Step 1: Getting started

The first step helps you to understand what the climate and adaptation are, the risks involved, as well as why and how to adapt. For more information, [visit the Adaptation Toolbox ‘Step .1.](https://niwa.co.nz/adaptationtoolbox/step1)’

|  |  |
| --- | --- |
| **Task 1.1**What do you want to use the Toolbox for? | Education [ ] To find out how my climate is changing [ ] Adaptation to climate change [ ] Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ]  |
| **Task 1.2**What do you want to get out of using the Toolbox? | Understand how climate change already affects me [ ] Discover any current or future climate change risks to me or my community [ ] Improve knowledge and decision-making so I can act and become climate resilient [ ] Create an adaptation plan [ ] Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ]  |
| **Task 1.3**Who do you want to work with on the Toolbox?  | The class [ ] The school [ ] Friends [ ] Family/whānau [ ] Neighbours [ ] Community groups [ ] Iwi/Hapū [ ] Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ]   |

Step 1 checklist

At the end of step 1 you should:

* know what climate change adaptation is and the reasons for you and your school and community to adapt
* know what you would like to use the toolbox for.

Step 2: How resilient are you to climate risks?

This step helps you evaluate your resilience to current climate risk. You will identify how the weather and climate such as temperature and rainfall affect you currently.

For more information, visit the [Adaptation Toolbox ‘Step .2’.](https://niwa.co.nz/adaptationtoolbox/step2)

|  |
| --- |
| **Task 2.1**Thinking about the personal impacts of climate change and what is important to you, write down how you currently manage your climate risks e.g., to get through an extremely hot day, you keep out of the sun between 9am and 5pm and drink lots of water. |

|  |
| --- |
| **Task 2.2** Connect to NIWA’s ‘[Overview of New Zealand’s Climate’](https://niwa.co.nz/education-and-training/schools/resources/climate/overview) to research your local climate, weather, and environment. Using the information from your research, fill out the tables ‘Living here: TYPICAL local climate and weather’ and ‘Living here: ‘EXTREME local climate and weather’ to record how your local climate and weather affects you and your school and community. Consider both the opportunities and challenges it creates.  |

Use the following tables to record how climate and weather affect you and your home, school or community.

**Living here: TYPICAL local climate and weather**

|  |  |  |
| --- | --- | --- |
| **Part A: Current Climate** | **Opportunities** | **Challenges** |
| Average low (minimum) temperature - winter *(e.g. 5°C)* |  |  |
| Average high (maximum) temperature- summer *(e.g. 22°C)* |  |  |
| Prevailing wind *(e.g. westerlies)* |  |  |
| Average rainfall *(e.g. 1,200 mm/year)* |  |  |
| Dry times *(e.g. Jan-March or 25% of normal)* |  |  |
| Wet times *(e.g. Jan-March or 150% of normal)* |  |  |
| Other *(e.g. frost/hail/snow)* |  |  |

**Living here: EXTREME local climate and weather**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part B: Extreme Weather Event** | **Impact** | **Opportunities** | **Challenges** |
| *Extreme temperature e.g.* *1) 2020 heatwaves – three consecutive days over 25°C* |  |  |  |
| *Extreme wind*  |  |  |  |
| *Heavy rain* |  |  |  |
| *Drought* |  |  |  |
| *Frost/Snow/Hail* |  |  |  |
| *Other* |  |  |  |

Step 2 checklist

At the end of Step 2 you have:

* Recognised how you can manage climate risk.
* Identified how climate and weather extremes can affect you, your school and community, what the effects are, and what actions your community can take together.
* Listed what further information you need and whether there are any information gaps.

Step 3: How will climate change affect you?

In this step you will identify your climate change risks and compare them to other (non-climate) risks you face.

For more information, [visit the Adaptation Toolbox ‘Step .3’.](https://niwa.co.nz/adaptationtoolbox/step3)

|  |
| --- |
| **Task 3.1:** Connect to NIWA’s [climate change projections](https://niwa.co.nz/education-and-training/schools/students/climate-change/climate-change-projections) and possible impacts pages and research predicted changes in Aotearoa New Zealand and your region’s climate in coming decades e.g., 2050 and 2090. Record your responses in **’Predicted changes’** table below.**Task 3.2:** Take notes of the things you value and enjoy at school and in your community that could be affected by climate change. Include any important thresholds that could affect the things that you value e.g., 100mm of rain could lead to roads being flooded, limiting access to things you enjoy; temperatures of over 35°C may put pressure on the power system, causing power outages making it difficult to learn and play. **Task 3.3:** Using the climate change effects from your **‘Predicted changes’** research, estimate any risks including the likelihood and consequence of each.  |

**Predicted changes**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Climate change effect** |  | Predicted change in climate | A) *e.g. hotter summers* | *B) e.g. storms/ extreme wind* | C) *e.g. more extreme rainfall events* | D) | E) |
| Amount of change and timeframe | *e.g. +1°C by 2050* |  |  |  |  |
| **Impacts on you and your school and community** |  | Things that you value and enjoy that might be at risk | *e.g.*  |  | *Skate park regularly flooded; coastal walking and bike track eroded* |  |  |
| Potential critical thresholds | *e.g. temperatures higher than -27°C will lead to die-off* |  |  |  |  |
| Timeframe for critical thresholds | *e.g. every 5 years by 2050* |  |  |  |  |
| Opportunities | *e.g. other crops that do better in heat* |  |  |  |  |
| **Risk** | ***Task 3.3*** | Likelihood | *e.g. very unlikely, unlikely, possible, likely, very likely* |  |  |  |  |
| Consequence  | *e.g. negligible, minor, moderate, significant, severe* |  |  |  |  |
| ***Task 3.3*** | Risk | *e.g. High* |  |  |  |  |

**Task 3.4**

In the below table **‘Climate change risk priorities’** list your climate risks from the previous table.Prioritise the most significant climate risks. List high and low priority risks in different colours e.g., red for high risk, green for low risk.

**Climate change risk priorities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Climate risks and timeframe** | **Potential risk management**  | **Uncertainty/ additional resources needed**  | **Priority of importance** |
| *e.g., regular flooding blocking roads by 2030* | *e.g., develop other ways to learn and get around e.g., boat, learning from home* | *e.g.,*  | *e.g.*  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Step 3 checklist

At the end of step 3 you should have:

* an understanding of how Aotearoa New Zealand's climate is expected to change
* identified key climate impacts in your community
* understood your climate risk, and its importance in relation to any other risks
* identified priority risks that may require action
* an awareness of information gaps and uncertainties associated with the information you are using.

Step 4: What actions should you take?

**Task 4.1**

What are the possible ways you could adapt to the climate change risks you identified in Step 3? Working with others, identify as many options as possible.

Use the table **‘Adapting to climate risks’** to record your answers.

There are many ways you can include adaptation at school and in your community, such as:

* creating plans for extreme weather events such as storms, droughts, floods etc.
* avoiding or reducing exposure to climate risks
* accepting the impacts and planning ahead.

Think widely at this stage, don't limit your options!

**Task 4.2**

Write down when or if you need to act and prioritise your actions. Use Table 4.1 to record your answers.

You may want to consider:

* any current weather or climate related issues you are already facing
* how soon or likely you expect climate risks to exceed any critical thresholds
* how long it will take to plan and act on your ideas – consider a staged approach so you can adapt over time
* include climate thinking into long lived decisions, such as when planning new playgrounds, renovating the school buildings, how the school is heated and cooled and how you get to and from school.

This step will help you identify options for action, bearing in mind that often decisions have to be made with limited information.

The key is to weigh the likelihood, effects, costs and benefits of acting.

For more information, [visit the Adaptation Toolbox ‘Step .4’.](https://niwa.co.nz/adaptationtoolbox/step4)

**Task 4.3**

Not applicable to students – skip this one.

**Task 4.4**

Consider which of your adaptation options are a priority for you currently based on weighing the level of risk, vs. the avoided impacts. You can use the action [priority matrix in the Toolbox](https://niwa.co.nz/adaptationtoolbox/step4) to assist you, and then prioritise your actions in **Table ‘Adapting to climate risks’**

Descriptions for the action priority matrix are as follows:

* **Quick wins (high impact, low effort):**are the most attractive projects, because they give you a good result for relatively little effort. Focus on these as much as you can (e.g. minimising water usage by asking your school to fix a leaky water fountain).
* **Major projects (high impact, high effort):**these give you good returns, but they are time-consuming. This means that one major project can "crowd out" many quick wins (e.g. develop and act on a climate risk school transport plan).
* **Fill ins (low impact, low effort):**Don't worry too much about doing these activities – if you have spare time, do them, but drop them or delegate them if something better comes along (e.g. repeatedly cleaning out the bottom shelves in a garden shed that keeps getting flooded).
* **Thankless tasks (low impact, high effort):**Try to avoid these activities. Not only do they give little return, they also soak up time that you should be using on quick wins (e.g. short term repair of a school bike track that keeps getting water logged in heavy rain).

**Table ‘Adapting to climate risks’**

|  |  |  |  |
| --- | --- | --- | --- |
| **Adaptation options (Task 4.1)** | **When- urgency (Task 4.2)** | **Result from the action priority matrix (Task 4.4)** | **Priority for implementation plan? (Task 4.4)** |
| 1. *e.g. fixing leaky taps*
 |  | *e.g. Quick win* | *e.g. medium priority* |
| **2.** |  |  |  |
| **3.** |  |  |  |
| **4.** |  |  |  |
| **5.** |  |  |  |

**Task 4.5**

Use your responses from Table **‘Adapting to climate risks’** and the rest of the Taskpad to develop your climate change adaptation implementation plan for your priority actions.

A template for an implementation plan is provided in Table ‘**My/Our Adaptation Plan’**.

Include ways to include climate adaptation into your everyday activities now or over the next year i.e.  getting to and from school, where and when you play outside, if appropriate, talk to you teacher/s about being involved in the any new building or planting projects that could include looking at climate resilient ways to keep cool and warm.

**Table** ‘**My/Our Adaptation Plan’**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Priority Action(s)** | **Steps to achieve this** | **Key people involved** | **Additional information required** | **What success looks like** |
| 1. *e.g. install a rainwater tank*  |  | *e.g., Principal, school Board, teacher, caretaker, plumber* | *Local regulations* | *New water supply; climate resilience*  |
|  | 1.1 *e.g. identify the size of water tank you need*  |  |  |  |
|  | 1.2 *e.g. identify place to purchase* |  |  |  |
|  | 1.3 *e.g. purchase the water tank* |  |  |  |
| 2. |  |  |  |  |
|  | 2.1 |  |  |  |
|  | 2.2 |  |  |  |
|  | 2.3 |  |  |  |

Step 4 checklist

At the end of step 4 you should have:

* Decided what you want to do, based on the information you have
* Determined the timeframe for actions
* Identified possible adaptation measures, and selected priority climate risks
* Your responses should set out:
* actions you can take now to adapt to climate change
* longer-term actions to ensure you are resilient to climate change
* possible barriers to action and how to overcome them
* how you are going to share your adaptation ideas with others and the resources needed.

# Step 5: Long-term planning and monitoring

Adapting to climate change is uncertain. This step provides guidance on how you can keep your research and decisions on task and up to date in such a changing environment.

For more information, [visit the Adaptation Toolbox ‘Step .5.’](https://niwa.co.nz/adaptationtoolbox/step5)

**This step is optional, but you might want to pick one of your ideas and follow through step 5 to assess its success.**

**Task 5.1**

### **What are the key uncertainties and information gaps** in the work you have done? Consider the:

* effects of climate change in your area
* ways to manage the impacts
* priorities

## Task 5.2

## Develop an effective monitoring and evaluation programme or include within the existing measurement systems you have. You may use Table 5.2 below as a monitoring and evaluation template, and adjust as required. It may also be helpful to go back and revise your implementation plan (Table 4.5) and other previous tables in the Taskpad, as part of the monitoring and evaluation process.

A monitoring programme should:

* Be clear about what success means for you and the actions you choose. You may need to revise this overtime.
* Describe how the review will feed back into business or organisation decisions.
* Show changes in risks (including opportunities) and options.
* Monitor sources for new information on climate change (i.e. MfE, Regional Councils, NIWA).

### **Task 5.3**

### Alter your previous responses based on your monitoring and evaluation plan, and new information you have collected.

**Table 5.2:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Previous actions** (as per Table 4.5) | **How success was defined** (as per Table 4.5) | **Successes achieved** (what worked well) | **Challenges encountered** (what didn’t work so well) | **Previous priority level** (as per Table 4.1) | **Revised priority level** (if applicable) | **Revised action** (if applicable) |
| **1.**  |  |  |  |  |  |  |
| **2.** |  |  |  |  |  |  |
| **3.** |  |  |  |  |  |  |

Step 5 checklist

At the end of step 5 you should have:

* developed an effective monitoring and evaluation programme
* gone back through steps 1 to 4 of the Toolbox and updated any previous responses based on your monitoring and evaluation plan, and new information you have collected.

## Congratulations, you have completed the New Zealand Climate Change Adaptation Toolbox!