

# Earthwatch FreshWater Watch

Shapefile



## Tags

FreshWater Watch; Earthwatch; Hong Kong; Citizen Science; Freshwater; Volunteer

## Summary

This dataset seeks to address specific local water challenges as well as gather data for global FreshWater Watch research.

The Research - Phytoplankton diversity in relation to the water quality of rivers in Hong Kong In Hong Kong, FreshWater Watchers are helping understand the relationship between water quality and the seasonality, distribution and diversity of microalgae in selected rivers and streams to be better understood. Organic aquatic pollution can encourage rapid excessive growth of algae, known as 'algal bloom'. Algal blooms can have serious effects on ecosystems, for example by obstructing waterbodies, producing toxic compounds and significantly reducing oxygen levels. Human health can be affected through direct contact with contaminated water or the consumption of affected seafood. The goal of the study is to generate data to be used to predict the potential risk of algal blooms from river discharges to the coastal waters of Hong Kong.

## Description

This dataset has been collected as part of the FreshWater Watch project, which is an Earthwatch research project investigating the health of global freshwater ecosystems on a scale never seen before.

Freshwater Watch has two levels which work together:

### LEVEL ONE: Global Data

We have global data questions which are consistent in every location around the world. So if you're testing at rivers in Rio, lakes in London, streams in Sydney, beaches in Buffalo or ponds in Paris you know that you are doing exactly the same as FreshWater Watchers everywhere. The data tests and observations can be summarised as below:

Research Questions

What are the causes of the loss of freshwater quality?

Why are freshwater ecosystems degrading?

Research Purpose

To better manage and protect the world's freshwater.

The Role of the FreshWater Watcher

To uncover the causes of the loss of freshwater quality and ecosystem degradation.

To be part of a global community providing environmental information on a scale never seen before.

### LEVEL TWO: Local Data

A key element of the second level of FreshWater Watch are the collaborations we have created with organisations such as the University of Sao Paulo, The Open University of Hong Kong, The Singapore Delft Water Alliance and The Chinese Academy of Science. These collaborations seek to address specific local water challenges as well as gather data for global FreshWater Watch research. These local priorities have global implications such as investigating the benefits of restoration activities (Singapore), examining sources of litter pollution in the Great Lakes (Buffalo, Chicago and Montreal).

In this level of FreshWater Watch, we form partnerships with corporate partners such as HSBC and Shell, schools, NGOs, volunteers groups and other groups.

The FreshWater Watchers who participate in this level attend a training day as well as completing the online training and become known as Citizen Science Leaders.

### Credits

Earthwatch Institute - Europe | The Open University of Hong Kong | All Citizen Scientists involved in the collection of the data

### Use limitations

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### Extent

**West** 113.929639 **East** 114.269786

**North** 22.512800 **South** 22.268669

### Scale Range

**Maximum (zoomed in)** 1:5,000

**Minimum (zoomed out)** 1:150,000,000

### ArcGIS Metadata ►

### Topics and Keywords ►

**THEMES OR CATEGORIES OF THE RESOURCE** environment, inlandWaters, society

\* **CONTENT TYPE** Downloadable Data

**EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION** No

**THEME KEYWORDS** Freshwater, Citizen Science, Water Quality, Nutrients

*Hide Topics and Keywords ▲*

### Citation ►

**TITLE** Earthwatch FreshWater Watch

**ALTERNATE TITLES** Hong Kong FreshWater Watch Data

**CREATION DATE** 2013-04-27 00:00:00

**PUBLICATION DATE** 2017-04-10 00:00:00

PRESENTATION FORMATS

FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

COLLECTION TITLE Earthwatch FreshWater Watch - Hong Kong

[Hide Citation ▲](#)

## Citation Contacts ►

RESPONSIBLE PARTY

INDIVIDUAL'S NAME Freshwater Watch  
ORGANIZATION'S NAME Earthwatch Institute - Europe  
CONTACT'S POSITION Project Manager  
CONTACT'S ROLE originator

CONTACT INFORMATION ►

PHONE

VOICE 01865-318-838

ADDRESS

TYPE physical

DELIVERY POINT Mayfield House, 256 Banbury Road

CITY Oxford

ADMINISTRATIVE AREA Oxfordshire

POSTAL CODE OX2 7DE

COUNTRY GB

E-MAIL ADDRESS [infofww@earthwatch.org.uk](mailto:infofww@earthwatch.org.uk)

HOURS OF SERVICE

8:30 a.m. to 5:00 p.m GMT

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

## Resource Details ►

DATASET LANGUAGES \* English (UNITED KINGDOM)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS on-going

SPATIAL REPRESENTATION TYPE \* vector

SPATIAL RESOLUTION

GROUND SAMPLE DISTANCE

PRECISION OF SPATIAL DATA 5 m (meter)

\* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1;  
Esri ArcGIS 10.4.1.5686

CREDITS

Earthwatch Institute - Europe | The Open University of Hong Kong | All Citizen Scientists involved in the collection of the data

ARCGIS ITEM PROPERTIES

\* NAME HK\_FWW\_OpData

\* SIZE 0.018

\* LOCATION file:///\\GIS-  
I7\C\$\Users\lfvelasquez.EARTHWATCHEWE\Documents\HK\HK\_FWW\_OpData.shp  
\* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

## Extents ►

### EXTENT

#### DESCRIPTION

Dates source data was published

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

\* WEST LONGITUDE 113.929639

\* EAST LONGITUDE 114.269786

\* NORTH LATITUDE 22.512800

\* SOUTH LATITUDE 22.268669

\* EXTENT CONTAINS THE RESOURCE Yes

#### TEMPORAL EXTENT

BEGINNING DATE 2013-04-27 00:00:00

ENDING DATE 2017-04-10 00:00:00

#### EXTENT IN THE ITEM'S COORDINATE SYSTEM

\* WEST LONGITUDE 113.929639

\* EAST LONGITUDE 114.269786

\* SOUTH LATITUDE 22.268669

\* NORTH LATITUDE 22.512800

\* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

### POINT OF CONTACT

INDIVIDUAL'S NAME Freshwater Watch

ORGANIZATION'S NAME Earthwatch Institute - Europe

CONTACT'S POSITION Project Manager

CONTACT'S ROLE originator

### CONTACT INFORMATION ►

#### PHONE

VOICE 01865-318-838

#### ADDRESS

TYPE physical

DELIVERY POINT Mayfield House, 256 Banbury Road

CITY Oxford

ADMINISTRATIVE AREA Oxfordshire

POSTAL CODE OX2 7DE

COUNTRY GB

E-MAIL ADDRESS [infofw@earthwatch.org.uk](mailto:infofw@earthwatch.org.uk)

#### HOURS OF SERVICE

8:30 a.m. to 5:00 p.m GMT

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

## Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY as needed

[Hide Resource Maintenance ▲](#)

## Resource Constraints ►

CONSTRAINTS

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LEGAL CONSTRAINTS

ACCESS CONSTRAINTS license

USE CONSTRAINTS license

[Hide Resource Constraints ▲](#)

## Spatial Reference ►

ARCGIS COORDINATE SYSTEM

\* TYPE Geographic

\* GEOGRAPHIC COORDINATE REFERENCE GCS\_WGS\_1984

\* COORDINATE REFERENCE DETAILS

GEOGRAPHIC COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 4326

X ORIGIN -400

Y ORIGIN -400

XY SCALE 11258999068426.238

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 8.983152841195215e-009

Z TOLERANCE 0.001

M TOLERANCE 0.001

HIGH PRECISION true

LEFT LONGITUDE -180

LATEST WELL-KNOWN IDENTIFIER 4326

WELL-KNOWN TEXT

GEOGCS["GCS\_WGS\_1984",DATUM["D\_WGS\_1984",SPHEROID["WGS\_1984",63781

37.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433],AUTHORITY["EPSG",4326]]

#### REFERENCE SYSTEM IDENTIFIER

- \* VALUE 4326
- \* CODESPACE EPSG
- \* VERSION 6.14(3.0.1)

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

#### VECTOR ►

- \* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

#### GEOMETRIC OBJECTS

- FEATURE CLASS NAME HK\_FWW\_OpData
- \* OBJECT TYPE point
- \* OBJECT COUNT 687

[Hide Vector ▲](#)

#### ARCgis FEATURE CLASS PROPERTIES ►

- FEATURE CLASS NAME HK\_FWW\_OpData
- \* FEATURE TYPE Simple
- \* GEOMETRY TYPE Point
- \* HAS TOPOLOGY FALSE
- \* FEATURE COUNT 687
- \* SPATIAL INDEX TRUE
- \* LINEAR REFERENCING FALSE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

## Distribution ►

#### DISTRIBUTION FORMAT

- \* NAME Shapefile

#### TRANSFER OPTIONS

- \* TRANSFER SIZE 0.018

[Hide Distribution ▲](#)

## Fields ►

#### DETAILS FOR OBJECT HK\_FWW\_OpData ►

- \* TYPE Feature Class
- \* ROW COUNT 687

#### DEFINITION

This feature class defines the different location of points for the Hong Kong area

#### DEFINITION SOURCE

Esri

FIELD FID ►

- \* ALIAS FID
- \* DATA TYPE OID
- \* WIDTH 4
- \* PRECISION 0
- \* SCALE 0
- \* FIELD DESCRIPTION  
Internal feature number.
  
- \* DESCRIPTION SOURCE  
Esri
  
- \* DESCRIPTION OF VALUES  
Sequential unique whole numbers that are automatically generated.

*Hide Field FID ▲*

FIELD Shape ►

- \* ALIAS Shape
- \* DATA TYPE Geometry
- \* WIDTH 0
- \* PRECISION 0
- \* SCALE 0
- \* FIELD DESCRIPTION  
Feature geometry.
  
- \* DESCRIPTION SOURCE  
Esri
  
- \* DESCRIPTION OF VALUES  
Coordinates defining the features.

*Hide Field Shape ▲*

FIELD nitrate ►

- \* ALIAS nitrate
- \* DATA TYPE Single
- \* WIDTH 13
- \* PRECISION 0
- \* SCALE 0
- FIELD DESCRIPTION  
Concentration of NO3 in mg/L as input by the citizen scientist
  
- DESCRIPTION SOURCE  
Earthwatch
  
- LIST OF VALUES

VALUE mg/L  
DESCRIPTION Concentration in ppm  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE Biochemical water quality test - Kyoritsu  
chemical kit

[Hide Field nitrate ▲](#)

FIELD phosphate ►

\* ALIAS phosphate  
\* DATA TYPE Single  
\* WIDTH 13  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Concentration of PO4 in mg/L as input by the citizen scientist

DESCRIPTION SOURCE

Earthwatch

LIST OF VALUES

VALUE mg/L  
DESCRIPTION Concentration in ppm  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE Biochemical water quality test - Kyoritsu  
chemical kit

[Hide Field phosphate ▲](#)

FIELD turbidity ►

\* ALIAS turbidity  
\* DATA TYPE Single  
\* WIDTH 13  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION

Value derived by citizen scientist using a a graduated, non-linear scale of  
Nephelometric Turbidity Units

DESCRIPTION SOURCE

Earthwatch

LIST OF VALUES

VALUE NTU  
DESCRIPTION Nephelometric Turbidity Units  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE Derived using a a graduated, non-linear  
scale of Nephelometric Turbidity Units (NTU) on the side of a tube

[Hide Field turbidity ▲](#)

FIELD lat ►

\* ALIAS lat  
\* DATA TYPE Double  
\* WIDTH 19  
\* PRECISION 0  
\* SCALE 0

FIELD DESCRIPTION



## Latitude value

### DESCRIPTION SOURCE

Earthwatch

### RANGE OF VALUES

MINIMUM VALUE 0

MAXIMUM VALUE 90

UNITS OF MEASURE Degrees

[Hide Field lat ▲](#)

## FIELD lon ►

\* ALIAS lon

\* DATA TYPE Double

\* WIDTH 19

\* PRECISION 0

\* SCALE 0

### FIELD DESCRIPTION

Longitude Value

### DESCRIPTION SOURCE

Earthwatch

### RANGE OF VALUES

MINIMUM VALUE 0

MAXIMUM VALUE 180

UNITS OF MEASURE Degrees

[Hide Field lon ▲](#)

## FIELD sampleloc ►

\* ALIAS sampleloc

\* DATA TYPE String

\* WIDTH 254

\* PRECISION 0

\* SCALE 0

### FIELD DESCRIPTION

Definition of the location where the sample was taken in Hong Kong

### DESCRIPTION SOURCE

Earthwatch

### DESCRIPTION OF VALUES

This value is added by the citizen scientist based on the name of the sampling location

[Hide Field sampleloc ▲](#)

## FIELD sampletype ►

\* ALIAS sampletype

\* DATA TYPE String

\* WIDTH 254

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Definition of the water body where the sample was taken by the citizen scientist

DESCRIPTION SOURCE

Earthwatch

DESCRIPTION OF VALUES

This value is added by the citizen scientist based on type of water body sampled

*Hide Field sampletype ▲*

FIELD **project** ►

\* ALIAS project

\* DATA TYPE String

\* WIDTH 254

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Location of the Freshwater Watch project

DESCRIPTION SOURCE

Earthwatch

DESCRIPTION OF VALUES

This is a predetermined value set by Earthwatch, and it represents the location of the project

*Hide Field project ▲*

FIELD **sampledate** ►

\* ALIAS sampledate

\* DATA TYPE Date

\* WIDTH 8

\* PRECISION 0

\* SCALE 0

FIELD DESCRIPTION

Date on which the sample was taken by the citizen scientist

DESCRIPTION SOURCE

Earthwatch

DESCRIPTION OF VALUES

This value is added by the application used to upload or by the citizen scientist whilst sampling

*Hide Field sampledate ▲*

*Hide Details for object HK\_FWW\_OpData ▲*

[Hide Fields ▲](#)

## Metadata Details ►

\* METADATA LANGUAGE English (UNITED KINGDOM)  
\* METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA \* dataset  
SCOPE NAME \* dataset

\* LAST UPDATE 2017-04-10

### ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0  
METADATA STYLE FGDC CSDGM Metadata  
STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-10 09:53:45  
LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-04-10 14:03:35

### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes  
LAST UPDATE 2017-04-10 14:03:35

[Hide Metadata Details ▲](#)

## Metadata Contacts ►

### METADATA CONTACT

INDIVIDUAL'S NAME Freshwater Watch  
ORGANIZATION'S NAME Earthwatch Institute - Europe  
CONTACT'S POSITION Project Manager  
CONTACT'S ROLE custodian

### CONTACT INFORMATION ►

PHONE  
VOICE 01865-318-838

### ADDRESS

TYPE physical  
DELIVERY POINT Mayfield House, 256 Banbury Road  
CITY Oxford  
ADMINISTRATIVE AREA Oxfordshire  
POSTAL CODE OX2 7DE  
COUNTRY GB  
E-MAIL ADDRESS [infofw@earthwatch.org.uk](mailto:infofw@earthwatch.org.uk)

### HOURS OF SERVICE

8:30 a.m. to 5:00 p.m GMT

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ►

MAINTENANCE

UPDATE FREQUENCY as needed

[Hide Metadata Maintenance ▲](#)

## Thumbnail and Enclosures ►

THUMBNAIL

THUMBNAIL TYPE JPG

[Hide Thumbnail and Enclosures ▲](#)

## FGDC Metadata (read-only) ▼

DETAILED DESCRIPTION

ENTITY TYPE

ENTITY TYPE LABEL HK\_FWW\_OpData

ENTITY TYPE DEFINITION

This feature class defines the different location of points for the Hong Kong area

ENTITY TYPE DEFINITION SOURCE Esri

ATTRIBUTE

ATTRIBUTE LABEL FID

ATTRIBUTE DEFINITION

Internal feature number.

ATTRIBUTE DEFINITION SOURCE Esri

ATTRIBUTE DOMAIN VALUES

UNREPRESENTABLE DOMAIN

Sequential unique whole numbers that are automatically generated.

ATTRIBUTE

ATTRIBUTE LABEL Shape

ATTRIBUTE DEFINITION

Feature geometry.

ATTRIBUTE DEFINITION SOURCE Esri

ATTRIBUTE DOMAIN VALUES

UNREPRESENTABLE DOMAIN

Coordinates defining the features.

ATTRIBUTE

ATTRIBUTE LABEL nitrate

ATTRIBUTE DEFINITION

Concentration of NO3 in mg/L as input by the citizen scientist

ATTRIBUTE DEFINITION SOURCE Earthwatch

ATTRIBUTE DOMAIN VALUES

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE mg/L

ENUMERATED DOMAIN VALUE DEFINITION

Concentration in ppm

ENUMERATED DOMAIN VALUE DEFINITION SOURCE

Biochemical water quality test - Kyoritsu chemical kit

ATTRIBUTE

ATTRIBUTE LABEL phosphate

ATTRIBUTE DEFINITION

Concentration of PO4 in mg/L as input by the citizen scientist

ATTRIBUTE DEFINITION SOURCE Earthwatch

ATTRIBUTE DOMAIN VALUES

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE mg/L  
ENUMERATED DOMAIN VALUE DEFINITION  
Concentration in ppm  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE  
Biochemical water quality test - Kyoritsu chemical kit

ATTRIBUTE  
ATTRIBUTE LABEL turbidity  
ATTRIBUTE DEFINITION  
Value derived by citizen scientist using a a graduated, non-linear scale of  
Nephelometric Turbidity Units  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
ENUMERATED DOMAIN  
ENUMERATED DOMAIN VALUE NTU  
ENUMERATED DOMAIN VALUE DEFINITION  
Nephelometric Turbidity Units  
ENUMERATED DOMAIN VALUE DEFINITION SOURCE  
Derived using a a graduated, non-linear scale of Nephelometric Turbidity Units  
(NTU) on the side of a tube

ATTRIBUTE  
ATTRIBUTE LABEL lat  
ATTRIBUTE DEFINITION  
Latitude value  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
RANGE DOMAIN  
RANGE DOMAIN MINIMUM 0  
RANGE DOMAIN MAXIMUM 90  
ATTRIBUTE UNITS OF MEASURE Degrees

ATTRIBUTE  
ATTRIBUTE LABEL lon  
ATTRIBUTE DEFINITION  
Longitude Value  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
RANGE DOMAIN  
RANGE DOMAIN MINIMUM 0  
RANGE DOMAIN MAXIMUM 180  
ATTRIBUTE UNITS OF MEASURE Degrees

ATTRIBUTE  
ATTRIBUTE LABEL sampleloc  
ATTRIBUTE DEFINITION  
Definition of the location where the sample was taken in Hong Kong  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
UNREPRESENTABLE DOMAIN  
This value is added by the citizen scientist based on the name of the sampling  
location

ATTRIBUTE  
ATTRIBUTE LABEL samplotype  
ATTRIBUTE DEFINITION  
Definition of the water body where the sample was taken by the citizen scientist  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
UNREPRESENTABLE DOMAIN  
This value is added by the citizen scientist based on type of water body sampled

ATTRIBUTE

ATTRIBUTE LABEL project  
ATTRIBUTE DEFINITION  
Location of the Freswater Watch project  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
UNREPRESENTABLE DOMAIN  
This is a predetermined value set by Earthwatch, and it represents the location of the project

ATTRIBUTE  
ATTRIBUTE LABEL sampledate  
ATTRIBUTE DEFINITION  
Date on which the sample was taken by the citizen scientist  
ATTRIBUTE DEFINITION SOURCE Earthwatch  
ATTRIBUTE DOMAIN VALUES  
UNREPRESENTABLE DOMAIN  
This value is added by the application used to upload or by the citizen scientist whilst sampling

[Hide Entities and Attributes ▲](#)