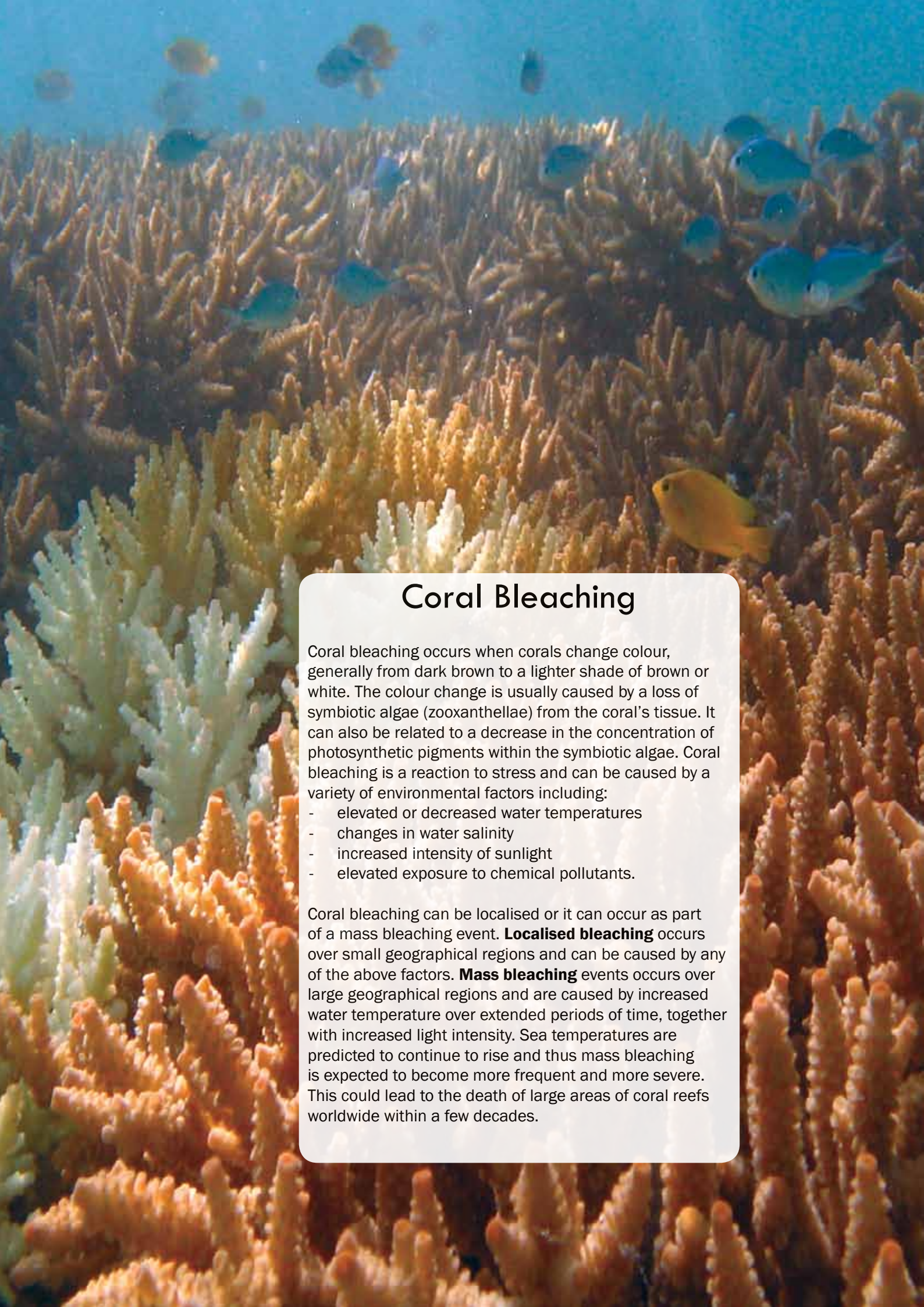
CoralWatch Reef Monitoring Program

Lady Elliot Island - Great Barrier Reef - Australia

CORALWATCH

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA



Coral Bleaching

Coral bleaching occurs when corals change colour, generally from dark brown to a lighter shade of brown or white. The colour change is usually caused by a loss of symbiotic algae (zooxanthellae) from the coral's tissue. It can also be related to a decrease in the concentration of photosynthetic pigments within the symbiotic algae. Coral bleaching is a reaction to stress and can be caused by a variety of environmental factors including:

- elevated or decreased water temperatures
- changes in water salinity
- increased intensity of sunlight
- elevated exposure to chemical pollutants.

Coral bleaching can be localised or it can occur as part of a mass bleaching event. **Localised bleaching** occurs over small geographical regions and can be caused by any of the above factors. **Mass bleaching** events occurs over large geographical regions and are caused by increased water temperature over extended periods of time, together with increased light intensity. Sea temperatures are predicted to continue to rise and thus mass bleaching is expected to become more frequent and more severe. This could lead to the death of large areas of coral reefs worldwide within a few decades.

Lady Elliot Teaching Kit - **Contents**

Monitoring Coral bleaching

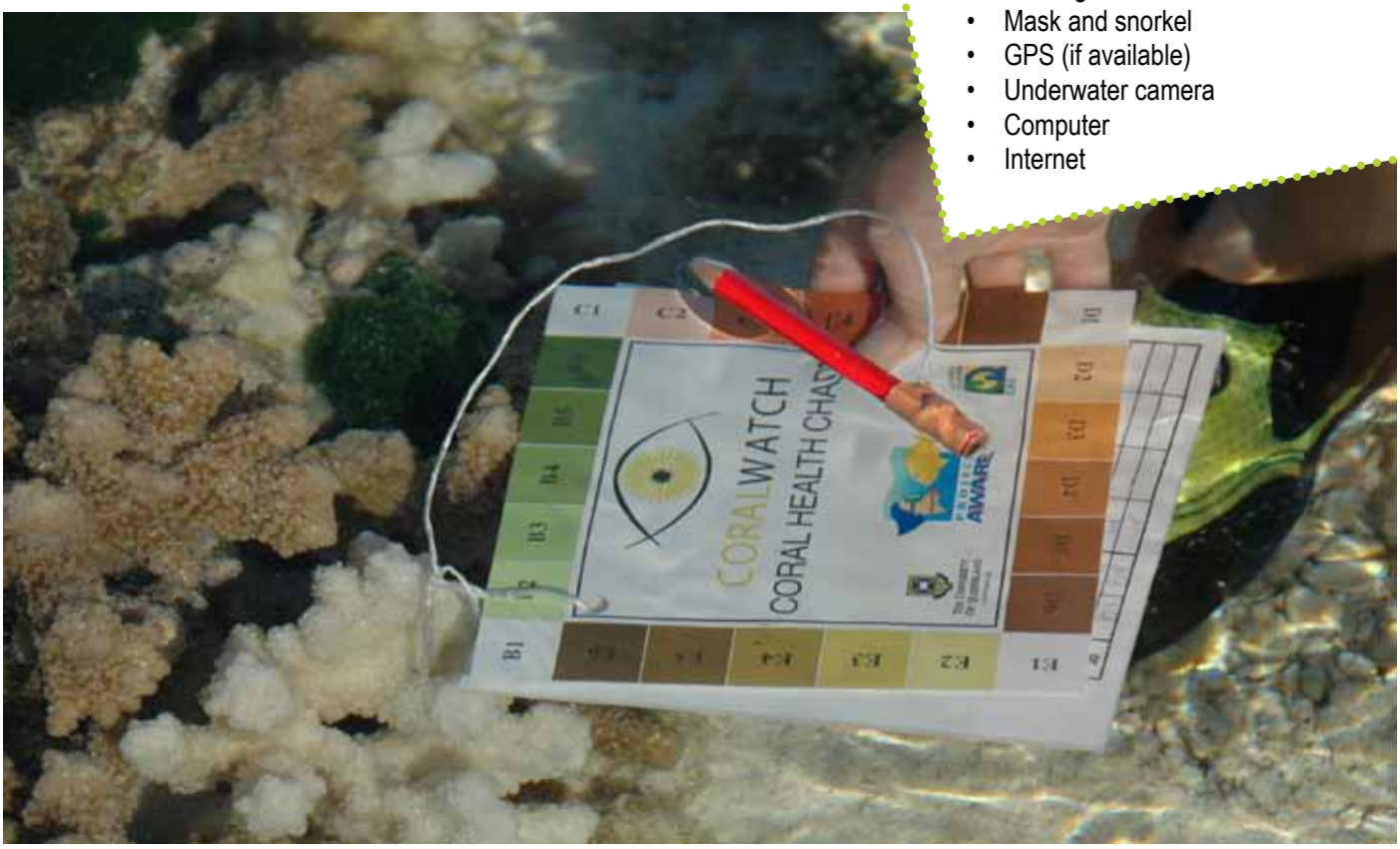
The aim of this activity is to monitor the health of corals using the Coral Health Chart. During a reef walk, snorkel or dive you will match the colour and type of randomly selected corals to the categories on the chart, record this with water temperature and site details and plot the results. Please report real data to **www.coralwatch.org**

Time

Two hours in the classroom
Two hours in the field

Tools

- Coral Health Chart
- Data Slate
- Pencil
- Viewing tube
- Mask and snorkel
- GPS (if available)
- Underwater camera
- Computer
- Internet



By collecting bleaching data using the **Coral Health Chart** you will be providing valuable data to researchers. With your support it will be possible to monitor coral bleaching throughout the year, not just during bleaching events, and also across the world rather than at selected locations. Your data will help researchers answer questions related to issues such as patterns of bleaching and recovery.

Bleaching is closely linked to **coral health**. However, it is important to remember that there are several other factors that affect the overall health of a coral reef, such as:

- Physical damage caused by storms or human impact
- Coral diseases e.g. black band or white spot disease
- Overfishing e.g. a reduced number of herbivorous fish provide the opportunity for algae to flourish, which can smother and kill corals
- Increased nutrient levels can enhance algal growth, restrictive space available for corals
- Increased sedimentation can smother corals

Coral Types

Classifying corals at the species level is very difficult, so easily identified groups are often used when recording data about coral cover or general coral health. For this purpose, coral types are described simply by the growth forms (shapes) of coral colonies.

The Coral Health Chart uses four coral types to classify corals. Branching refers to any branching coral such as *Acropora* species. Boulder refers to any massive or rounded corals such as some *Platygyra* and *Porites* species. Plate refers to any coral that forms a plate-like formation such as tabular *Acropora* species, and the soft category refers to corals lacking a hard skeleton, such as the *Xenia* species.

There are hundreds of coral species, and many coral shapes that do not fit into one of these categories. Our aim is to keep the chart as simple as possible, so if you're experiencing difficulties when deciding the shape of a coral colony, just choose the closest coral type.

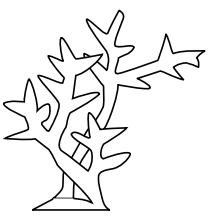
Branching coral

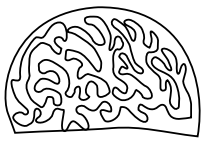
Plate coral

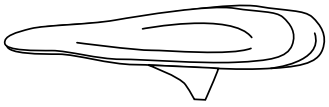
Boulder coral

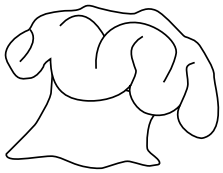
Soft coral

Coral types


Br=Branching


Bo=Boulder


Pl=Plate


So=Soft

Activity - Coral Types

The aim of this activity is to observe and draw four of the most common types of coral life forms on the reef.

What to do:

- Spend about ten minutes with each type of coral to obtain an accurate picture of what is taking place on, in and around the coral.
- Sketch the coral.
- On the lines below your diagram, list any other marine organisms that you observe on, in, or around the coral.

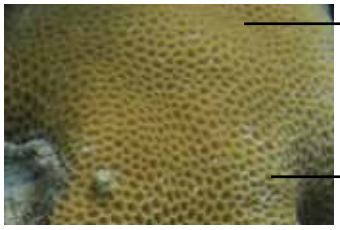
Coral types	
Branching	Boulder
Plate	Soft

The Coral Health Chart

The colour charts are based on the actual colours of bleached and healthy corals. Each colour square corresponds to a concentration of symbiotic algae (zooxanthellae) contained in the coral tissue. The concentration of symbionts is directly linked to the health of the coral.

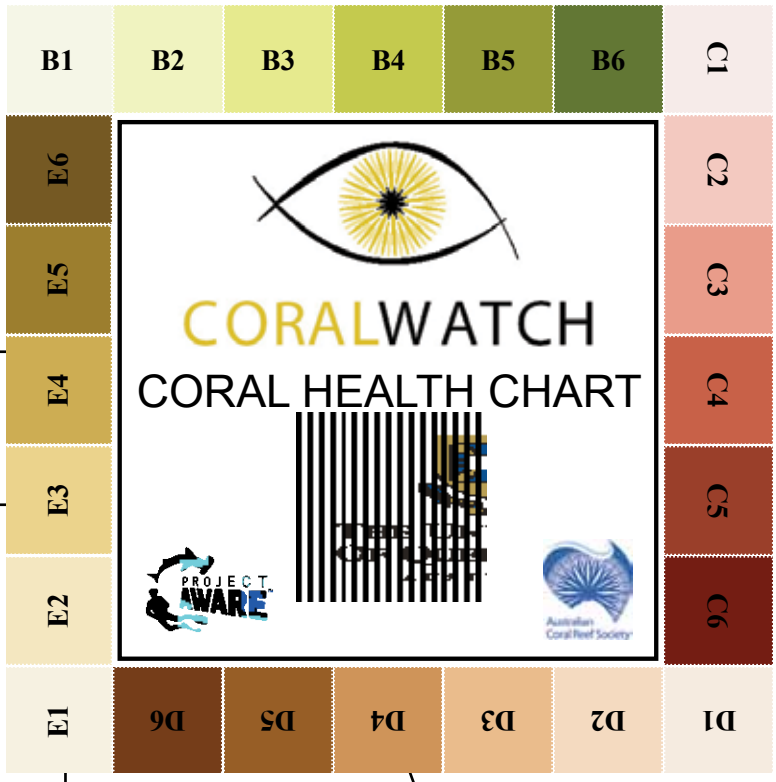
In the field, all you need to do is match the colour of the coral with one of the colours on the Coral Health Chart. You then record the lightest and darkest colour score for each coral on the data sheet provided. The lightest and darkest colours are recorded to allow for the natural colour variation within a coral. The averaged value is used during the spreadsheet and website analyses.

Massive bleached boulder coral
Colour code: B1
Coral type: BO



Massive healthy boulder coral
Colour code: E4
Coral type: BO

The brightness (the number code) indicates the degree of bleaching. It is OK if the colour (letter code) does not match perfectly. However, avoid using the chart for blue-purple coloured corals.



Bleached branching coral
Colour code: E1 Coral type: BR

Healthy branching coral
Colour code: D4 Coral type: BR

How to use the Coral Health Chart

1. Choose a coral.
2. Look down at the coral and select the lightest area, avoiding the tip of branching corals.
3. Hold the colour chart next to the selected area.
4. Rotate chart until you find the closest colour match.
5. Record the matching colour code along with coral type on the data sheet.
6. Repeat steps 2 to 5 for the darkest area of the coral.
7. Continue survey with other corals.
8. When you finish, log on to our website www.coralwatch.org and enter your data online. If you don't have access to the web you can send us your datasheets and we will enter them on your behalf.

Activity - Conducting a Random Survey

SNORKELLING OR REEFWALKING

The aim of this activity is to record coral health scores as a **random survey.**

Most CoralWatch data is collected as part of **random surveys**. This means each coral measured is chosen randomly. The most important part of a random survey is that it is truely random - don't pick the corals you like or choose them because they are bleached.

Random surveys are easy to do - you can do them anywhere in the world!

Check you have the right equipment:

- safety equipment (sun protection, enclosed shoes or booties)
- a dataslate, Coral Health Chart, pencil, mask and snorkel or viewing tube, GPS (if available)

How to begin:

1. Choose how often you will measure a coral colony (e.g. every second coral colony, or the closest coral to you every 6 steps or 2 fin-kicks).
2. Begin in a clear direction drawing an imaginary line in your direction of travel.
3. Choose your first coral colony - record coral colours and coral type
3. Continue in your planned direction. Measure the colour scores and coral type of the coral colony closest to you every 2 fin-kicks (or whatever distance you chose),.
4. Repeat this for at least 20 corals.
5. Make sure you record your survey location, reef name, date and time, activity, depth and weather.
6. Enter your data on the CoralWatch website: www.coralwatch.org

This reef walker has chosen to survey a coral every 6 steps (or 2 metres). You can choose to survey your corals closer together or further apart - as long as the distance you choose is consistent throughout the survey.

CORALWATCH

DATA SHEET

Group name: _____ Your name:_____

Email address: _____

Participation field: dive centre / scientist / environmental / school or university / tourist

Country of reef: _____ Reef name: _____

GPS if possible: _____ Depth _____m / feet

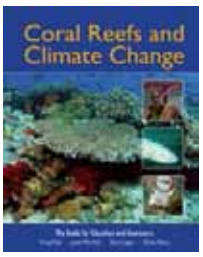
Date of survey: _____/_____/_____ Time collected: (ie.14:00 or 2pm) _____
Day Month Year

Sea temp: ____°C Weather: sunny / cloudy / raining Your activity: reef walking / snorkeling / diving

***Please note: data will not be accepted on the website if any of these fields are left blank**

Coral Number	Colour Code L=Lightest D=Darkest		Coral Type Br=Branching Bo=Boulder Pl=Plate So=Soft			
example	*L: D2*	*D: E5*	*Br*	*Bo*	*Pl*	*So*
1	L:	D:	Br	Bo	Pl	So
2	L:	D:	Br	Bo	Pl	So
3	L:	D:	Br	Bo	Pl	So
4	L:	D:	Br	Bo	Pl	So
5	L:	D:	Br	Bo	Pl	So
6	L:	D:	Br	Bo	Pl	So
7	L:	D:	Br	Bo	Pl	So
8	L:	D:	Br	Bo	Pl	So
9	L:	D:	Br	Bo	Pl	So
10	L:	D:	Br	Bo	Pl	So
11	L:	D:	Br	Bo	Pl	So
12	L:	D:	Br	Bo	Pl	So
13	L:	D:	Br	Bo	Pl	So
14	L:	D:	Br	Bo	Pl	So
15	L:	D:	Br	Bo	Pl	So
16	L:	D:	Br	Bo	Pl	So
17	L:	D:	Br	Bo	Pl	So
18	L:	D:	Br	Bo	Pl	So
19	L:	D:	Br	Bo	Pl	So
20	L:	D:	Br	Bo	Pl	So

Check out these resources…



Reid, C., Marshall, J., Logan, D., Kleine, D. (2009) **Coral Reefs and Climate Change: the guide for education and awareness.** CoralWatch, Brisbane.

Siebeck, U.E., Marshall, N.J., Kluter, A. and Hoegh-Guldberg, O. (2006) *Coral Reefs* 25(3):453-460

Any other relevant information, e.g. average diving depth, species of coral, pollution, long term weather such as drought, flood, heat-wave.

Please enter your data directly onto the CoralWatch website www.coralwatch.org
Or use one of the following options if you don't have web access:

1. email: info@coralwatch.org
2. fax: +61 7 3365 4522 to the attention of CoralWatch
3. mail: CoralWatch, Queensland Brain Institute, The University of Queensland, Brisbane, QLD 4072 Australia

Thank you very much for participating! Check our website for survey results and global bleaching trends.

Activity - Monitoring the Permanent Transect

The Lady Elliot Island Permanent Transect contains 20 corals. It was established in March 2012.

Coral Health Chart Data Collection

The aim of this activity is to visit the corals along the **permanent transect on Lady Elliot Island** and record the coral health scores.

What to do:

- Wear appropriate safety equipment (sun protection, enclosed shoes or booties)
- Bring a dataslate, Coral Health Chart, transect map, photo ID sheets and GPS for exact location.
- Enter GPS coordinates and locate the coral
- Record coral health chart scores and record them on the data sheet

Optional:

- Take photos of the corals you found in similar views and send them to CoralWatch
- Take measurements (length and width) of the corals and enter them on the spreadsheet. Make sure you clearly mark the number of corals you photos relate to.

Lady Elliot Island Permanent Transect

Data sheet

Group name: _____ Your name:_____

Email address: _____

Participation field: dive centre / scientist / environmental / school or university / tourist

Country of reef: ___Australia_____ Reef name: Lady Elliot Island Permanent transect

GPS if possible: _____ _____ Sea temperature:_____oC

Date of survey: _____/_____/_____ Time collected: (ie.14:00 or 2pm) _____
Day Month Year

Weather: sunny / cloudy / raining Your activity: (reef walking) / snorkelling / diving

*Please fax us your datasheet so we can add this results to our database

Lady Elliot Island Permanent Transect

Coral No*	**Colour Code** L=Lightest D=Darkest		**Coral Type** BR = Branching BO = Boulder PL = Plate SO = Soft				**Coral Size (optional)**	
	Lightest	Darkest	Branching	Boulder	Plate	Soft	Length	Width
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

DOUG'S KIDNEY

LADY ELLIOT - PERMANENT TRANSECT 1

Genus Porites
Transect name Doug's Kidney
Coral type Boulder

Size Max diameter(cm) 78
Max height(cm) 28

GPS coordinates
Lat (WGS84) 24.06.839
Long (WGS84) 152.43.05

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	D4	
DARKEST	D5	D5	

Coral — Birds eye view All photos taken in 2012

General overview to locate coral

Coral — Side view

Measuring coral size; diameter and height

Coral — Close up

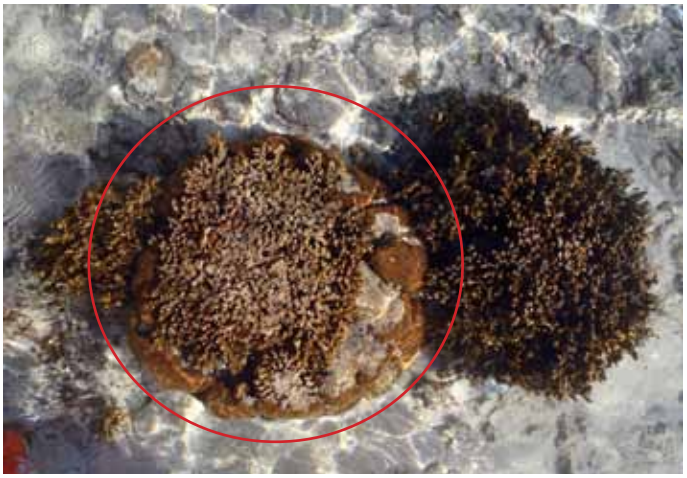
Coral — size compared to known object

KAREN'S LOBOTOMY

LADY ELLIOT - PERMANENT TRANSECT 2

Genus	Platygyra	**Size**	Max diameter(cm)	68
Common name	Brain coral		Max height(cm)	30
Transect name	Karen's Lobotomy	**GPS coordinates**		
Coral type	Boulder		Lat (WGS84)	24.06.841
			Long (WGS84)	152.43.055

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D3	D5	
DARKEST	D4	D6	



Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

ALEXANDRA'S WELL HEAD LADY ELLIOT - PERMANENT TRANSECT 3

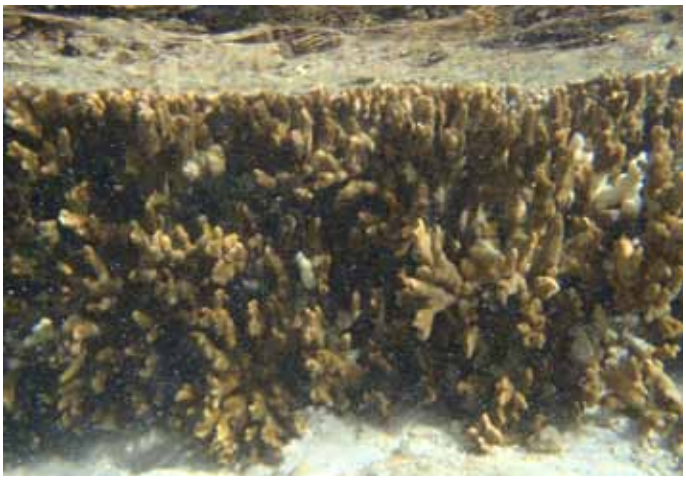
Genus To be confirmed
Transect name Alexandra's Well head
Coral type Branching

Size Max diameter(cm) 138
Max height(cm) 36

GPS coordinates
Lat (WGS84) 24.06.845
Long (WGS84) 152.43.059

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	B5	D4	
DARKEST	B6	E6	

Coral — Birds eye view All photos taken in 2012



Coral — Side view

Coral — Close up

General overview to locate coral

Coral — size compared to known object

CUPCAKE

LADY ELLIOT - PERMANENT TRANSECT **4**

Genus	Platygyra	**Size**	Max diameter(cm)	53
Transect name	Cupcake		Max height(cm)	21
Coral type	Boulder	**GPS coordinates**		
Remarks	Number 5 - on top of 4		Lat (WGS84)	24.06.846
			Long (WGS84)	152.43.064

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D3	E4	
DARKEST	D4	E5	

Coral — Birds eye view

All photos taken in 2012

General overview to locate coral

Coral — Side view

Coral — Close up

Coral — size compared to known object

CHERRY ON TOP

LADY ELLIOT - PERMANENT TRANSECT **5**

Genus	Pocillopora (*Pocillopora damicornis)*	**Size**	Max diameter(cm)	19
			Max height(cm)	9
Transect name	Cherry on top	**GPS coordinates**		
Coral type	Branching		Lat (WGS84)	24.06.846
Remarks	On top of Number 4		Long (WGS84)	152.43.064

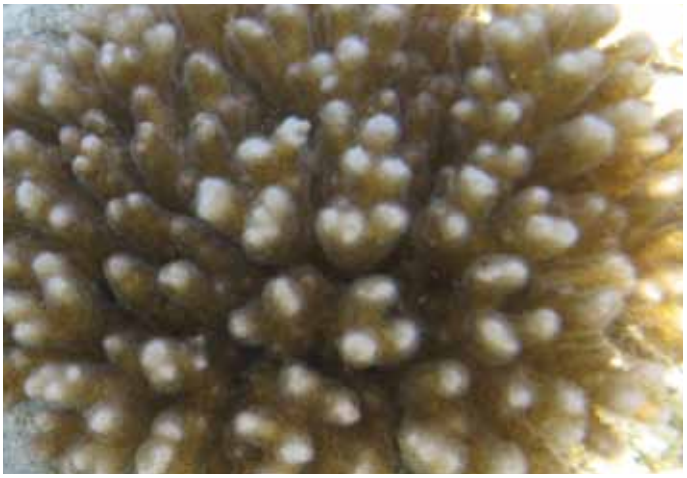
MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D1	D3	
DARKEST	D3	D5	

Coral — Birds eye view

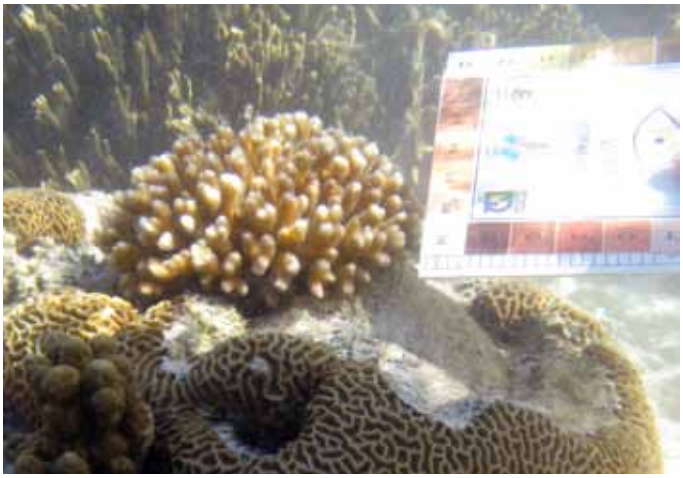
All photos taken in 2012

General overview to locate coral

Coral — Side view



Coral — Close up



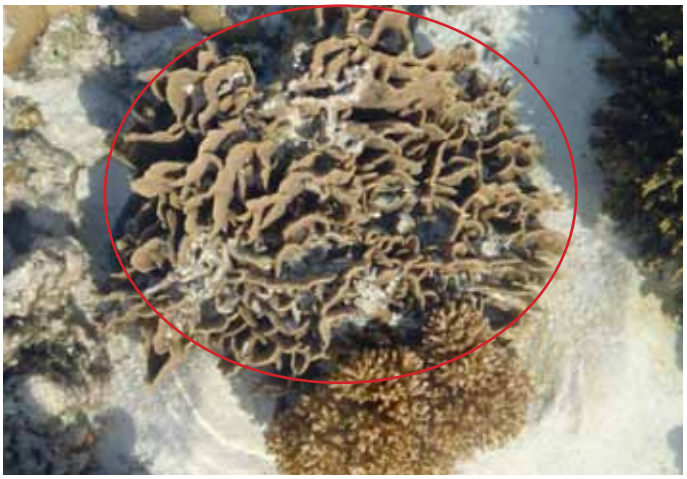
Coral — size compared to known object

MAGGIE MADDNESS

LADY ELLIOT - PERMANENT TRANSECT 6

Genus	Pavona	**Size**	Max diameter(cm)	59
Transect name	Maggie Maddness		Max height(cm)	31
Coral type	Plate	**GPS coordinates**		
Remarks	Adjacent to 7		Lat (WGS84)	24.06.843
			Long (WGS84)	152.43.076

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D4	E4	
DARKEST	D5	E6	



Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

HUMBUG HIDEOUT

LADY ELLIOT - PERMANENT TRANSECT 7

Genus Pocillopora
(*Pocillopora damicornis)*

Transect name Humbug Hideout

Coral type Branching

Size Max diameter(cm) 28
Max height(cm) 27

GPS coordinates
Lat (WGS84) 24.06.843
Long (WGS84) 152.43.076

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	D4	
DARKEST	D4	D5	

Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

HAPPY DAYS

LADY ELLIOT - PERMANENT TRANSECT **8**

Genus	Goniopora	**Size**	Max diameter(cm)	31
Transect name	Happy Days		Max height(cm)	17
Coral type	Boulder	**GPS coordinates**		
Remarks	Hard coral, with polyps extended during the day		Lat (WGS84)	24.06.841
			Long (WGS84)	152.43.086

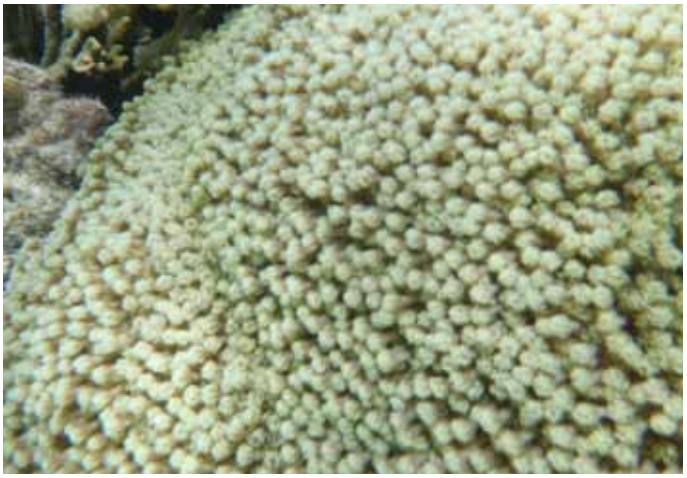
MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	E3	B4	
DARKEST	E4	E6	

Coral — Birds eye view

All photos taken in 2012

Coral — Side view

General overview to locate coral



Coral — Close up

Coral — size compared to known object

DAVE'S BOOTY

LADY ELLIOT - PERMANENT TRANSECT 9

Genus	Porites	**Size**	Max diameter(cm)	80
Transect name	Dave's Booty		Max height(cm)	38
Coral type	Boulder	**GPS coordinates**		
			Lat (WGS84)	24.06.841
			Long (WGS84)	152.43.088

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	C2	
DARKEST	D6	D4	

Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

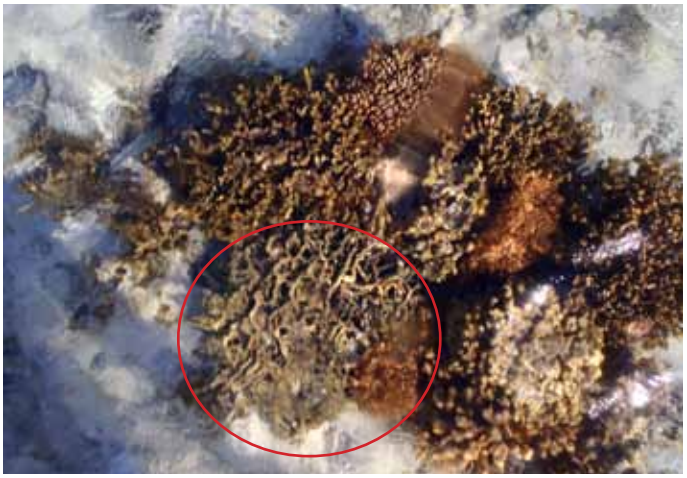
CHLOE'S CRAZY CABBAGE LADY ELLIOT - PERMANENT TRANSECT 10

Genus Pavona
Transect name Chloe's Crazy Cabbage
Coral type Plate

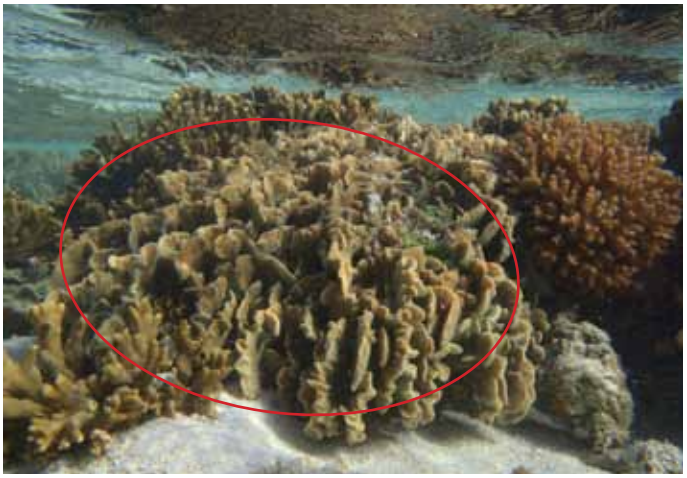
Size Max diameter(cm) 57
Max height(cm) 35

GPS coordinates
Lat (WGS84) 24.06.842
Long (WGS84) 152.43.098

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	B3	B4	
DARKEST	E4	B6	



Coral — Birds eye view All photos taken in 2012



Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

BOB'S BRANCHES

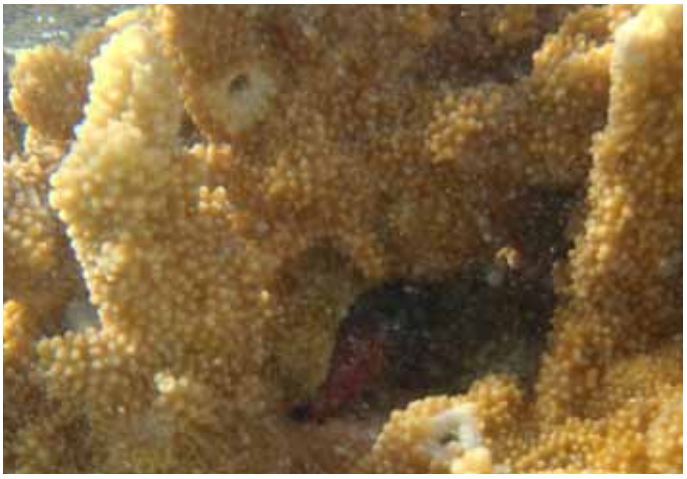
LADY ELLIOT - PERMANENT TRANSECT 11

Genus	Acropora	**Size**	Max diameter(cm)	55
Transect name	Bob's Branches		Max height(cm)	33
Coral type	Branching	**GPS coordinates**		
			Lat (WGS84)	24.06.843
			Long (WGS84)	152.43.098

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D1	D2	
DARKEST	D5	D4	

Coral — Birds eye view All photos taken in 2012

Coral — Side view



Coral — Close up

General overview to locate coral

Coral — size compared to known object

BEE 1 LADY ELLIOT - PERMANENT TRANSECT 12

Genus Goniastera
Transect name Bee 1
Coral type Boulder
Remarks Adjacent to Bee 2

Size Max diameter(cm) 28
Max height(cm) 24

GPS coordinates
Lat (WGS84) 24.06.846
Long (WGS84) 152.43.107

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	D3	
DARKEST	D3	D4	

Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

BEE 2 LADY ELLIOT - PERMANENT TRANSECT 13

Genus	Goniastera	**Size**	Max diameter(cm)	33
Transect name	Bee 2		Max height(cm)	25
Coral type	Boulder	**GPS coordinates**		
Remarks	Adjacent to Bee 1		Lat (WGS84)	24.06.846
			Long (WGS84)	152.43.107

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	E2	D3	
DARKEST	E4	D5	

Coral — Birds eye view

All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

REEF FLAT RAVE LADY ELLIOT - PERMANENT TRANSECT 14

Genus Acropora
Transect name Reef Flat Rave
Coral type Branching

Size Max diameter(cm) 421
Max height(cm) 45

GPS coordinates
Lat (WGS84) 24.06.847
Long (WGS84) 152.43.113

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	B2	E3	
DARKEST	D5	E5	

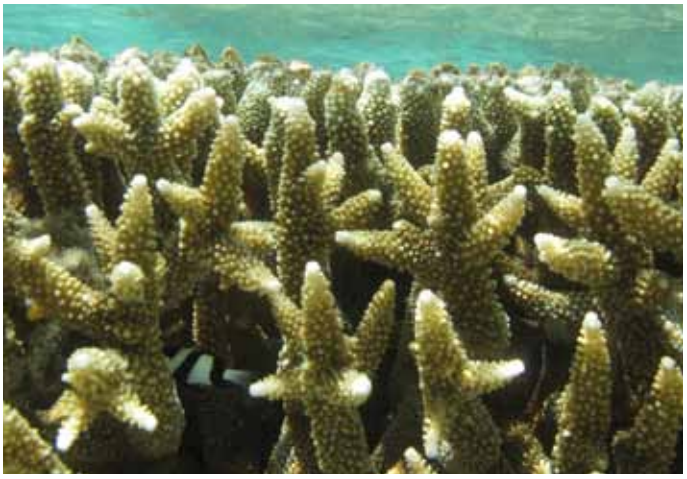
Coral — Birds eye view

All photos taken in 2012

General overview to locate coral

Coral — Side view

General overview to locate coral



Coral — Close up

Coral — size compared to known object

KIM PAN ZEE

LADY ELLIOT - PERMANENT TRANSECT

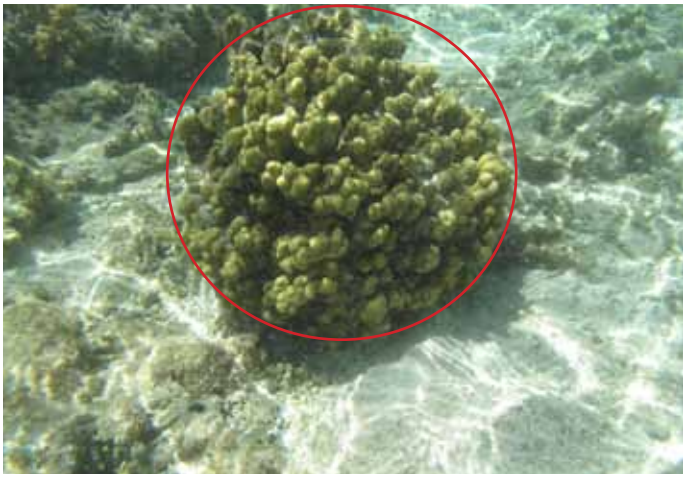
15

Genus To be confirmed
Transect name Kim Pan Zee
Coral type Boulder

Size Max diameter(cm) 40
Max height(cm) 29

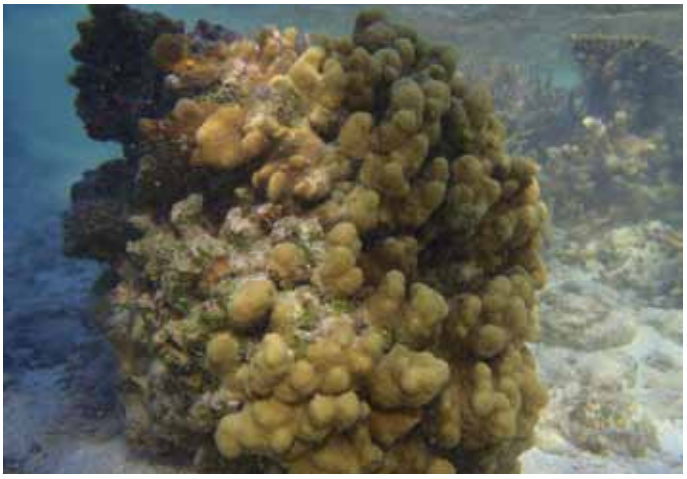
GPS coordinates
Lat (WGS84) 24.06.847
Long (WGS84) 152.43.115

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	E3	B3	
DARKEST	E5	B5	

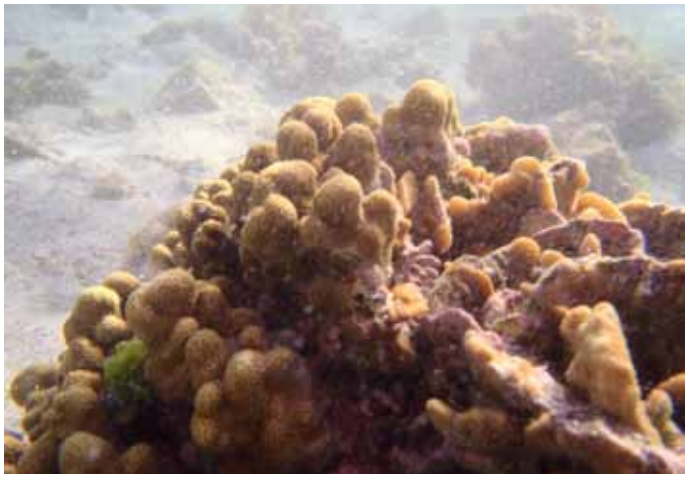


Coral — Birds eye view All photos taken in 2012

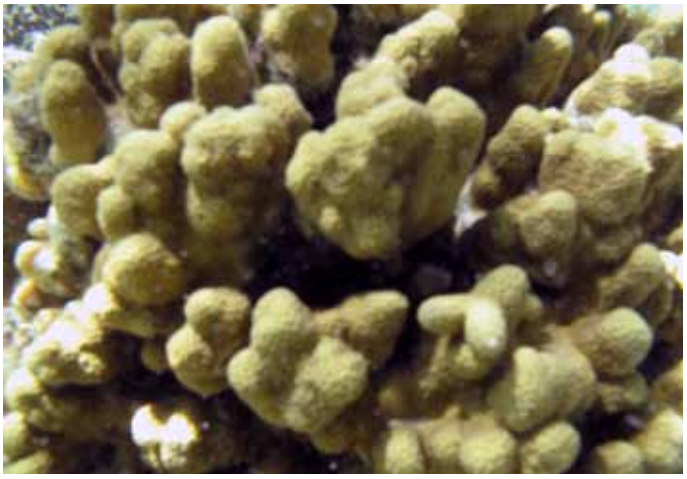
General overview to locate coral



Coral — Side view



General overview to locate coral



Coral — Close up

Coral — size compared to known object

SPINY TOP LADY ELLIOT - PERMANENT TRANSECT 16

Genus Pocillopora
(*Pocillopora damicornis)*

Transect name Spiny Top

Coral type Branching

Remarks 16, 17, 18 all close together

Size Max diameter(cm) ...
Max height(cm) ...

GPS coordinates
Lat (WGS84) 24.06.849
Long (WGS84) 152.43.118

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	D4	
DARKEST	D6	D6	

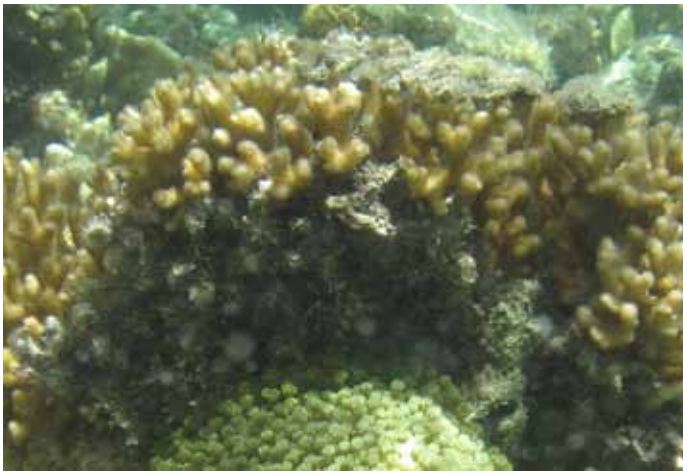
photo requested

Coral — Birds eye view

All photos taken in 2012

Coral — Side view

General overview to locate coral



Coral — Close up

photo requested

Coral — size compared to known object

JUST GUTS

LADY ELLIOT - PERMANENT TRANSECT 17

Genus	Goniopera	**Size**	Max diameter(cm)	...
Transect name	Just Guts		Max height(cm)	...
Coral type	Boulder	**GPS coordinates**		
Remarks	16, 17, 18 all close together		Lat (WGS84)	24.06.849
			Long (WGS84)	152.43.118

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	B3	B5	
DARKEST	B4	B6	

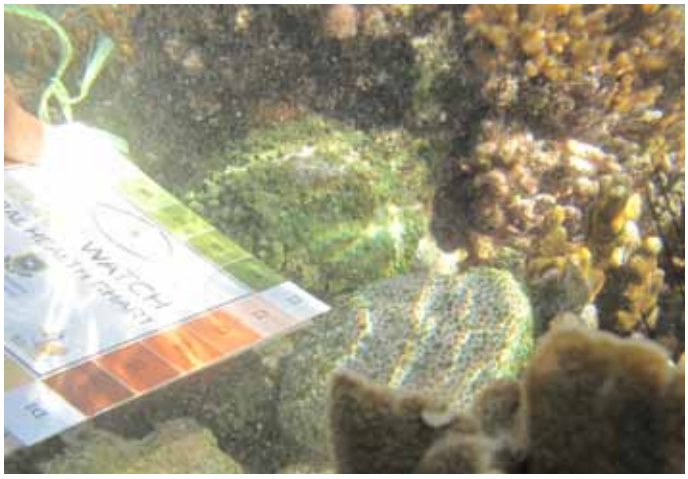
Coral — Birds eye view

All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up



Coral — size compared to known object

THE BUTT LADY ELLIOT - PERMANENT TRANSECT 18

Genus Platygyra
Transect name The Butt
Coral type Boulder
Remarks 16, 17, 18 all close together

Size Max diameter(cm) ...
Max height(cm) ...

GPS coordinates
Lat (WGS84) 24.06.849
Long (WGS84) 152.43.118

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	E2	D5	
DARKEST	E5	D6	

Coral — Birds eye view All photos taken in 2012

Coral — Side view

General overview to locate coral

Coral — Close up

Coral — size compared to known object

FERRERO ROCHER

LADY ELLIOT - PERMANENT TRANSECT 19

Genus To be confirmed
Transect name Ferrero Rocher
Coral type Boulder
Remarks Adjacent to 20

Size Max diameter(cm) ...
Max height(cm) ...

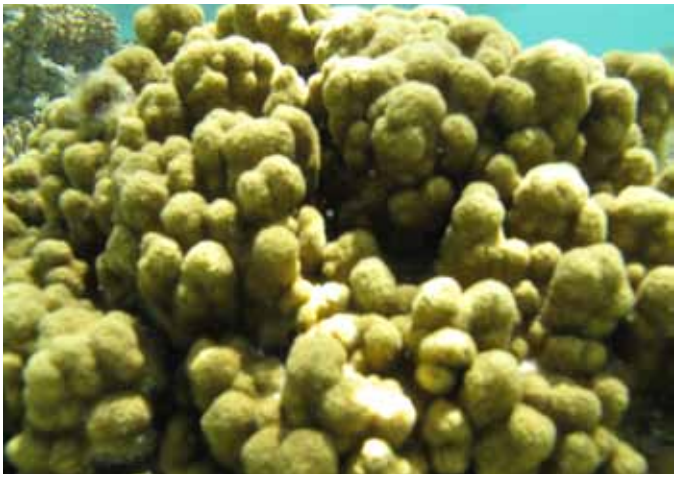
GPS coordinates
Lat (WGS84) 24.06.847
Long (WGS84) 152.43.119

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	E3	B5	
DARKEST	E4	B6	

Coral — Birds eye view All photos taken in 2012

General overview to locate coral

Coral — Side view



Coral — Close up

Coral — slate gives indicator of size

I'M OVER IT LADY ELLIOT - PERMANENT TRANSECT 20

Genus To be confirmed
Transect name I'm Over It
Coral type Branching
Remarks Adjacent to 19

Size Max diameter(cm) ...
Max height(cm) ...

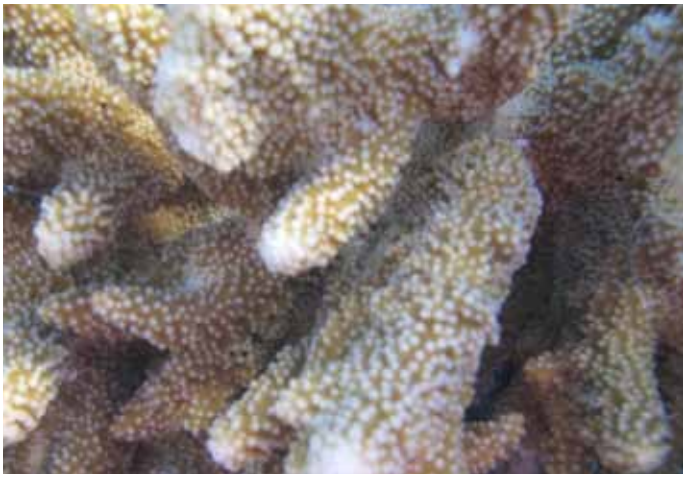
GPS coordinates
Lat (WGS84) 24.06.847
Long (WGS84) 152.43.119

MONITORING DATES	9/3/12	22/07/12	
BRIGHTEST	D2	D4	
DARKEST	D5	D5	

Coral — Birds eye view All photos taken in 2012

General overview to locate coral

Coral — Side view



Coral — Close up

Coral — slate gives indicator of size

Activity - Entering data

Permanent transect - Entering data in excell

Aim

To understand how to enter your data into Excel and learn to examine your own data.

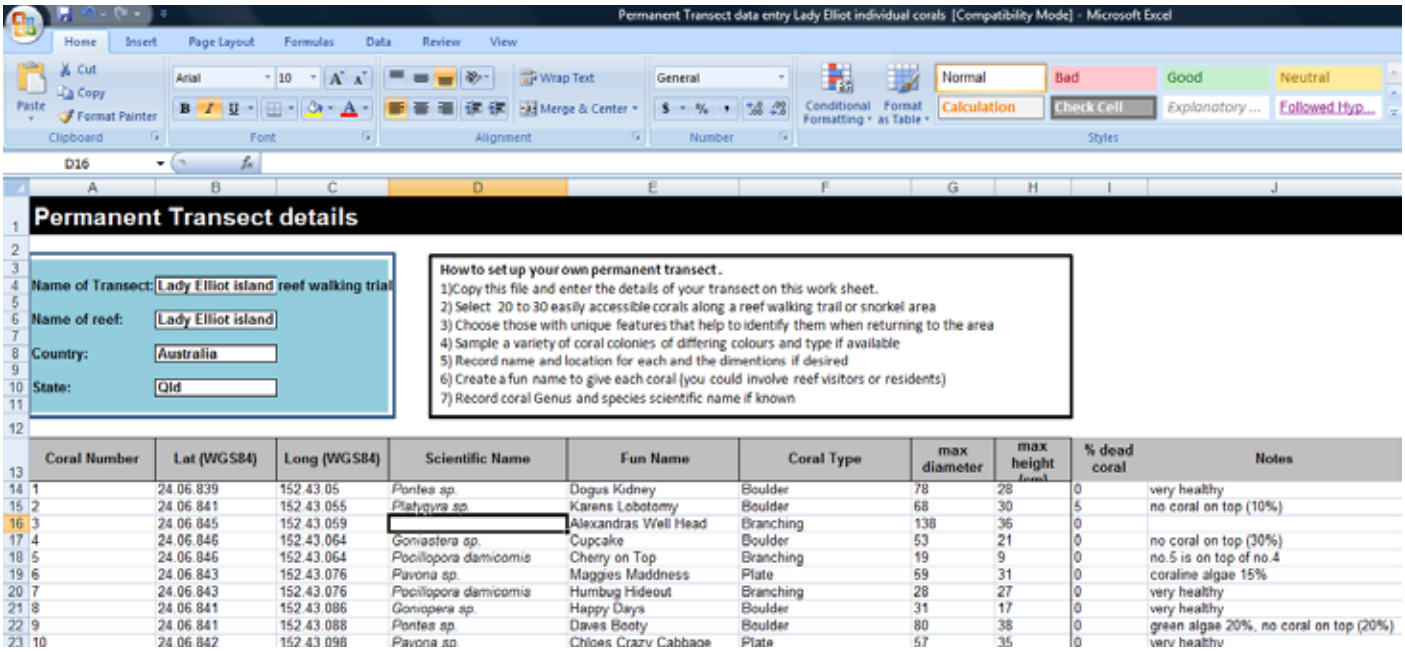
Instructions for classroom

1. Download the 'Permanent Transect data entry Lady Elliot individual corals' from the CoralWatch webpage (www.coralwatch.org)
2. Go to 'Data Input' tab
   - Record name, email, date and time, water temp, reef zone, activity and weather conditions
   - Record brightest and darkest colour scores for each coral that you sampled.
3. Go to 'Survey Summary' tab and look at the results from your survey.
3. Go to 'Coral Summary' tab and look at the results overtime from each coral.
4. Go to 'All Coral Summary' tab and compare all results overtime.

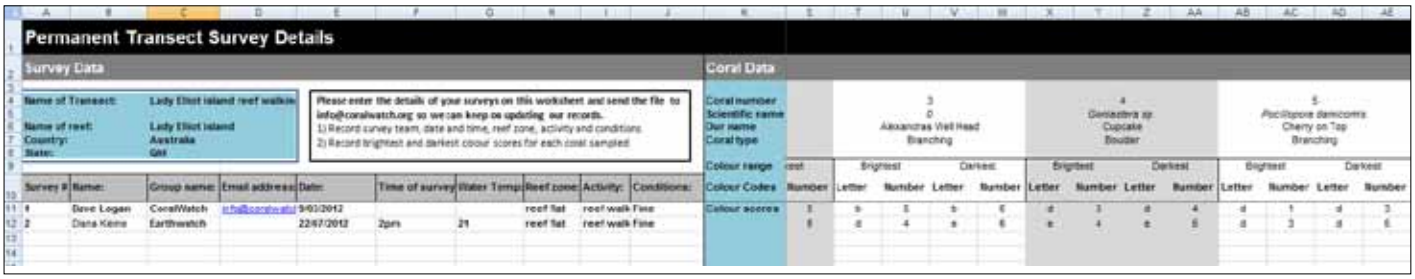
Equipment

- Computer

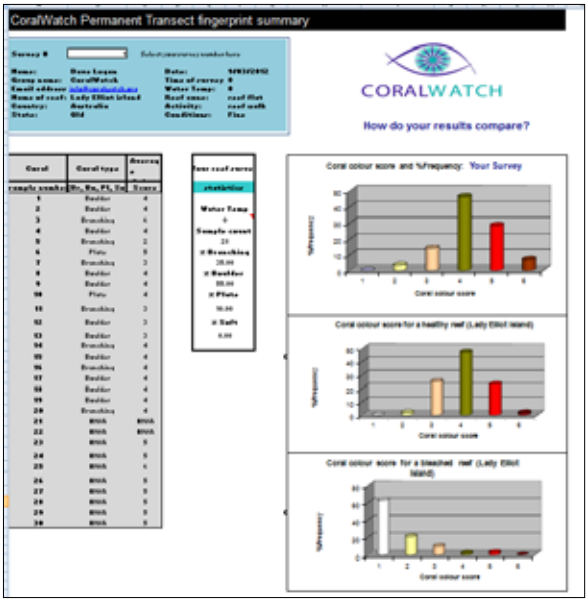
Please send the updated data sheet and photos that you might have taken back to CoralWatch.



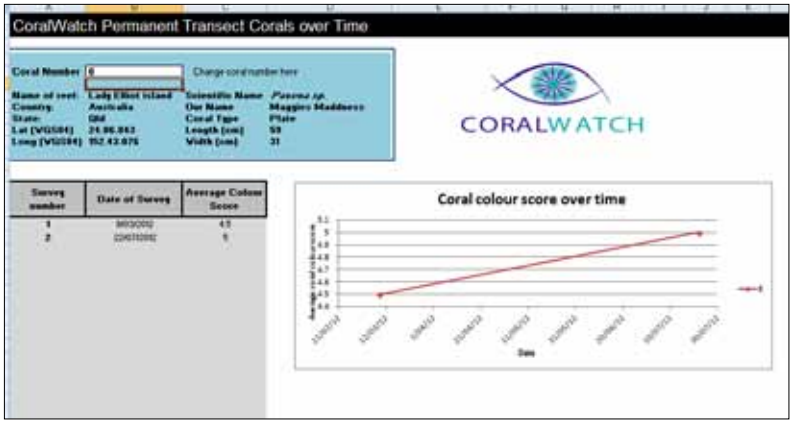
Example of the 'Transect Details Template' page.



'Data Input' page.



Summary page of the whole survey.



'Coral Summary' page with the option to select individual corals.

Activity - Entering data

Random surveys - Entering data online

Aim

To learn how to enter data into the CoralWatch database.

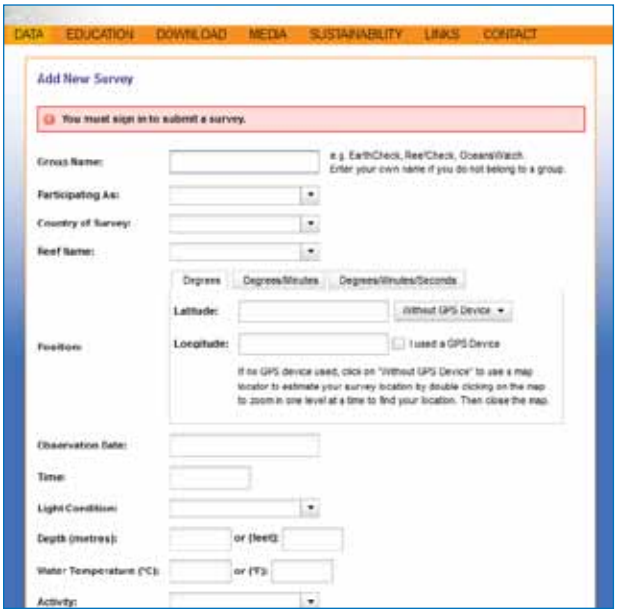
Instructions for classroom

1. Go to www.coralwatch.org
2. Go to enter data and sign in to submit a survey. You have to become a member to be able to enter data. Membership is free.
3. Enter all your details from your datasheet and submit.
4. If you don't have GPS coordinates you can find your location on the map.
5. Enter all data records and look at your results.

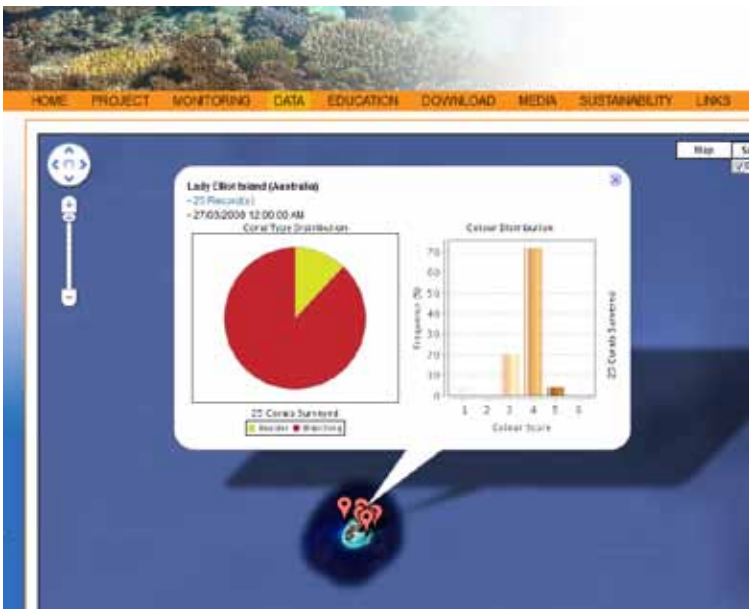
Equipment

- Computer
- Internet access

If you have collected real data in the field, entering your survey data into the online CoralWatch database ensures that your data can be used by scientists studying coral bleaching.



Example of the 'add new survey' page.



Example of a previous survey results, Lady Elliot Island.

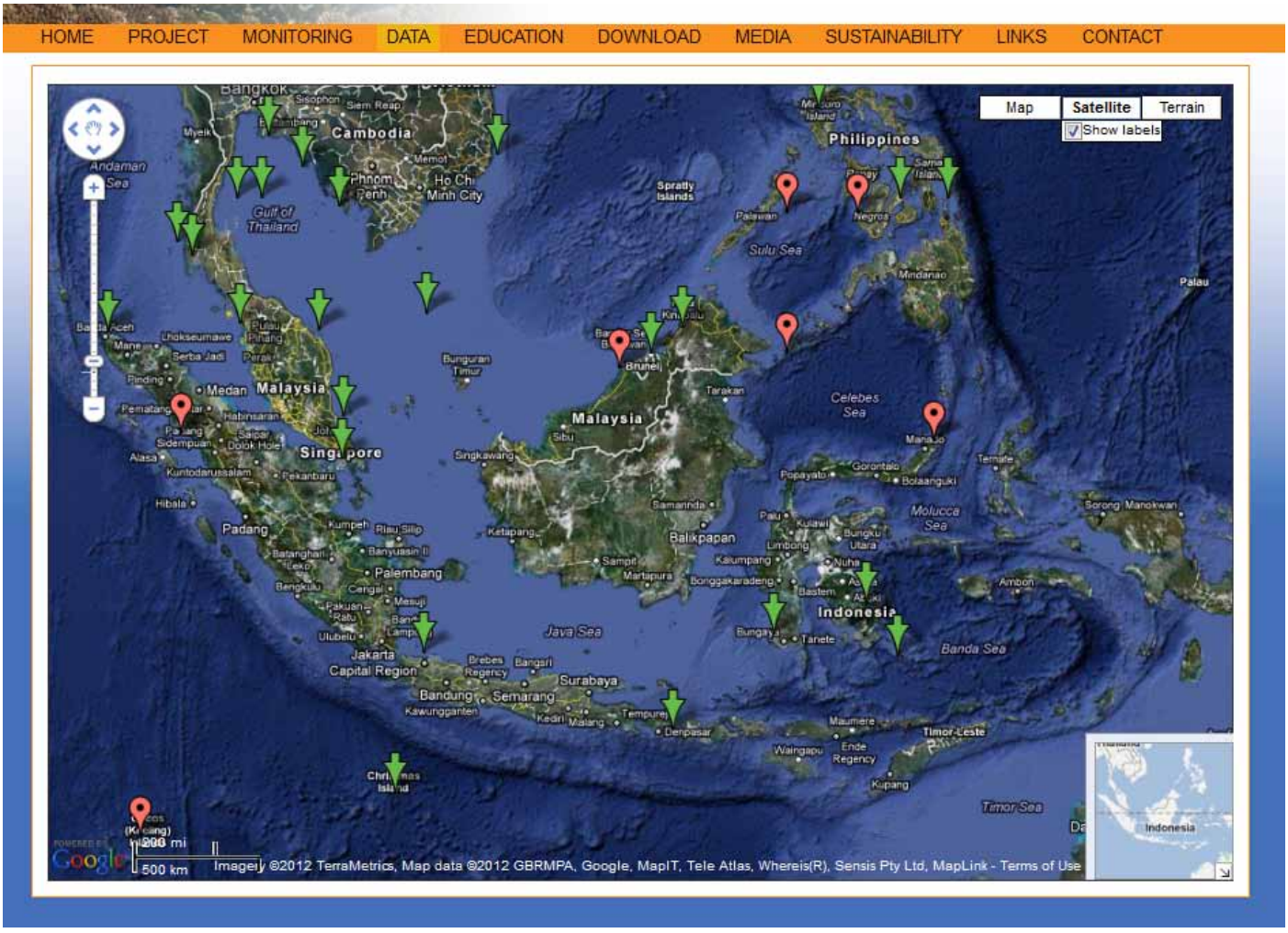
Analysing your data

Aim

To learn how to examine your data and understand what your results mean for your reef or other sites nearby.

Questions

1. View your results of your last survey and answer the following questions:
   a. Which coral type was most abundant?
   b. Which coral type was the least abundant?
   c. Which colour score had the highest frequency?
2. Compare the data you collected to:
   a. past data on the same reef (if available)
   b. a nearby reef
   c. a reef elswhere in Indonesia
3. How many CoralWatch survey sites can you find in Indonesia?
4. How many of them are regularly monitored?
5. Do any of them show coral bleaching events?



Data can be downloaded from 60 countries.

Act Now

for the future of our reefs

The University Of Queensland
AUSTRALIA

CORALWATCH

www.coralwatch.org