

CORAL HEALTH CHART

Do It Yourself instructions

Come Join our Watch



CORALWATCH

WWW.CORALWATCH.ORG



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CITIZEN SCIENTISTS *protecting reefs*

There are not enough scientists to monitor all the world's reefs, and this is where you can help! CoralWatch uses the Coral Health Chart to measure changes in coral colour associated with coral bleaching. The chart is easy to use and allows anyone to get involved without the need for special training. Simply match the colours on the chart with the colours of the reef and record your coral type on a waterproof data slate. All data from over 80 countries is available online in our global database.

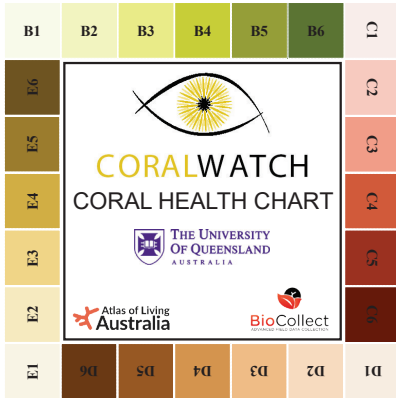
The Coral Health Chart is used by dive centres, school groups, government organisations, scientists, tourists and individuals. Don't wait for coral bleaching to occur, monitoring healthy reefs is also important. To get started, request your initial free Coral Health Chart online.

REEFS ARE IMPORTANT *for all of us*

Not only are reefs places of incredible natural beauty and wonder but the 800 species of corals worldwide provide shelter and food for an abundant array of fish and other marine life. Healthy reefs produce food for millions of people and help to protect coastal land from cyclones, storm surges and erosion from waves. Reefs provide a way of life connected to cultural traditions and support local economies by providing food and materials to sustain human life as well as jobs through tourism.



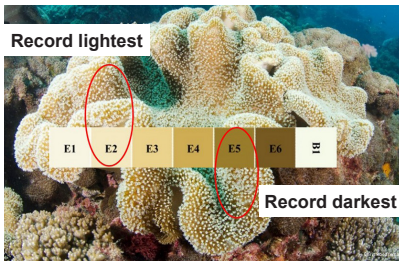
Using the **CORAL HEALTH CHART** is easy



The Coral Health Chart records changes in coral colour, and provides a simple tool for people to monitor coral colour as an indicator of coral health.

Steps to take

1. Choose a random coral and select the lightest area.
2. Rotate the chart to find the closest colour match.
3. Record the colour code on a data slate.
4. Select the darkest area of the coral and record the matching colour code.
5. Record the coral type.
6. Continue your survey with other corals. Try to monitor at least 20 corals per survey.
7. Submit your data online at www.coralwatch.org.



For example, find the closest colour match and record the lightest (E2) and darkest (E5) area within one coral colony. Coral type is soft (SO).

| | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E6 | Colour scores |
| E5 | The colours on the Coral Health Chart are the most common colours on the reef. |
| E4 | Each colour square corresponds to the concentration of symbiotic algae living in the coral tissue, which is directly linked to coral health. The lightest and darkest scores are recorded to allow for natural colour variation across the coral. |
| E3 | |
| E2 | |
| E1 | |

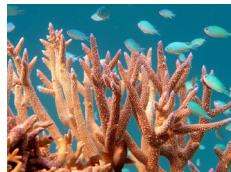
CORAL TYPES - just 4 to choose from

Coral types are described by the overall shape (growth form) of coral colonies. Using the Coral Health Chart select the following four coral types or record the closest.



Boulder (BO)

Any massive or rounded coral, such as some *Porites* species.



Branching (BR)

Any branching coral, such as some *Acropora* species.

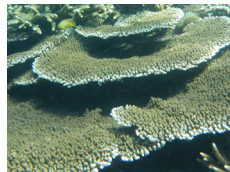


Plate (PL)

Any plate-like shape coral, such as tabular *Acropora* species.



Soft (SO)

Any corals lacking a hard skeleton, such as *Sarcophyton* species.



Survey **METHODS**

The Coral Health Chart can be used while scuba diving, snorkeling or reef walking. You can choose a monitoring method that suits your skills, experience and location. Most people use the random survey method.

Random Survey – select corals randomly. Swim in an imaginary line and choose the closest coral after every second fin kick.

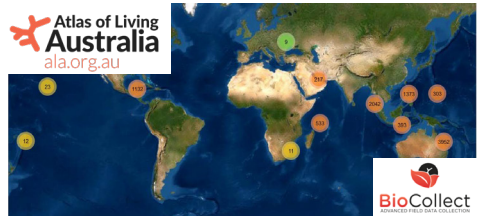
Transect Survey – select corals by following a line (transect) and record your findings every few meters. Make sure that the transect has no affect on marine life.

Permanent transect – select corals that you can recognise easily and return to, so you can monitor them over time.



TIPS for monitoring

- Avoid measuring growing tips of branching and plate corals since they are naturally white.
- Do not monitor blue or purple corals because they have a different bleaching response. Choose corals with colours that match the chart.
- Due to colour loss at depth, use a torch when diving below 5m/15 feet.
- Apart from your coral observations, always record the reef visit details. Bring a GPS to record coordinates if your reef location is not listed on the database.
- Corals are fragile animals, avoid touching or stepping on corals. When diving, secure your equipment.
- Don't just record bleached corals. Aim for a representative sample of all coral colours, whatever our method.



Worldwide **DATA**

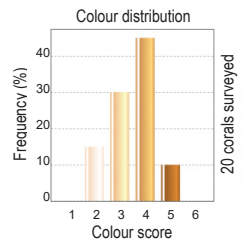
Our global database, with current datasets from over 80 countries is supported by the Atlas of Living Australia, the Biocollect platform. All data is public available and can be downloaded for teaching, research and management purposes. To enter your data go to www.coralwatch.org. In addition to your survey details, you can upload photos and add coral species (optional).

Analyse your **FINDINGS**

You can use filters to find and view surveys. Selected data can be viewed on the worldmap, and results are shown in graphs.

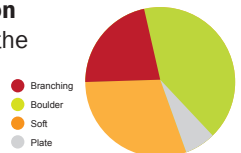
Reef colour score distribution

This bar graph shows the distribution of colour scores for a particular reef. A healthy reef has a majority of scores of 3 and more.



Coral type distribution

This pie chart shows the percentages of coral types included in your survey.

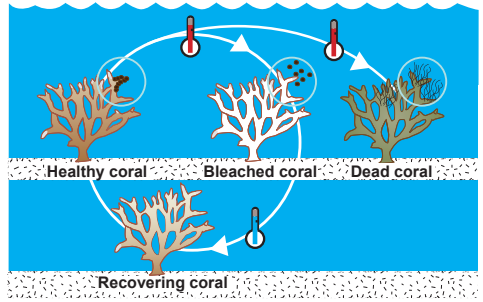


Some corals are naturally lighter than others. Regular surveys are needed to look at coral health over time or pick up trends of bleaching and recovery. If you discover coral bleaching contact your local reef management group to further investigate.

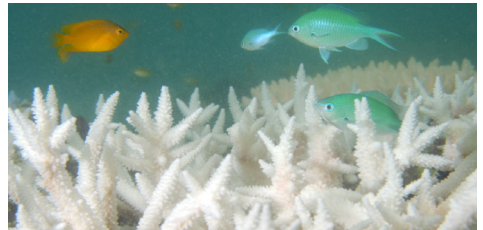
CORALS BLEACH when they are stressed



In healthy coral, symbiotic algae (zooxanthellae) live within the coral tissue. Algae provide the coral with food and energy and give the corals their characteristic brown colour. Stressful environmental conditions can cause the coral to expel the algae, changing the coral colour to white. This whitening of coral is called 'coral bleaching'. Sometimes corals can recover from bleaching, but if stressful conditions are severe, or persist for a long time, loss of algae and the nutrients they provide can lead to coral death. Even when corals do recover, they do not always return to full health.



Increased water temperatures can cause coral bleaching. Recovery can occur if temperatures return to normal.

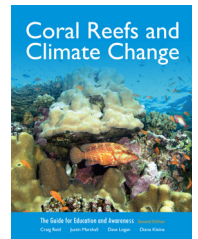


Changes of one or two degrees in sea temperature can cause corals to bleach.

SAVING REEFS starts from home

CoralWatch provides many simple actions that will reduce carbon emissions and the impact of climate change, save money, preserve a world for our children to enjoy, reconnect to nature, and save the planet!

CoralWatch is based at The University of Queensland in Brisbane, Australia, integrating global monitoring of coral bleaching with education about coral reef conservation. CoralWatch has produced many education materials including the book 'Coral Reefs and Climate Change', available from our online shop. Numerous other resources and lesson plans can be downloaded free of charge from our website so you can help raise awareness about our beautiful reefs.



| SAVE REEFS FROM HOME | | | |
|-------------------------------------|---------------------------------|------------------------------|----------------------------------|
| <p>GREEN WASTE Price \$1000</p> | <p>ENERGY Price \$700</p> | <p>WATER Price \$583</p> | <p>RECYCLING Price \$377</p> |
| <p>AMERICA Price \$208</p> | <p>AMERICAN Price \$120</p> | <p>WATER Price \$77</p> | <p>RECYCLING Price \$75</p> |
| <p>HEALTHY Price \$75</p> | <p>GREENING Price \$80</p> | <p>WATER Price \$35</p> | <p>RECYCLING Price \$80</p> |

REDUCE CARBON EMISSIONS. SAVE 1 LION CORAL REEFS

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CREATE CHANGE