

Coastal Upwelling ^[1]

Submitted by Dwight Owens Mon, 2012-10-15 00:00

Upwelling is an important phenomenon that affects weather and ocean current patterns. In coastal regions, upwelling draws cold, nutrient-rich water upward to replace warm, sometimes nutrient-depleted surface waters that are blown offshore by wind. These cool, nutrient-rich waters often trigger blooms of phytoplankton, the primary producers in the world's oceans. When phytoplankton grow and reproduce rapidly in the nutrient-rich water, they can reach such high concentrations that their colour is visible in the water. Diatoms and dinoflagellates are phytoplankton typically responsible for large blooms off the coast of Vancouver Island.



Clio Bonnett
Marine Paleoenvironmental Laboratory
University of Victoria

[2]

Certain dinoflagellate species and some diatoms are capable of producing biotoxins. Algal blooms in which these species are highly concentrated can be toxic to some organisms, including humans. Toxins from phytoplankton consumed by shellfish and small planktivorous fish, can be passed up the food chain to larger fish, marine mammals, and humans.

Categories:

- [Backgrounders](#) [3]

```
// FIXES AMPERSAND IN BREADCRUMB var ONC_breadcrumb =  
document.getElementById("breadcrumb"); if (ONC_breadcrumb) { var ONC_innerHTML =  
ONC_breadcrumb.innerHTML; ONC_innerHTML = ONC_innerHTML.replace("&", "&");
```

ONC_breadcrumb.innerHTML = ONC_innerHTML; }

Highlights

- [Audio](#)
- [Data](#)
- [Learning](#)
- [Science](#)
- [Video](#)

Reading Room

- [Active Research](#)
- [Backgrounders](#)
- [FAQs](#)
- [Glossary](#)
- [News Briefs](#)
- [News Stories](#)
- [Newsletters](#)
- [Publications](#)

Cool Stuff

- [Apps](#)
- [Digital Fishers](#)
- [iBooks & e-Pubs](#)
- [Live Video](#)
- [Maps](#)
- [Images](#)
- [State of the Ocean](#)

Data & Tools

- [Apps](#)
- [Data Plots](#)
- [Data Search](#)
- [Data Policy](#)

- [Data Help](#)
- [OPeNDAP Web Services](#)

Opportunities

- [Calendar](#)
- [Educator Opportunities](#)
- [Global Partnerships](#)
- [Industry Network](#)
- [Jobs](#)
- [Staff List](#)
- [Technology Services](#)
- [Workshops](#)

Sites & Instruments

- [Arctic Sites](#)
- [Northeast Pacific Sites](#)
- [Salish Sea Sites](#)
- [Notice to Mariners](#)

Follow Us



[Sign up for our newsletter](#)

Feedback

Send us your questions and comments *

How could we improve this page?

Your Name

Your Email *

Your Location

CAPTCHA

This question is for testing whether or not you are a human visitor and to prevent automated spam submissions.



What code is in the image? *
Enter the characters shown in the image.



[About Us](#) | [Contact Us](#) | [Media Relations](#) | [Legal Notices](#)

© Ocean Networks Canada. All rights reserved. 2474 Arbutus Road, Victoria, BC, V8N 1V8
| 1.250.472.5400

```
(function () { var d = new Date; var year = d.getFullYear();  
document.getElementById("copyright-date").innerHTML = year; })();
```

Source URL: <http://www.oceannetworks.ca/groups/coastal-upwelling>

Links:

- [1] <http://www.oceannetworks.ca/groups/coastal-upwelling>
- [2] http://www.oceannetworks.ca/sites/default/files/images/pages/fauna/2diatoms_and_dinoflagellate.jpg
- [3] <http://www.oceannetworks.ca/article-categories/backgrounders>