caribbean, we cannot influence global warming, but we can build resilience against the effects of climate change. We can reduce our local stressors so our ecosystems are better able to withstand the effects of climate change.

Climate proofing is the concept that through financial investment and action, changes can be made to make our environment more resilient to climate change. When done properly, these changes will not only make the islands more resilient, but will provide a quality of life increase for residents and visitors alike, further increasing economic and social benefits to the islands.

### Key Environmental Policy Considerations

The most effective ways for governments to mitigate losses due to climate

change in the Dutch Caribbean would be to increase efforts in land-use planning and zoning – for example, limitations on coastal development and an increase of reforestation – as well as terrestrial and marine conservation.

Other urgent actions should include limiting overgrazing by free roaming animals and improvements to waste water treatment and waste management.

The Ministries of Agriculture, Nature and Food Quality, Infrastructure and Water Management and Interior and Kingdom relations of The Netherlands recently published a Nature and Environment Policy Plan for the Caribbean Netherlands (2020-2030). This report specifically calls out the need to build resilience against the effects of climate change. Currently, Bonaire, St. Eustatius and Saba are working on island-specific implementation agendas.

### How YOU can help

There are many changes we can make daily to help build a healthier, more resilient environment around us. This includes minimising your carbon footprint by,

for example, turning off lights before leaving the house, minimising waste, minimising physical interactions with nature, gardening, choosing sustainable seafood and fishing practises, using coral friendly sunscreen without oxybenzone (or wearing protective clothing), and getting involved by, for example, participating in beach clean-ups, reforestation and coral restoration projects.

Each Dutch Caribbean island offers unique opportunities to get involved, so make sure to check in with your local nature conservation organisations to see what opportunities are available near you.

Respect nature, check out the local nature conservation rules and regulations and do not forget to pay your nature fee. Together we can help build resilience and strength within our nature resources to minimise the effects of climate change.

The full 'climate change effects & recommendations' report is available via [www.dcnanature.org](http://www.dcnanature.org).



## Using models

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tion of infected people are therefore essential.

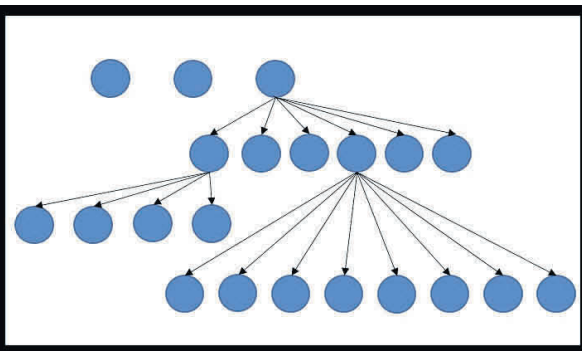
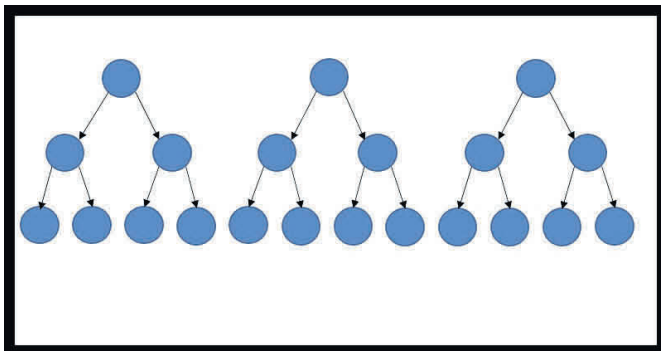
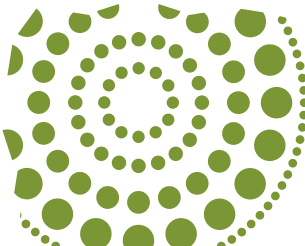
Several questions still remain on the virus, which haven't been answered yet. The most significant items are:

\* Is it possible that people who are only slightly ill, and therefore are not affected, still infect others?

\* How long does immunity last? Does the duration of immunity depend on the level of sickness?

\* Which preventive measures are the most effective, and which aren't?

The authors hope that the virus experts will be able to answer these questions, which will enable the models to provide an even better insight into the effect of the virus.



The second model. The image on the left shows a symmetrical infection process, with a reproduction factor of two. Every infected person infects two others within a period, who each infect an additional two people. The image on the right shows an asymmetrical infection process with the same reproduction factor, reflective of COVID-19. Of the first three infected people, one infects six others, while the other two do not infect anyone. In the next period, only two of those six cases go on to infect others: one person infects four others, and another infects eight. The reproduction factor is the same, but the infection process is principally different on a micro level.