

Mesocosm Data Documentation

Introduction

During the PRIME mesocosm experiment, over 50 individual data sets were recorded. This document describes the set up at the University of Bergen's mesocosm facility at Espegrend, Norway. The database document details the protocols used during data acquisition and processing.

Experiment Details

The mesocosm raft was situated approximately 200m from the shore of the University of Bergen's Esperend field station in Norway. The eight bags were situated on the southern side of the raft in a line running east to west. The bags were filled on Tuesday June 6th, 1995 with water pumped from below the raft. At 14:00 on June 7th (defined as day zero of the mesocosm experiment) nutrient additions were made to selected bags as follows.

Bag number	Nutrient additions
1	No additions made
2	No additions made
3	15 μ M nitrate; 1 μ M phosphate; 10 μ M silicate added
4	5 μ M nitrate; 0.33 μ M phosphate; 3.33 μ M silicate added
5	15 μ M nitrate; 1 μ M phosphate added
6	5 μ M nitrate; 0.33 μ M phosphate added
7	15 μ M nitrate added
8	15 μ M nitrate; 0.2 μ M phosphate added
9	Sea water inlet (fjord water used to replace bag losses)

Silicates were added in the form of sodium metasilicate; nitrates in the form of sodium nitrate (Analar) and phosphates in the form of potassium phosphate (Analar). All chemicals were obtained from the KEBO laboratory (Postboks, 45 Kalbakke, N-0901, Oslo). On addition of the nutrients, the air uplifts were switched on to begin the mixing process and create a homogenous water column.

Subsequent nutrient additions to the mesocosm bags were made as follows:

- At 12:00 on June 25th, nutrients were added to bag 2 to produce concentrations of 15 μ M nitrate, 1 μ M phosphate and 10 μ M silicate.
- At 12:00 on June 25th, phosphate was added to bag 7 to produce a concentration of 1 μ M.
- At 12:00 on June 28th, phosphate was added to bag 8 to produce a concentration of 1 μ M.
- At 12:00 on June 28th, silicate was added to bag 2 to produce a concentration of 10 μ M.

On July 6th (day 29) at the end of the experiment, the bags were emptied and the mesozooplankton collected for analysis.