



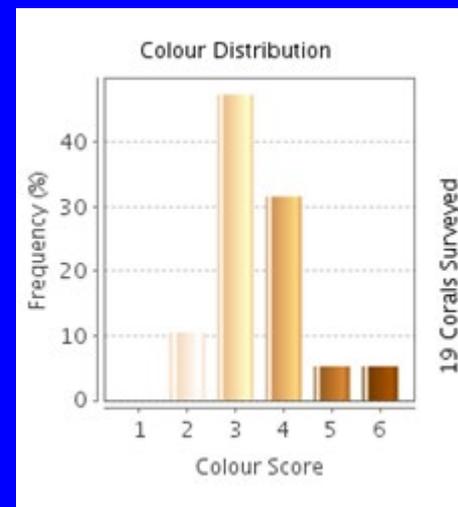
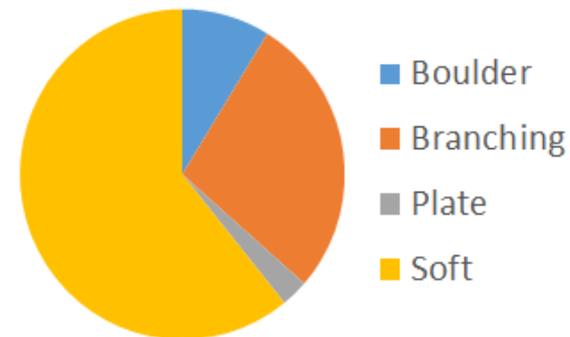
DATA ANALYSIS



W: www.coralwatch.org E: info@coralwatch.org

Monique Grol, Version November 2018

Michaelmas Cay - Coral type



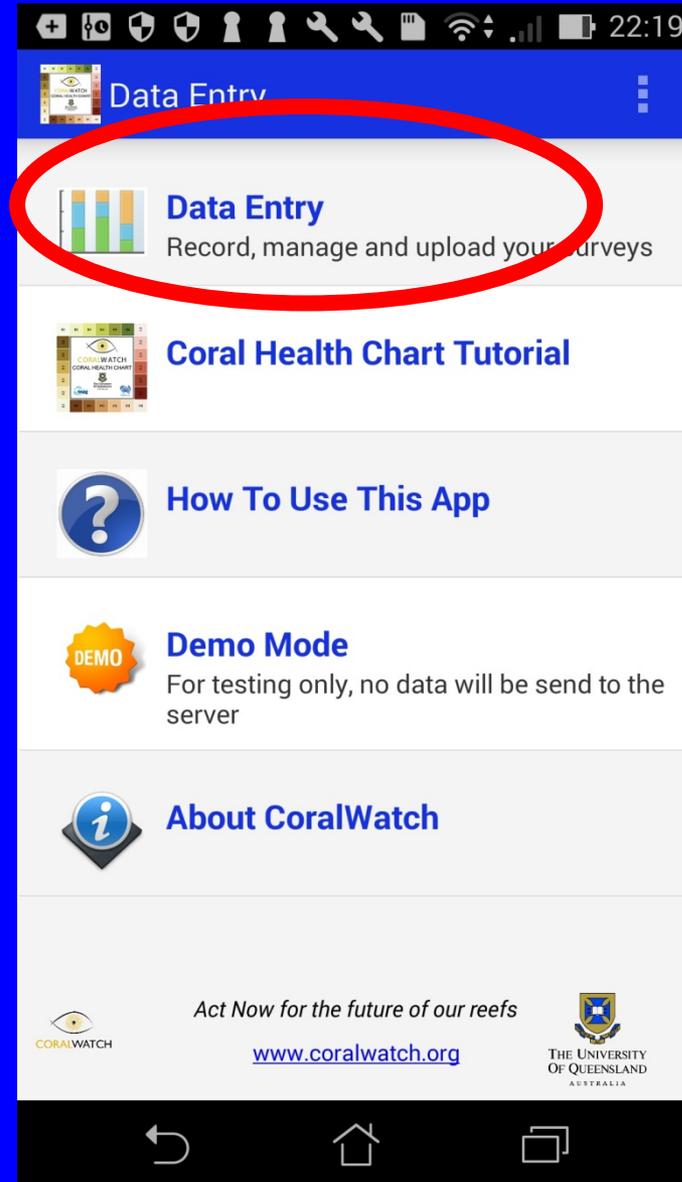
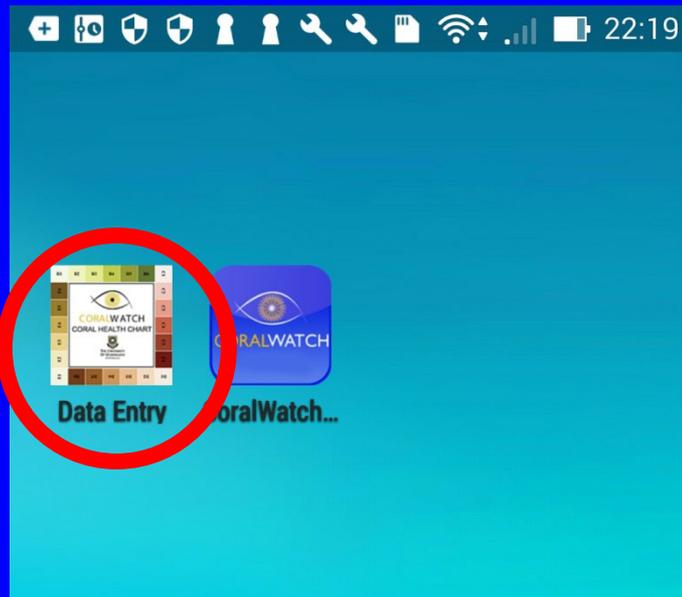
Reef name	Coral type	n	lightest	darkest	average
Michaelmas Cay	Boulder	13	3.23	3.69	3.46
Michaelmas Cay	Branching	41	2.59	2.95	2.77
Michaelmas Cay	Plate	4	3.00	4.50	3.75
Michaelmas Cay	Soft	90	2.80	2.97	2.88
Total		148	3.07	3.07	2.93
Hastings Reef	Boulder	32	2.84	3.31	3.08
Hastings Reef	Branching	37	2.70	3.68	3.19
Hastings Reef	Plate	23	2.83	3.57	3.20
Hastings Reef	Soft	29	2.48	3.38	2.93
Total		121	2.71	3.49	2.74

Outline

- Data entry
- Exercise: find data using a map
- Exercises: find data per survey
- Exercises: compare data per surveyor, reef and over time
- Exercises: find data per reef name
- Exercises: download CoralWatch data
- Teacher PD workshop data

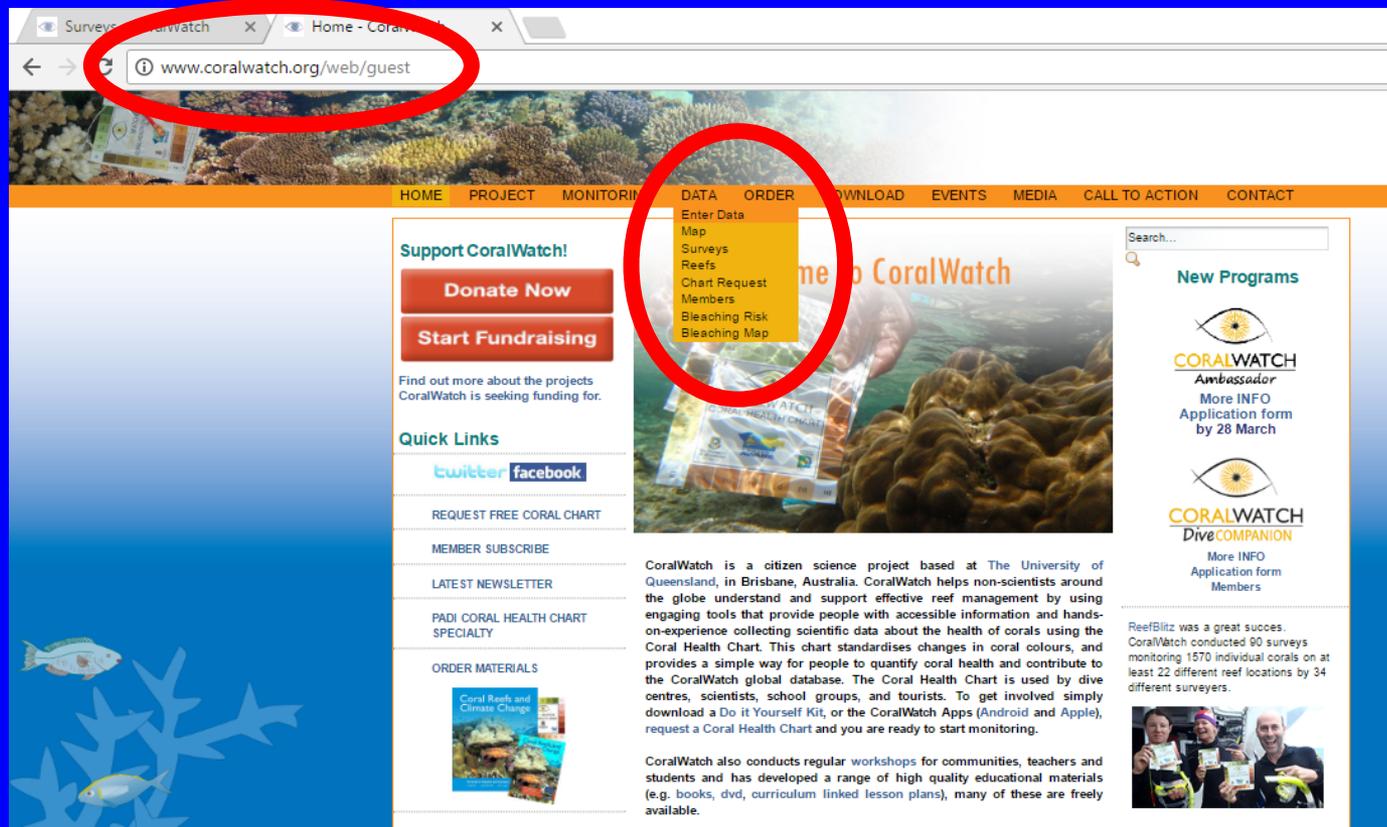
CoralWatch Data Entry App

- Download 'Data Entry' App and open App
- Sign in/Login
- Select 'data entry' in submenu



CoralWatch Data Entry Website

- Go to www.coralwatch.org
- Sign in/login
- Select 'data' in menu
- Select 'enter data' in submenu

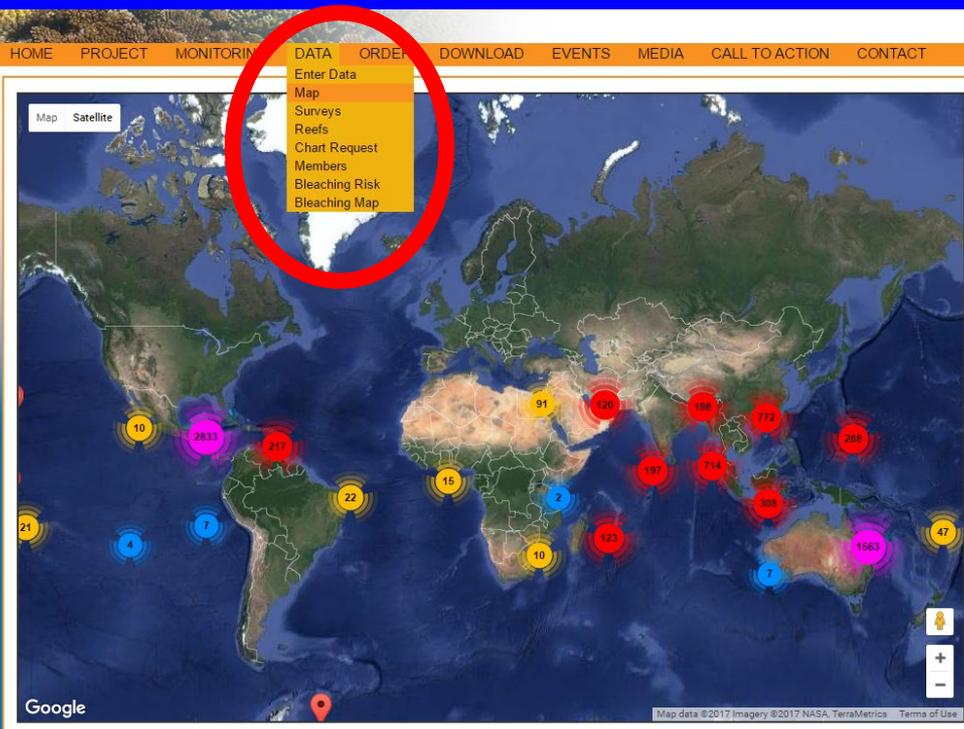


The screenshot shows the CoralWatch website interface. The browser address bar is circled in red, displaying www.coralwatch.org/web/guest. The main navigation menu is highlighted in orange, with the 'DATA' option circled in red. A dropdown menu is open under 'DATA', listing 'Enter Data', 'Map', 'Surveys', 'Reefs', 'Chart Request', 'Members', 'Bleaching Risk', and 'Bleaching Map'. The 'Enter Data' option is also circled in red. The website features a header with navigation links (HOME, PROJECT, MONITORING, DATA, ORDER, DOWNLOAD, EVENTS, MEDIA, CALL TO ACTION, CONTACT) and a search bar. The main content area includes a 'Support CoralWatch!' section with 'Donate Now' and 'Start Fundraising' buttons, 'Quick Links' for social media and chart requests, and a 'New Programs' section for CoralWatch Ambassador and Dive Companion. A large banner image shows a person holding a Coral Health Chart over a coral reef. A paragraph of text describes CoralWatch as a citizen science project based at The University of Queensland, Australia, aimed at helping non-scientists monitor coral health. A small photo of people holding charts is visible in the bottom right corner.

Exercise 1 – find data using a map

Find data for a location (reef name) using a map

- Go to 'data' and 'map' and find the country and the reef you want to see explore/download data from
- If you zoom in on the map more and more detail in the number of surveys is available – select the area/reef/survey you are interested in



Exercise 2 – find data per survey

Find data for a location per survey

- Go to 'data' and 'surveys' – all reefs surveyed and the number of corals (records) per survey are shown
- Search or use 'filter' to search for country, reef name and/or surveyor (note that the database is spelling and capital sensitive)
- Select 'more info' if you are interested and like to see more details of a particular survey

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA
Enter Data
Map
Surveys
Chart Request
Members
Bleaching Risk
Bleaching Map
Member's Sign In
Email:
Password:
Sign In Sign Up Forgot Password?

Enter Data
Surveys
Chart Request
Members
Bleaching Risk
Bleaching Map

Reef Name	Surveyor	Date	Records	More info
Great Keppel Island monkey beach	slp@bwa	14 May 2017	7	More info
Australia Great Keppel Island monkey beach	Bec	14 May 2017	11	More info
Australia Great Keppel Island monkey beach	Capriem Coast	14 May 2017	10	More info
Australia Great Keppel Island monkey beach	plant	14 May 2017	9	More info
Australia Great Keppel Island monkey beach	Holly	14 May 2017	10	More info
Australia North Keppel Island	Michele Juerschik	13 May 2017	12	More info
Australia Pumpkin Island	Michele Juerschik	13 May 2017	5	More info
Australia Sleeping Island	slp@bwa	13 May 2017	4	More info
Australia More Bay	slp@bwa	13 May 2017	11	More info
Australia Sleeping Island	Noglan	13 May 2017	8	More info
Australia Sleeping Island	New Drivers	13 May 2017	5	More info
Australia Sleeping Island	Isabelle	13 May 2017	1	More info
Australia Sleeping Island	Isabelle	13 May 2017	2	More info
Australia Sleeping Island	Isabelle	13 May 2017	5	More info
Australia More Bay	Noglan	13 May 2017	1	More info
Australia More Bay	Noglan	13 May 2017	22	More info
Australia More Bay	Bec	13 May 2017	18	More info
Australia Sleeping Island	Bec	13 May 2017	1	More info
Australia Sleeping Island	Bec	13 May 2017	10	More info
Australia Sleeping Island	Capriem Coast	13 May 2017	1	More info

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA
Enter Data
Surveys
Chart Request
Members
Bleaching Risk
Bleaching Map
Member's Sign In
Email: admin@coralwatch.org
Password:
Sign In Sign Up Forgot Password?

Surveys

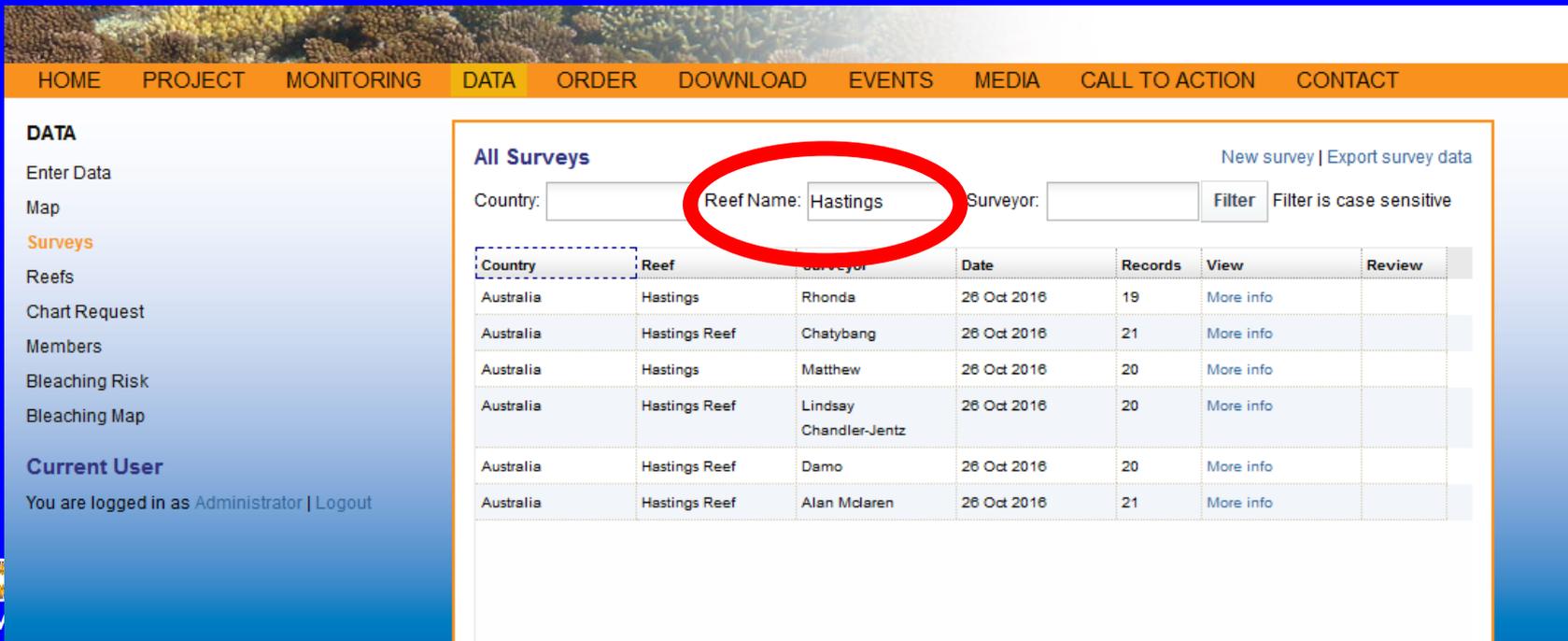
Country: Reef Name: Surveyor: Filter Filter case sensitive

Country	Surveyor	Date	Records	More info
Australia	GBR - Michaelmas Cay	Rhonda	26 Oct 2016	15
Australia	Hastings	Rhonda	26 Oct 2016	19
Australia	GBR - Michaelmas Cay	Ann	26 Oct 2016	17
Australia	Hastings Reef	Chatybang	26 Oct 2016	21
Australia	Hastings	Matthew	26 Oct 2016	20
Australia	GBR - Michaelmas Cay	Lindsay Chandler-Jentz	26 Oct 2016	10
Australia	GBR - Michaelmas Cay	darramundi	26 Oct 2016	1
Australia	GBR - Michaelmas Cay	darramundi	26 Oct 2016	1
Australia	GBR - Michaelmas Cay	darramundi	26 Oct 2016	12
Australia	GBR - Michaelmas Cay	darramundi	26 Oct 2016	1
Australia	GBR - Michaelmas Cay	Matthew knight	26 Oct 2016	16
Australia	GBR - Michaelmas Cay	Cindy	26 Oct 2016	12
Australia	GBR - Michaelmas Cay	Damo	26 Oct 2016	12
Australia	GBR - Michaelmas Cay	Chatybang	26 Oct 2016	14
Australia	Hastings Reef	Lindsay	26 Oct 2016	20

Exercise 2 – find data per survey

Find data for a location per survey – all surveys for particular reef exercise

- Filter data on 'reef name', e.g. Hastings
- Exercises:
 - How many surveys have been conducted at Hastings?
 - How many different surveyors have surveyed Hastings?
 - How many corals have been surveyed have been surveyed at Hastings?



HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA

Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map

Current User
You are logged in as Administrator | Logout

All Surveys [New survey](#) | [Export survey data](#)

Country: **Reef Name:** Surveyor: Filter is case sensitive

Country	Reef	Surveyor	Date	Records	View	Review
Australia	Hastings	Rhonda	26 Oct 2016	19	More info	
Australia	Hastings Reef	Chatybang	26 Oct 2016	21	More info	
Australia	Hastings	Matthew	26 Oct 2016	20	More info	
Australia	Hastings Reef	Lindsay Chandler-Jentz	26 Oct 2016	20	More info	
Australia	Hastings Reef	Damo	26 Oct 2016	20	More info	
Australia	Hastings Reef	Alan McLaren	26 Oct 2016	21	More info	

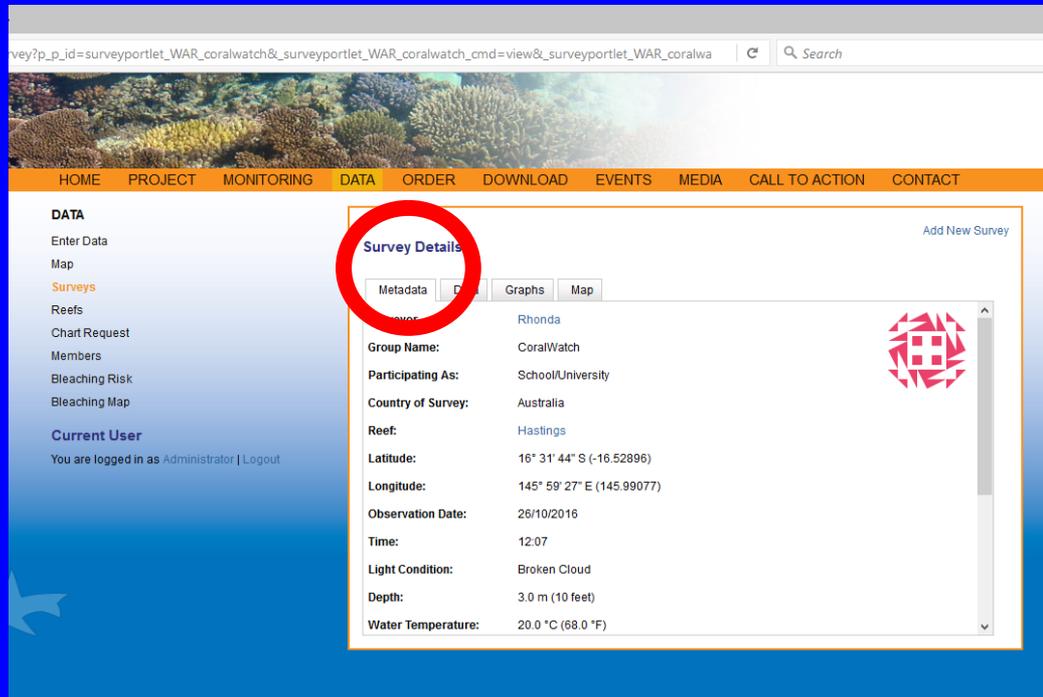
Filter: Hastings

 UNIVERSITY OF QUEENSLAND AUSTRALIA

Exercise 2 – find data per survey

Find data for a location per survey – metadata exercise

- Select a survey at Hastings – click on ‘more info’
- Select ‘metadata’ in survey details
 - What is the temperature and depth?
 - Who collected the data?
 - What are the GPS coordinates?



The screenshot shows the CoralWatch web application interface. The main navigation bar includes links for HOME, PROJECT, MONITORING, DATA, ORDER, DOWNLOAD, EVENTS, MEDIA, CALL TO ACTION, and CONTACT. The left sidebar contains a menu with options like Enter Data, Map, Surveys, Reefs, Chart Request, Members, Bleaching Risk, Bleaching Map, Current User, and a login status for Administrator. The main content area displays a 'Survey Details' window with a red circle highlighting the 'Metadata' tab. The metadata information is as follows:

Field	Value
Group Name	Rhonda
Group Name	CoralWatch
Participating As	School/University
Country of Survey	Australia
Reef	Hastings
Latitude	16° 31' 44" S (-16.52896)
Longitude	145° 59' 27" E (145.99077)
Observation Date	26/10/2016
Time	12:07
Light Condition	Broken Cloud
Depth	3.0 m (10 feet)
Water Temperature	20.0 °C (68.0 °F)

Exercise 2 – find data per survey

Find data for a location per survey – data exercise

- Select 'data' in survey details
 - What is the most common coral type?
 - What is the lightest/darkest colour code?
 - How many corals are surveyed?

Survey Details Add New Survey

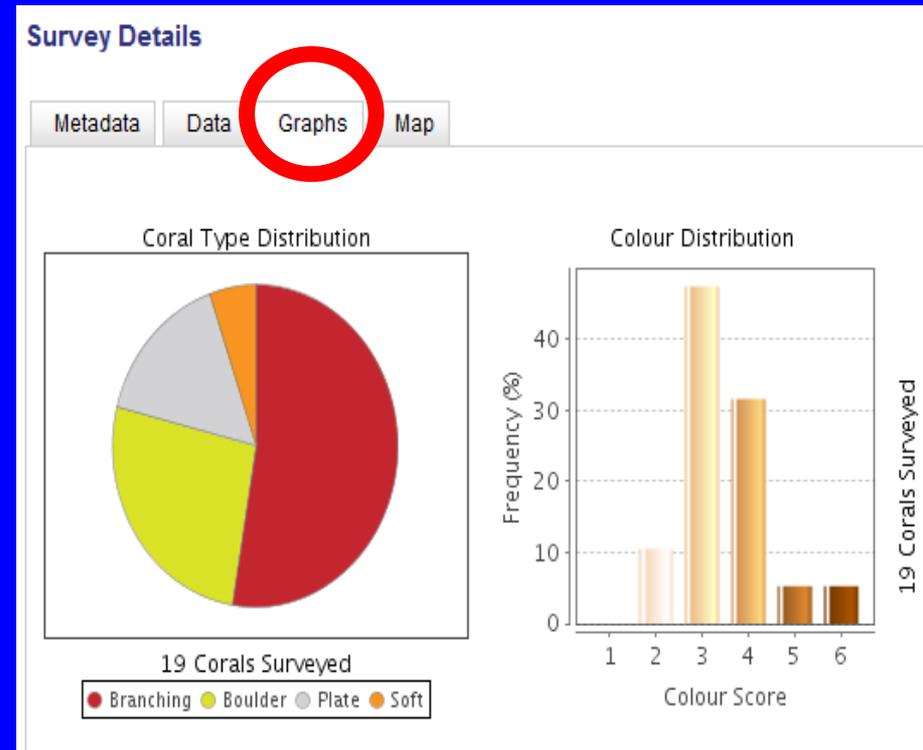
Metadata **Data** Graphs Map

No	Coral Type	Lightest	Darkest
1	Branching	D1	D4
2	Boulder	D3	D4
3	Branching	B2	B5
4	Boulder	B3	B6
5	Branching	C5	C6
6	Plate	C1	C5
7	Branching	C2	C3
8	Soft	E3	E4
9	Branching	E2	B6
10	Branching	C2	C3
11	Plate	C1	C3
12	Plate	E1	E4
13	Branching	E1	E4
14	Boulder	B2	B4

Exercise 2 – find data per survey

Find data for a location per survey – graph exercise

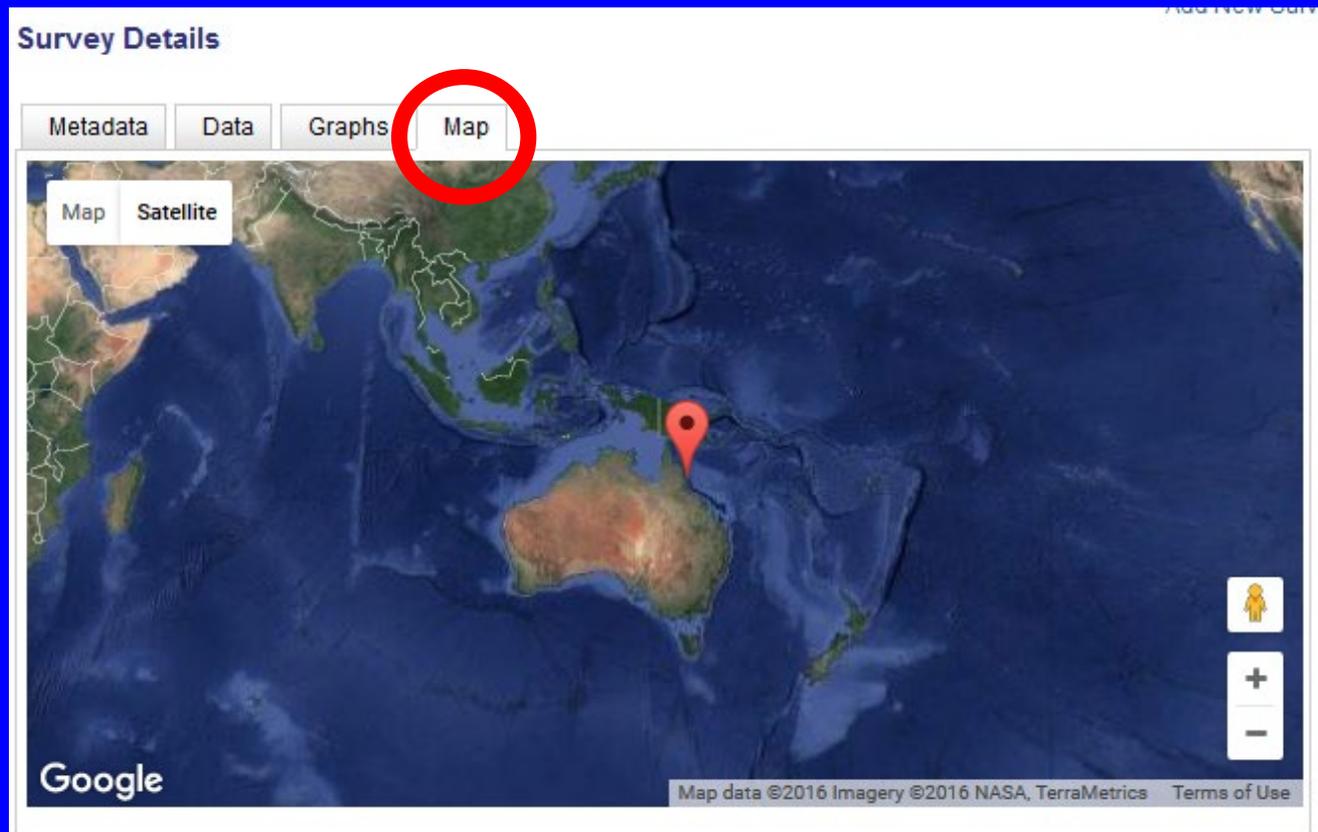
- Select 'graphs' in survey details
 - Which coral type is most/least abundant?
 - Does this match your earlier counts in 'data'?
 - Which colour code has the highest frequency? How much?
 - How many % has a colour score of 4?



Exercise 2 – find data per survey

Find data for a location per survey – map exercise

- Select 'map' in survey details
 - Is this the location where the data was collected?

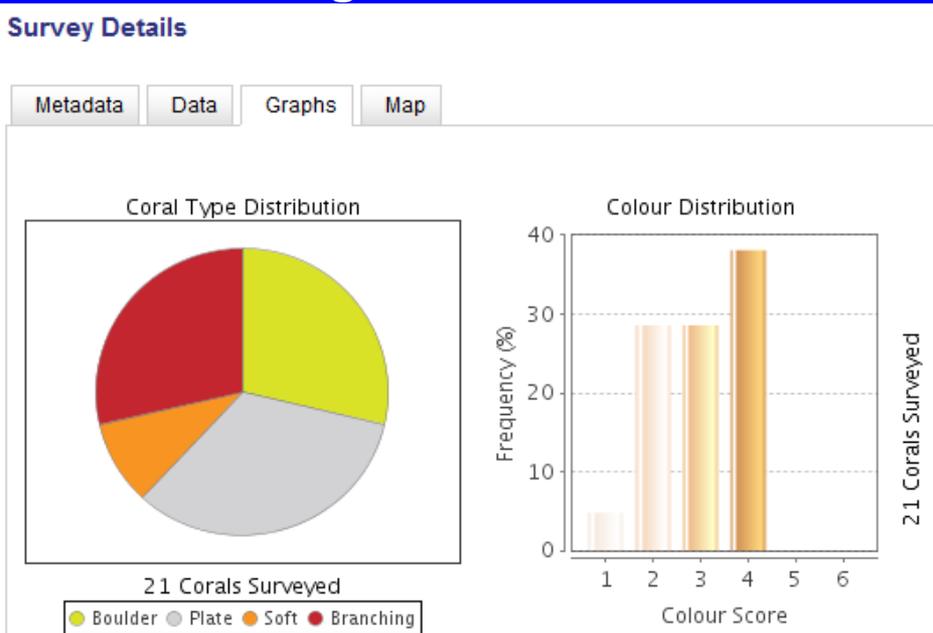


Exercise 3 – compare data between reefs

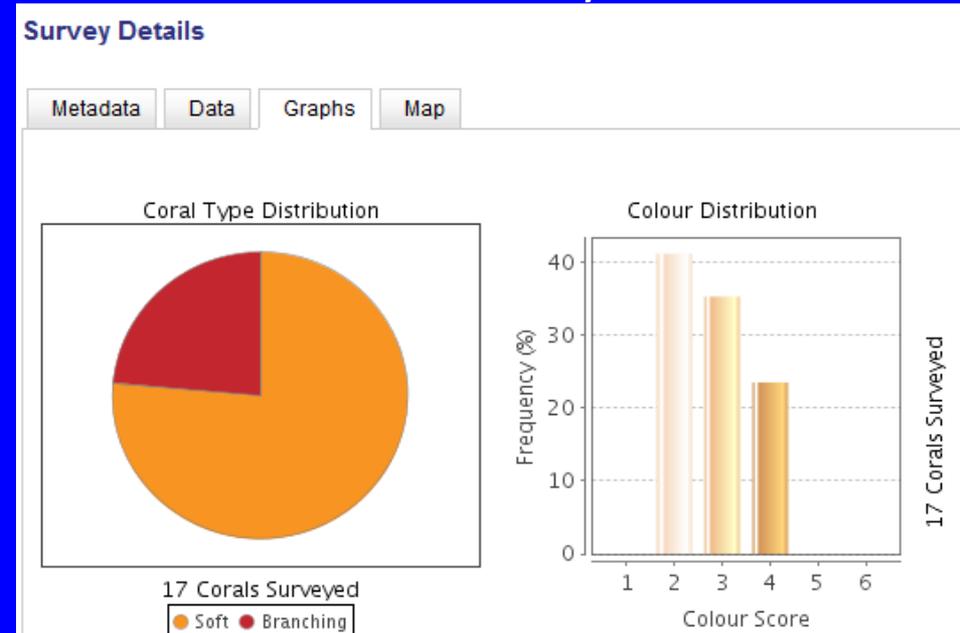
Explore the data of 1 surveyor between 2 different locations/reefs

- Follow steps from exercise 2 and filter on 'surveyor'
- For example: compare the data collected by surveyor Alan between the reefs Hastings Reef and Michaelmas Cay

Alan – Hastings Reef



Alan – Michaelmas Cay

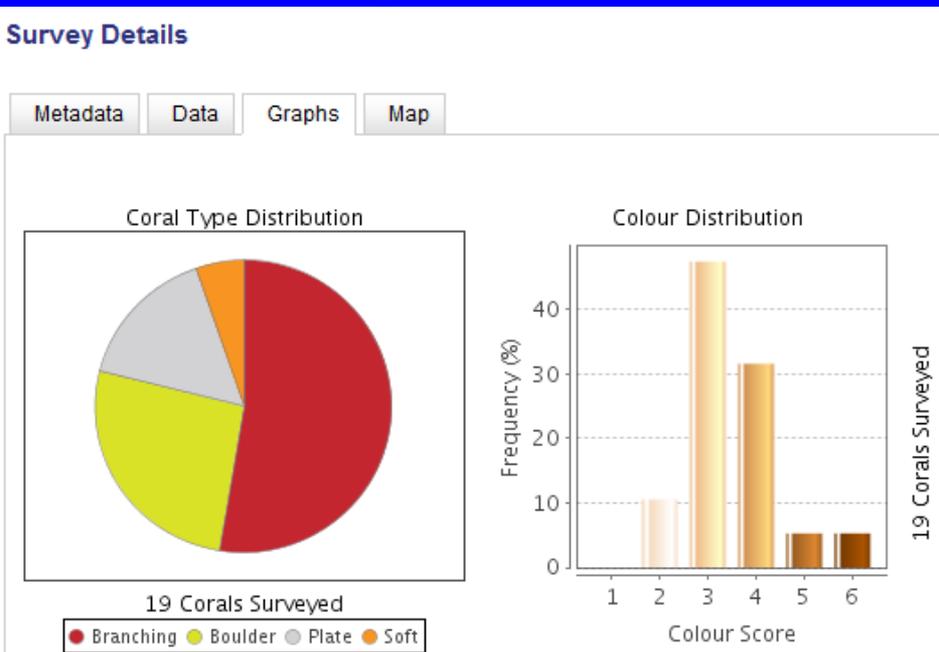


Exercise 4 – compare data between surveyors

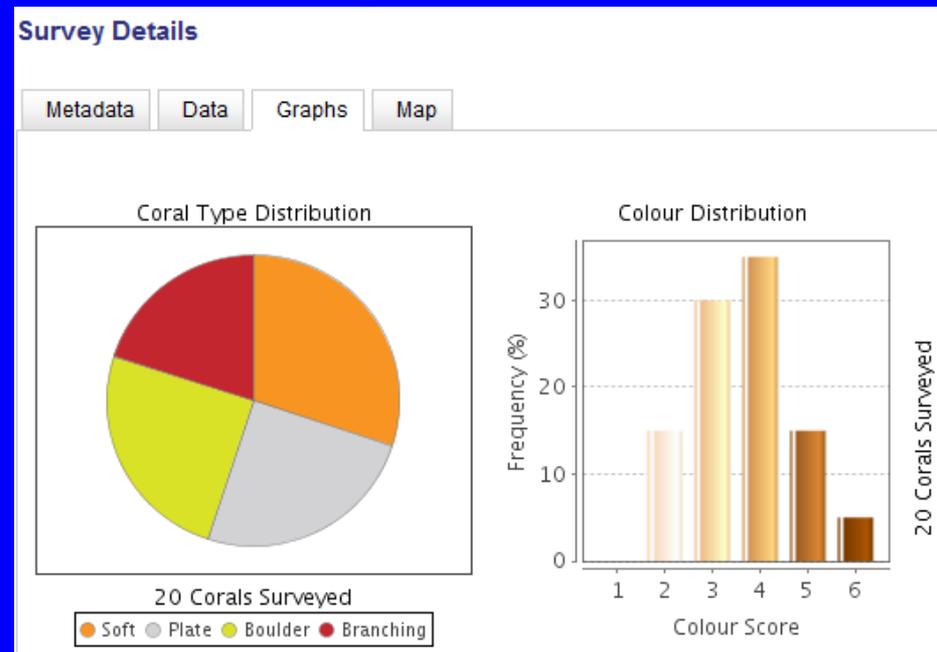
Explore the data of 2 different surveyors for the same location/reef

- Follow steps from exercise 2 and filter on 'reef name'
- For example: compare the data at Hastings Reef between surveyor Rhonda and Damo

Rhonda – Hastings Reef



Damo – Hastings Reef

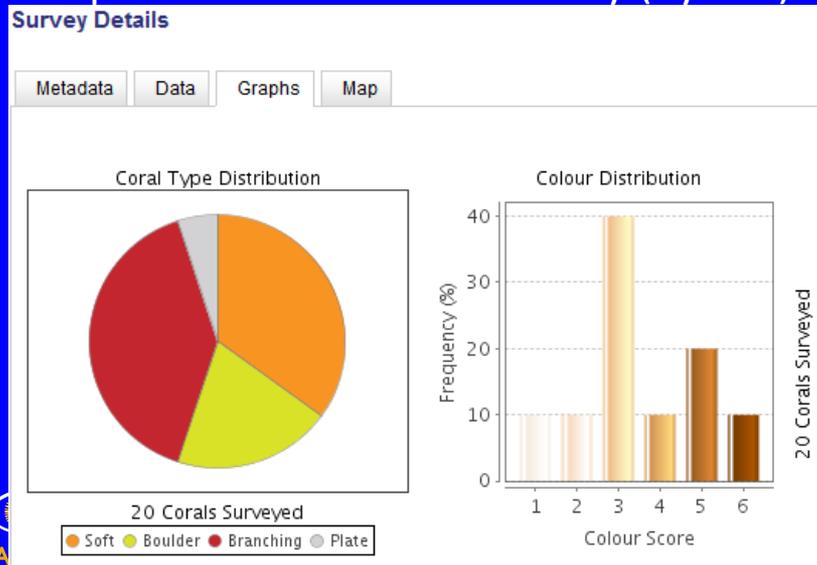


Exercise 5 – compare data over time

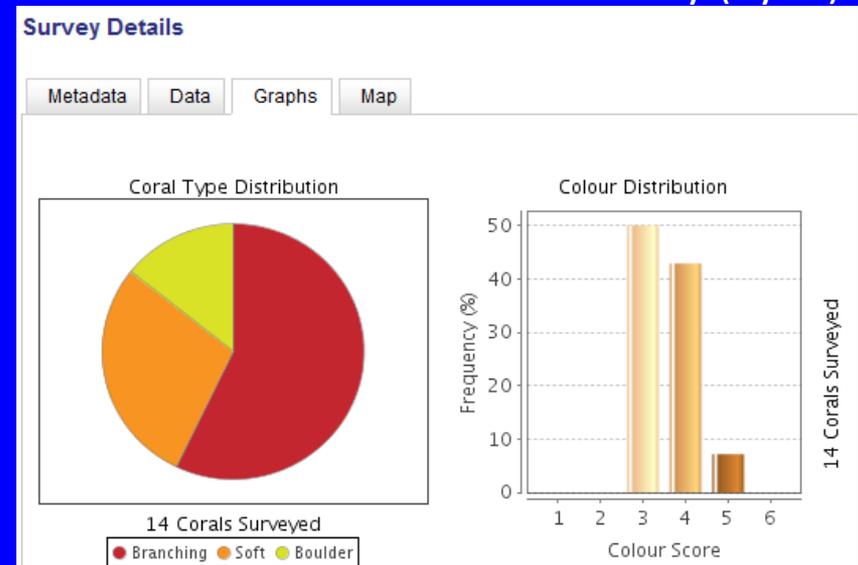
Explore the data of 1 location/reef over time

- Follow steps from exercise 2 and filter on 'reef name'
- Select data collected over time
- For example: compare data collected at Michaelmas Cay from April 2016 with October 2016
- Note that surveyors can be different

28 April 2016 – Michaelmas Cay (by Mo)



26 October 2016 – Michaelmas Cay (by TJ)



Exercise 6 – find data per reef name

Find data for a location/reef name

- Go to 'data' and 'reefs' – all reefs surveyed and the number of surveys per reef are shown (not the number of corals)
- Search or use 'filter' to search for country or reef name (note that the database is spelling and capital sensitive)
- Data will be presented for a particular reef

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA

Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map

Member's Sign In
Email:
Password:
 [Sign Up](#) | [Forgot Password?](#)

All Reefs

Country: Reef Name: Filter is case sensitive

Country	Reef Name	Surveys	View	Download
Australia	Great Keppel Island shelving reef	11	Graphs	Raw Data
Australia	Hardy Reef	4	Graphs	Raw Data
Australia	Hardy Reef - GBR	3	Graphs	Raw Data
Australia	Hastings	3	Graphs	Raw Data
Australia	Hastings Reef	7	Graphs	Raw Data
Australia	Heron Island	252	Graphs	Raw Data
Australia	Heron Island - blue pool	5	Graphs	Raw Data
Australia	Heron Island-blue pool	13	Graphs	Raw Data
Australia	Heron Island, Blue Pools	6	Graphs	Raw Data
Australia	Heron Island, Canyons	6	Graphs	Raw Data
Australia	Heron Island- Cappuccino Express	6	Graphs	Raw Data
Australia	Heron Island, Cascade	2	Graphs	Raw Data
Australia	Heron Island, Coral Gardens	4	Graphs	Raw Data
Australia	Heron Island, Coral Groto	2	Graphs	Raw Data
Australia	Heron Island - DS Estranc	1	Graphs	Raw Data

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA

Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map

Current User
You are logged in as Monique Gird | [Logout](#)

All Reefs

Country: Reef Name: Filter is case sensitive

Country	Reef Name	Surveys	View	Download
Australia	GBR - Michaelmas Cay	19	Graphs	Raw Data

Exercise 7 – graphs data per reef name

Available data for a specific location/reef name – graphs

- Follow steps from exercise 6 and filter on 'reef name'
- Select 'graphs' to view all data off this reef in a pie chart (coral type distribution) or bar graph (colour score distribution)
- Note that data presented is all data available for this reef (all surveys, coral and surveyors pooled over time)

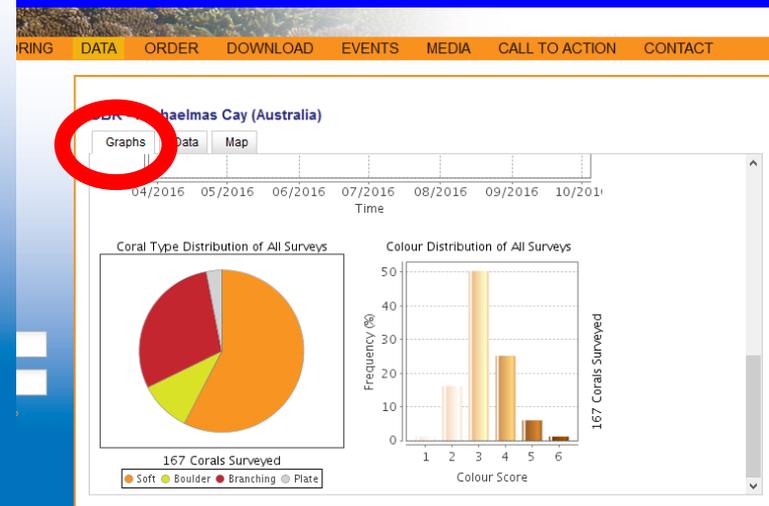
HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA
 Enter Data
 Map
 Surveys
Reefs
 Chart Request
 Members
 Bleaching Risk
 Bleaching Map

Member's Sign In
 Email:
 Password:
 Sign In | Sign Up | Forgot Password?

All Reefs
 Country: Reef Name: Filter Filter is case sensitive

Country	Reef Name	Surveys	Graphs	Download
Australia	Great Keppel Island shelving reef	11	Graphs	Raw Data
Australia	Hardy Reef	4	Graphs	Raw Data
Australia	Hardy Reef - GBR	3	Graphs	Raw Data
Australia	Hastings	3	Graphs	Raw Data
Australia	Hastings Reef	7	Graphs	Raw Data
Australia	Heron Island	252	Graphs	Raw Data
Australia	Heron Island - blue pool	5	Graphs	Raw Data
Australia	Heron Island-blue pool	13	Graphs	Raw Data
Australia	Heron Island, Blue Pools	6	Graphs	Raw Data
Australia	Heron Island, Canyons	6	Graphs	Raw Data
Australia	Heron Island- Cappuccino Express	6	Graphs	Raw Data
Australia	Heron Island, Cascade	2	Graphs	Raw Data
Australia	Heron Island, Coral Gardens	4	Graphs	Raw Data
Australia	Heron Island, Coral Grotto	2	Graphs	Raw Data
Australia	Heron Island - DS Entrance	1	Graphs	Raw Data



Exercise 8 – download data per reef name

Download data for a specific location/reef name

- Follow steps from exercise 6 and filter on 'reef name'
- Data showing is for a particular reef – all individual surveys conducted for this reef will be pooled together
- Select 'raw data'
- An Excel sheet will be downloaded with the average data per survey and survey records

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA
Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map
Current User
You are logged in as Monique Groll | Logout

All Reefs
Country: Reef Name: Michaelmas Filter is case sensitive

Country	Reef Name	Surveys	View	Download
Australia	GBR - Michaelmas Cay	19	Graphs	Raw Data

HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA
Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map
Member's Sign In
Email:
Password:
 [Sign Up](#) | [Forgot Password?](#)

All Reefs
Country: Reef Name: Filter is case sensitive

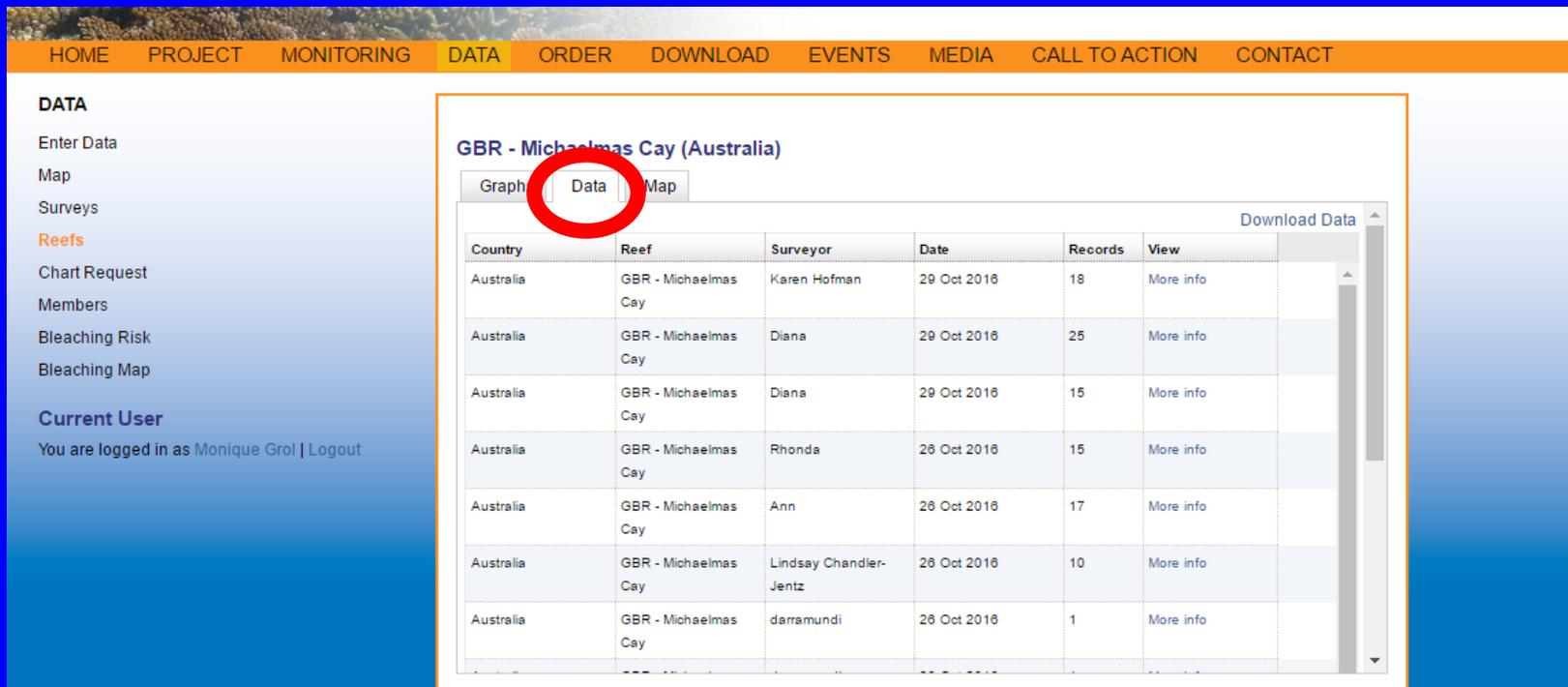
Country	Reef Name	Surveys	View	Download
Australia	Christmas Island	6	Graphs	Raw Data
Australia	Christmas Island - Chicken Farm	4	Graphs	Raw Data
Australia	GBR - Michaelmas Cay-20161027.xls			
Australia	Flying Fish Cove	5	Graphs	Raw Data
Australia	Flynn reef - great barrier reef	2	Graphs	Raw Data
Australia	Front Reef Edge Slope	1	Graphs	Raw Data
Australia	GBR - Michaelmas Cay	13	Graphs	Raw Data

Opening GBR - Michaelmas Cay-20161027.xls
You have chosen to open:
GBR - Michaelmas Cay-20161027.xls
which is: Microsoft Excel 97-2003 Worksheet
from: http://coralwatch.org
What should Firefox do with this file?
 Open with Microsoft Excel (default)
 Save File
 Do this automatically for files like this from now on.

Exercise 9 – available data per reef name

Available data for a specific location/reef name – data

- Follow steps from exercise 7
- Select 'data' and all data available for this reef will appear separated by surveyor (this is the same information in exercise 2)



HOME PROJECT MONITORING DATA ORDER DOWNLOAD EVENTS MEDIA CALL TO ACTION CONTACT

DATA

Enter Data
Map
Surveys
Reefs
Chart Request
Members
Bleaching Risk
Bleaching Map

Current User
You are logged in as Monique Grol | Logout

GBR - Michaelmas Cay (Australia)

Graph **Data** Map

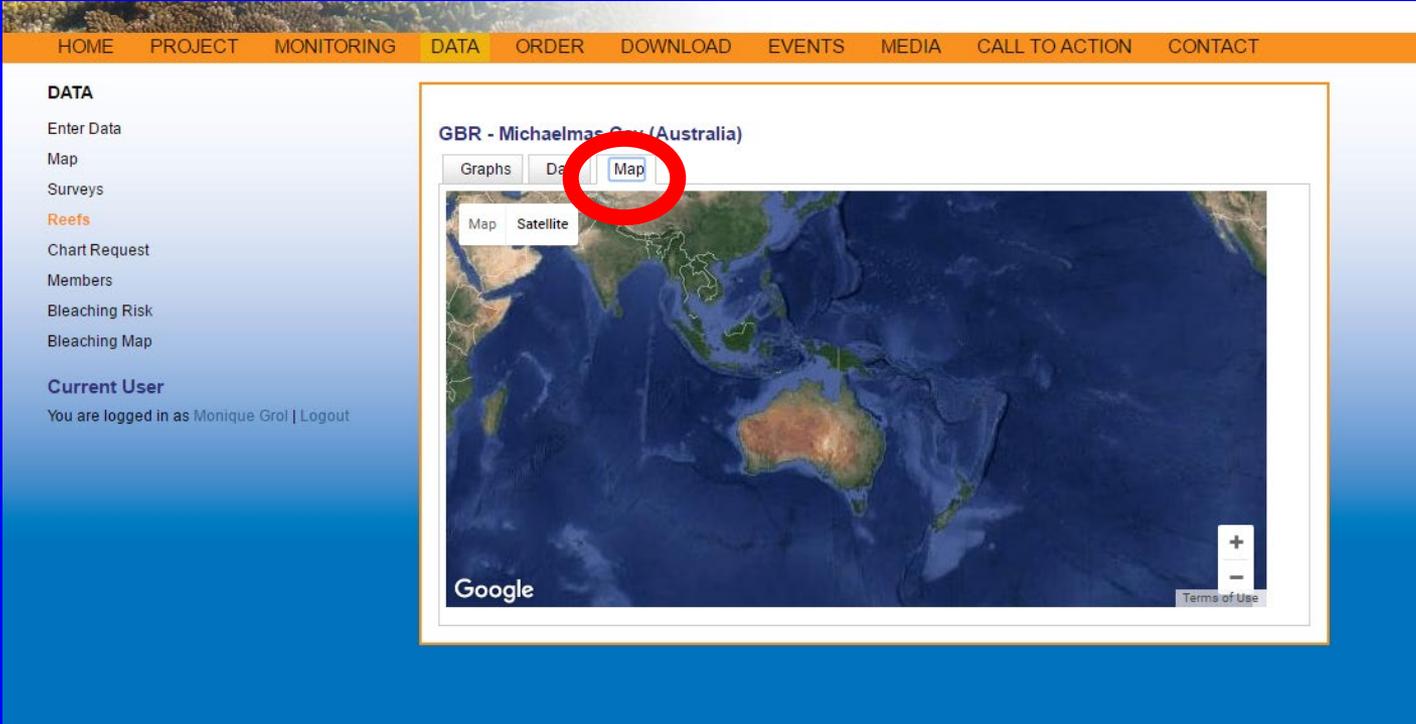
Download Data

Country	Reef	Surveyor	Date	Records	View
Australia	GBR - Michaelmas Cay	Karen Hofman	29 Oct 2016	18	More info
Australia	GBR - Michaelmas Cay	Diana	29 Oct 2016	25	More info
Australia	GBR - Michaelmas Cay	Diana	29 Oct 2016	15	More info
Australia	GBR - Michaelmas Cay	Rhonda	28 Oct 2016	15	More info
Australia	GBR - Michaelmas Cay	Ann	28 Oct 2016	17	More info
Australia	GBR - Michaelmas Cay	Lindsay Chandler-Jentz	28 Oct 2016	10	More info
Australia	GBR - Michaelmas Cay	darramundi	28 Oct 2016	1	More info

Exercise 9 – available data per reef name

Available data for a specific location/reef name – map

- Follow steps from exercise 7
- Selecte 'maps' and a map will show you the location of the reef



The screenshot displays the CoralWatch website interface. The top navigation bar includes links for HOME, PROJECT, MONITORING, DATA, ORDER, DOWNLOAD, EVENTS, MEDIA, CALL TO ACTION, and CONTACT. The left sidebar menu lists various options under the 'DATA' section, including 'Enter Data', 'Map', 'Surveys', 'Reefs', 'Chart Request', 'Members', 'Bleaching Risk', and 'Bleaching Map'. Below this, it shows the current user is logged in as 'Monique Grol'. The main content area is titled 'GBR - Michaelmas Reef (Australia)'. It features three tabs: 'Graphs', 'Data', and 'Map'. The 'Map' tab is highlighted with a red circle. Below the tabs is a Google Maps interface showing the Great Barrier Reef region, with a 'Map' button and a 'Satellite' button visible. The Google logo and 'Terms of Use' link are also present at the bottom of the map area.

Cairns teacher PD workshop data

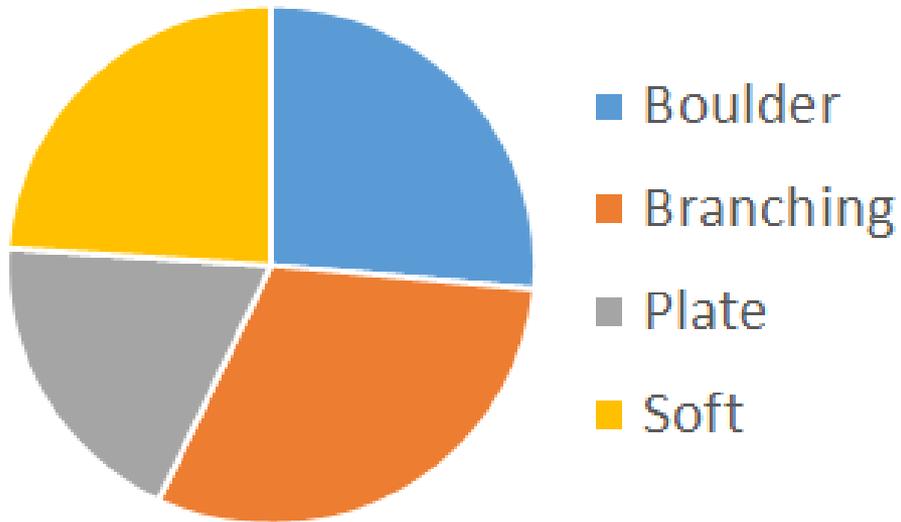
Overall data (n, mean and average) for all data collected on
Hastings Reef & Michaelmas Cay

Reef name	Coral type	n	lightest	darkest	average
Michaelmas Cay	Boulder	13	3.23	3.69	3.46
Michaelmas Cay	Branching	41	2.59	2.95	2.77
Michaelmas Cay	Plate	4	3.00	4.50	3.75
Michaelmas Cay	Soft	90	2.80	2.97	2.88
<i>Total</i>		<i>148</i>	<i>3.07</i>	<i>3.07</i>	<i>2.93</i>
Hastings Reef	Boulder	32	2.84	3.31	3.08
Hastings Reef	Branching	37	2.70	3.68	3.19
Hastings Reef	Plate	23	2.83	3.57	3.20
Hastings Reef	Soft	29	2.48	3.38	2.93
<i>Total</i>		<i>121</i>	<i>2.71</i>	<i>3.49</i>	<i>2.74</i>

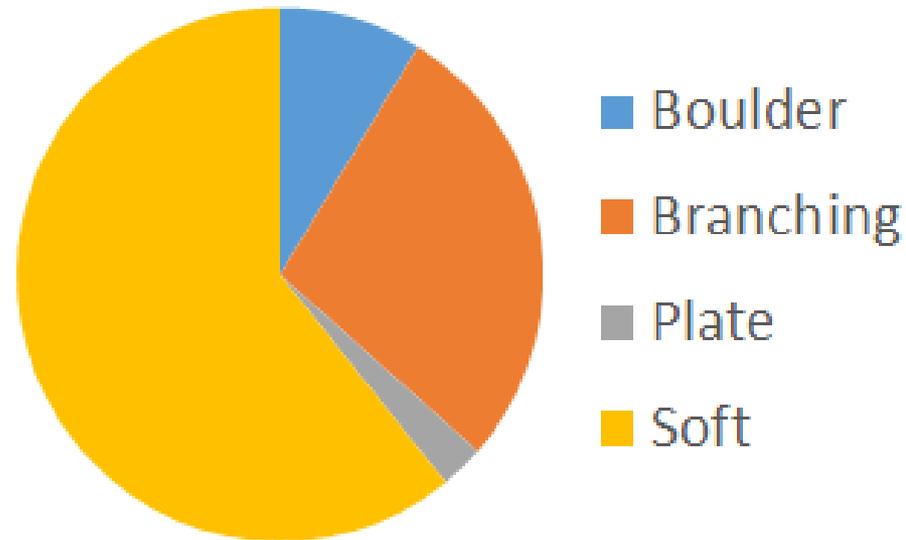
Cairns teacher PD workshop data

Coral type pie chart for all data collected on
Hastings Reef & Michaelmas Cay

Hastings Reef - Coral type



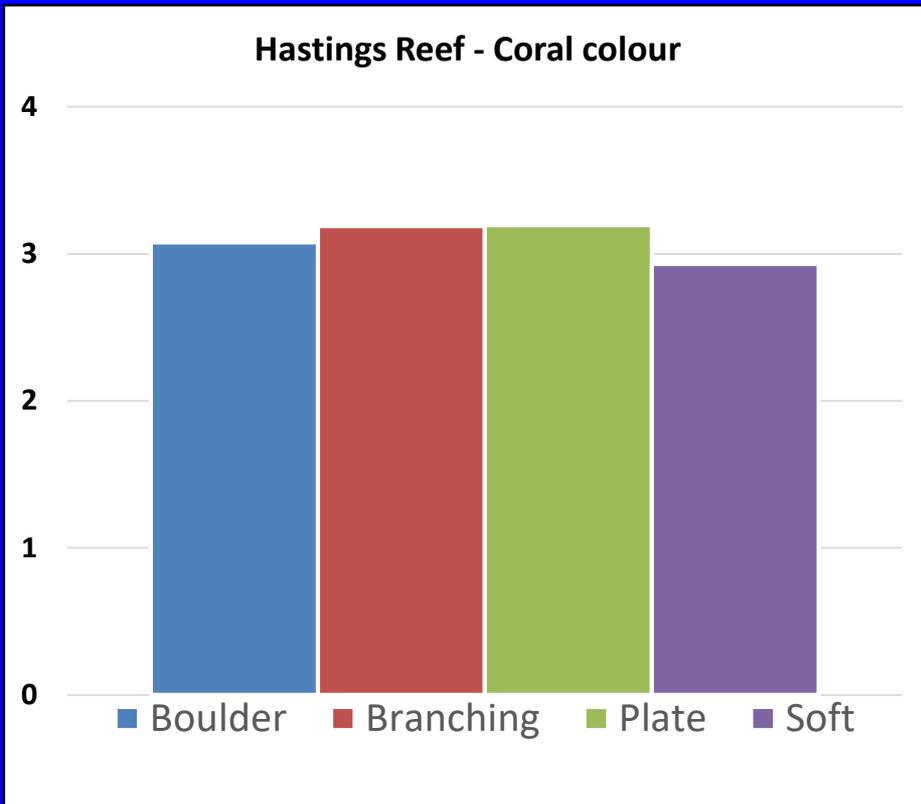
Michaelmas Cay - Coral type



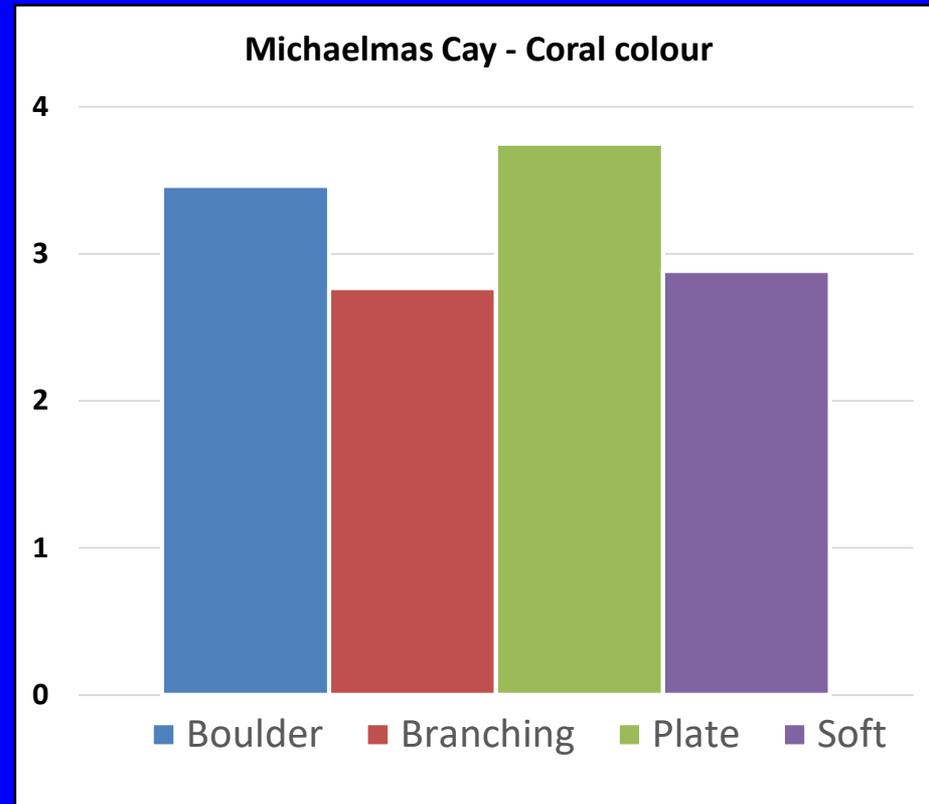
Cairns teacher PD workshop data

Coral colour distribution per coral type for all data collected on Hastings Reef & Michaelmas Cay

Hastings Reef - Coral colour



Michaelmas Cay - Coral colour



Act now for the future of our reefs

THANKS FOR YOUR TIME !

www.coralwatch.org