



## Nitrate-nitrogen trends, 1989-2013

### Metadata

#### File Identifier

0a3f0675-0cb2-20b9-4257-d8f0f028b4b5

#### Language

eng

#### Character Set

##### Character Set Code

utf8

#### Hierarchy Level

##### Scope Code

dataset

#### Hierarchy Level Name

dataset

### Contact

#### Responsible Party

##### Organisation Name

Environmental Reporting, Ministry for the Environment and Statistics New Zealand

##### Position Name

Analyst

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Environmental.Reporting@mfe.govt.nz

#### Role

##### Role Code

distributor

### Date Stamp

#### Date

2016-02-19

**Metadata Standard Name**

ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005, Geographic information - Metadata

**Metadata Standard Version**

1.1

**Reference System Info****Reference System****Reference System Identifier****Identifier****Code**

2193

**Identification Info****Data Identification****Citation****Citation****Title**

Nitrate-nitrogen trends, 1989-2013

**Date****Abstract**

Small amounts of nitrogen are a natural component of healthy rivers. Nitrogen is transferred from land to water and is cycled through different forms, which can have different effects. Moderate concentrations of nitrate can cause weeds and algae to grow too fast. High concentrations of ammoniacal and nitrate nitrogen can be toxic to fish and other aquatic animals. This dataset relates to the "River water quality trends: nitrogen" measure on the Environmental Indicators, Te taiao Aotearoa website.

**Status****Progress Code**

completed

**Point Of Contact****Responsible Party****Organisation Name**

Environmental Reporting, Ministry for the Environment and Statistics New Zealand

**Position Name**

Analyst

**Contact Info****Contact****Address****Address****Delivery Point**

23 Kate Sheppard Place, PO Box 10362

**City**

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**Country**

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**Electronic Mail Address**

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Role  
Role Code  
distributor

Resource Maintenance  
Maintenance Information  
Maintenance And Update Frequency  
Maintenance Frequency Code  
irregular

Resource Format  
Format  
Name  
\*.xml  
Version  
Unknown

Descriptive Keywords  
Keywords  
Keyword  
New Zealand  
Type  
Keyword Type Code  
theme

Thesaurus Name  
Citation  
Title  
ANZLIC Jurisdictions  
Date  
Edition  
Version 2.1  
Edition Date  
Date  
2008-10-29  
Identifier  
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Code  
<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-jurisdic.xml#anzlic-jurisdic>  
Cited Responsible Party  
Responsible Party  
Organisation Name  
ANZLIC the Spatial Information Council  
Role  
Role Code  
custodian

Descriptive Keywords  
Keywords  
Keyword  
WATER

**Keyword**

WATER-Quality

**Type**

Keyword Type Code

theme

**Thesaurus Name**

**Citation**

**Title**

ANZLIC Search Words

**Date**

**Edition**

Version 2.1

**Edition Date**

**Date**

2008-05-16

**Identifier**

**Identifier**

**Code**

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-theme.xml#anzlic-theme>

**Cited Responsible Party**

**Responsible Party**

**Organisation Name**

ANZLIC the Spatial Information Council

**Role**

**Role Code**

custodian

**Resource Constraints**

**Legal Constraints**

**Use Limitation**

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Language  
eng

Character Set  
Character Set Code  
utf8

Topic Category Code  
environment

Extent  
EX\_ Extent  
Geographic Element  
EX\_ Geographic Description  
Identifier  
Authority  
Citation  
Title  
ANZMet Lite Country codelist

Date

Edition  
Version 1.0

Edition Date  
Date  
2009-03-31

Identifier  
Identifier  
Code  
<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-country.xml#Country>

Cited Responsible Party  
Responsible Party  
Organisation Name  
ANZLIC the Spatial Information Council

Role  
Role Code  
custodian

Code  
nzl

Extent  
EX\_ Extent  
Geographic Element  
EX\_ Geographic Bounding Box  
167.534694771177.881584208-46.3894482934-35.2744930255

Distribution Info  
Distribution  
Transfer Options  
Digital Transfer Options  
On Line

## Online Resource

### Linkage

#### URL

<https://data.mfe.govt.nz/layer/53319-nitratenitrogen-trends-19892013/>

## Data Quality Info

### DQ \_ Data Quality

#### Scope

##### DQ \_ Scope

###### Level

###### Scope Code

dataset

#### Level Description

##### Scope Description

###### Other

dataset

## Lineage

### LI \_ Lineage

#### Statement

Source: National Institute of Water and Atmospheric Research; regional councils Method: Nitrogen is measured in laboratories. Samples are collected from the river at fixed locations once a month, and sent to a laboratory for chemical analysis. NIWA have measured monthly nitrogen consistently at 77 sites along 35 major rivers between 1989 and 2013 enabling changes over time to be calculated. These 35 rivers drain about 50 percent of New Zealand's land area. Trends over shorter time periods can be assessed using regional council data. However, these monitored sites are not representative of the national river network because they tend to be located in more problematic areas. Nitrogen occurs as several forms in the environment. The following forms are reported: - Total Nitrogen (TN) is the sum of all nitrogen found in a river water sample, including organic nitrogen from plant tissue. - Nitrate is highly soluble (dissolves in water) and so can readily be used by plants and algae to help them grow. Because of this solubility it can also leach through soils very easily, particularly where soils are sandy or after heavy rainfall (McDowell et al 2008). Sources include excessive application of inorganic fertilizer, stock urine, septic tanks and leaking sewage systems. It is measured and reported as the elemental nitrogen equivalent, described as nitrate-nitrogen (NO<sub>3</sub>-N). - Ammoniacal nitrogen can be toxic at moderate to high concentrations. Elevated quantities in waterways are primarily from direct pollutant discharges such as untreated effluent. We are unable to reliably estimate trends in ammonia concentration prior to 1995 due to a subsequent change in laboratory procedures. Ammoniacal nitrogen includes readily available forms of ammonia and ammonium. These are collectively reported as the elemental nitrogen equivalent; ammoniacal nitrogen (NH<sub>4</sub>-N). The data was flow-adjusted before trend analysis, to remove the influence of variation in stream flow. Flow adjustment means the reported trends better reflect for the effects of controlling factors other than flow. The accuracy of the data source is of high quality. Reference: McDowell, RW, Houlbrooke, DJ, Muirhead, RW, Müller, K, Shepherd, M, & Cuttle, SP (2008). Grazed pastures and surface water quality. New York: Nova Science Publishers.

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