

Appendix D - Scatterplots of phytoplankton bioindicators

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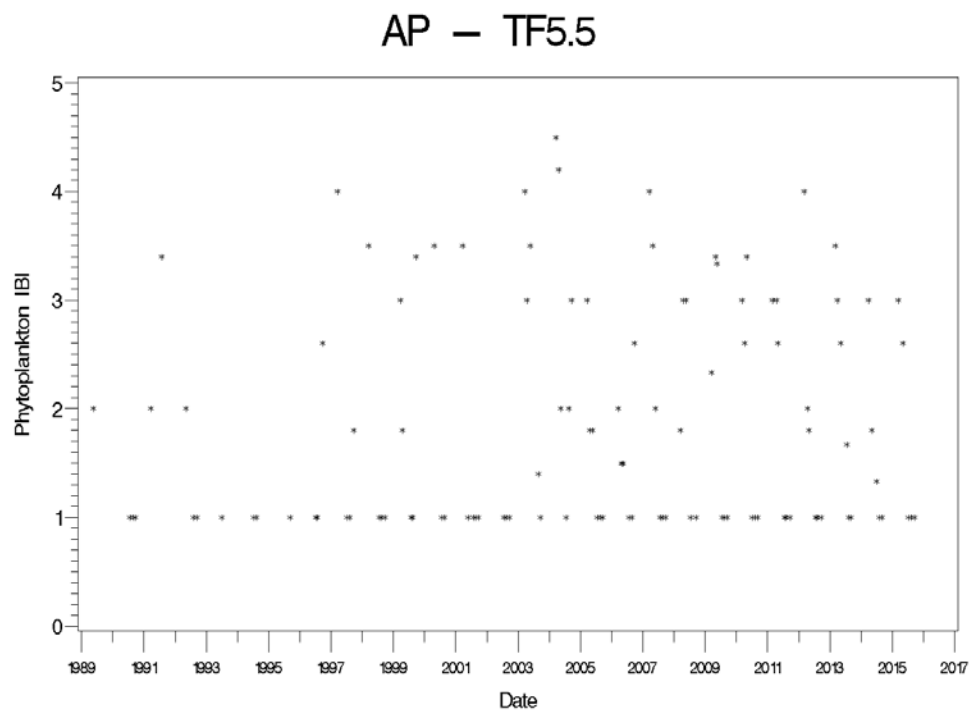


Figure 1. Plot of above pycnocline phytoplankton IBI scores against time at station TF5.5 for the period of 1985 through 2015.

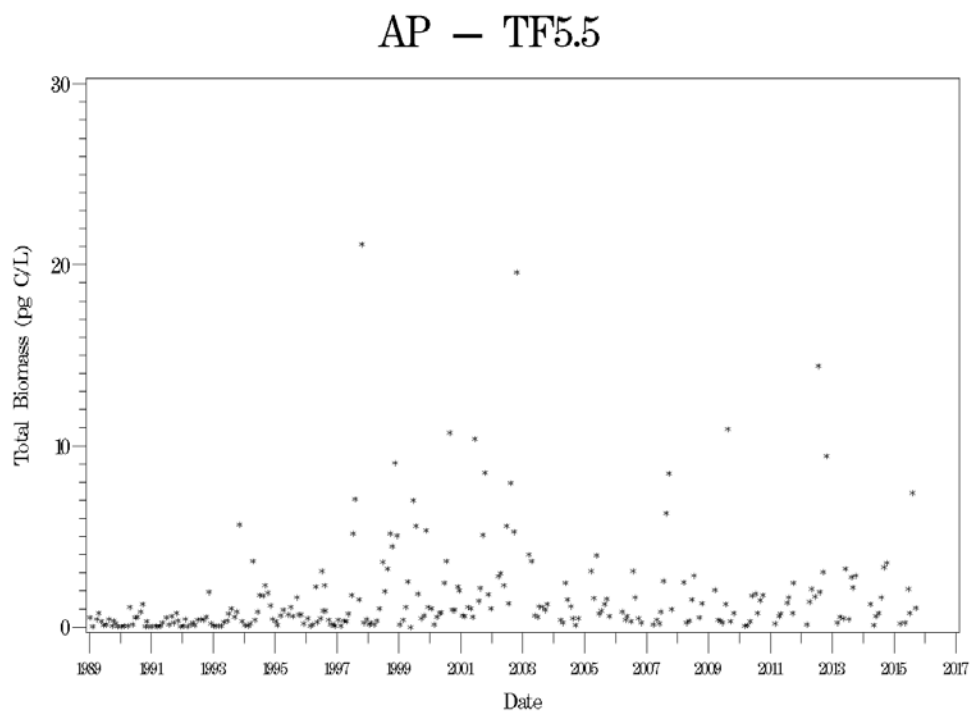


Figure 2. Plot of above pycnocline total phytoplankton biomass against time at station TF5.5 for the period of 1985 through 2015.

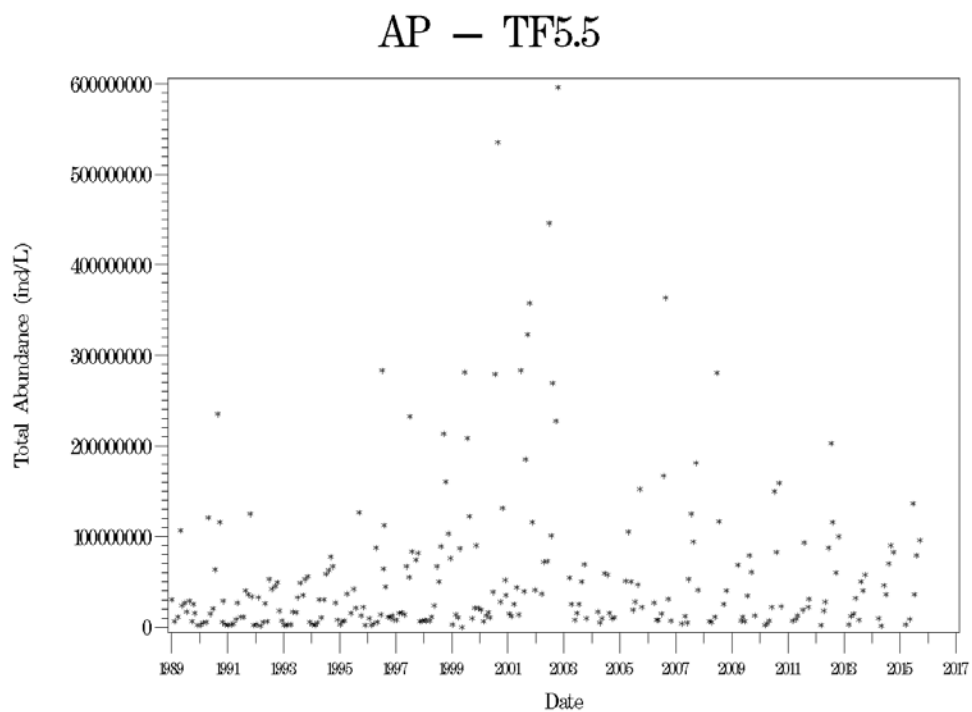


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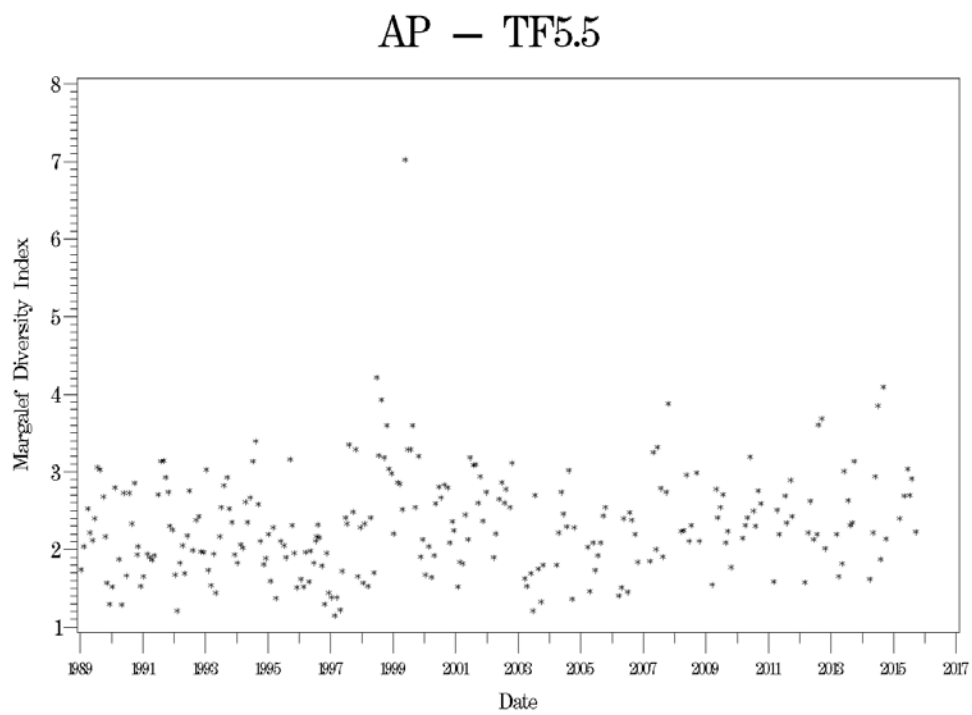


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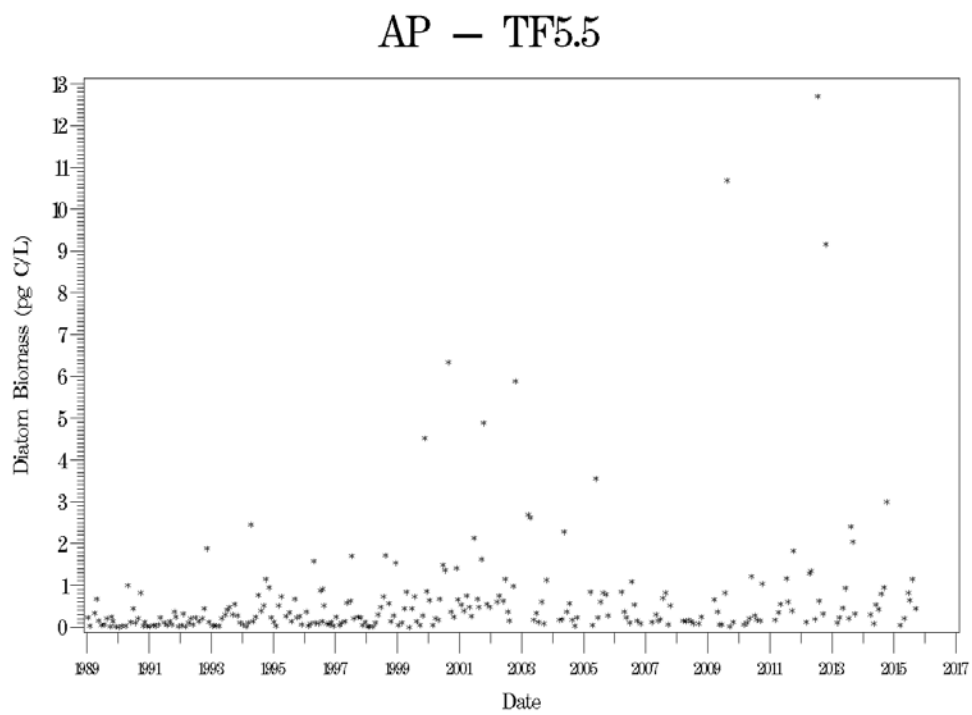


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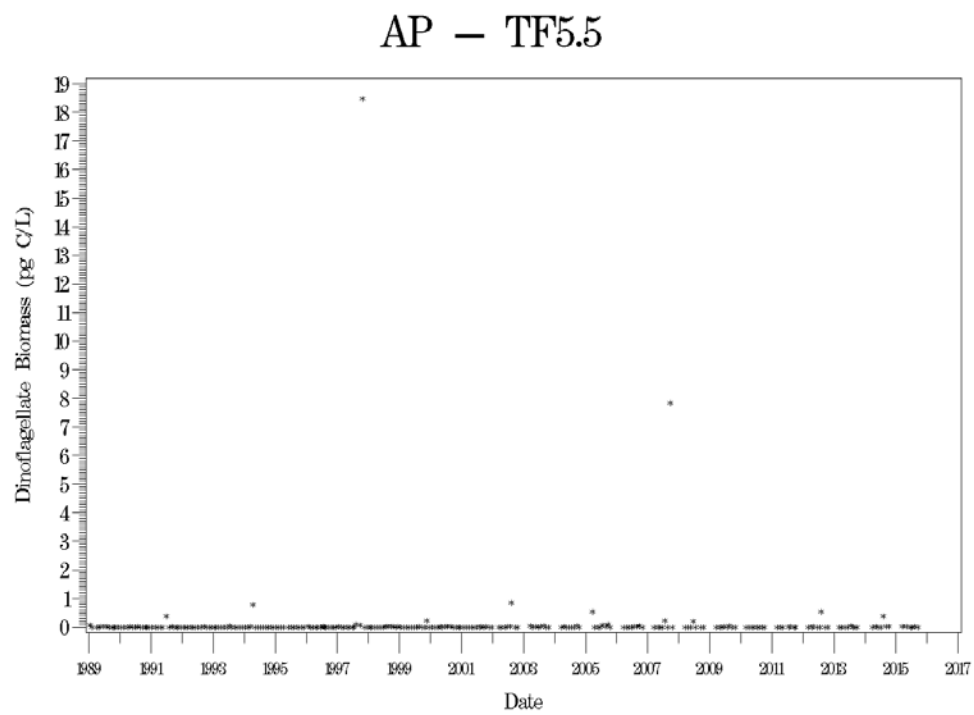


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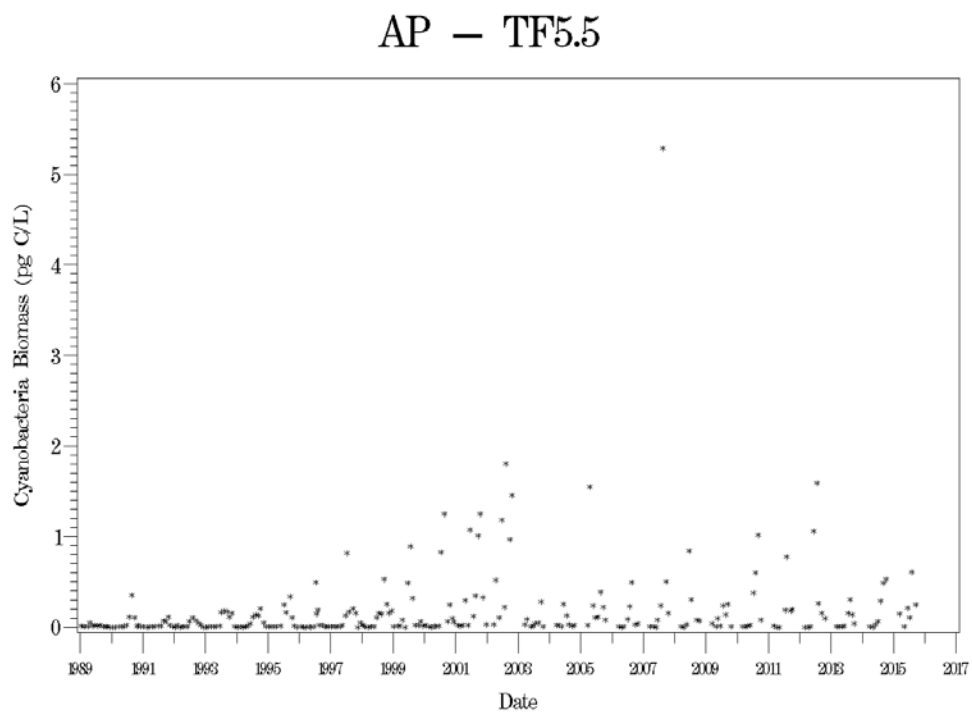


Figure 7. Plot of above pycnocline cyanobacteria biomass against time at station TF5.5 for the period of 1985 through 2015.

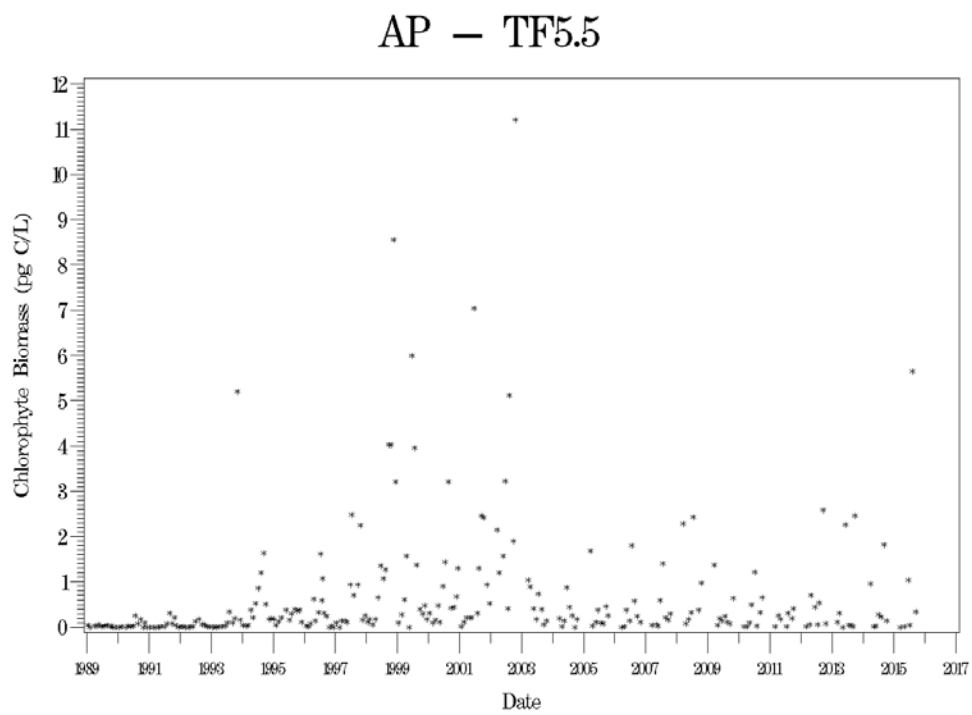


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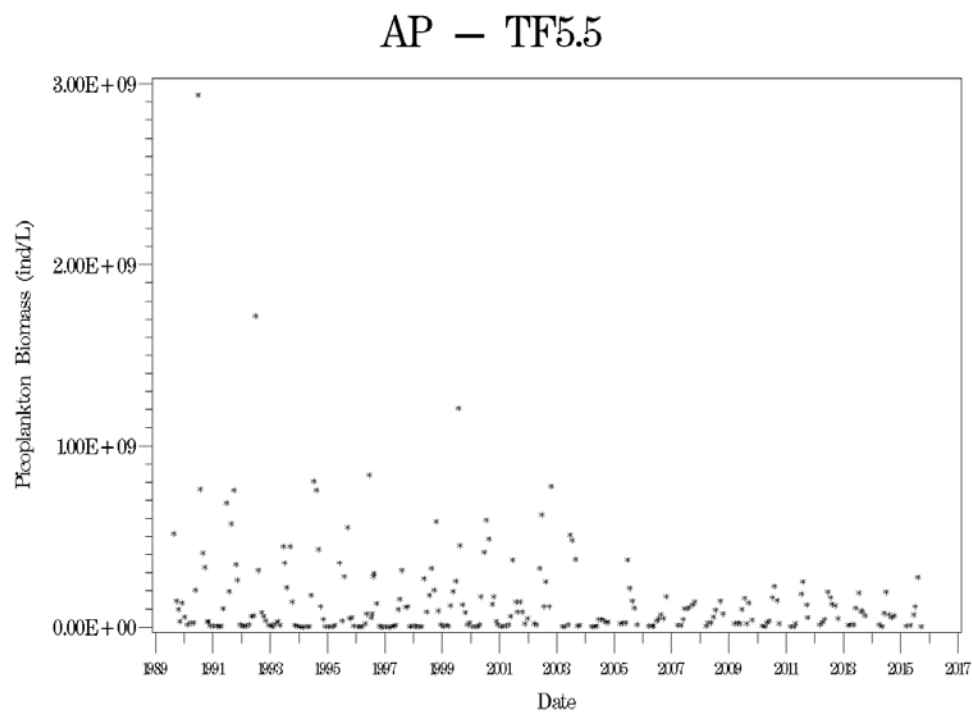


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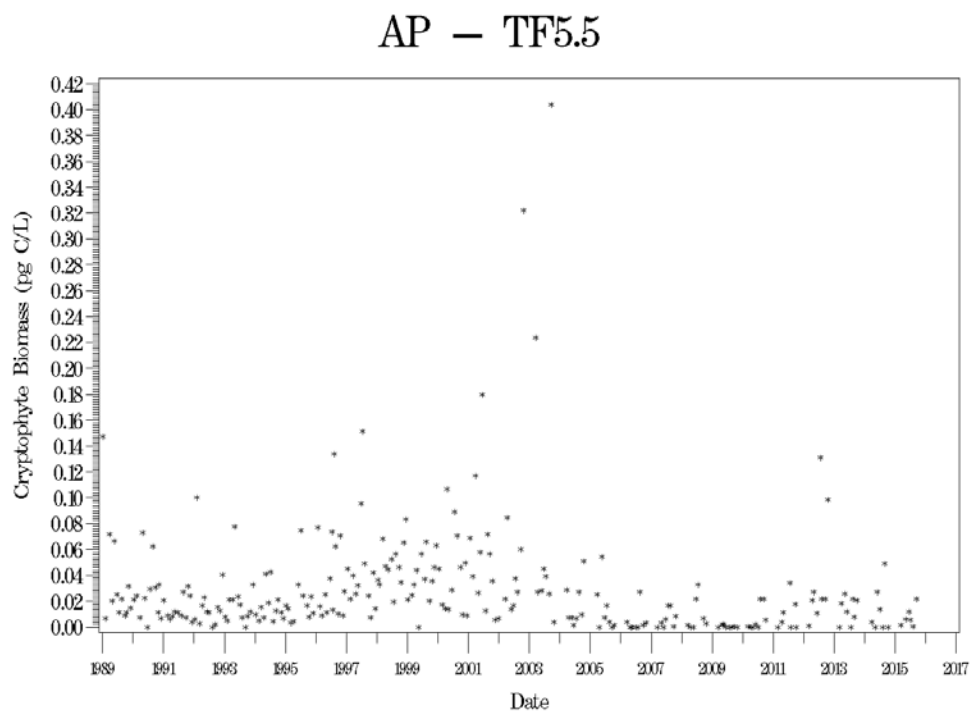


Figure 10. Plot of above pycnocline cryptophyte biomass at station TF5.5 for the period of 1985 through 2015

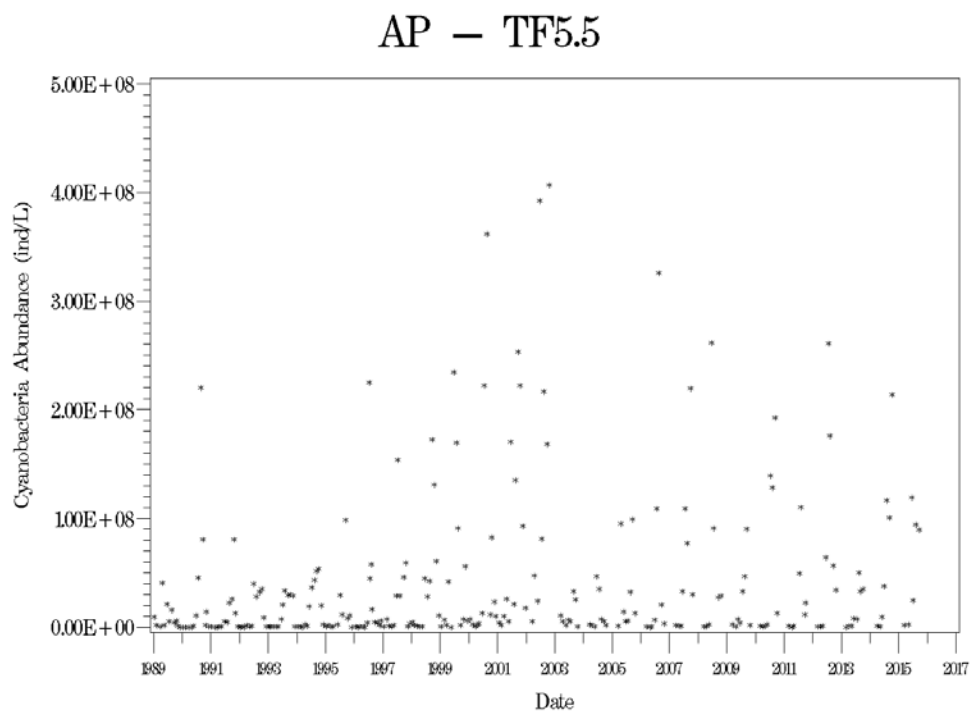


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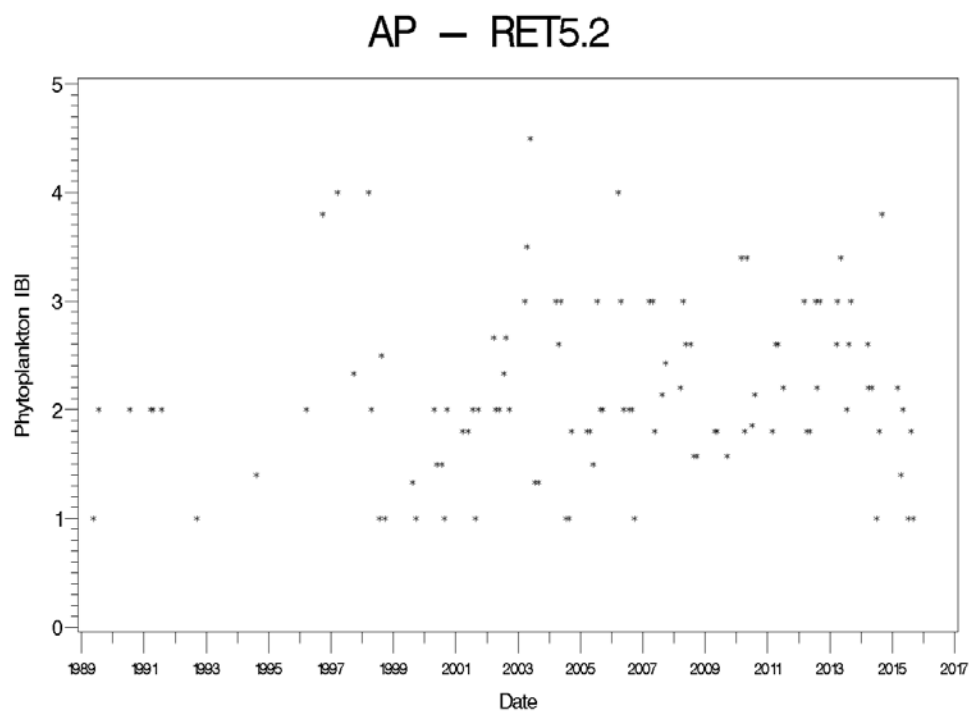


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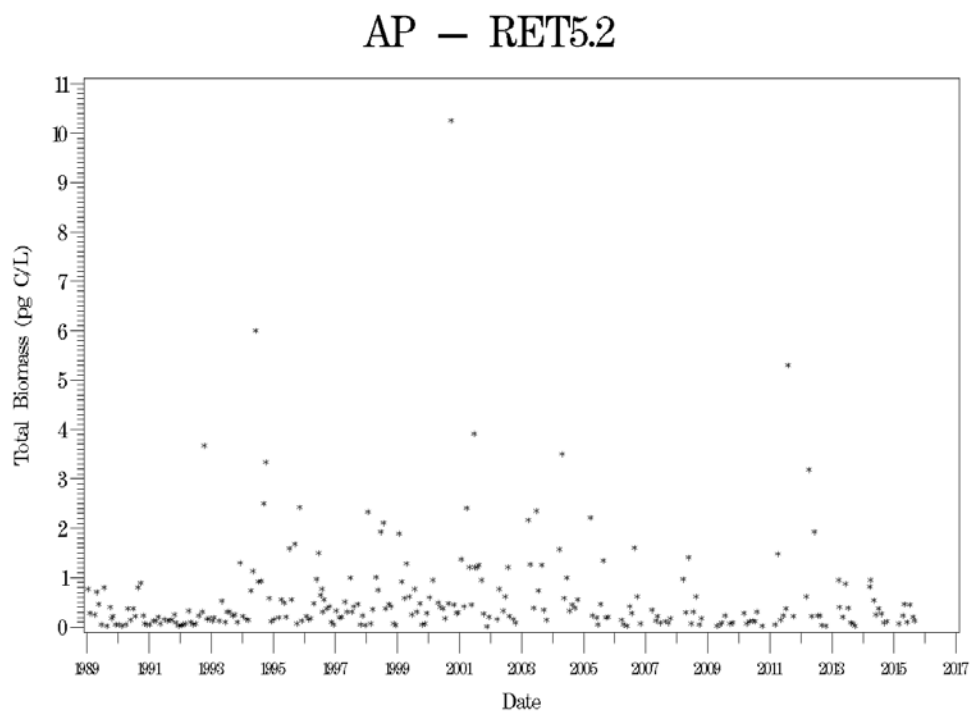


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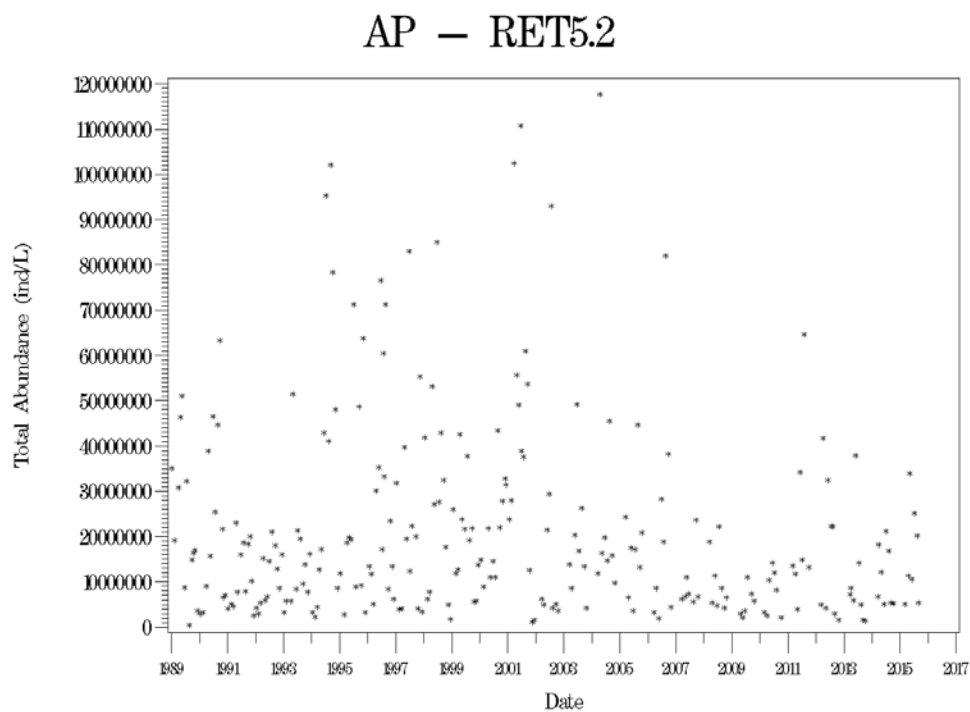


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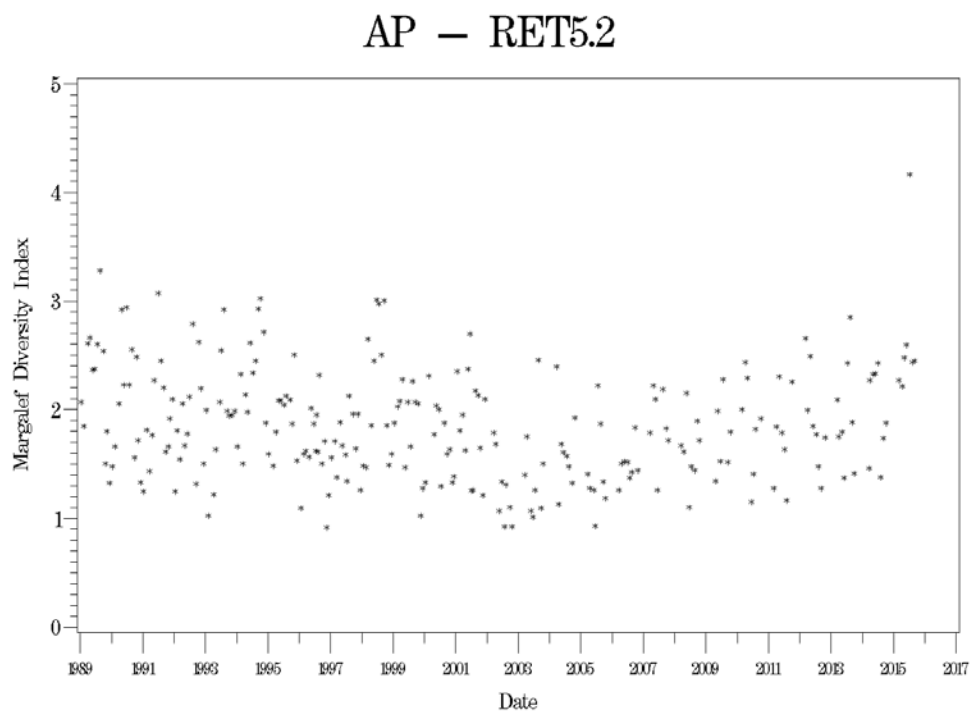


Figure 15. Plot of above pycnocline Margalef diversity index against time at station RET5.2 for the period of 1985 through 2015.

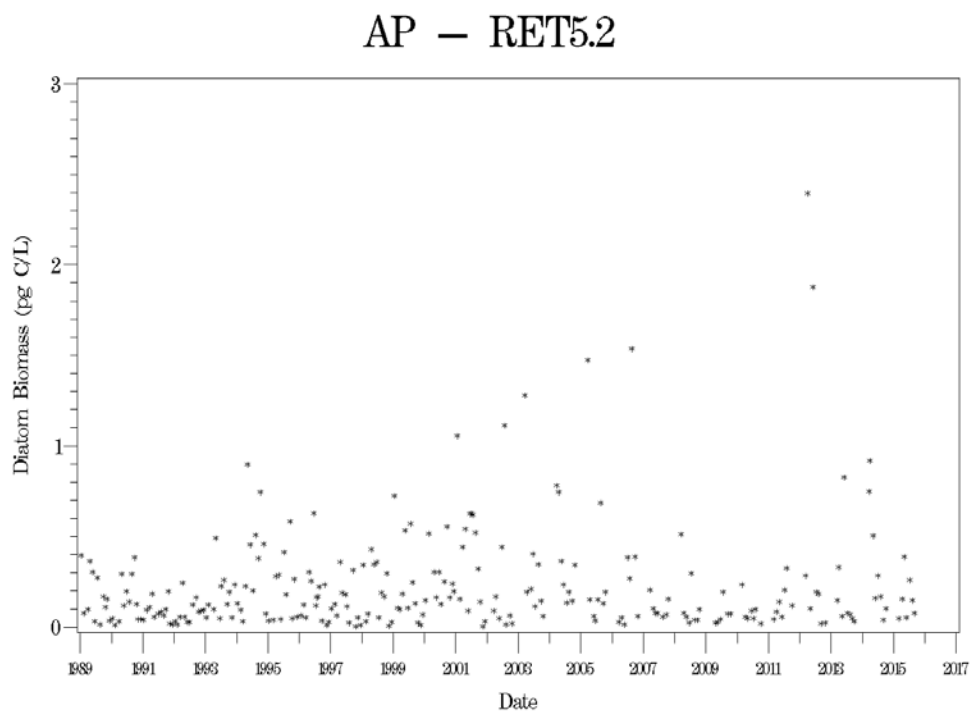


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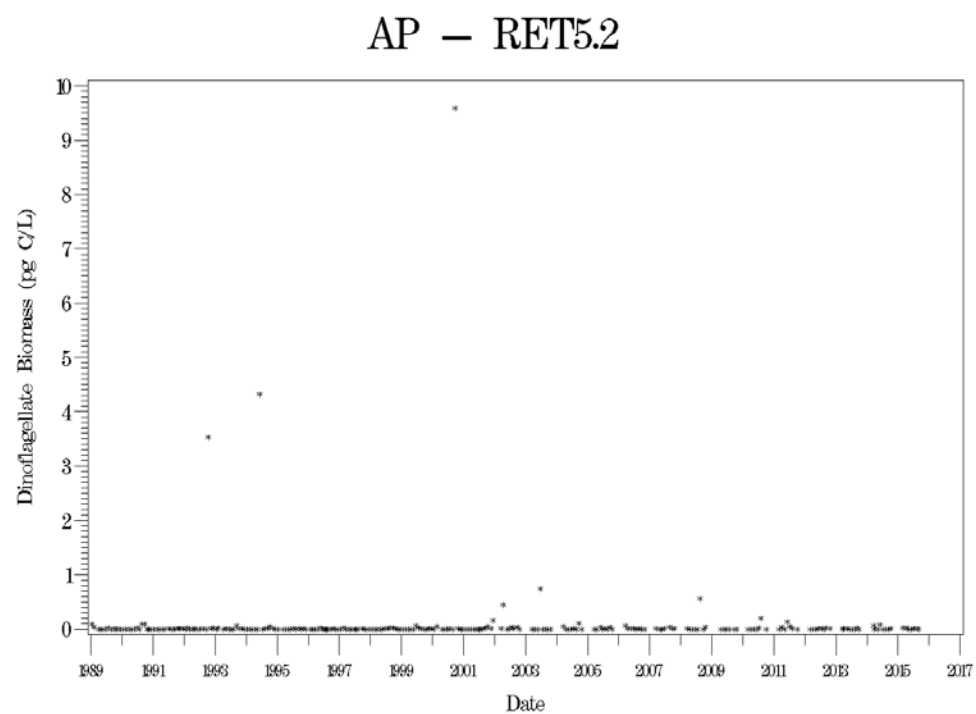


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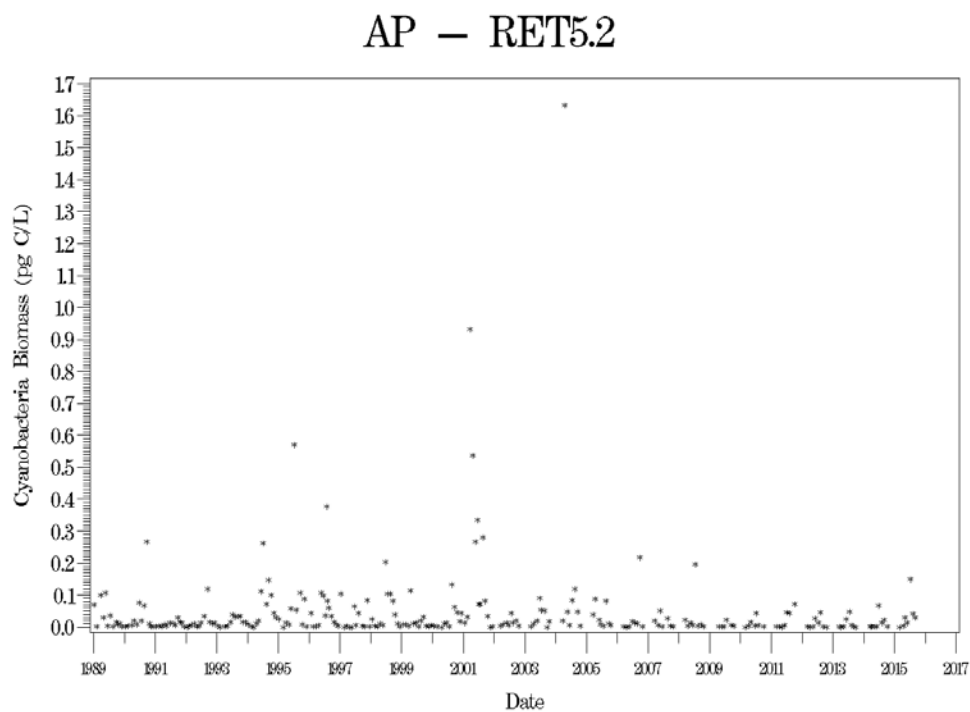


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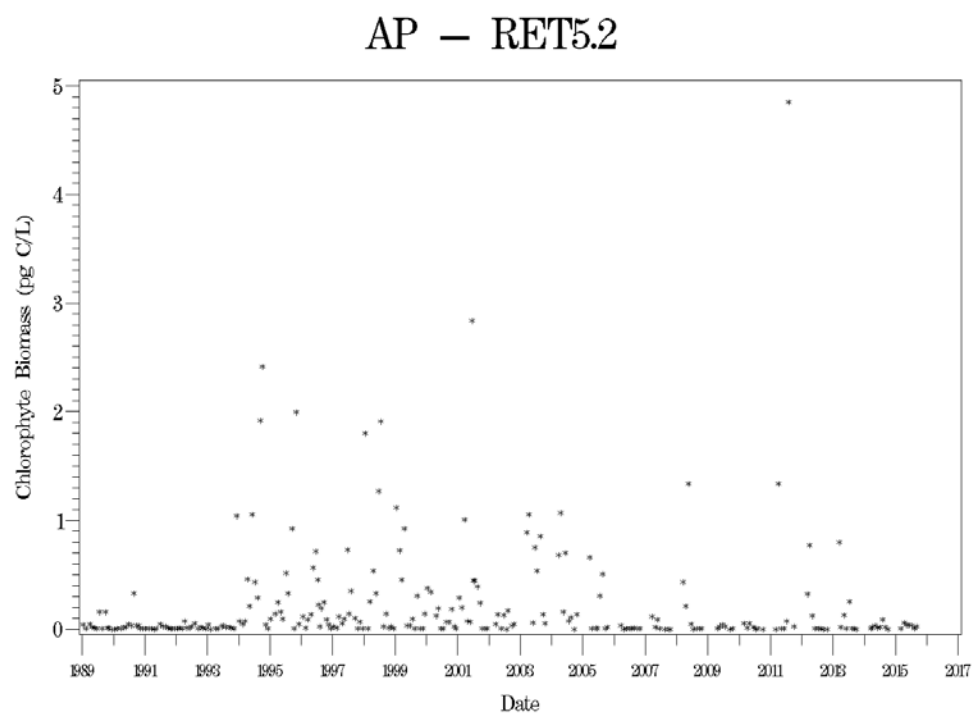


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AP – RET5.2

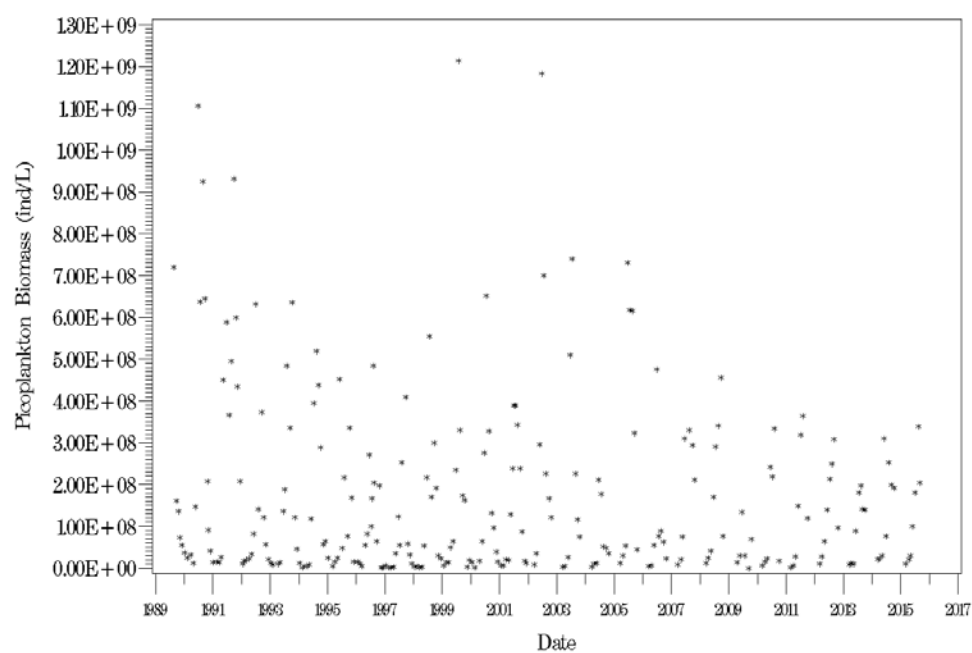


Figure 20. Plot of above pycnocline picoplankton biomass against time at station RET5.2 for the period of 1985 through 2015.

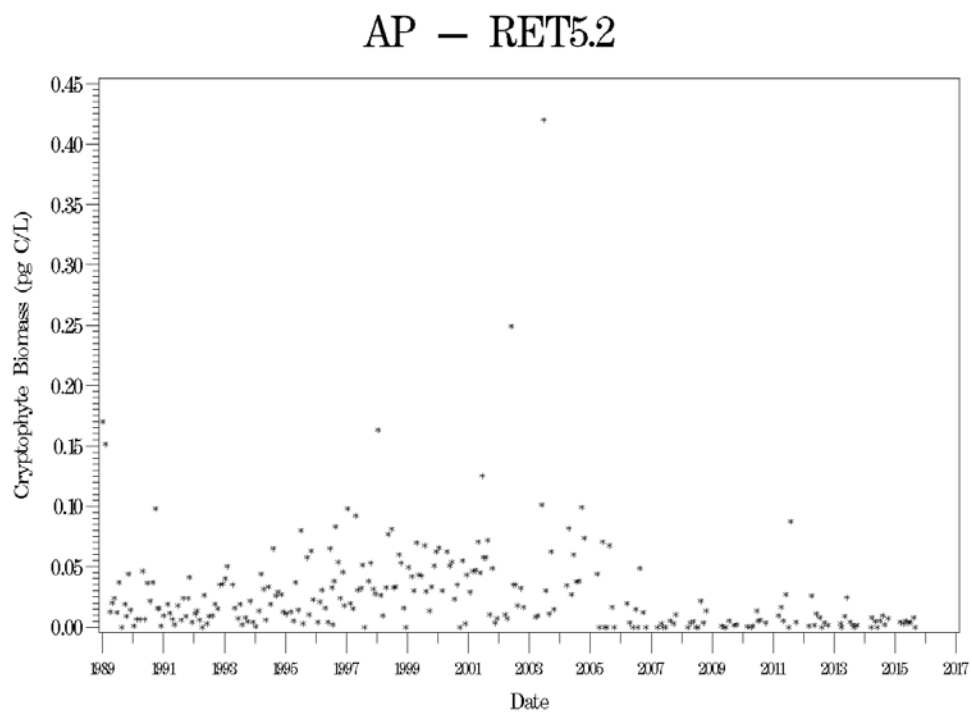


Figure 21. Plot of above pycnocline cryptophyte biomass at station RET5.2 for the period of 1985 through 2015.

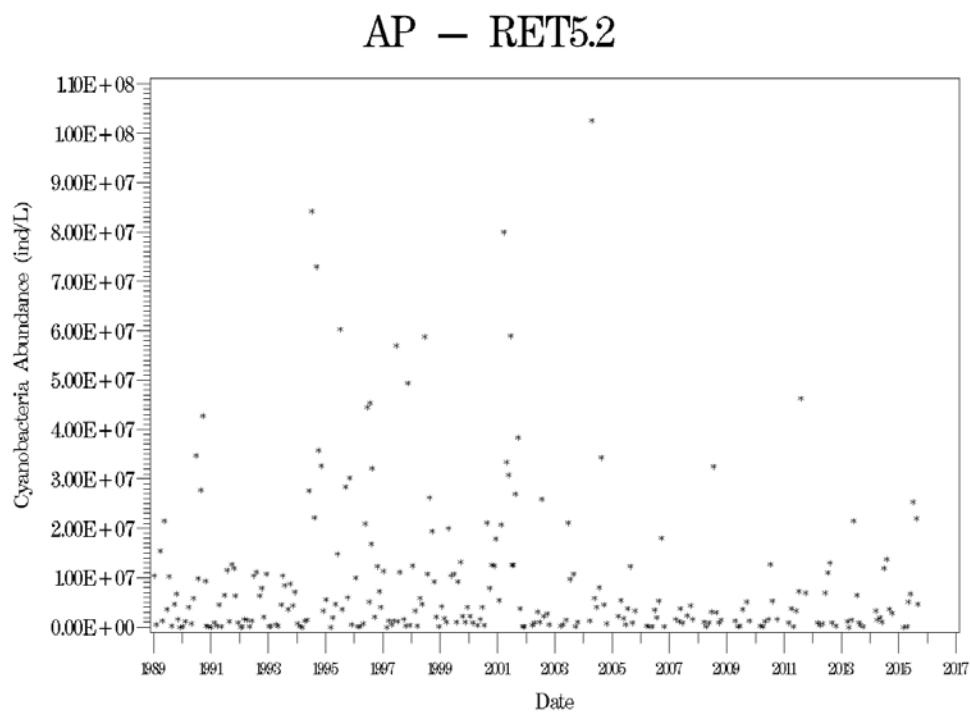


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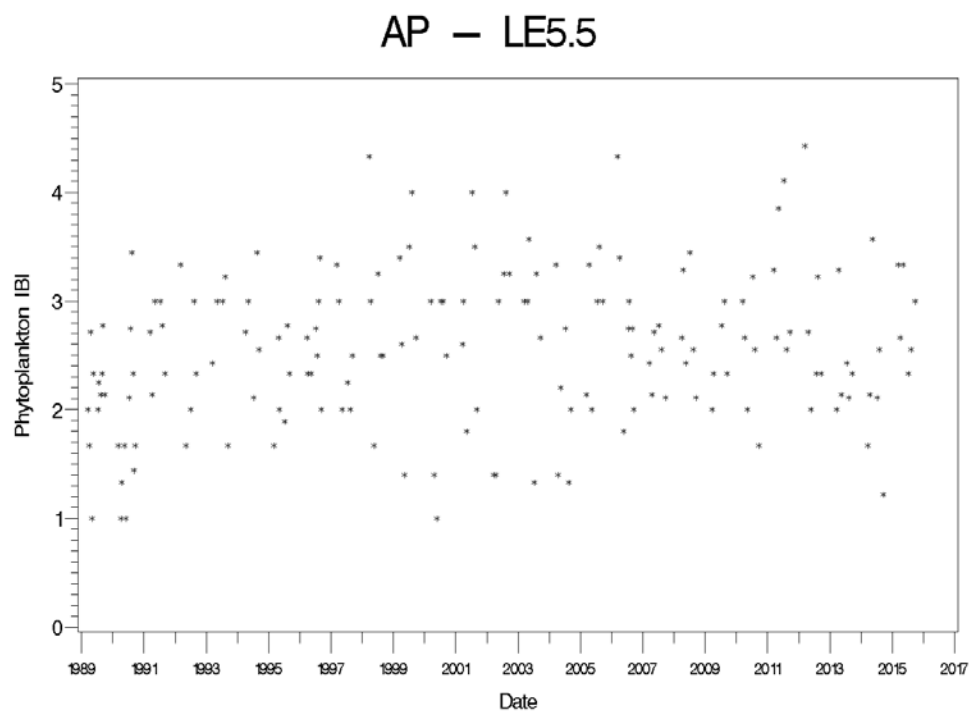


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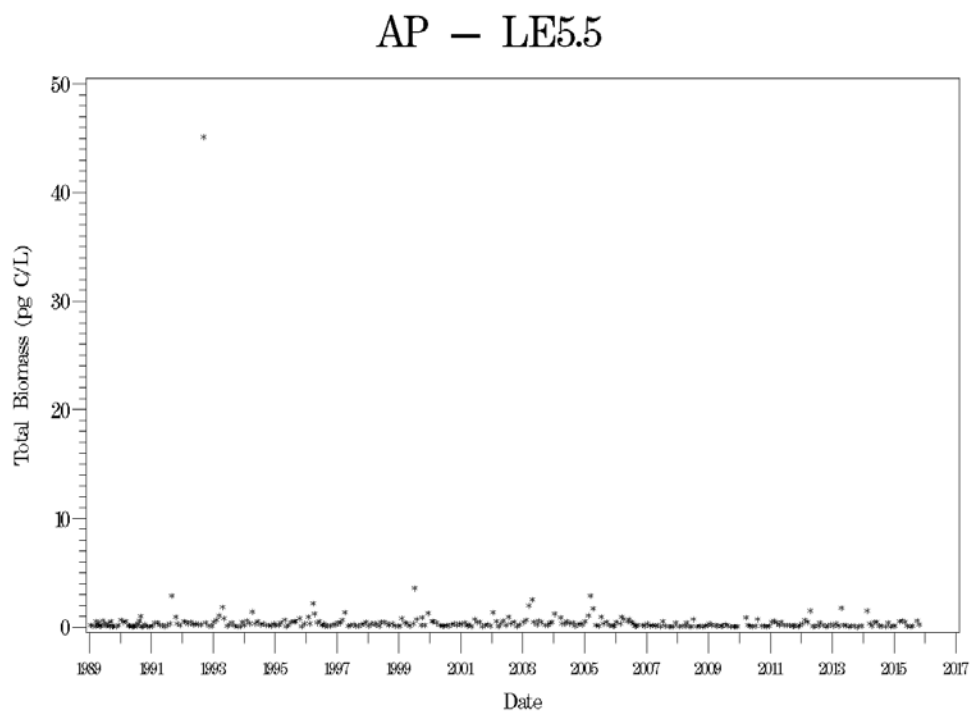


Figure 24. Plot of above pycnocline total phytoplankton biomass against time at station LE5.5 for the period of 1985 through 2015.

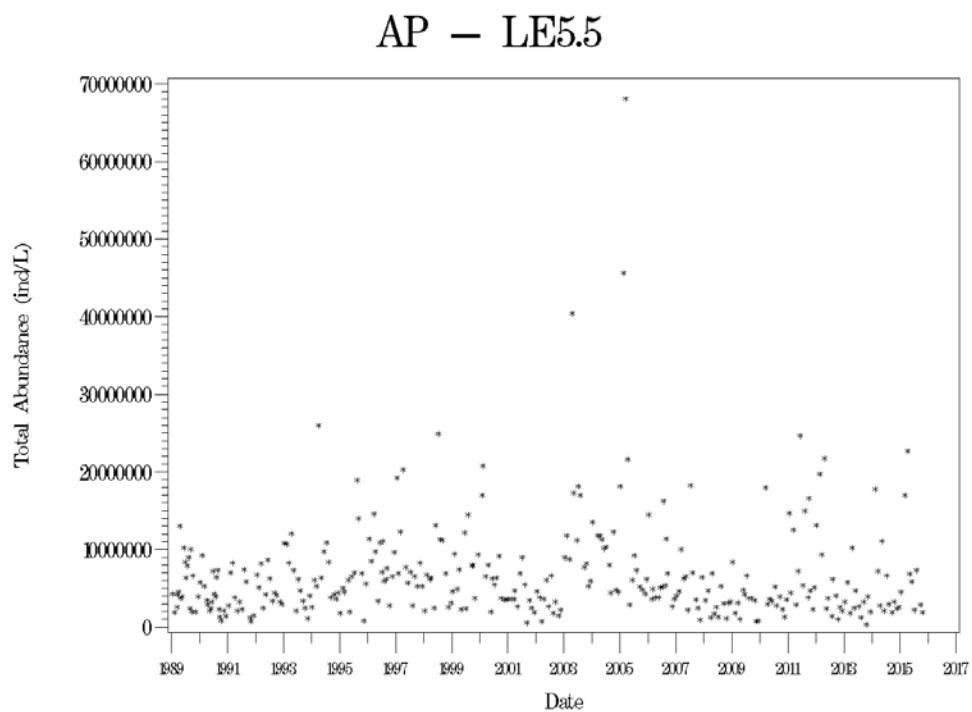


Figure 25. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station LE5.5 for the period of 1985 through 2015.

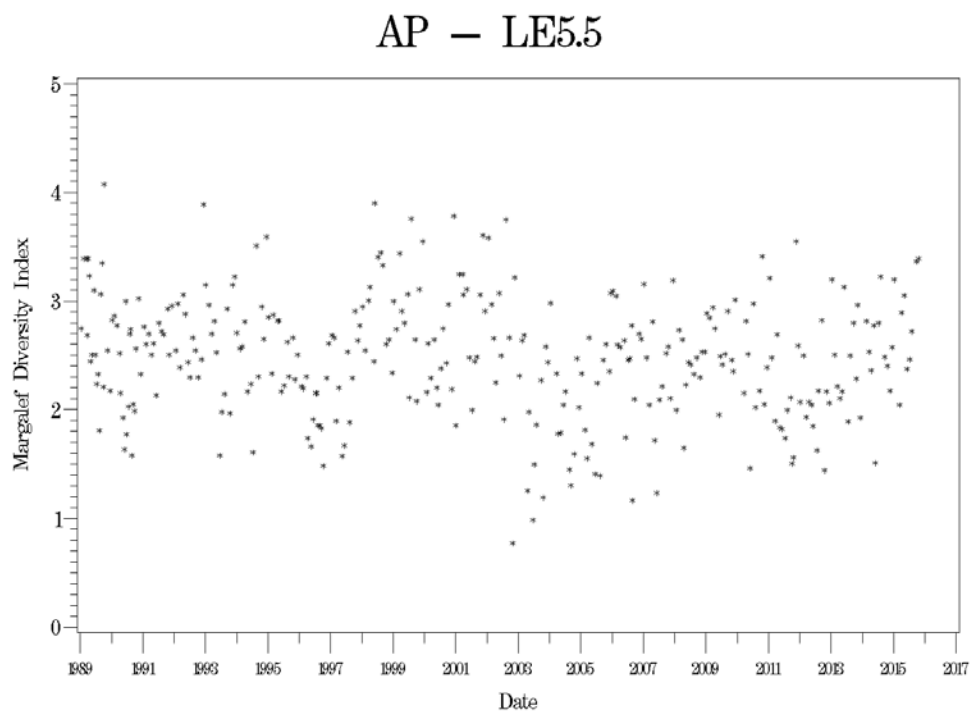


Figure 26. Plot of above pycnocline Margalef diversity index against time at station LE5.5 for the period of 1985 through 2015.

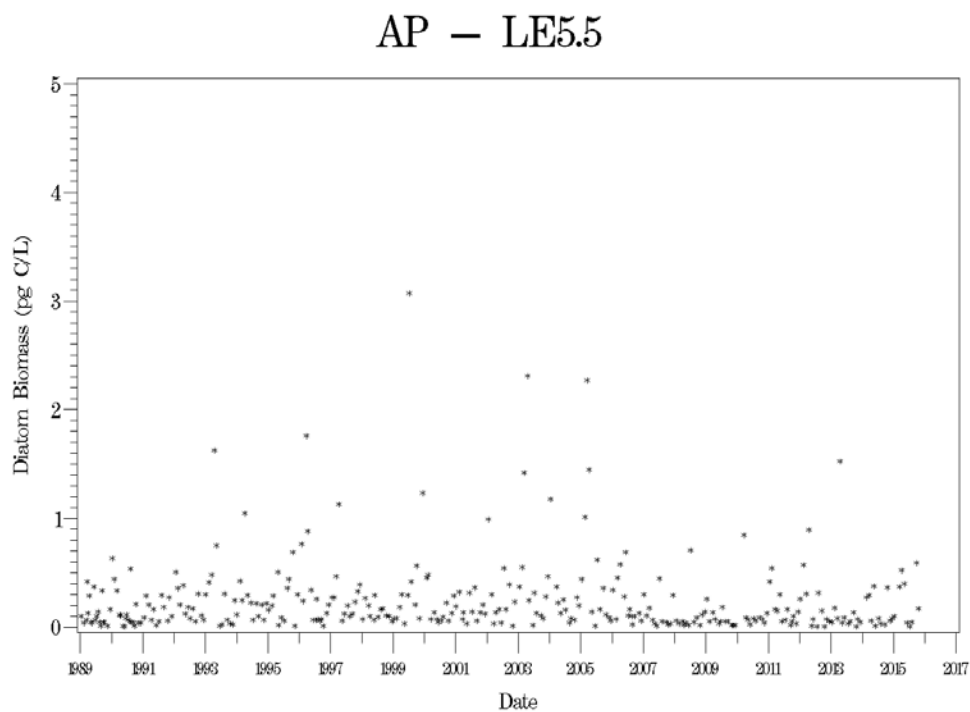


Figure 27. Plot of above pycnocline diatom biomass against time at station LE5.5 for the period of 1985 through 2015.

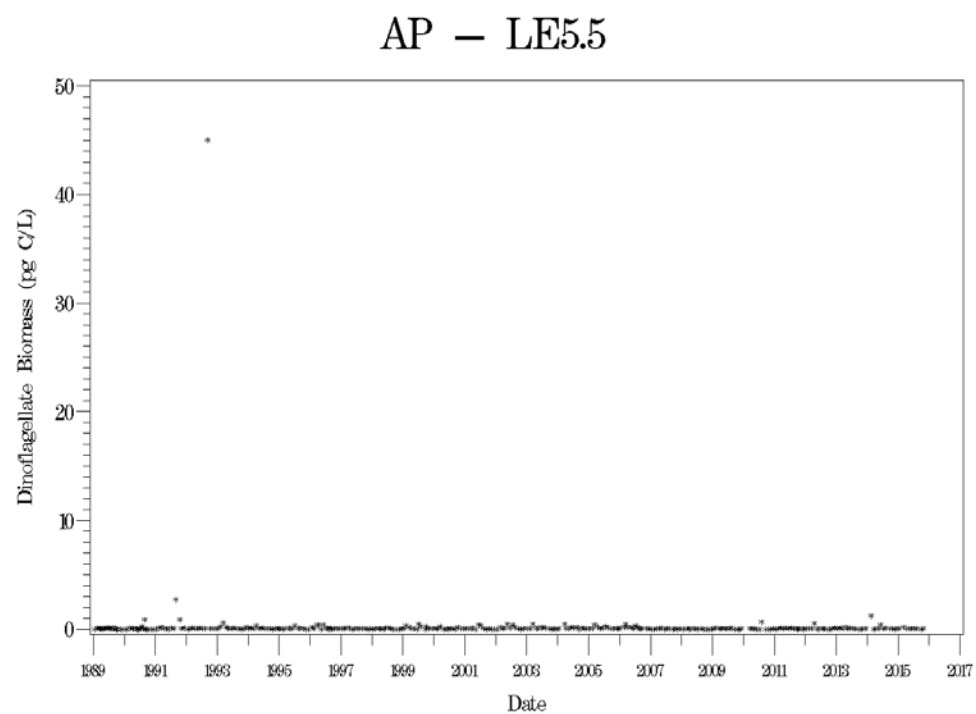


Figure 28. Plot of above pycnocline dinoflagellate biomass against time at station LE5.5 for the period of 1985 through 2015.

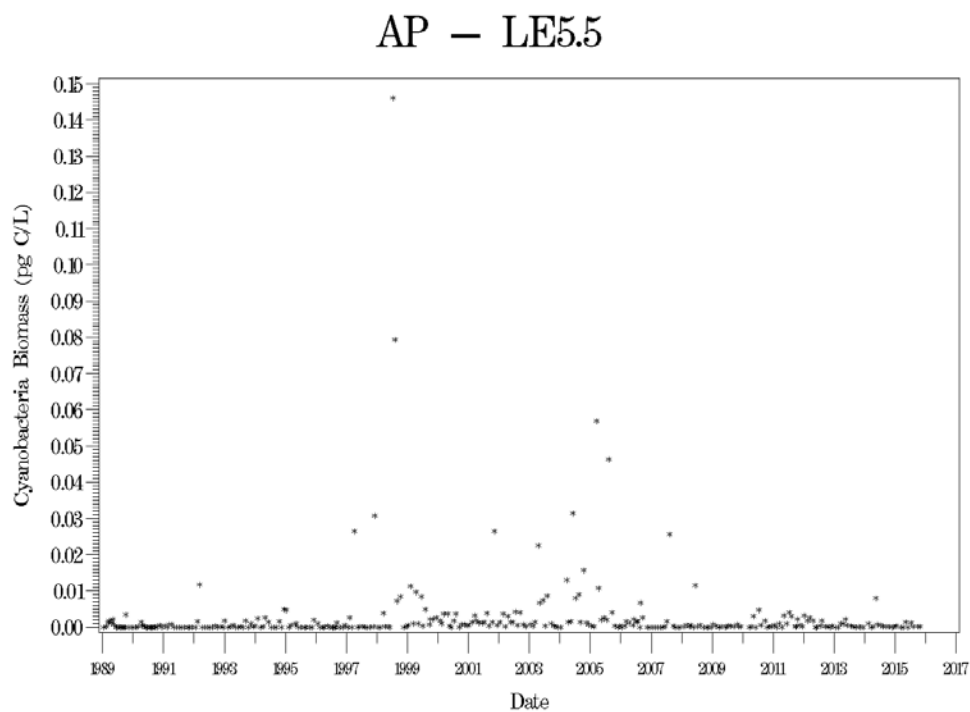


Figure 29. Plot of above pycnocline cyanobacteria biomass against time at station LE5.5 for the period of 1985 through 2015.

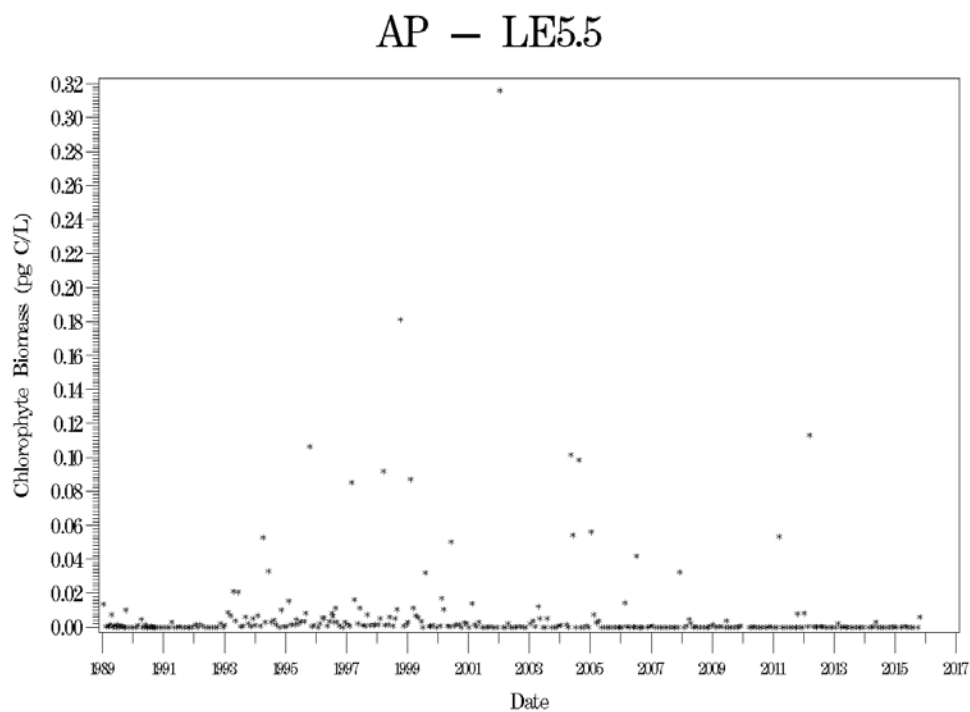


Figure 30. Plot of above pycnocline chlorophyte biomass against time at station LE5.5 for the period of 1985 through 2015.

AP – LE5.5

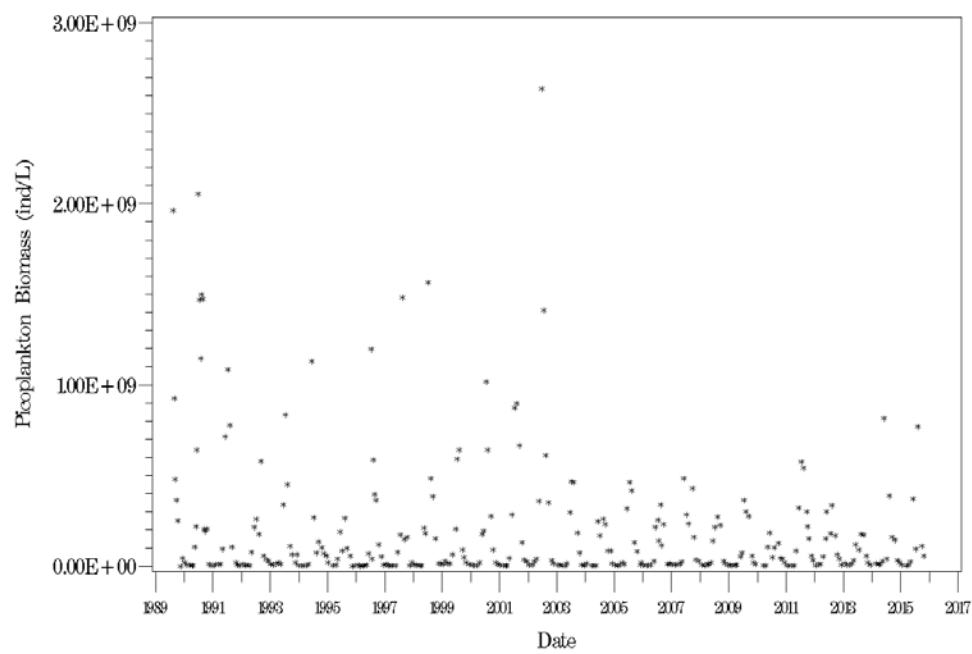


Figure 31. Plot of above pycnocline picoplankton biomass against time at station LE5.5 for the period of 1985 through 2015.

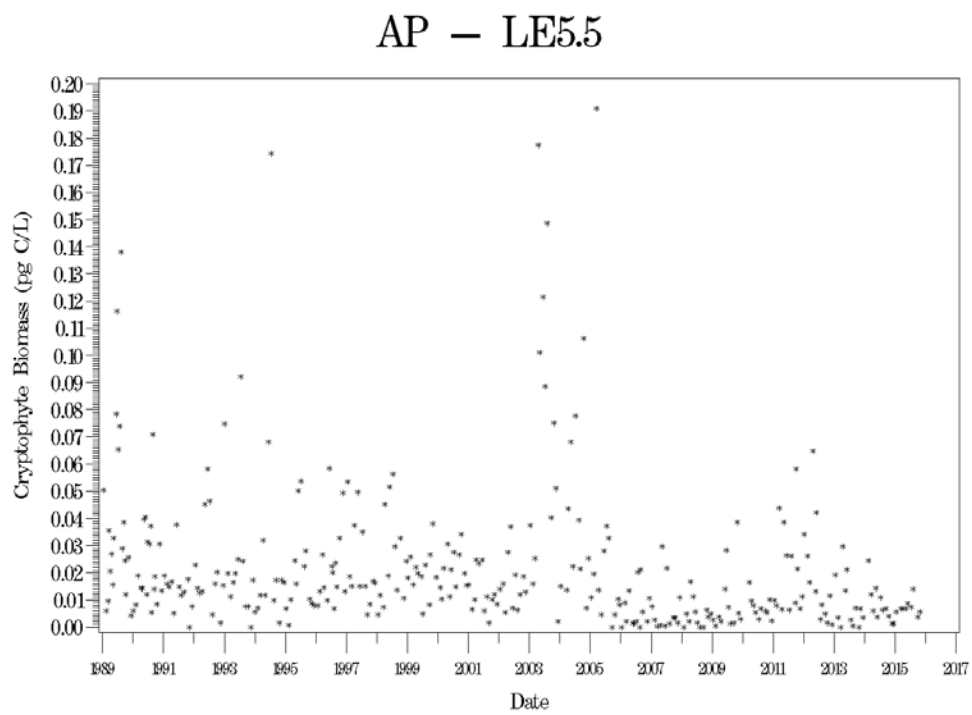


Figure 32. Plot of above pycnocline cryptophyte biomass at station LE5.5 for the period of 1985 through 2015.

AP – LE5.5

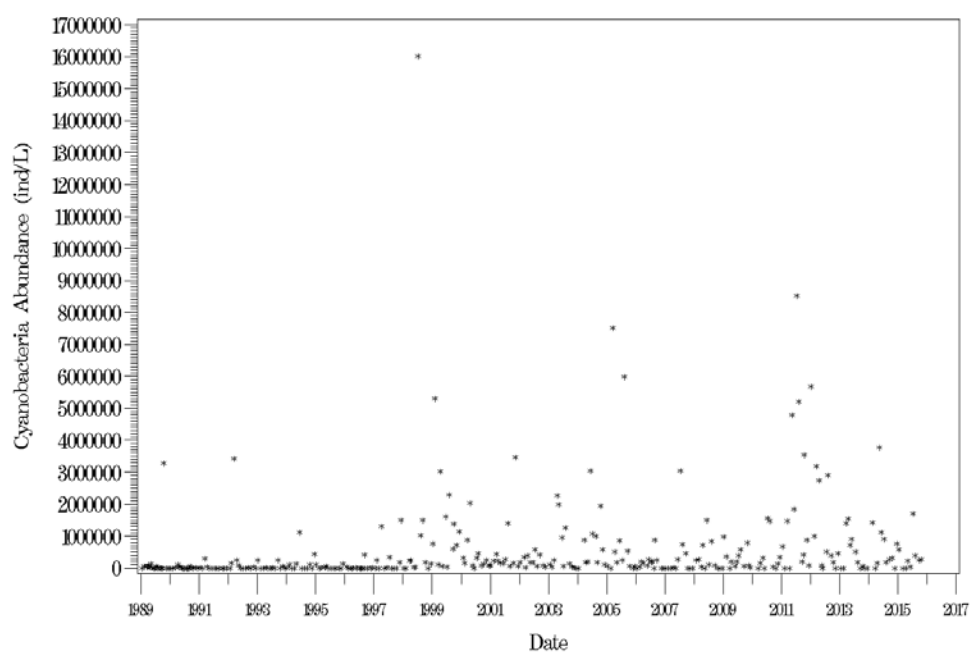


Figure 33. Plot of above pycnocline cyanophyte abundance at station LE5.5 for the period of 1985 through 2015.

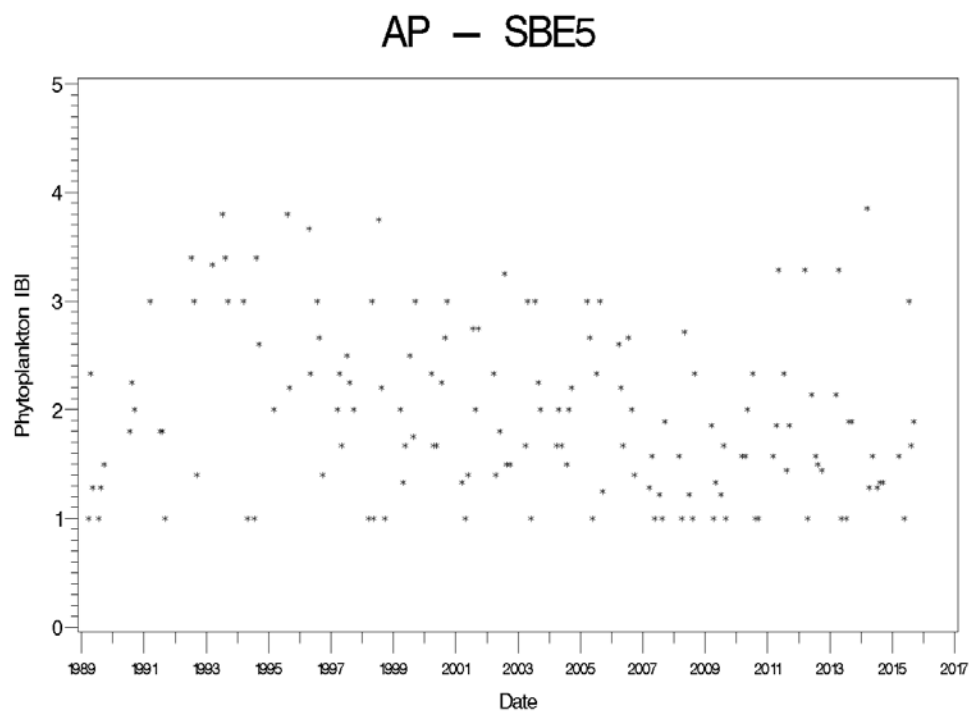


Figure 34. Plot of above pycnocline phytoplankton IBI scores against time at station SBE5 for the period of 1985 through 2015.

AP – SBE5

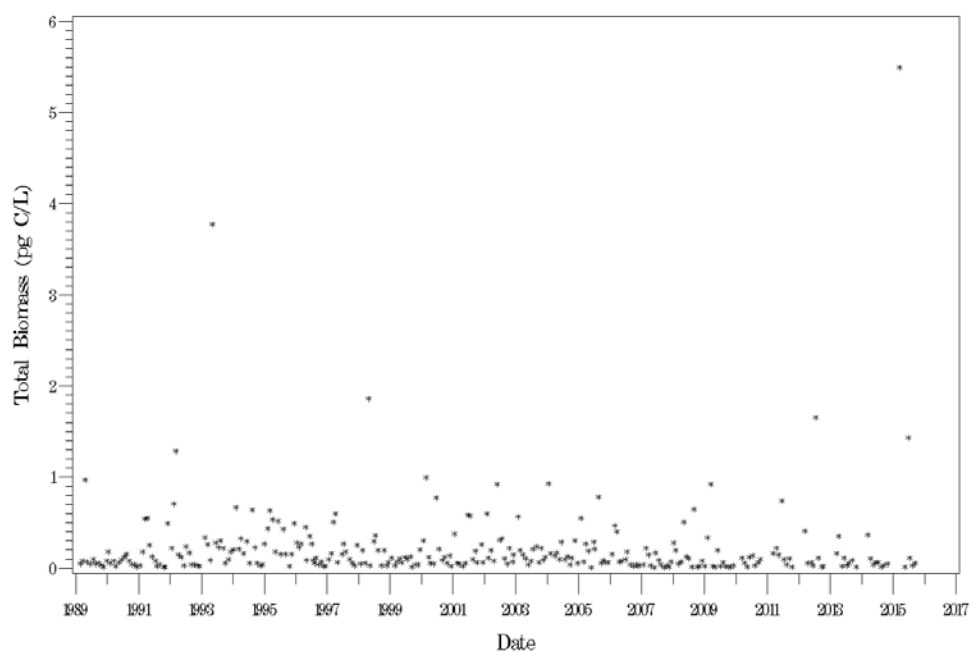


Figure 35. Plot of above pycnocline total phytoplankton biomass against time at station SBE5 for the period of 1985 through 2015.

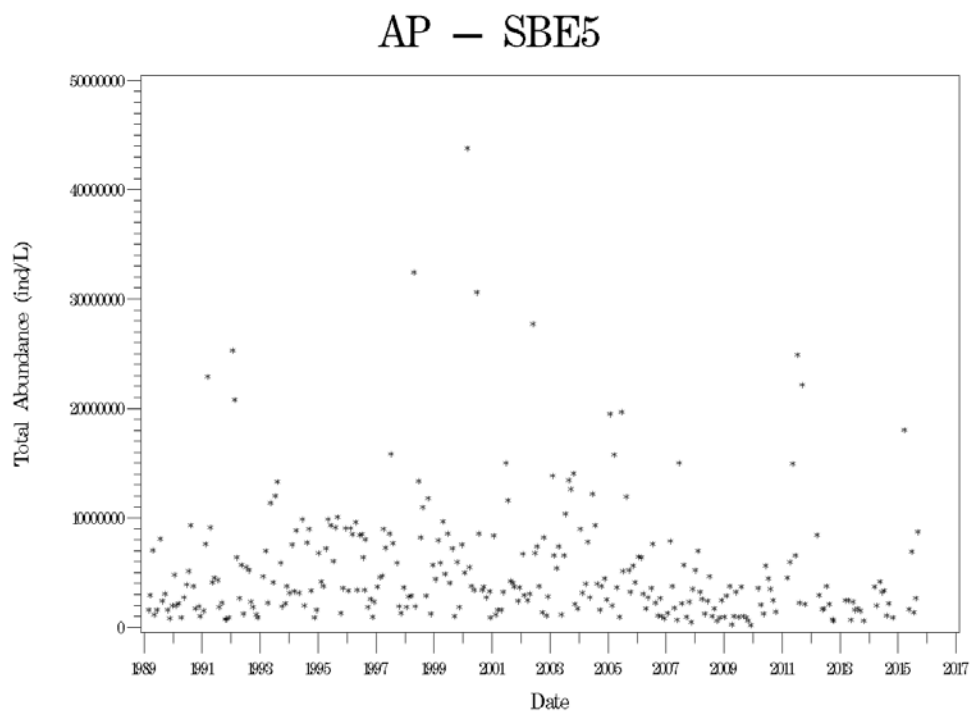


Figure 36. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station SBE5 for the period of 1985 through 2015.

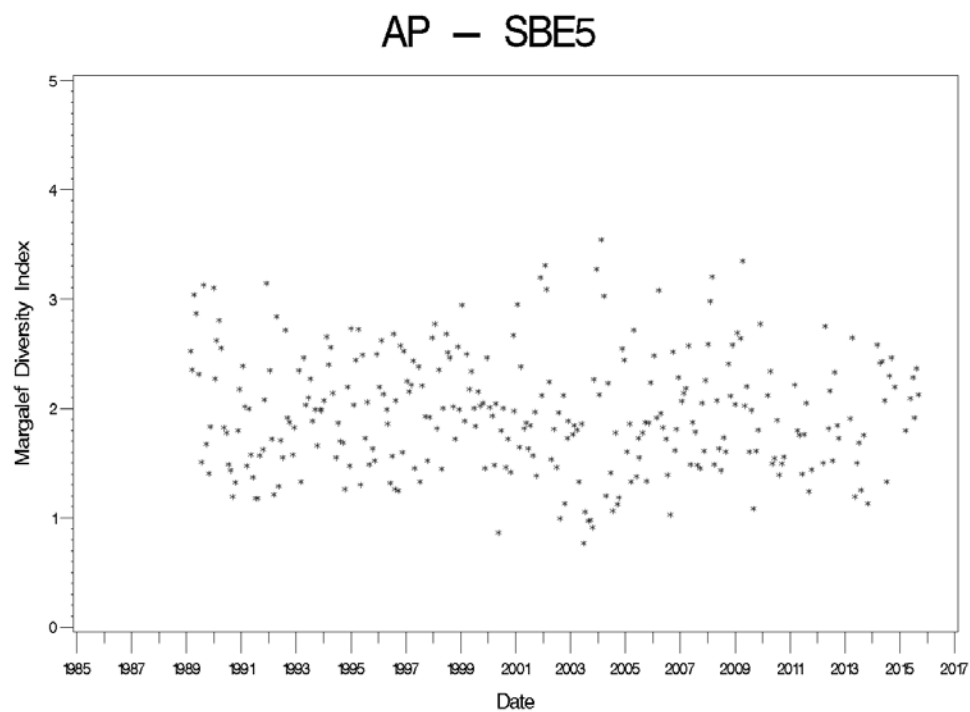


Figure 37. Plot of above pycnocline Margalef diversity index against time at station SBE5 for the period of 1985 through 2015.

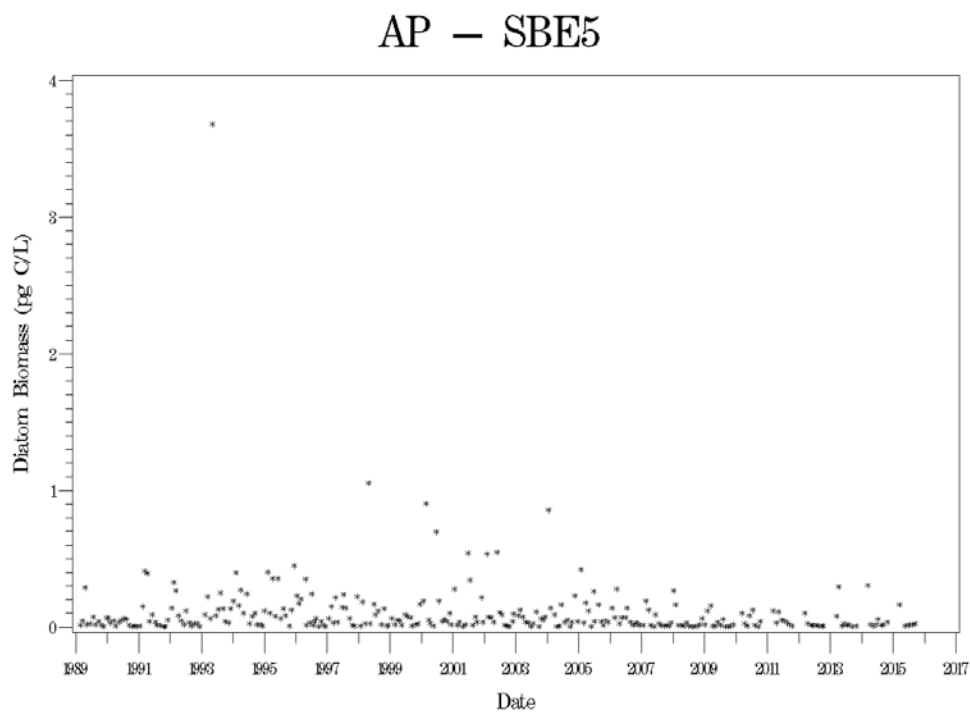


Figure 38. Plot of above pycnocline diatom biomass against time at station SBE5 for the period of 1985 through 2015.

AP – SBE5

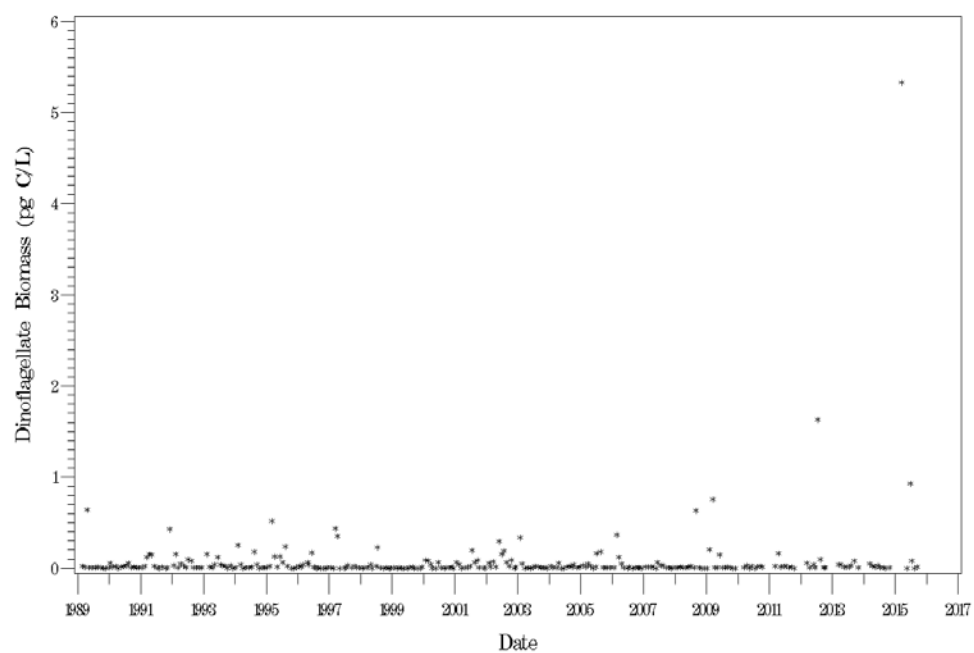


Figure 39. Plot of above pycnocline dinoflagellate biomass against time at station SBE5 for the period of 1985 through 2015.

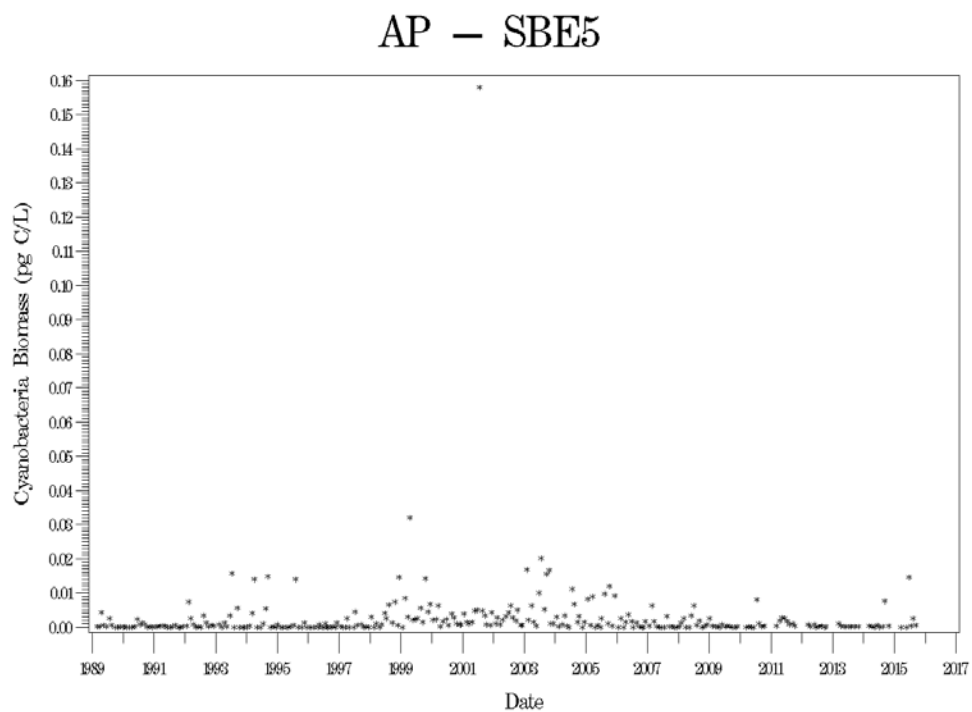


Figure 40. Plot of above pycnocline cyanobacteria biomass against time at station SBE5 for the period of 1985 through 2015.

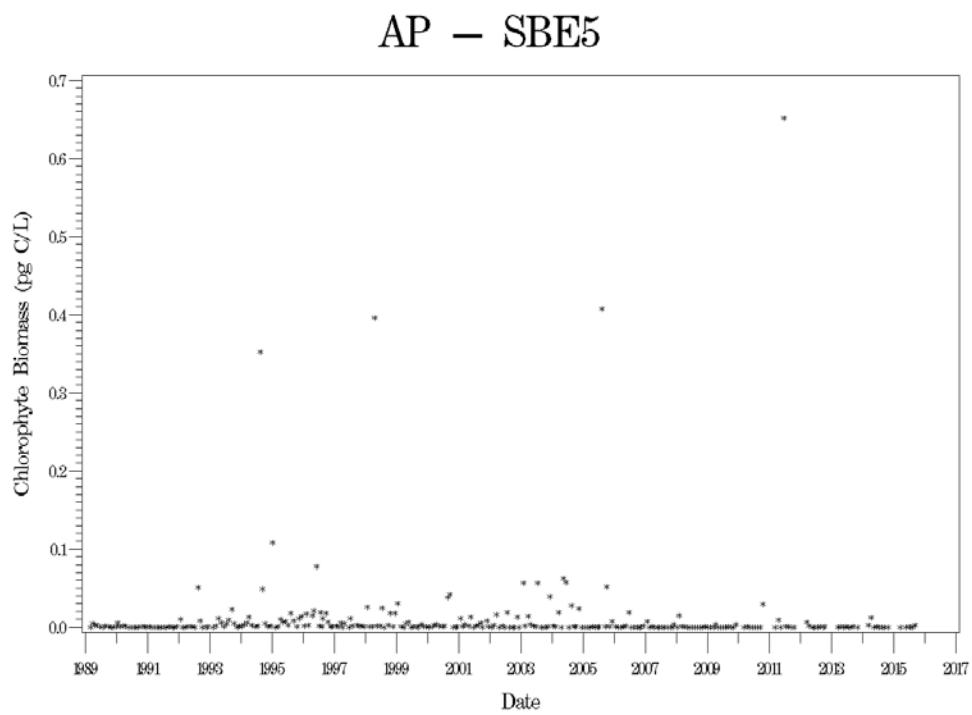


Figure 41. Plot of above pycnocline chlorophyte biomass against time at station SBE5 for the period of 1985 through 2015.

AP – SBE5

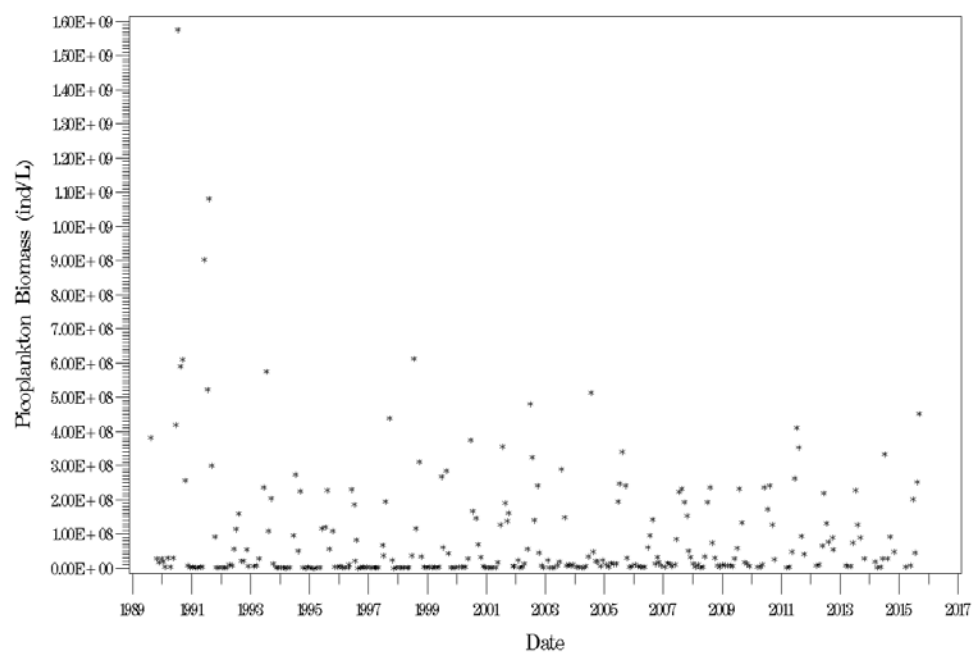


Figure 42. Plot of above pycnocline picoplankton biomass against time at station SBE5 for the period of 1985 through 2015.

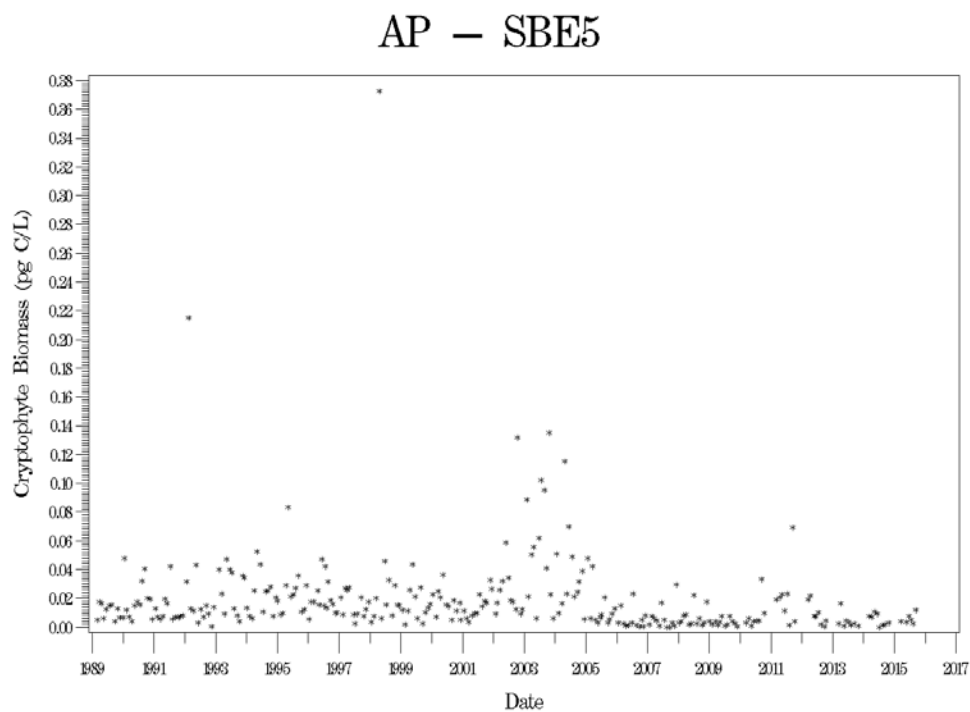


Figure 43. Plot of above pycnocline cryptophyte biomass at station SBE5 for the period of 1985 through 2015.

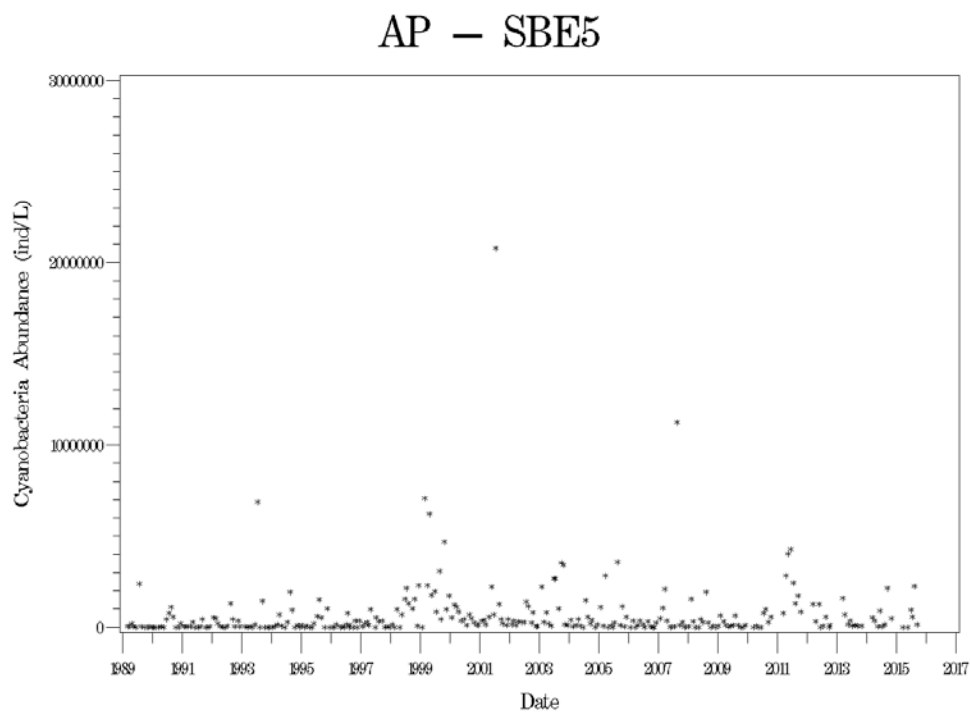


Figure 44. Plot of above pycnocline cyanophyte abundance at station SBE5 for the period of 1985 through 2015.

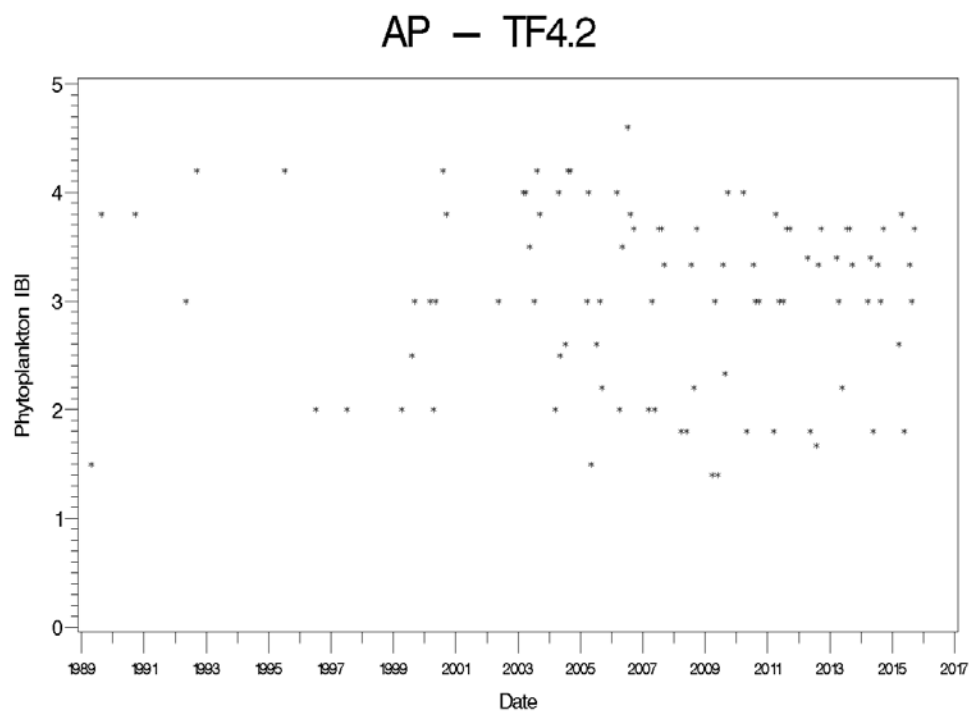


Figure 45. Plot of above pycnocline phytoplankton IBI scores against time at station TF4.2 for the period of 1985 through 2015.

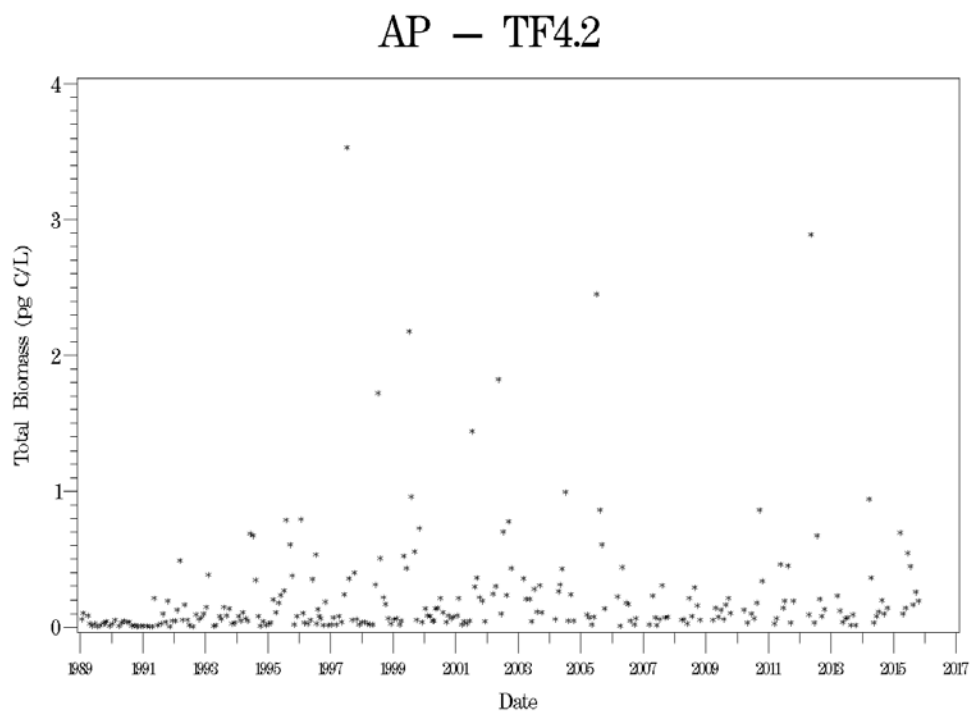


Figure 46. Plot of above pycnocline total phytoplankton biomass against time at station TF4.2 for the period of 1985 through 2015.

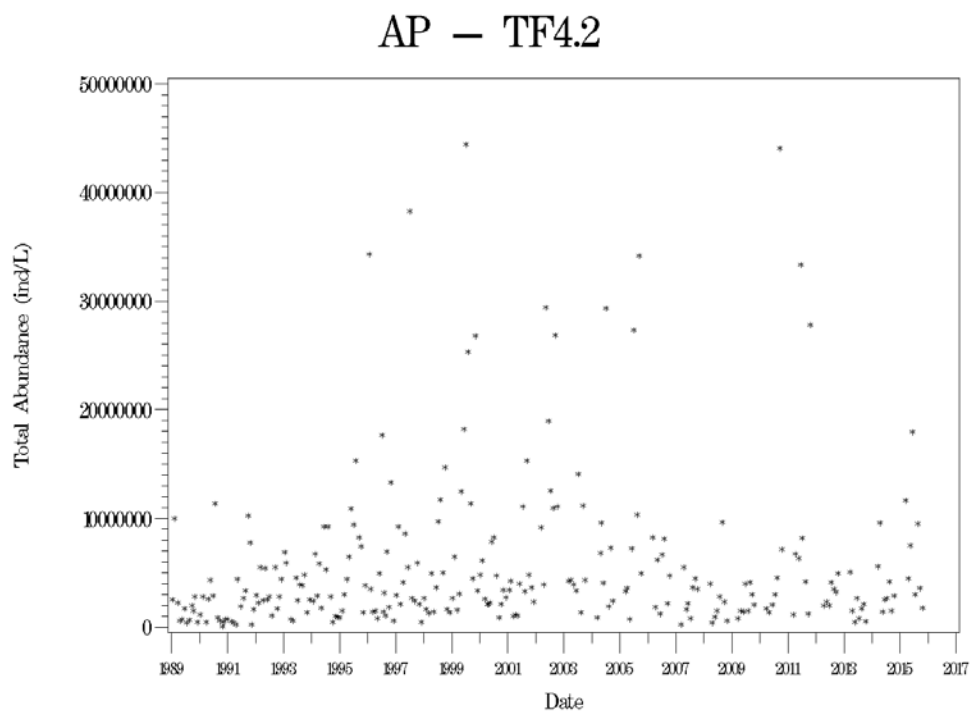


Figure 47. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station TF4.2 for the period of 1985 through 2015.

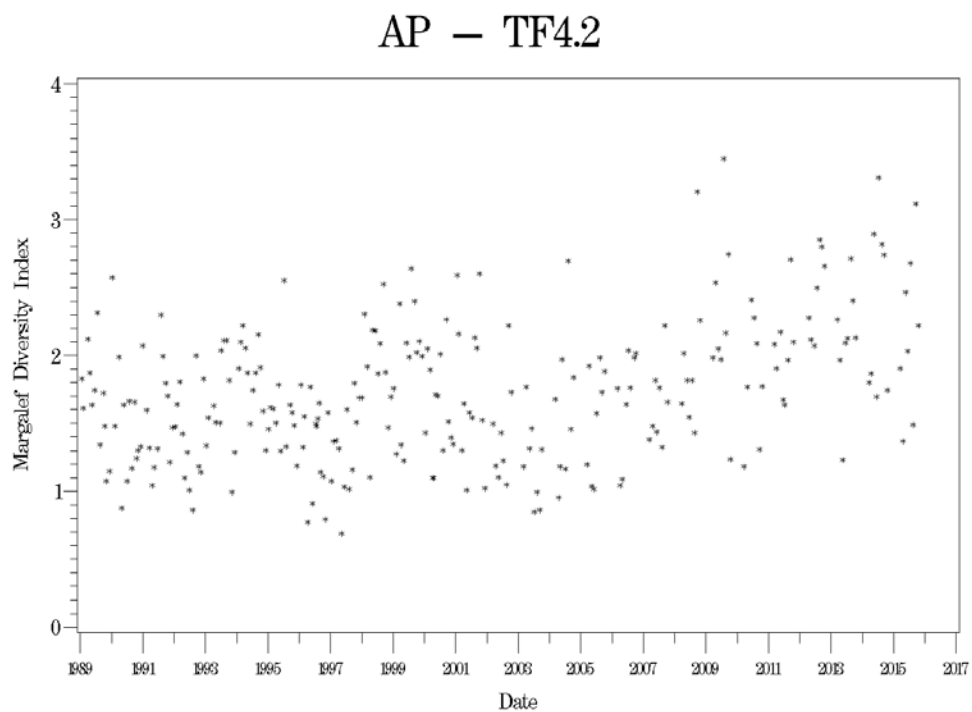


Figure 48. Plot of above pycnocline Margalef diversity index against time at station TF4.2 for the period of 1985 through 2015.

AP – TF4.2

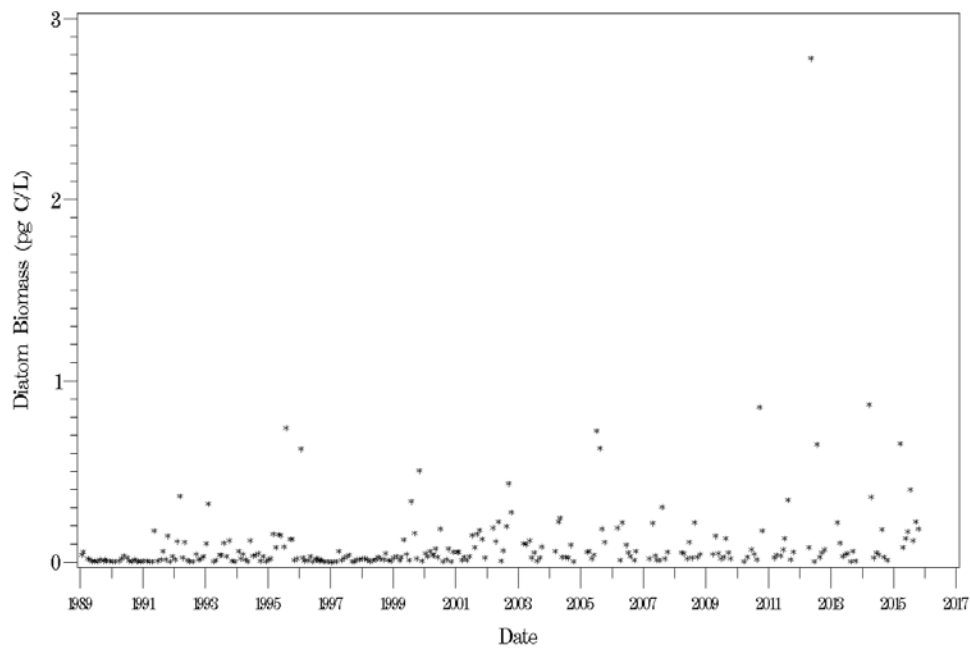


Figure 49. Plot of above pycnocline diatom biomass against time at station TF4.2 for the period of 1985 through 2015.

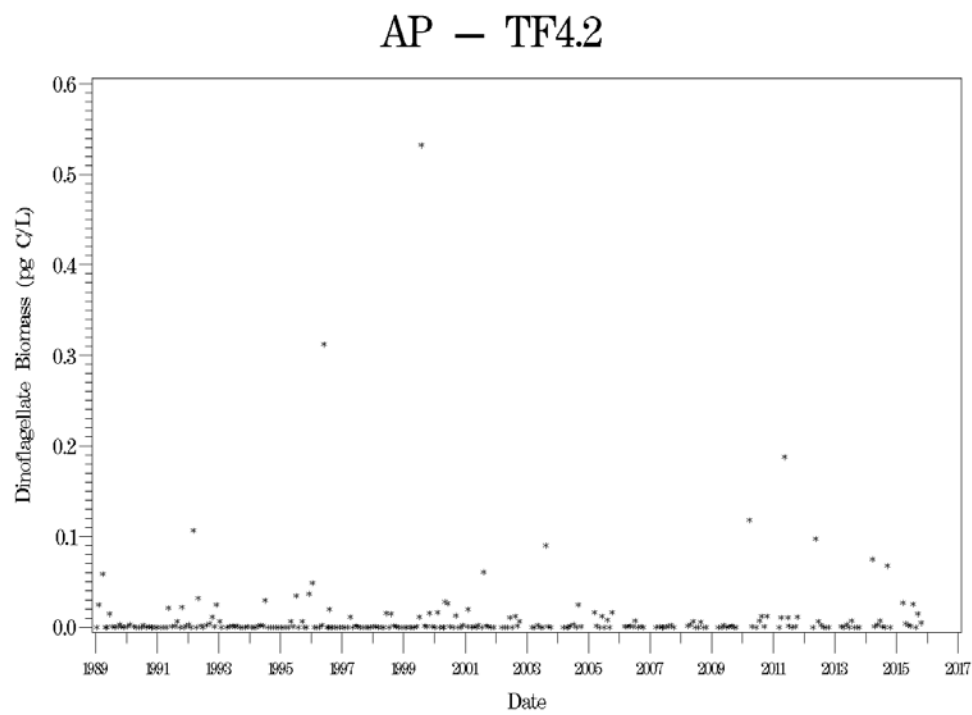


Figure 50. Plot of above pycnocline dinoflagellate biomass against time at station TF4.2 for the period of 1985 through 2015.

AP – TF4.2

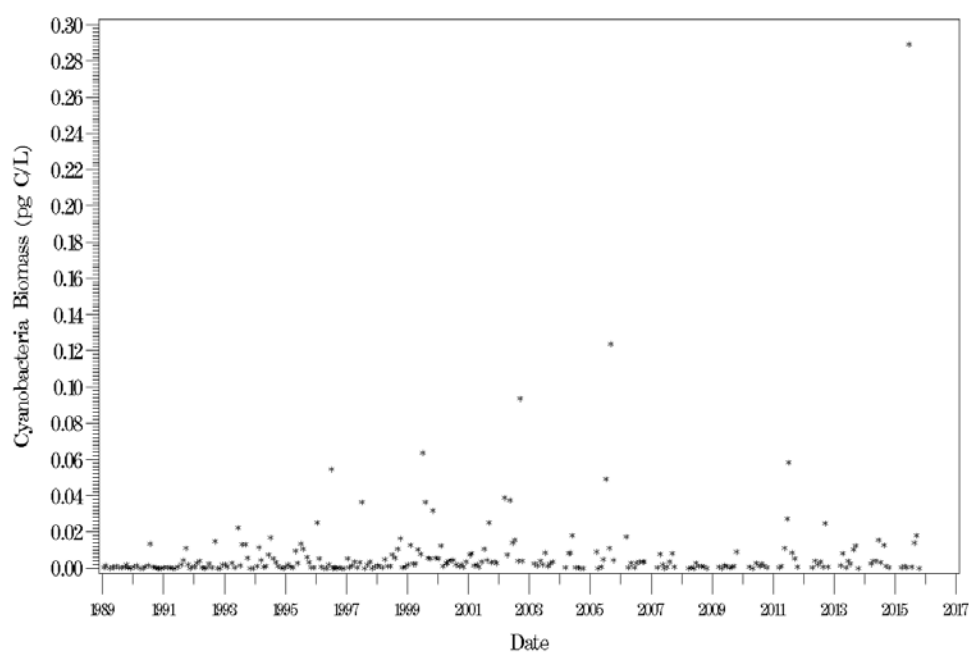


Figure 51. Plot of above pycnocline cyanobacteria biomass against time at station TF4.2 for the period of 1985 through 2015.

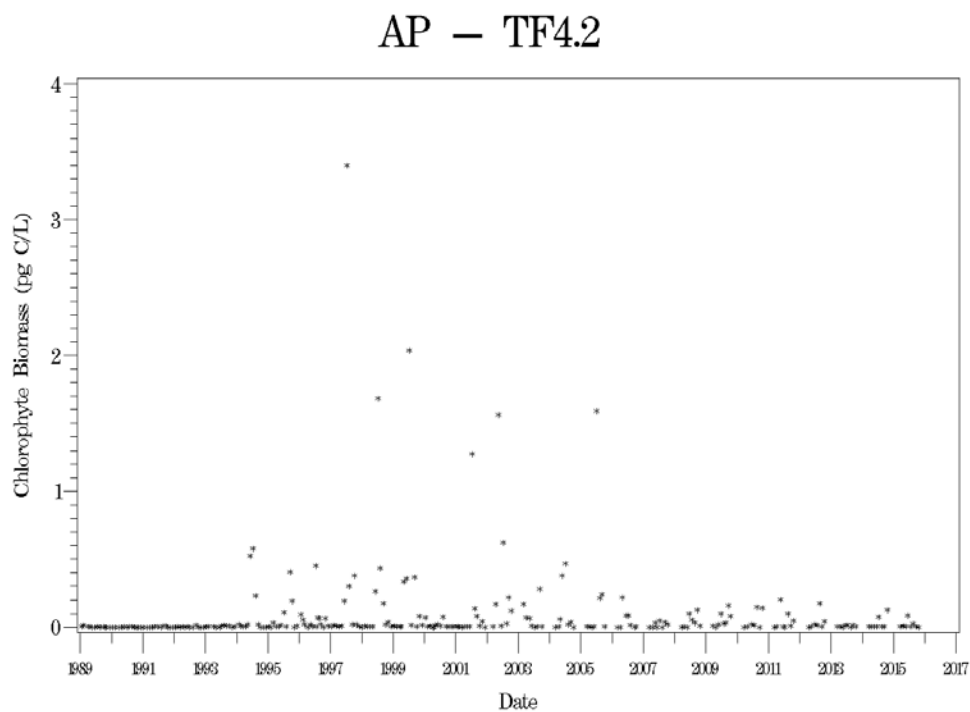


Figure 52. Plot of above pycnocline chlorophyte biomass against time at station TF4.2 for the period of 1985 through 2015.

AP – TF4.2

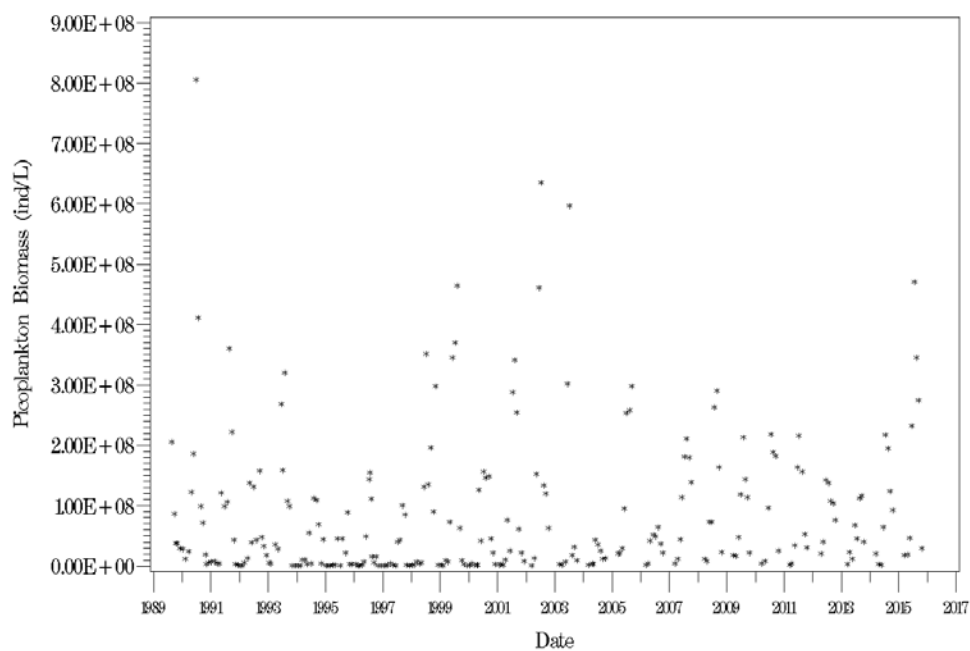


Figure 53. Plot of above pycnocline picoplankton biomass against time at station TF4.2 for the period of 1985 through 2015.

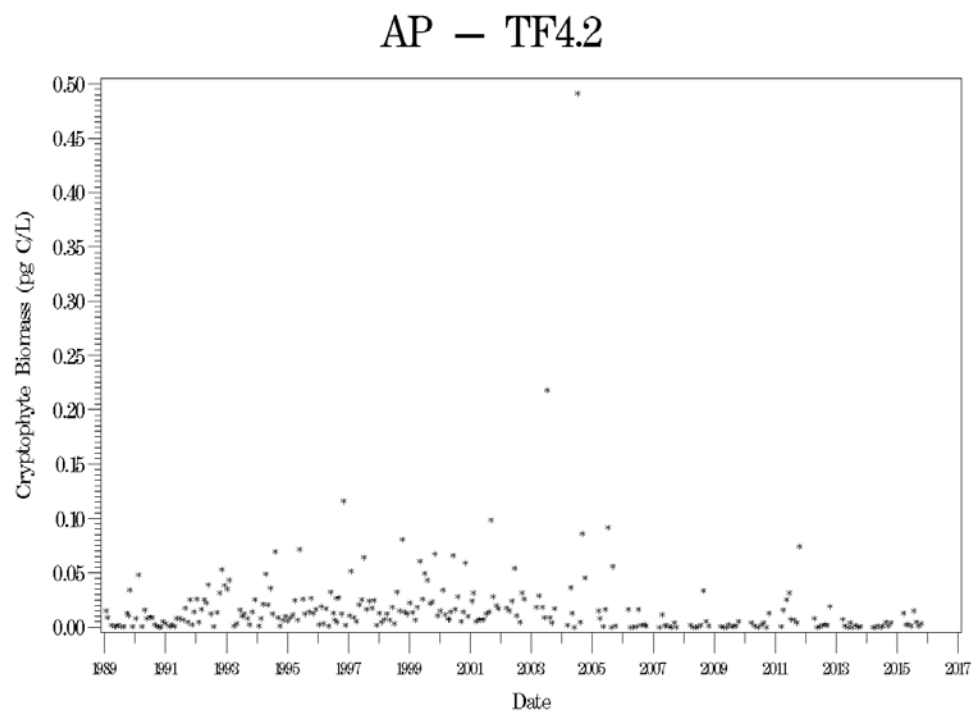


Figure 54. Plot of above pycnocline cryptophyte biomass at station TF4.2 for the period of 1985 through 2015.

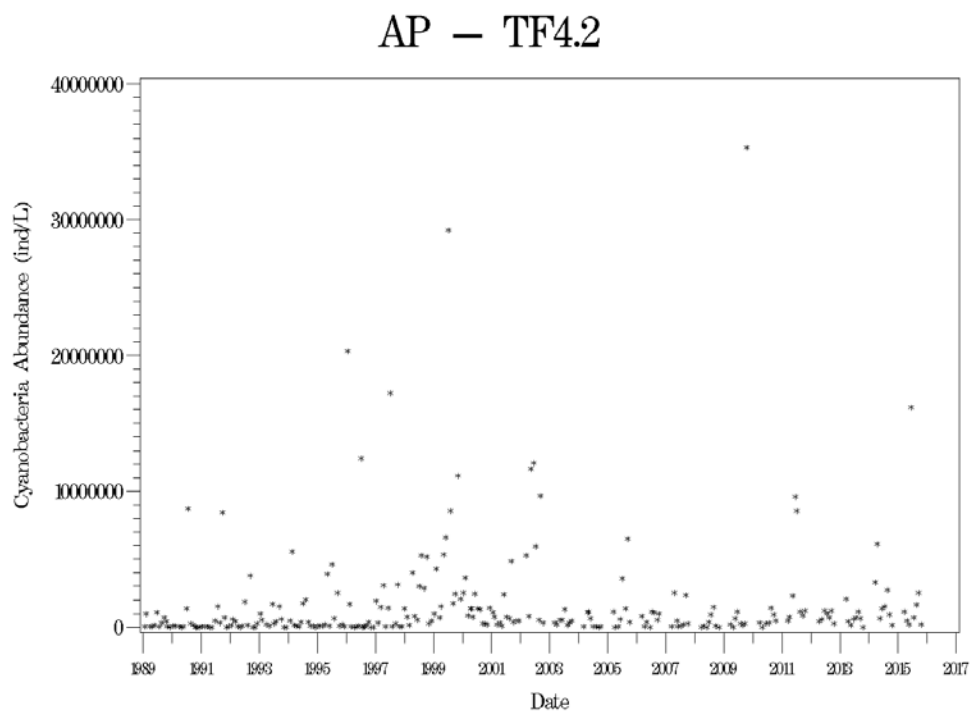


Figure 55. Plot of above pycnocline cyanophyte abundance at station TF4.2 for the period of 1985 through 2015.

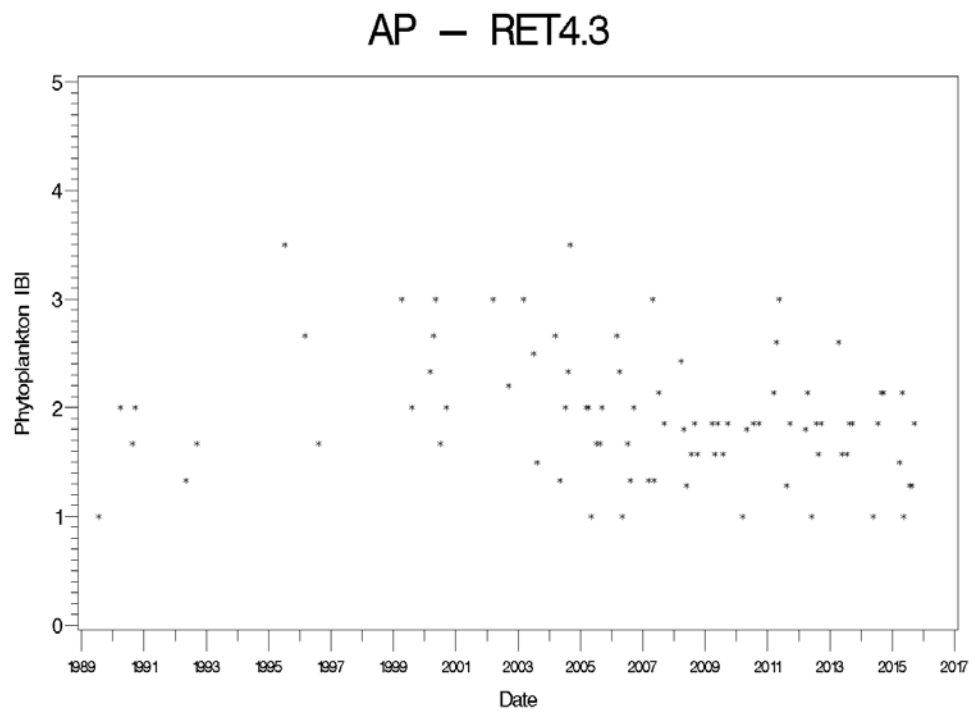


Figure 56. Plot of above pycnocline phytoplankton IBI scores against time at station RET4.3 for the period of 1985 through 2015.

AP – RET4.3

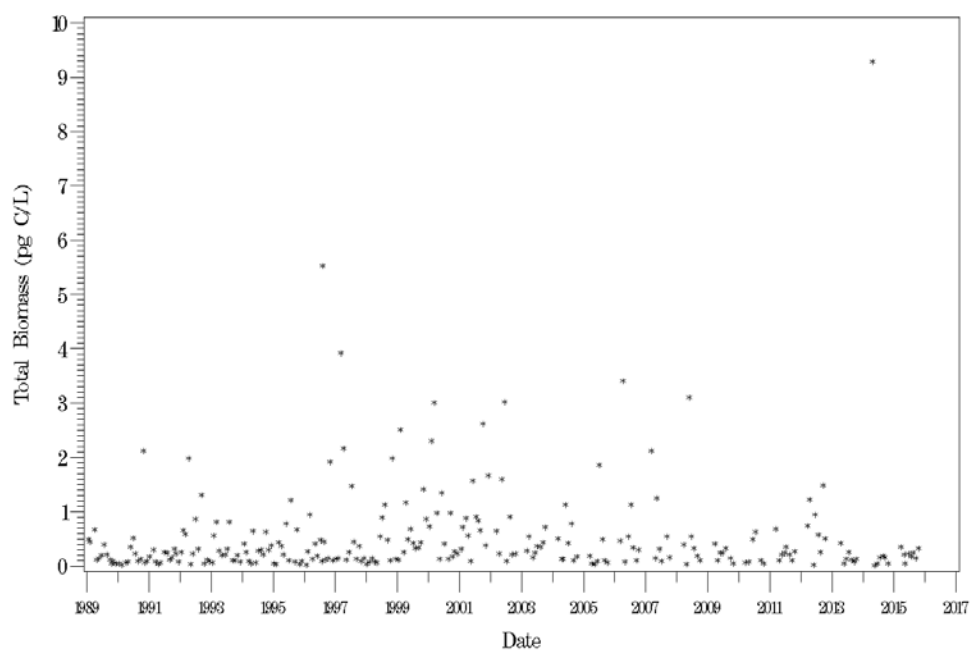


Figure 57. Plot of above pycnocline total phytoplankton biomass against time at station RET4.3 for the period of 1985 through 2015.

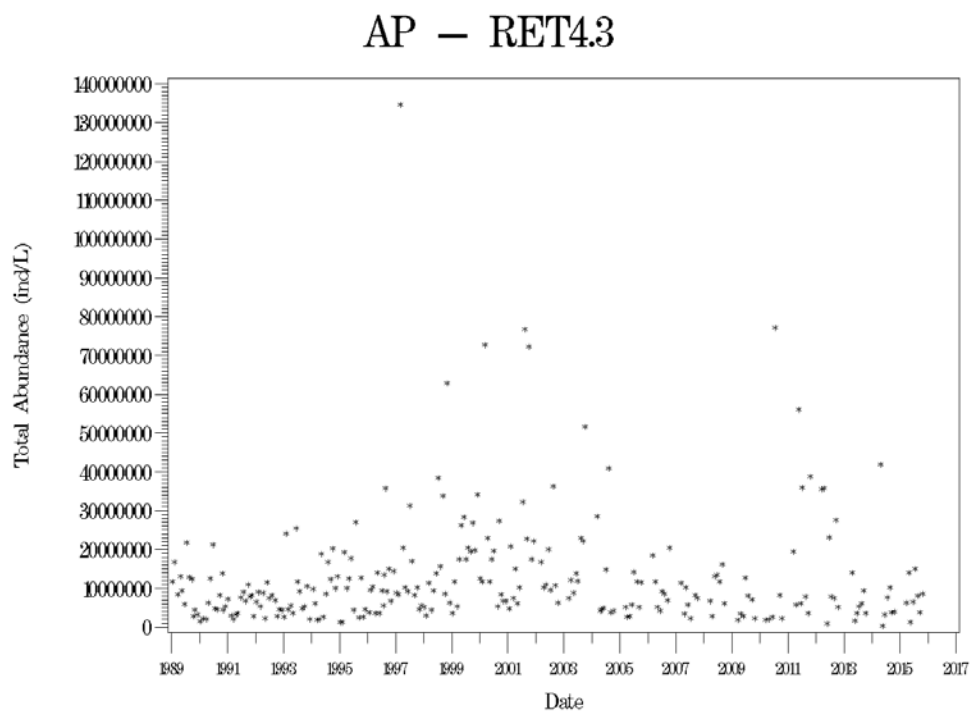


Figure 58. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station RET4.3 for the period of 1985 through 2015.

AP – RET4.3

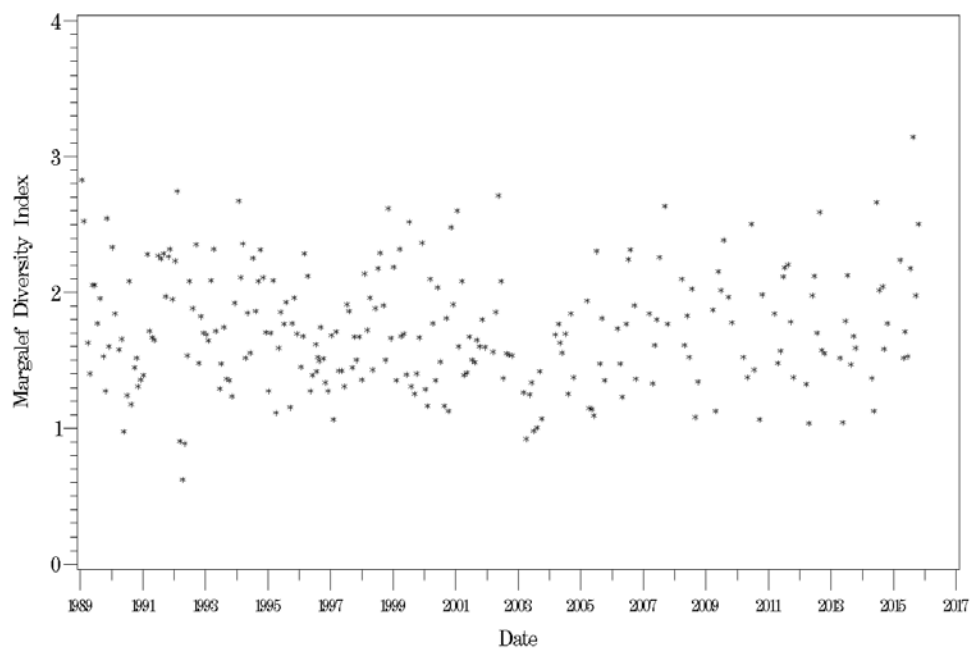


Figure 59. Plot of above pycnocline Margalef diversity index against time at station RET4.3 for the period of 1985 through 2015.

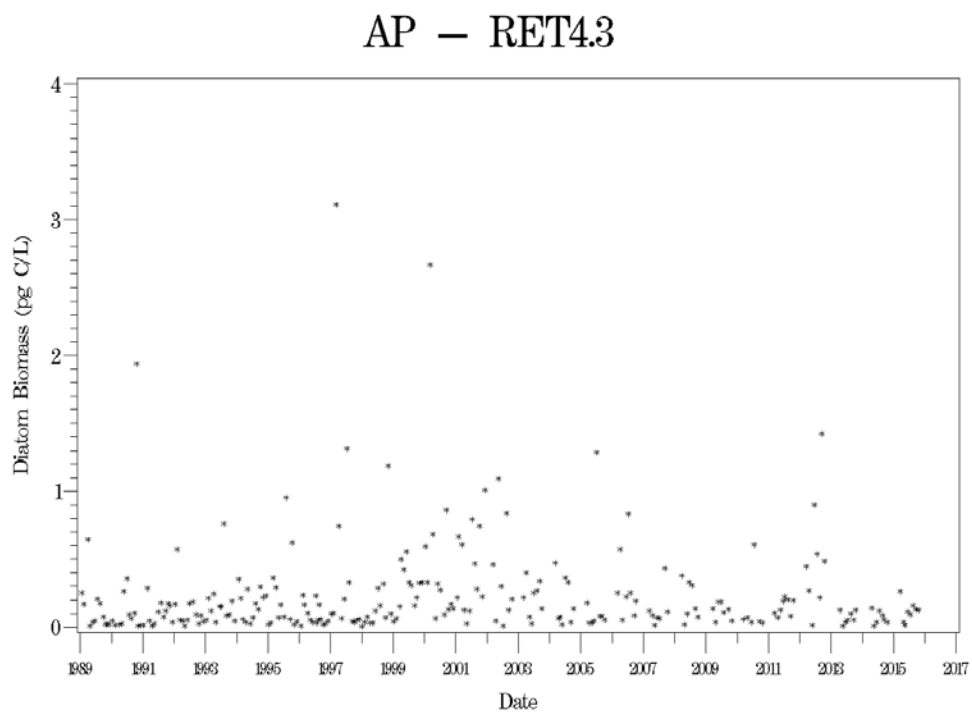


Figure 60. Plot of above pycnocline diatom biomass against time at station RET4.3 for the period of 1985 through 2015.

AP – RET4.3

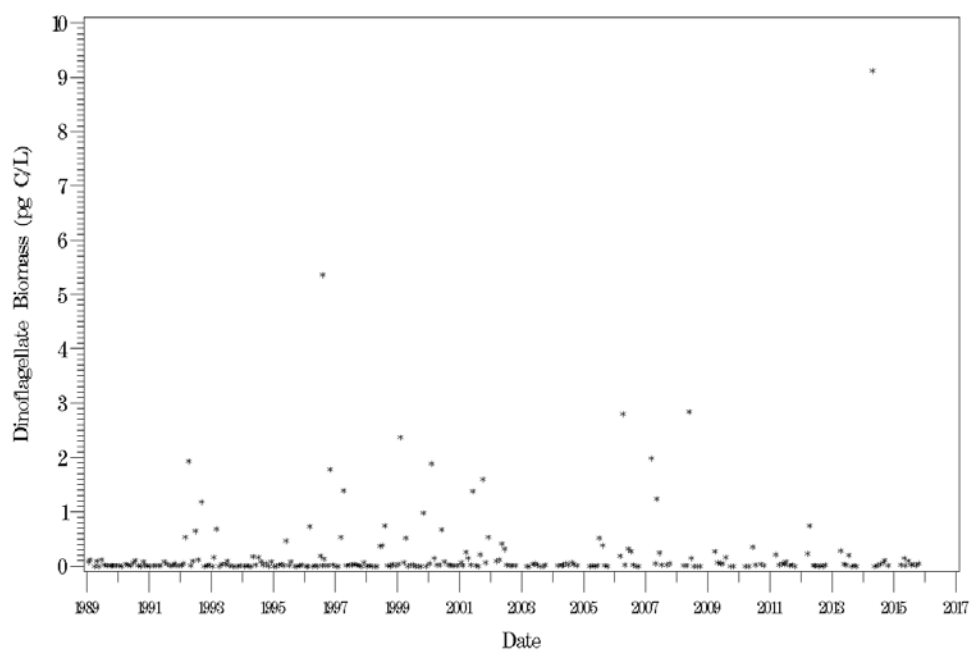


Figure 61. Plot of above pycnocline dinoflagellate biomass against time at station RET4.3 for the period of 1985 through 2015.

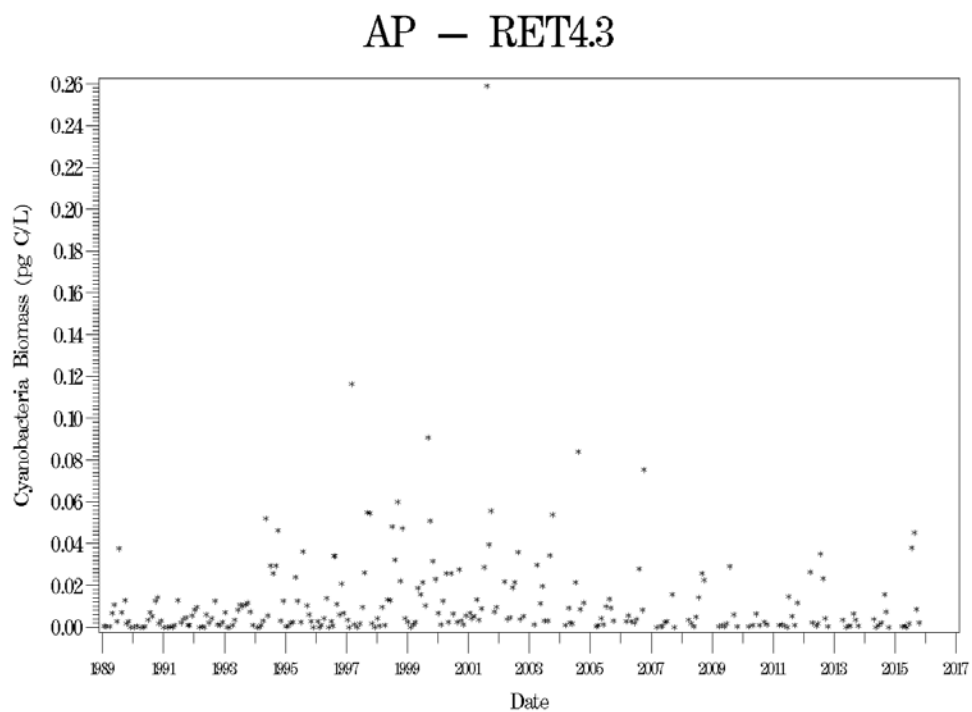


Figure 62. Plot of above pycnocline cyanobacteria biomass against time at station RET4.3 for the period of 1985 through 2015.

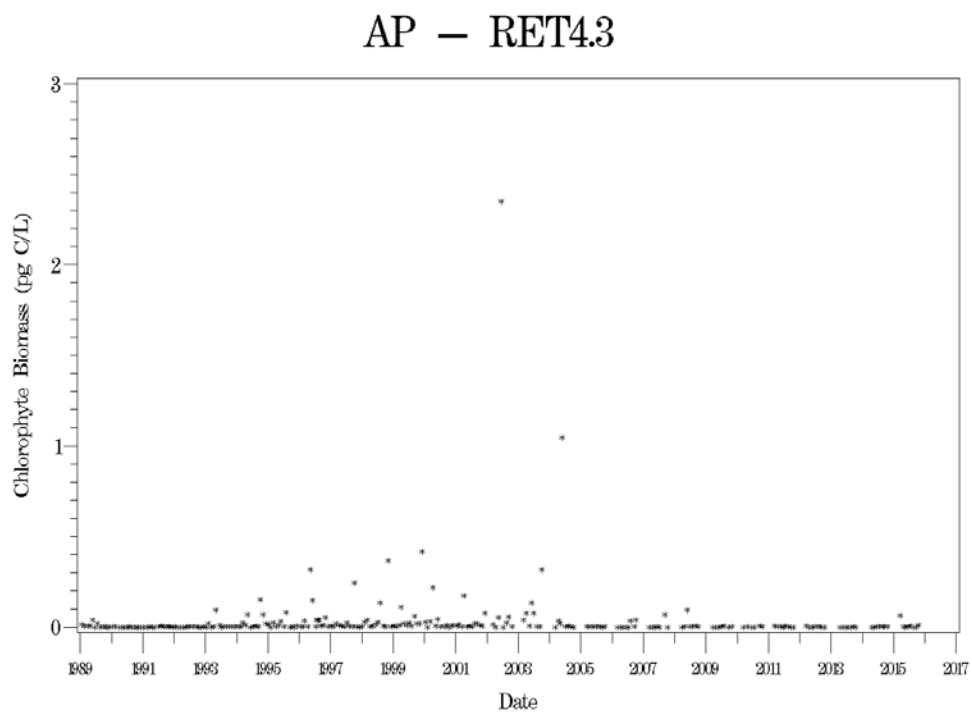


Figure 63. Plot of above pycnocline chlorophyte biomass against time at station RET4.3 for the period of 1985 through 2015.

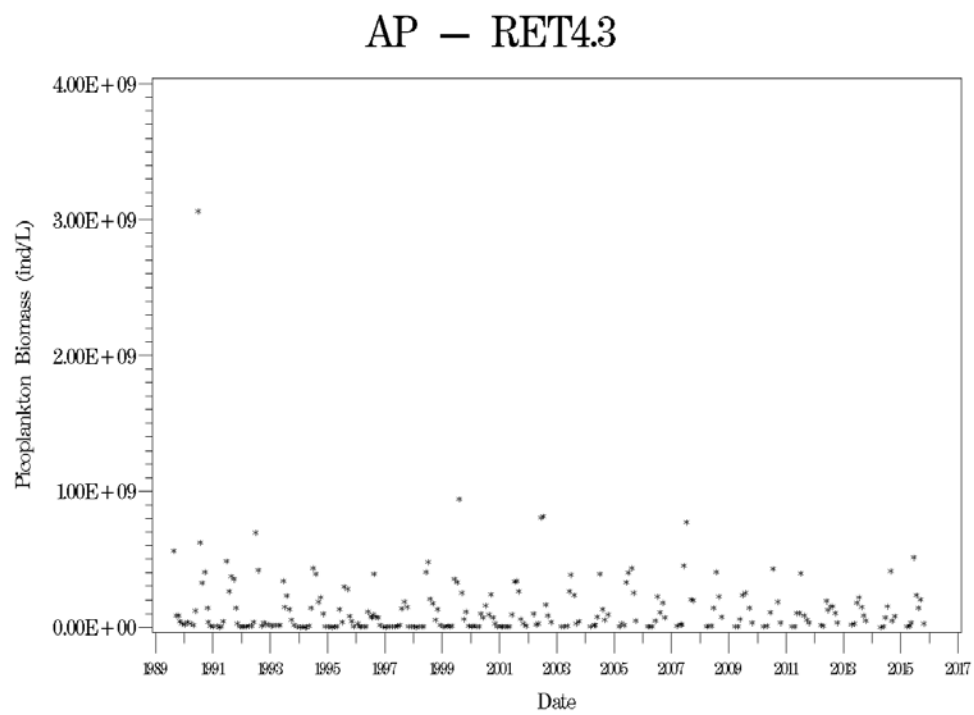


Figure 64. Plot of above pycnocline picoplankton biomass against time at station RET4.3 for the period of 1985 through 2015.

AP – RET4.3

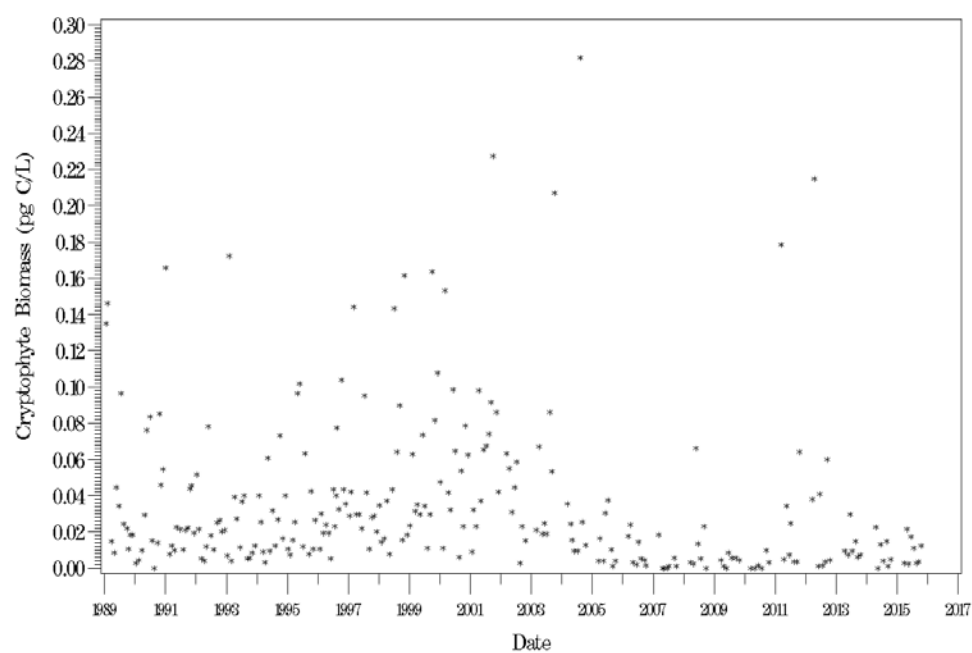


Figure 65. Plot of above pycnocline cryptophyte biomass at station RET4.3 for the period of 1985 through 2015.

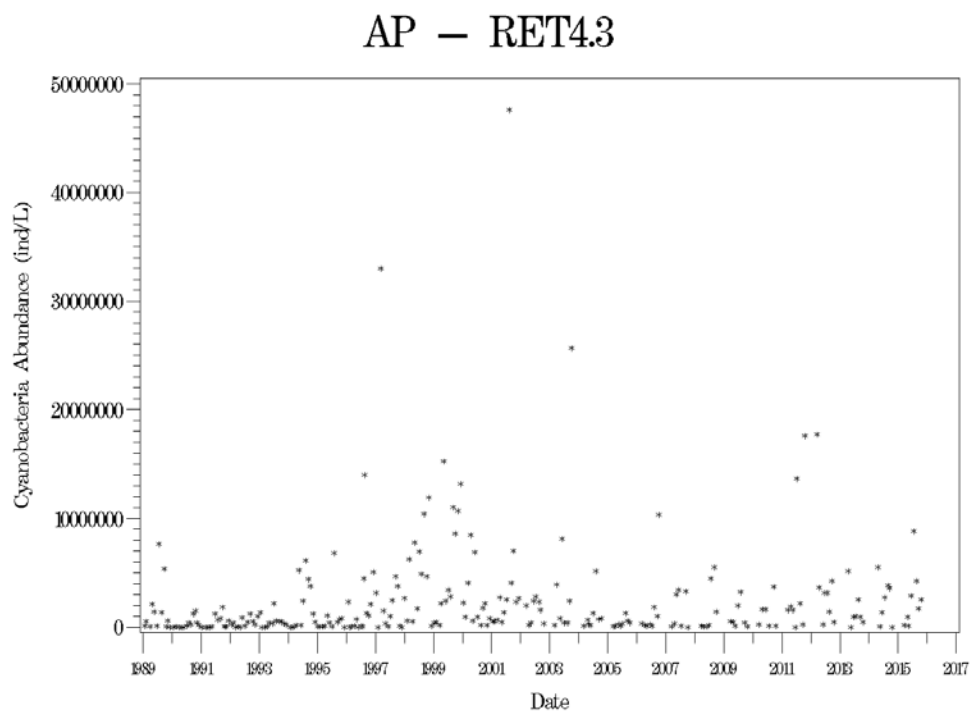


Figure 66. Plot of above pycnocline cyanophyte abundance at station RET4.3 for the period of 1985 through 2015.

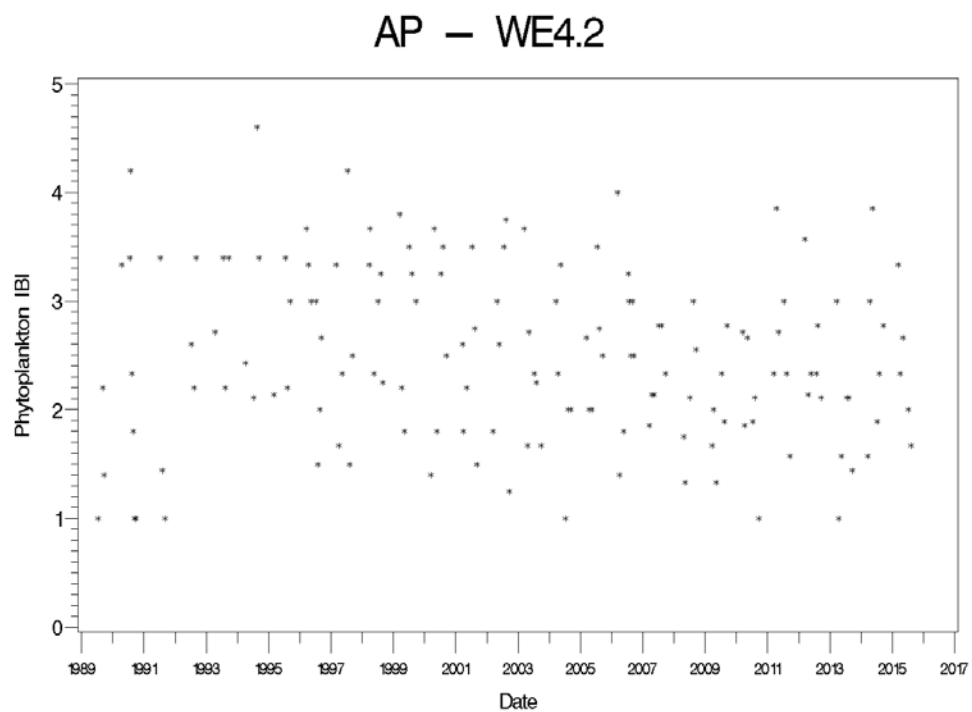


Figure 67. Plot of above pycnocline phytoplankton IBI scores against time at station WE4.2 for the period of 1985 through 2015.

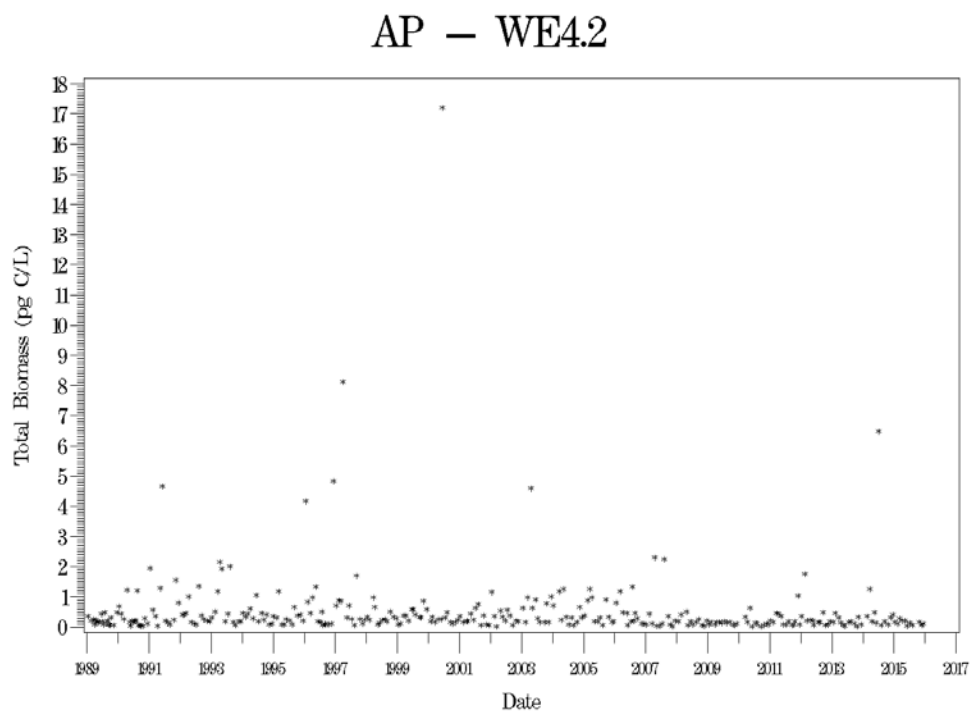


Figure 68. Plot of above pycnocline total phytoplankton biomass against time at station WE4.2 for the period of 1985 through 2015.

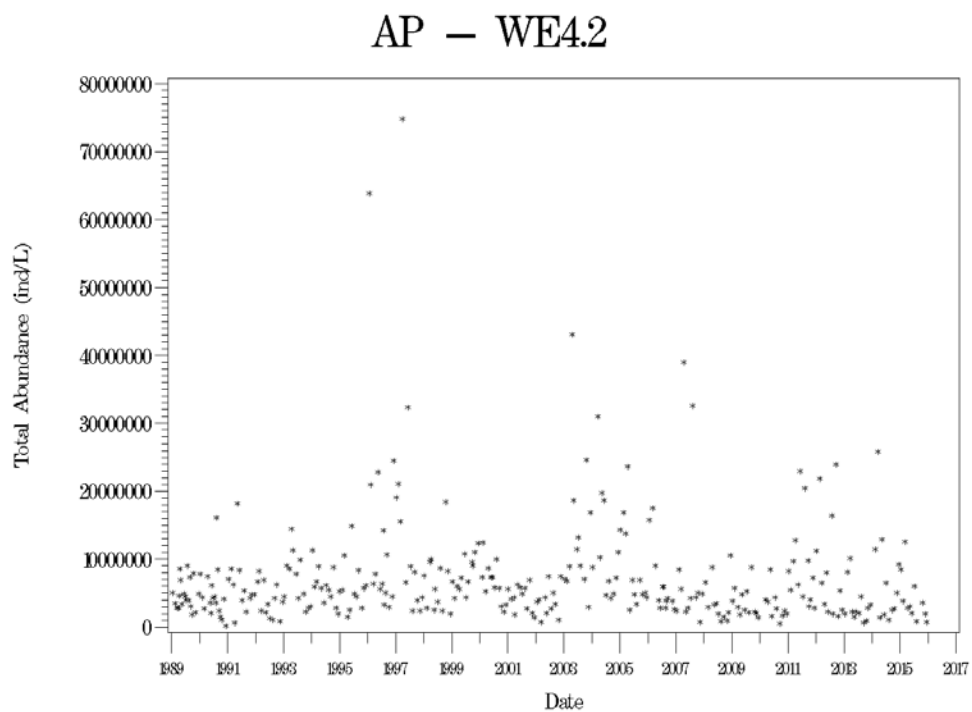


Figure 69. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station WE4.2 for the period of 1985 through 2015.

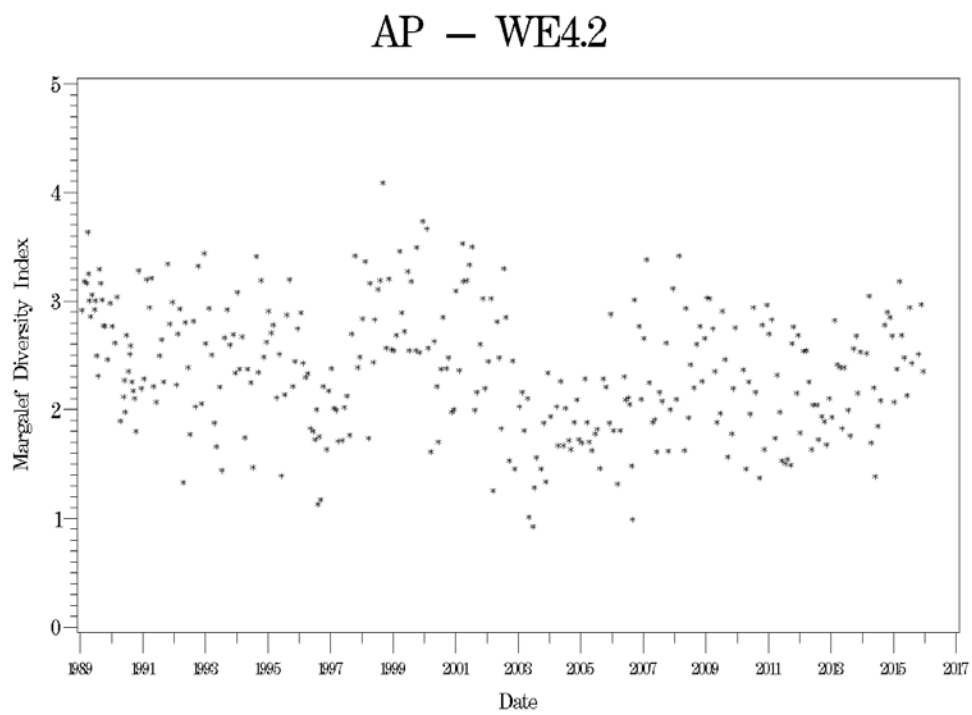


Figure 70. Plot of above pycnocline Margalef diversity index against time at station WE4.2 for the period of 1985 through 2015.

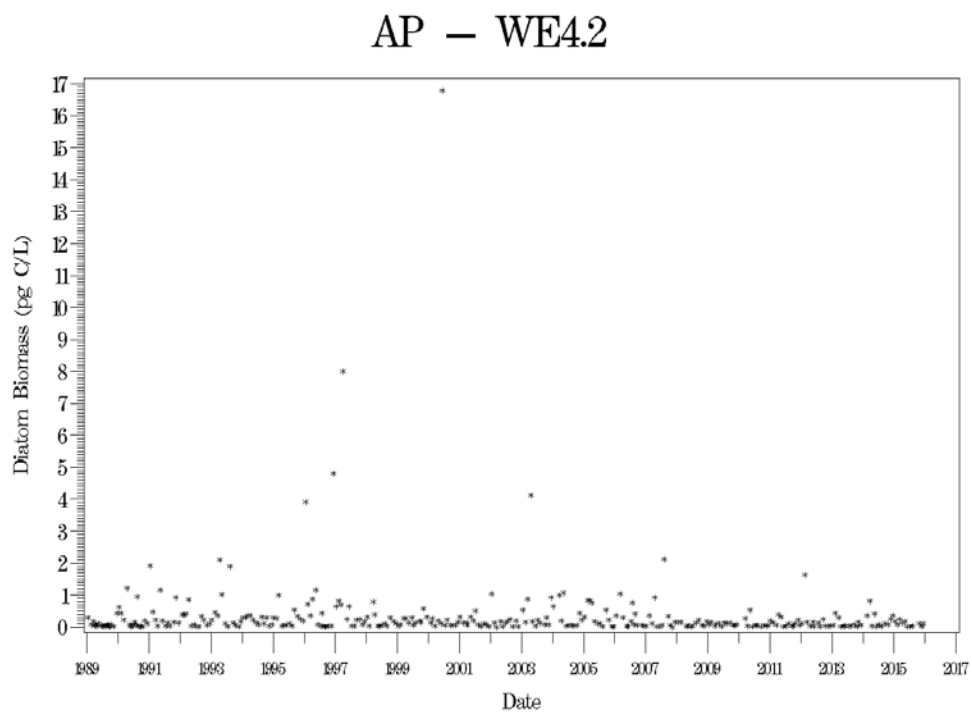


Figure 71. Plot of above pycnocline diatom biomass against time at station WE4.2 for the period of 1985 through 2015.

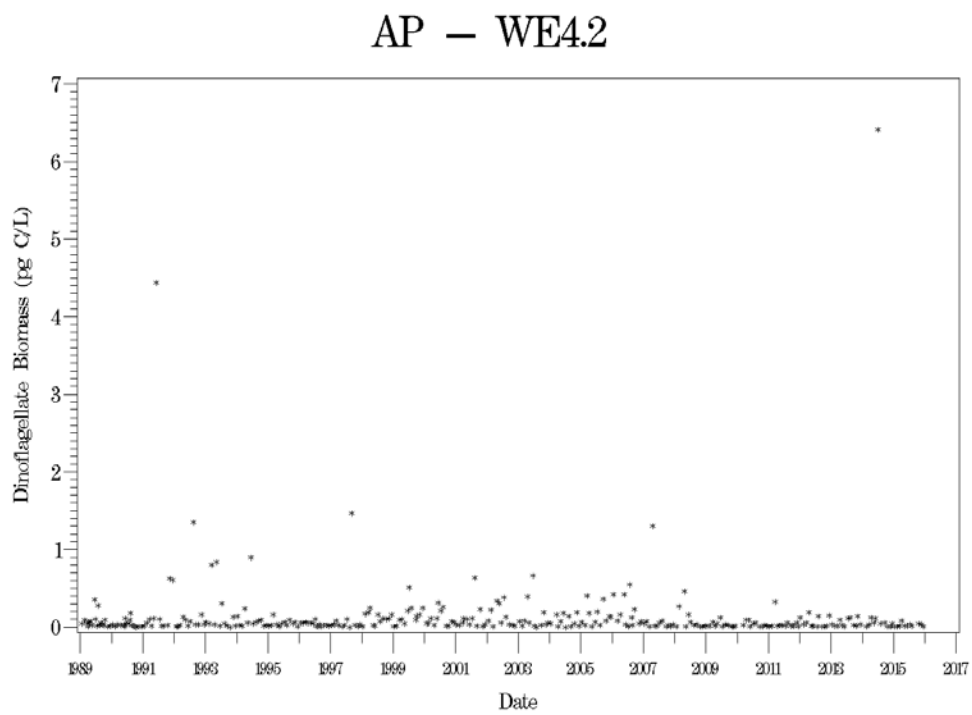


Figure 72. Plot of above pycnocline dinoflagellate biomass against time at station WE4.2 for the period of 1985 through 2015.

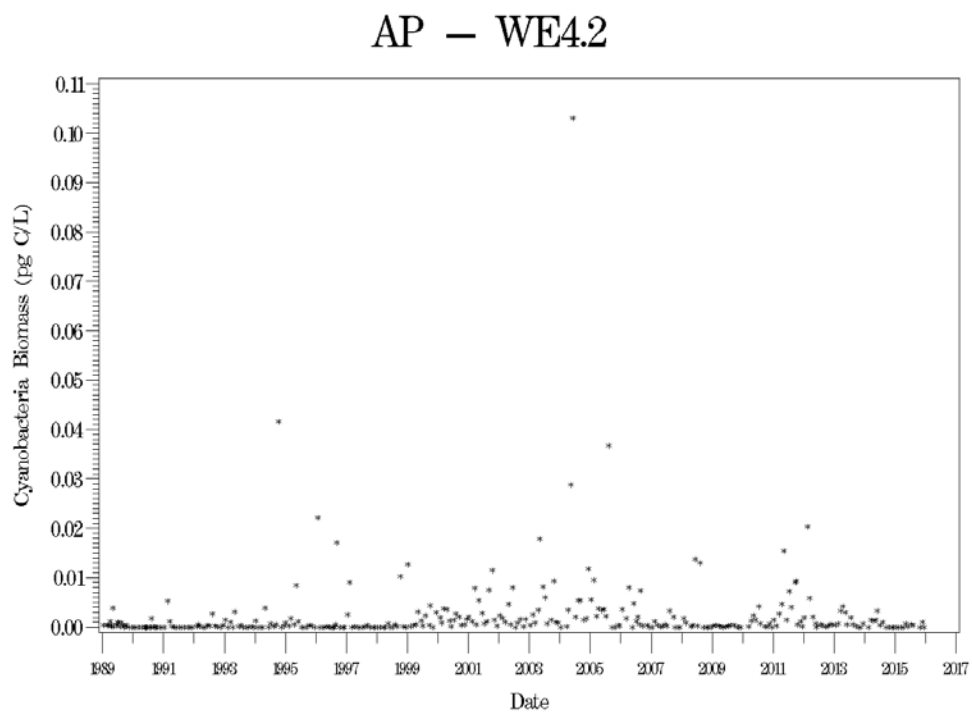


Figure 73. Plot of above pycnocline cyanobacteria biomass against time at station WE4.2 for the period of 1985 through 2015.

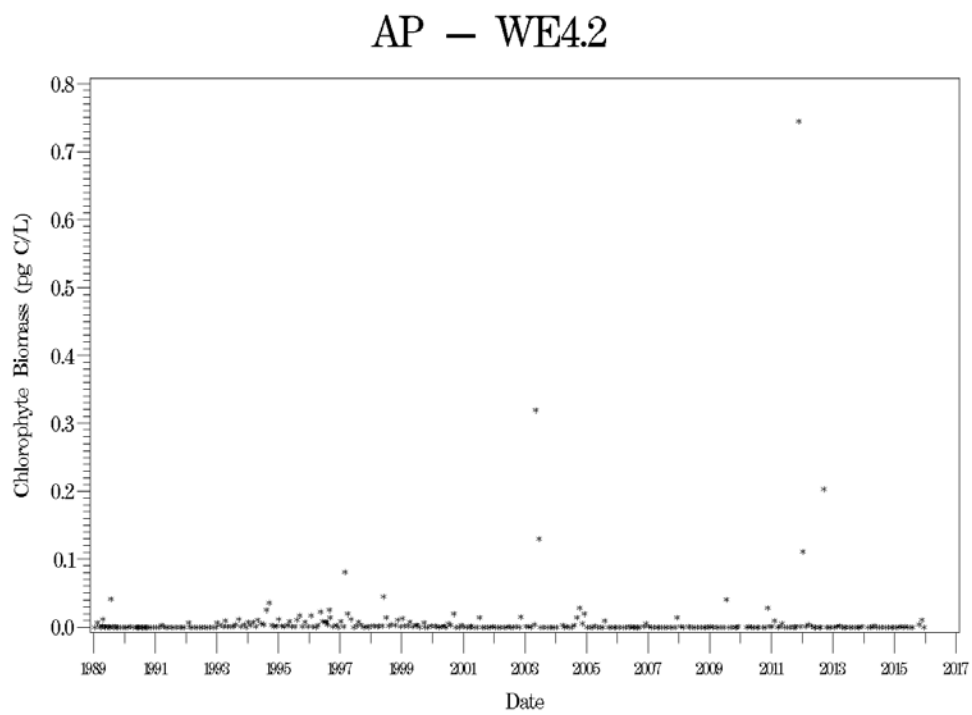


Figure 74. Plot of above pycnocline chlorophyte biomass against time at station WE4.2 for the period of 1985 through 2015.

AP – WE4.2

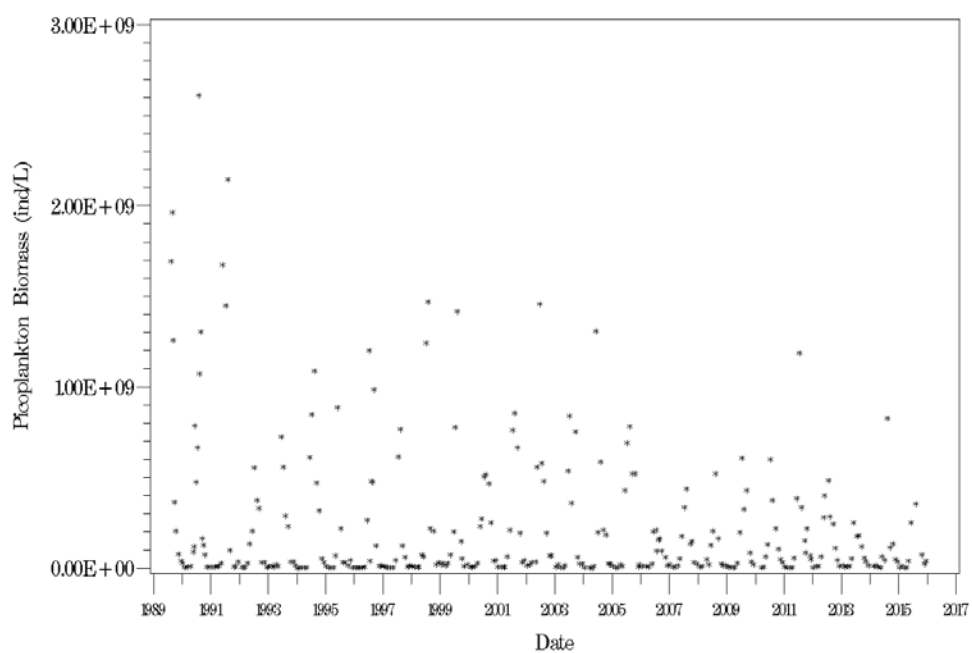


Figure 75. Plot of above pycnocline picoplankton biomass against time at station WE4.2 for the period of 1985 through 2015.

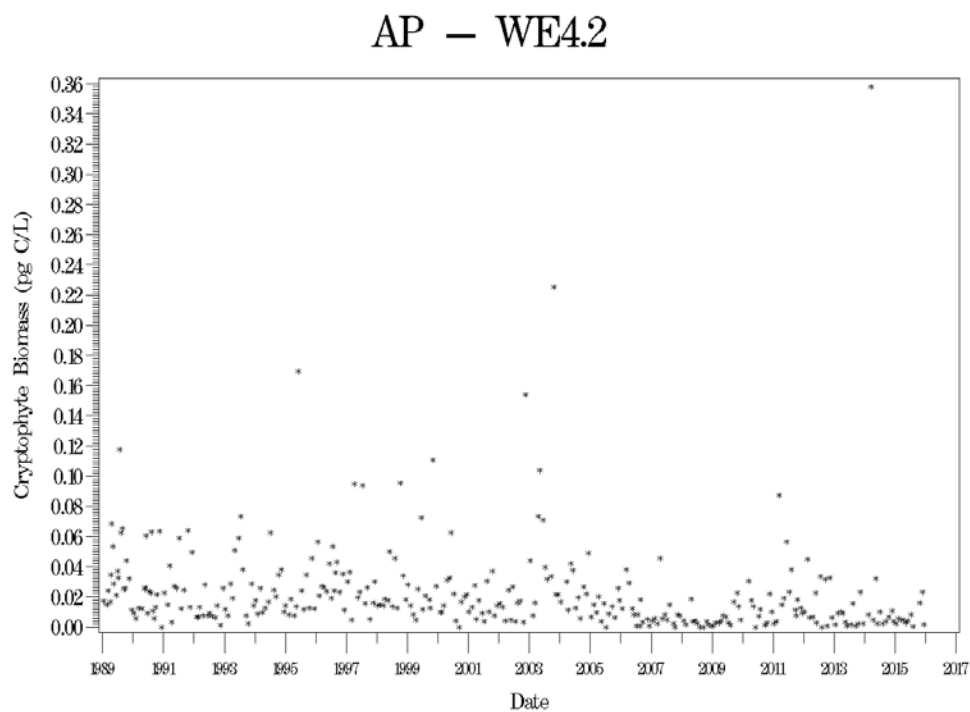


Figure 76. Plot of above pycnocline cryptophyte biomass at station WE4.2 for the period of 1985 through 2015.

AP – WE4.2

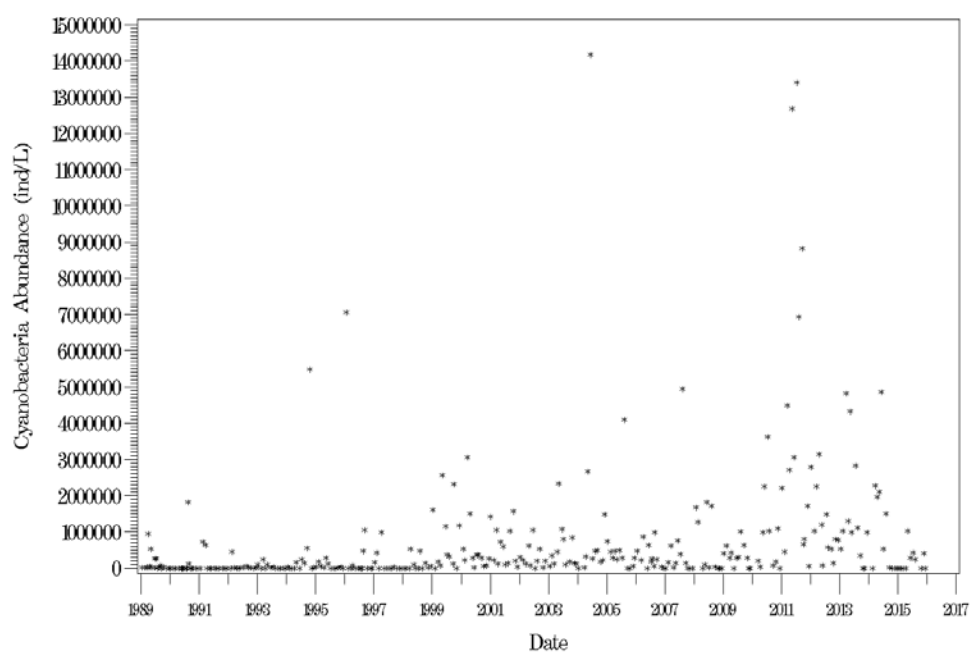


Figure 77. Plot of above pycnocline cyanophyte abundance at station WE4.2 for the period of 1985 through 2015.

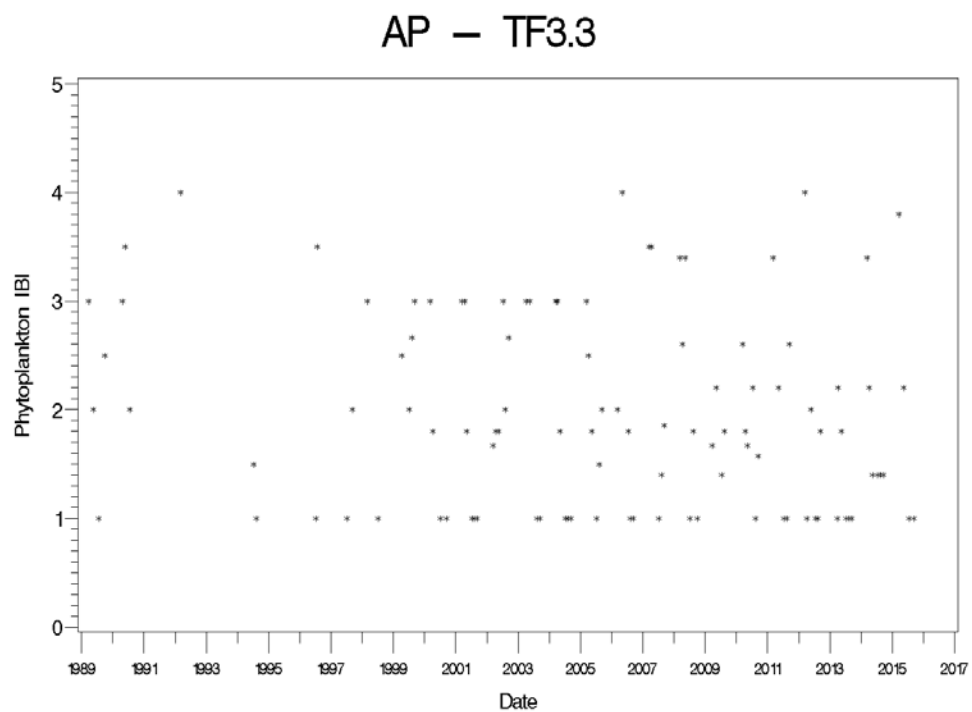


Figure 78. Plot of above pycnocline phytoplankton IBI scores against time at station TF3.3 for the period of 1985 through 2015.

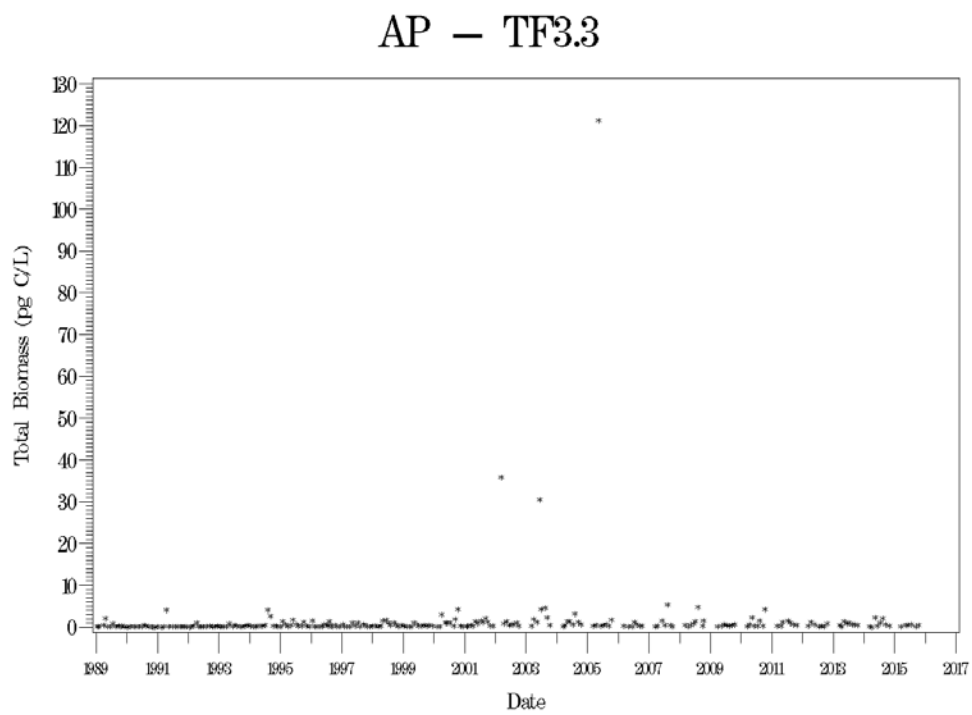


Figure 79. Plot of above pycnocline total phytoplankton biomass against time at station TF3.3 for the period of 1985 through 2015.

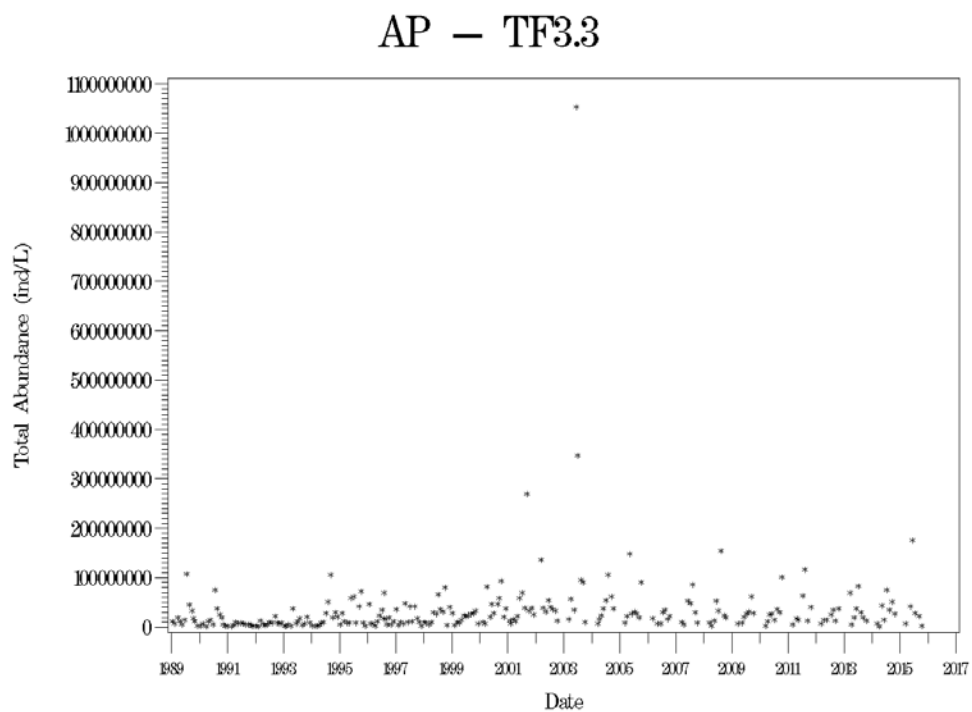


Figure 80. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station TF3.3 for the period of 1985 through 2015.

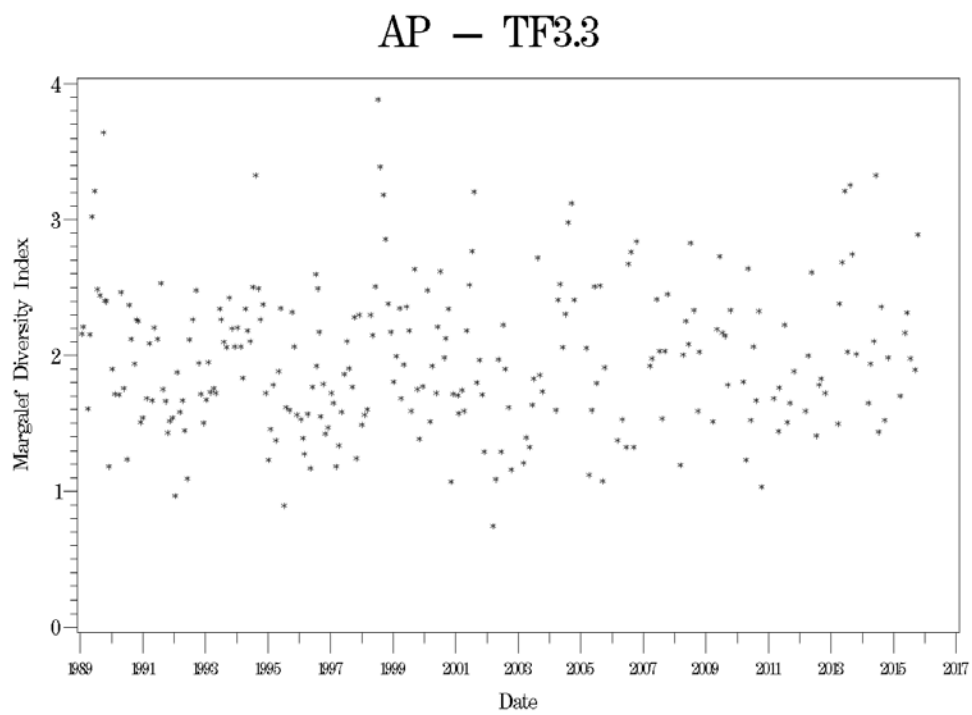


Figure 81. Plot of above pycnocline Margalef diversity index against time at station TF3.3 for the period of 1985 through 2015.

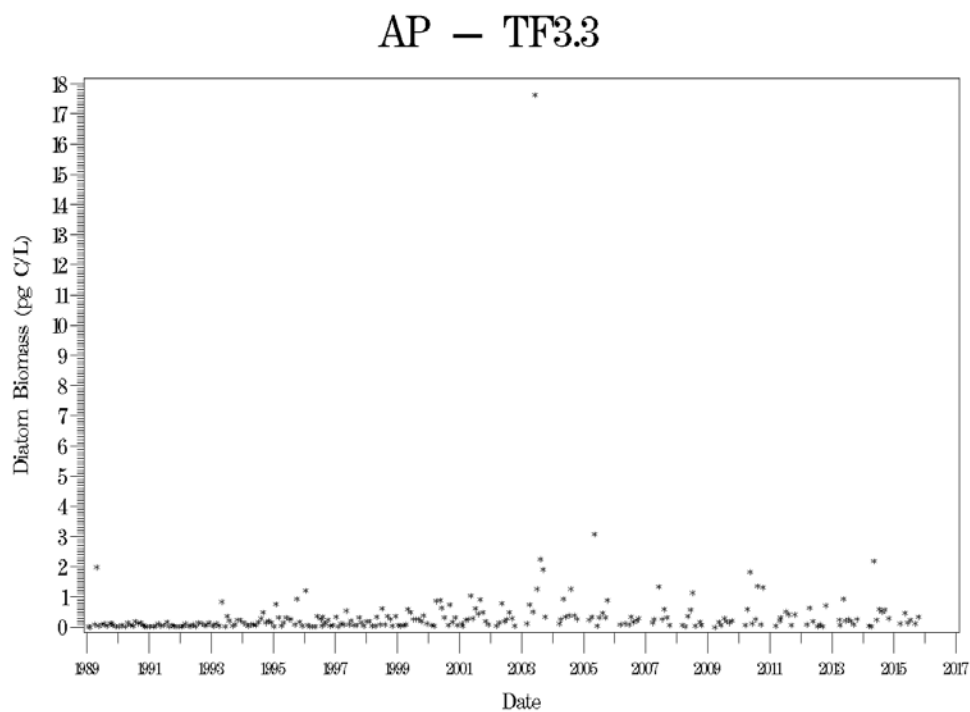


Figure 82. Plot of above pycnocline diatom biomass against time at station TF3.3 for the period of 1985 through 2015.

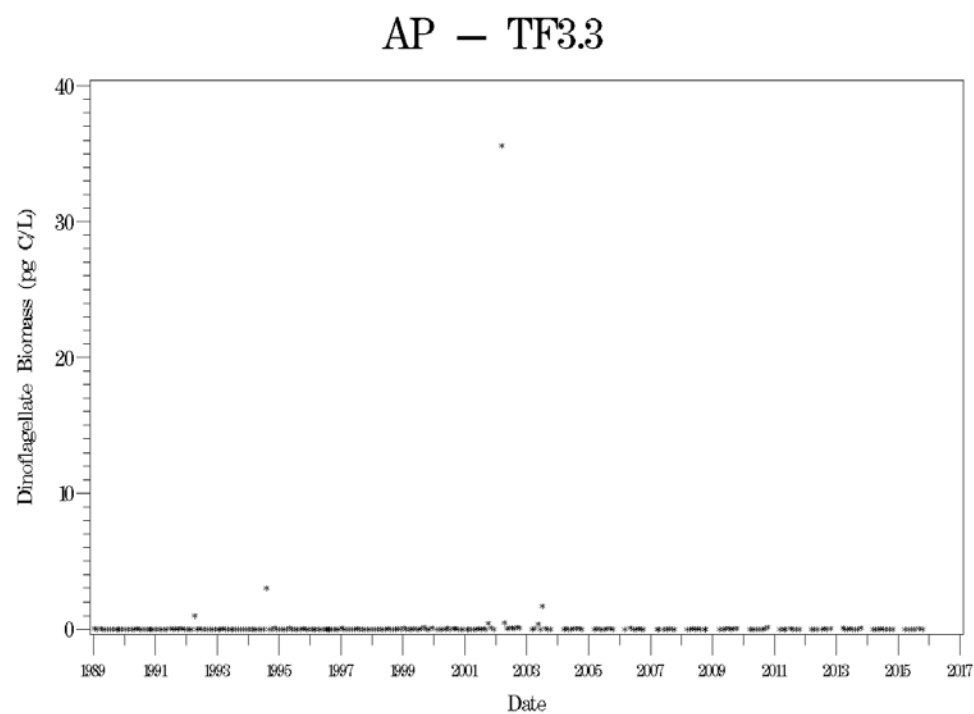


Figure 83. Plot of above pycnocline dinoflagellate biomass against time at station TF3.3 for the period of 1985 through 2015.

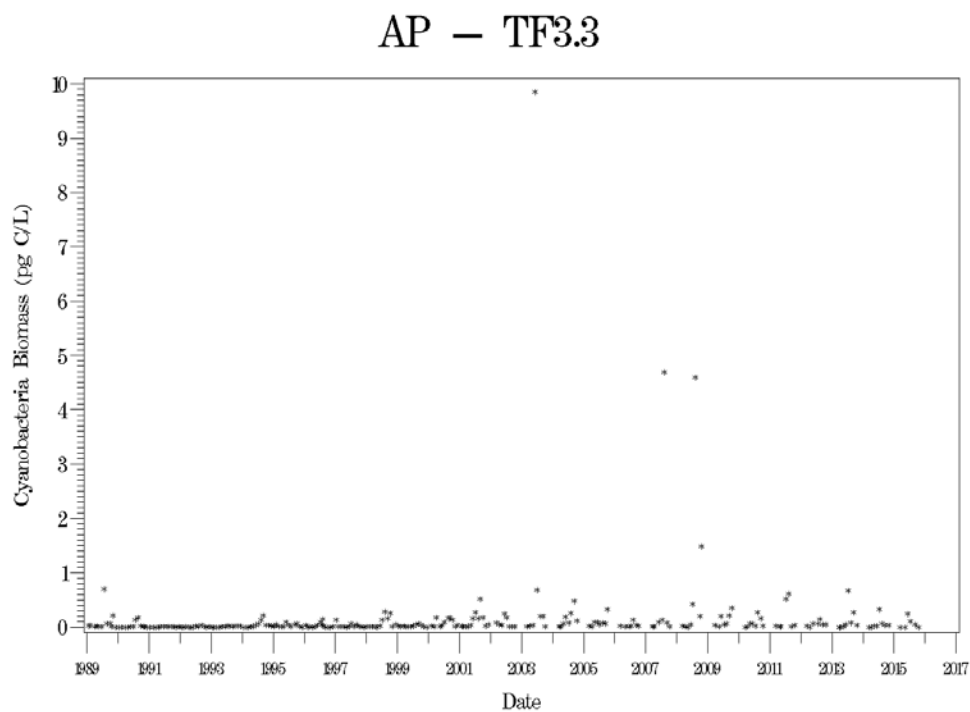


Figure 84. Plot of above pycnocline cyanobacteria biomass against time at station TF3.3 for the period of 1985 through 2015.

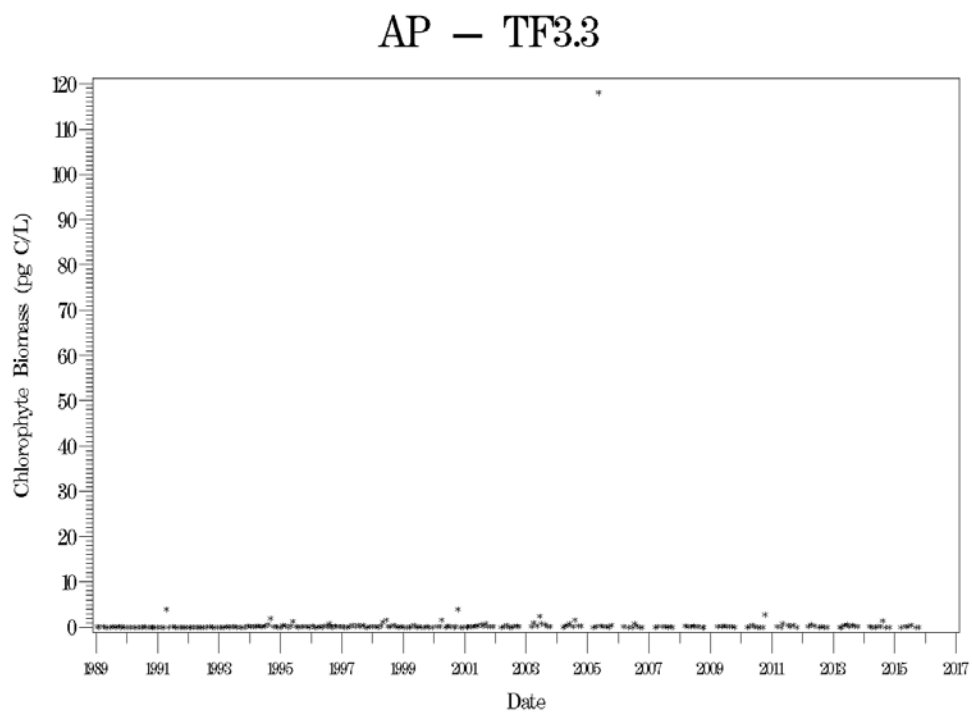


Figure 85. Plot of above pycnocline chlorophyte biomass against time at station TF3.3 for the period of 1985 through 2015.

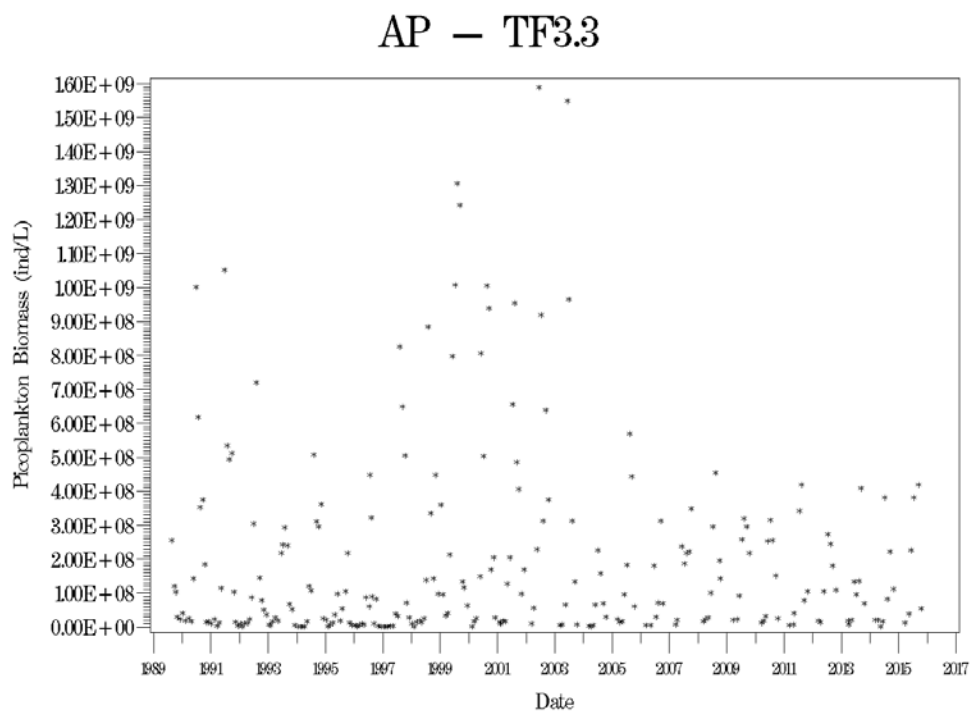


Figure 86. Plot of above pycnocline picoplankton biomass against time at station TF3.3 for the period of 1985 through 2015.

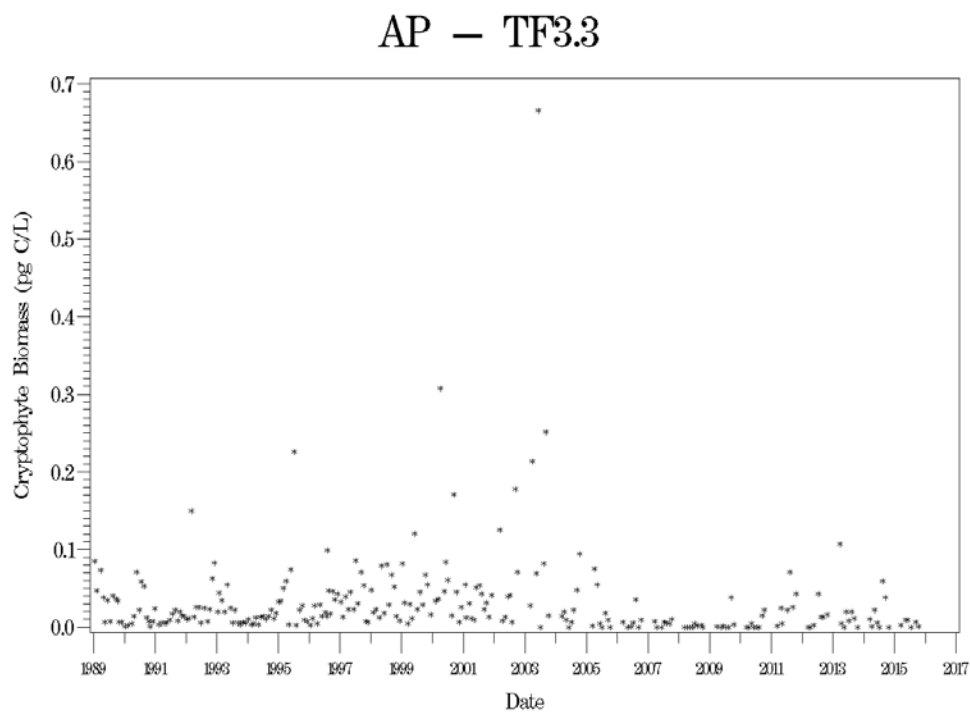


Figure 87. Plot of above pycnocline cryptophyte biomass against time at station TF3.3 for the period of 1985 through 2015.

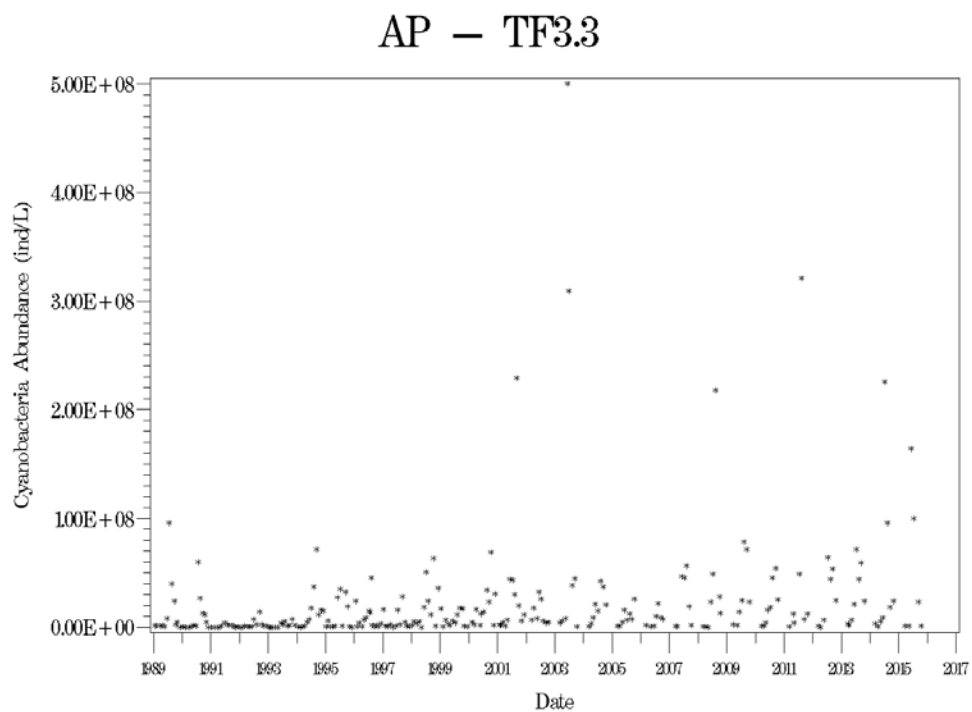


Figure 88. Plot of above pycnocline cyanophyte abundance at station TF3.3 for the period of 1985 through 2015.

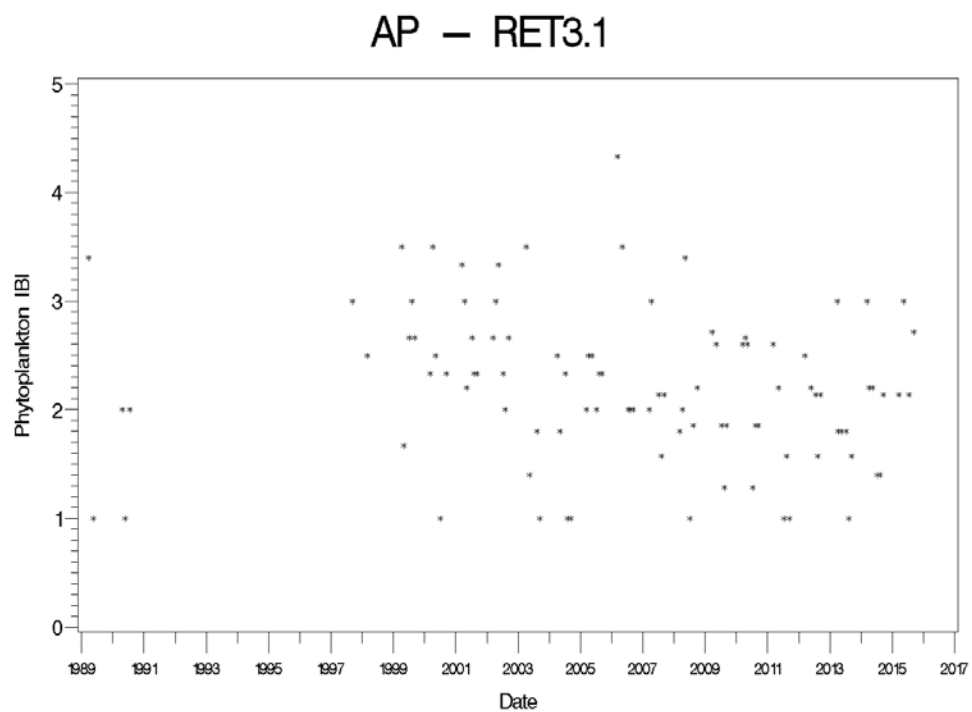


Figure 89. Plot of above pycnocline phytoplankton IBI scores against time at station RET3.1 for the period of 1985 through 2015.

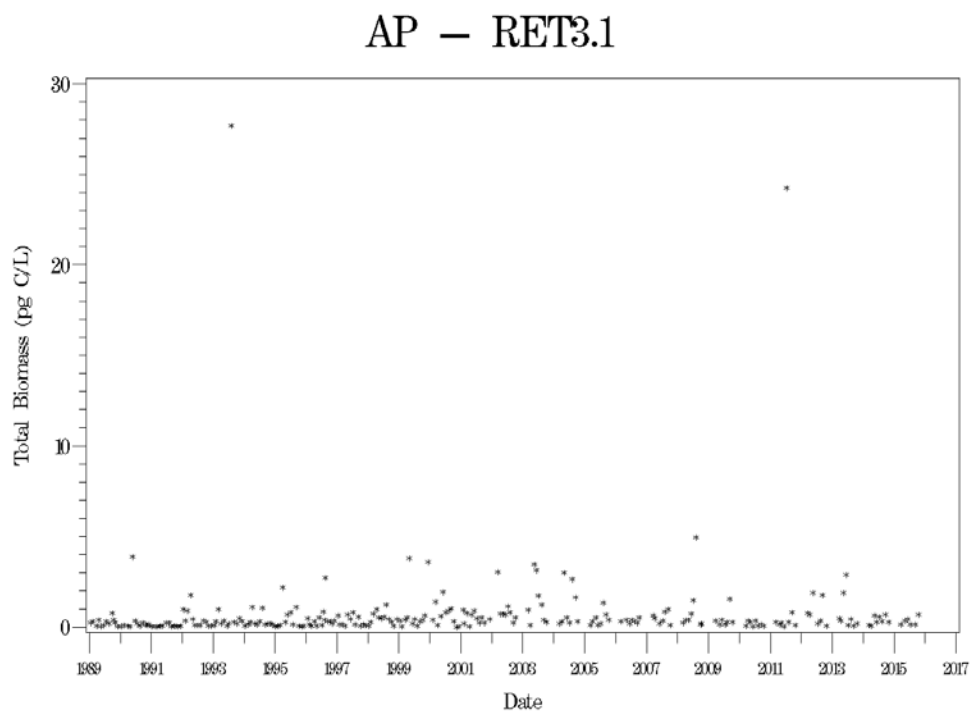


Figure 90. Plot of above pycnocline total phytoplankton biomass against time at station RET3.1 for the period of 1985 through 2015.

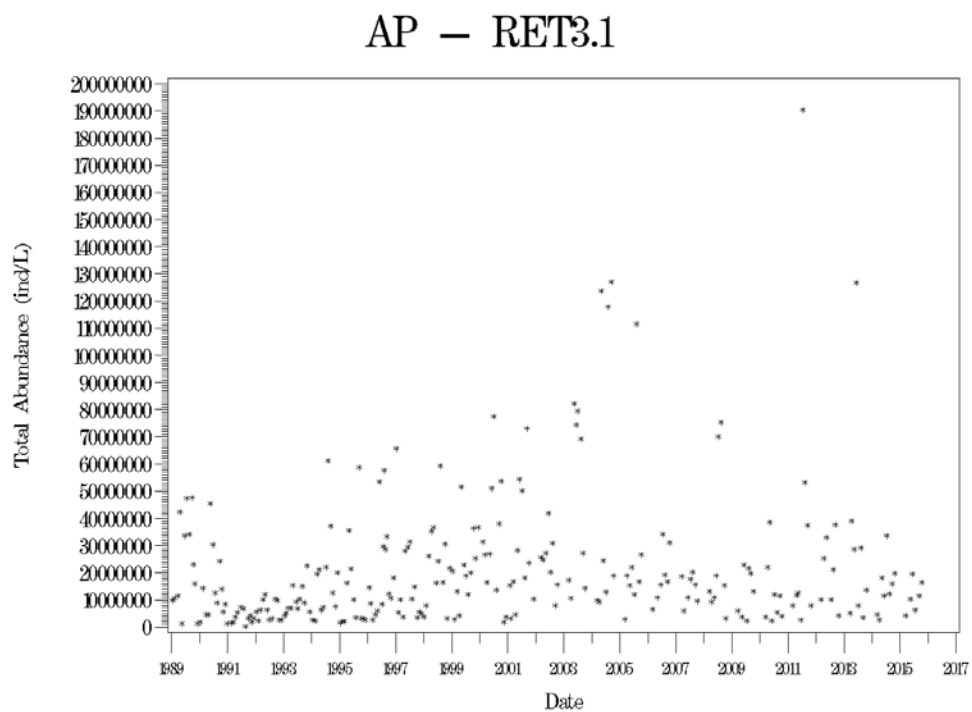


Figure 91. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station RET3.1 for the period of 1985 through 2015.

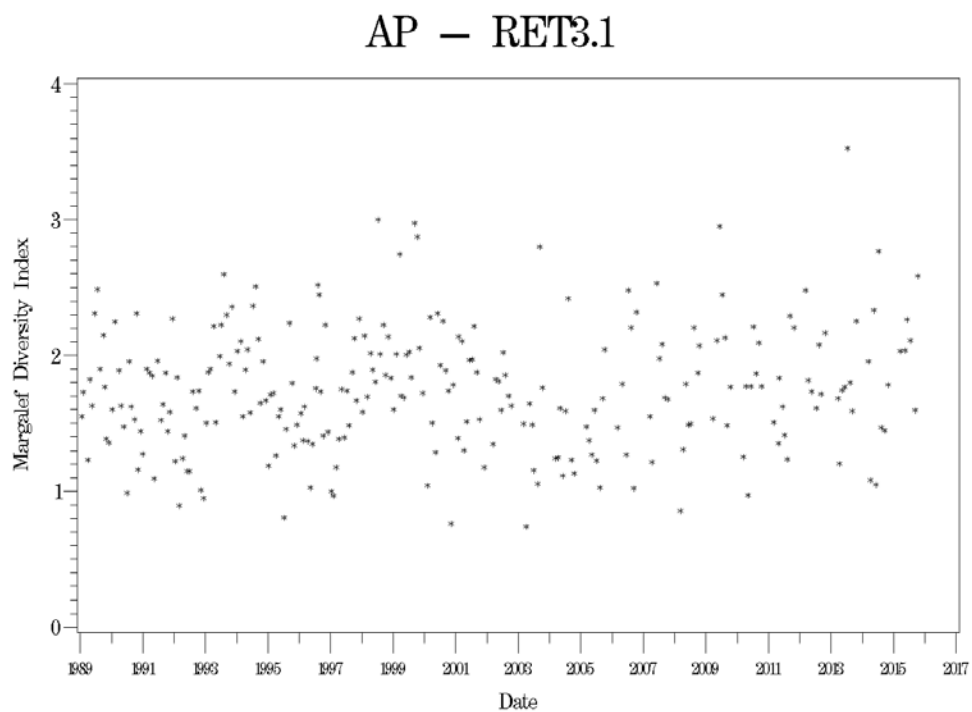


Figure 92. Plot of above pycnocline Margalef diversity index against time at station RET3.1 for the period of 1985 through 2015.

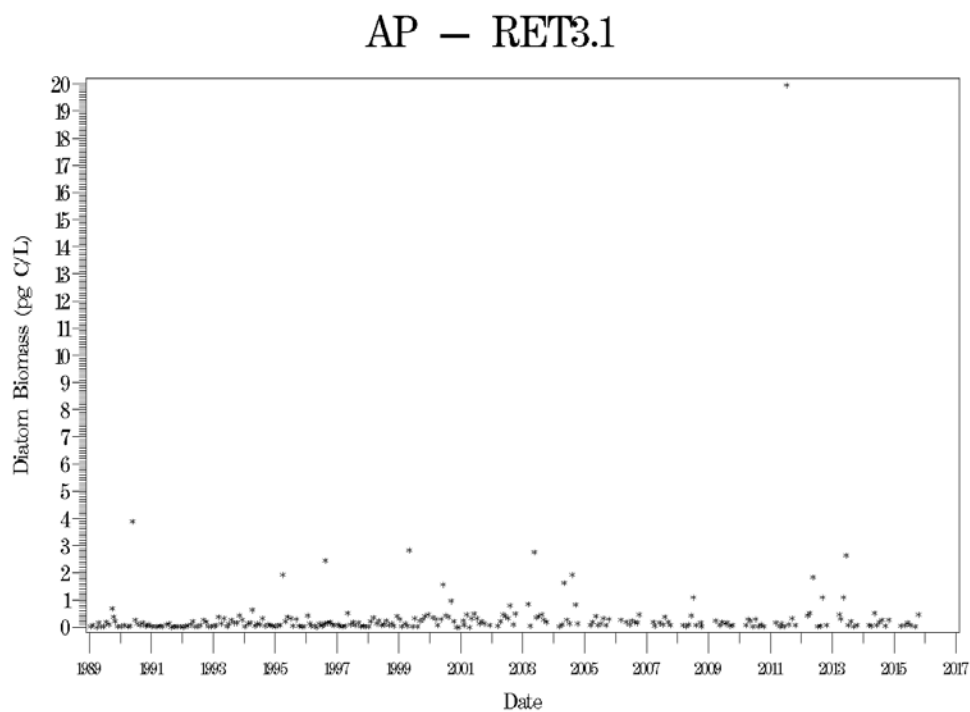


Figure 93. Plot of above pycnocline diatom biomass against time at station RET3.1 for the period of 1985 through 2015.

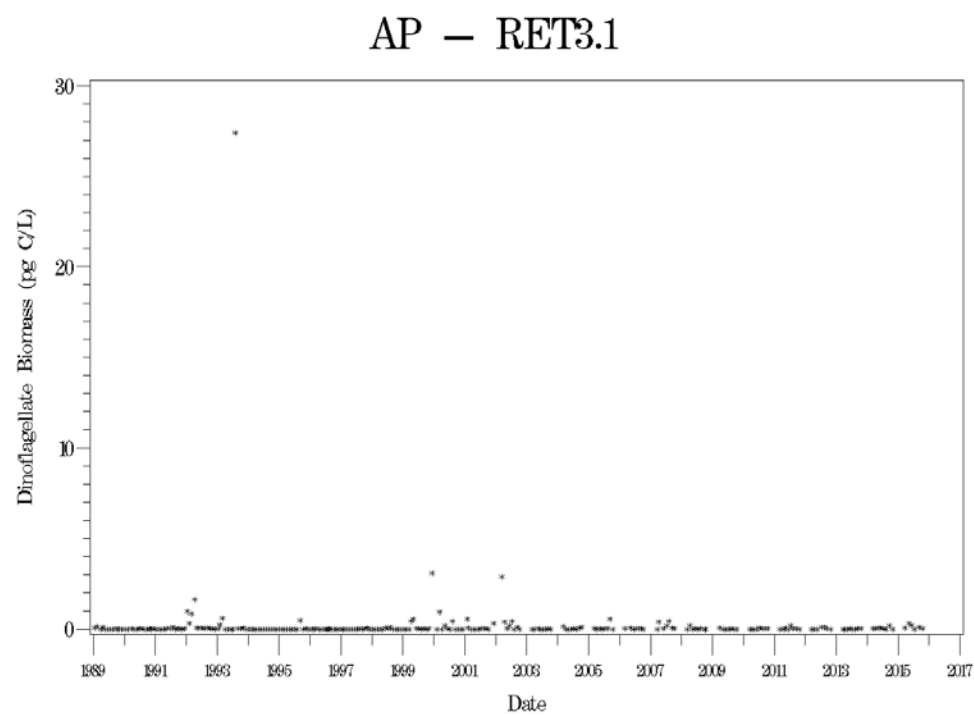


Figure 94. Plot of above pycnocline dinoflagellate biomass against time at station RET3.1 for the period of 1985 through 2015.

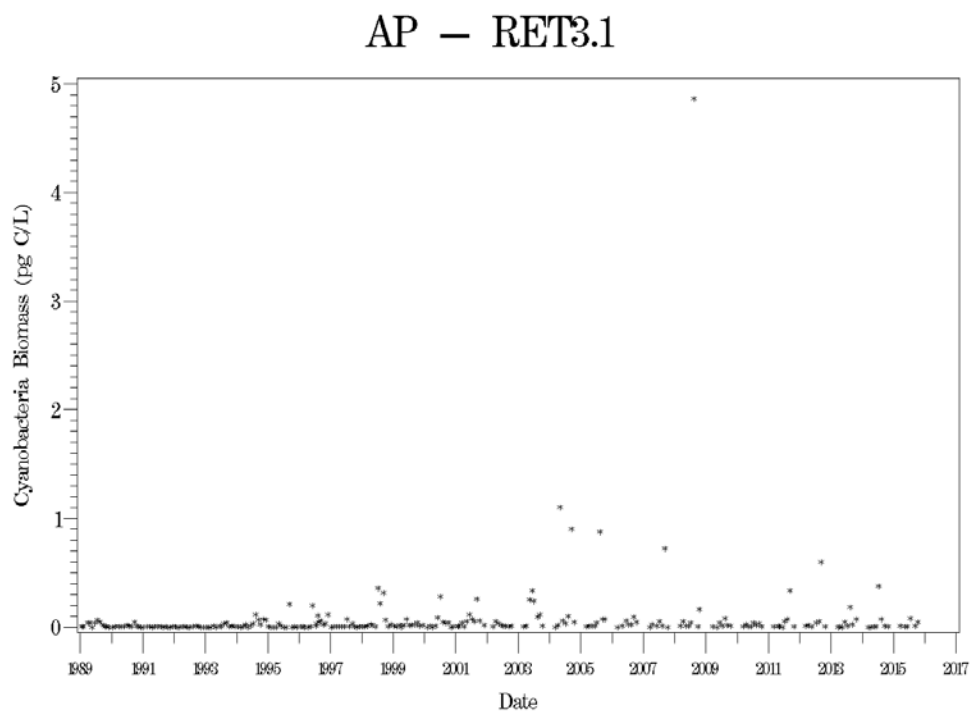


Figure 95. Plot of above pycnocline cyanobacteria biomass against time at station RET3.1 for the period of 1985 through 2015.

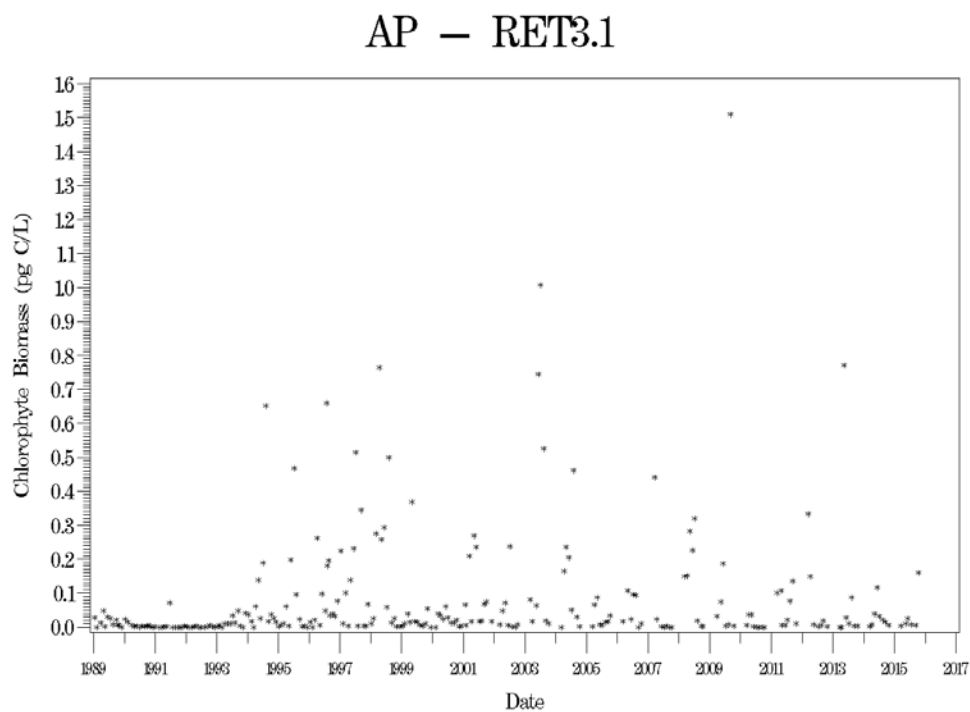


Figure 96. Plot of above pycnocline chlorophyte biomass against time at station RET3.1 for the period of 1985 through 2015.

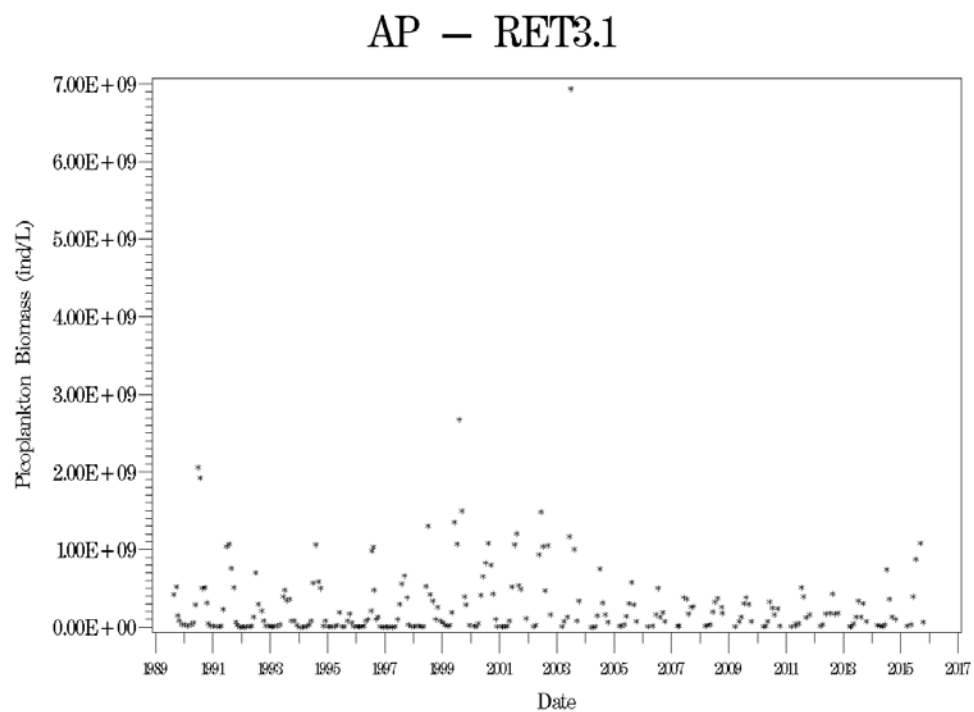


Figure 97. Plot of above pycnocline picoplankton biomass against time at station RET3.1 for the period of 1985 through 2015.

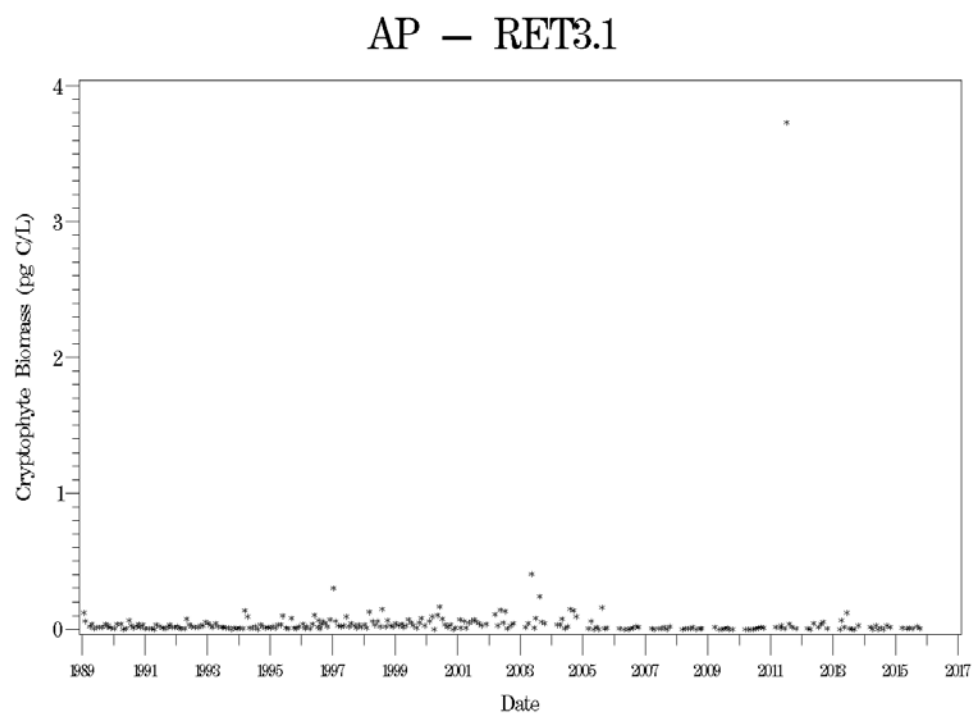


Figure 98. Plot of above pycnocline cryptophyte biomass at station RET3.1 for the period of 1985 through 2015.

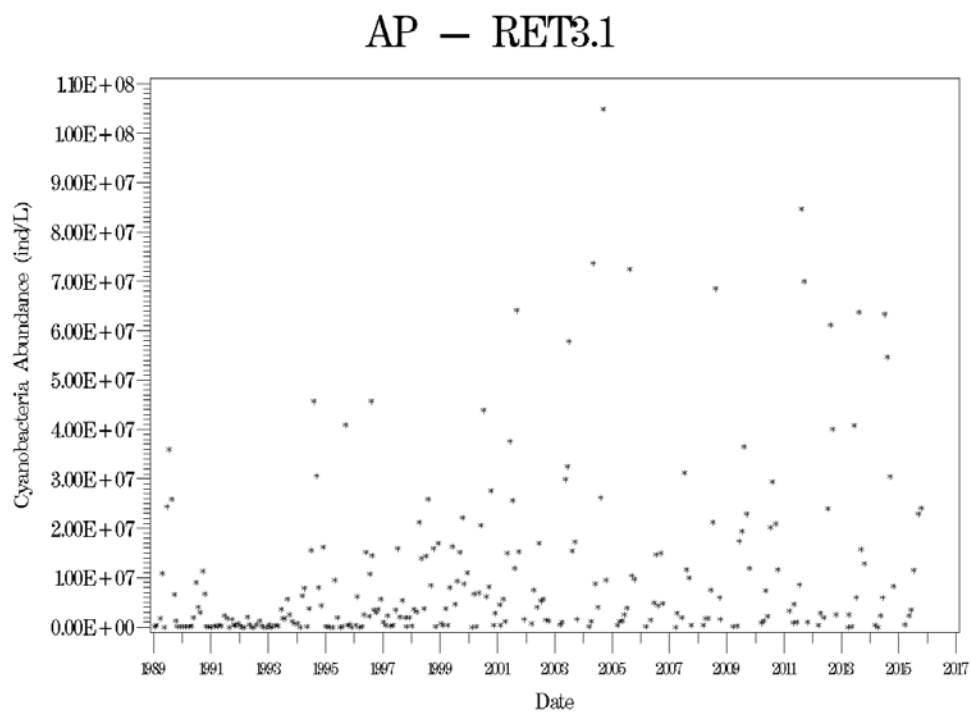


Figure 99. Plot of above pycnocline cyanophyte abundance at station RET3.1 for the period of 1985 through 2015.

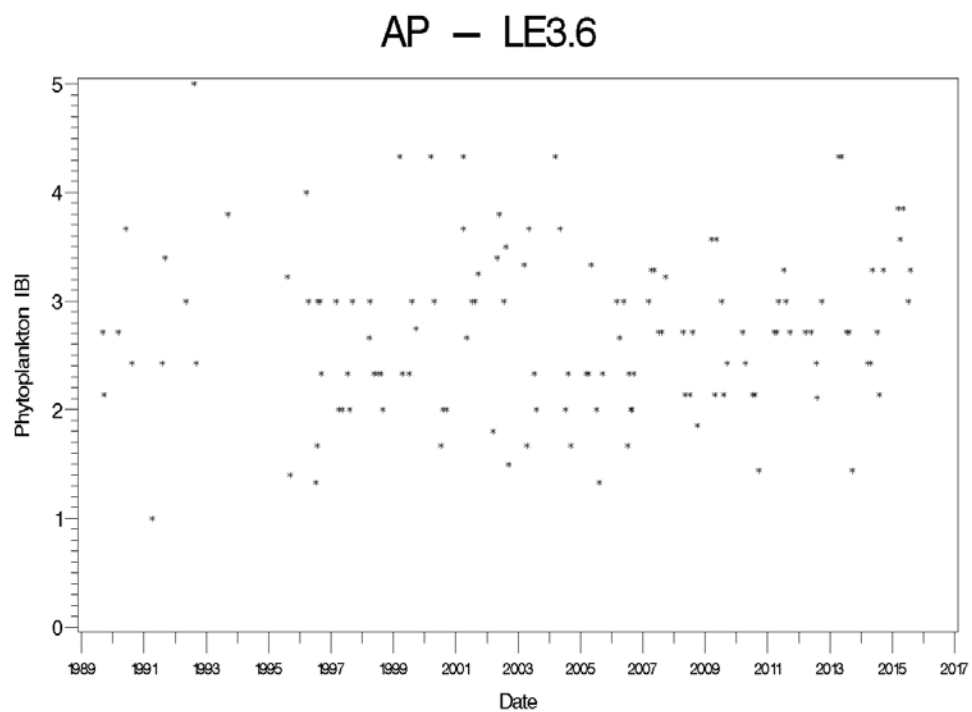


Figure 100. Plot of above pycnocline phytoplankton IBI scores against time at station LE3.6 for the period of 1985 through 2015.

AP – LE3.6

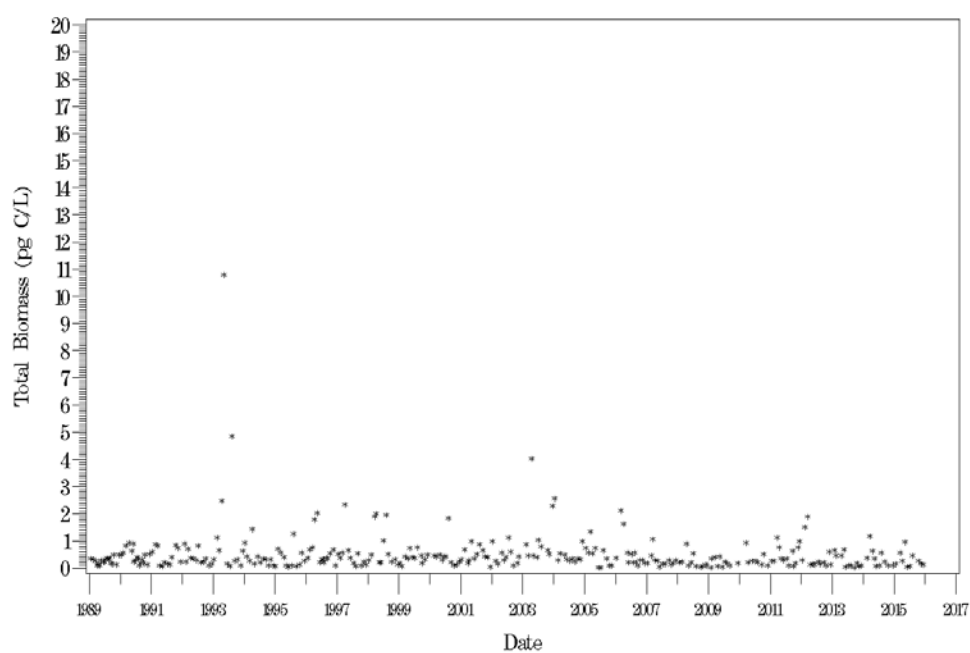


Figure 101. Plot of above pycnocline total phytoplankton biomass against time at station LE3.6 for the period of 1985 through 2015.

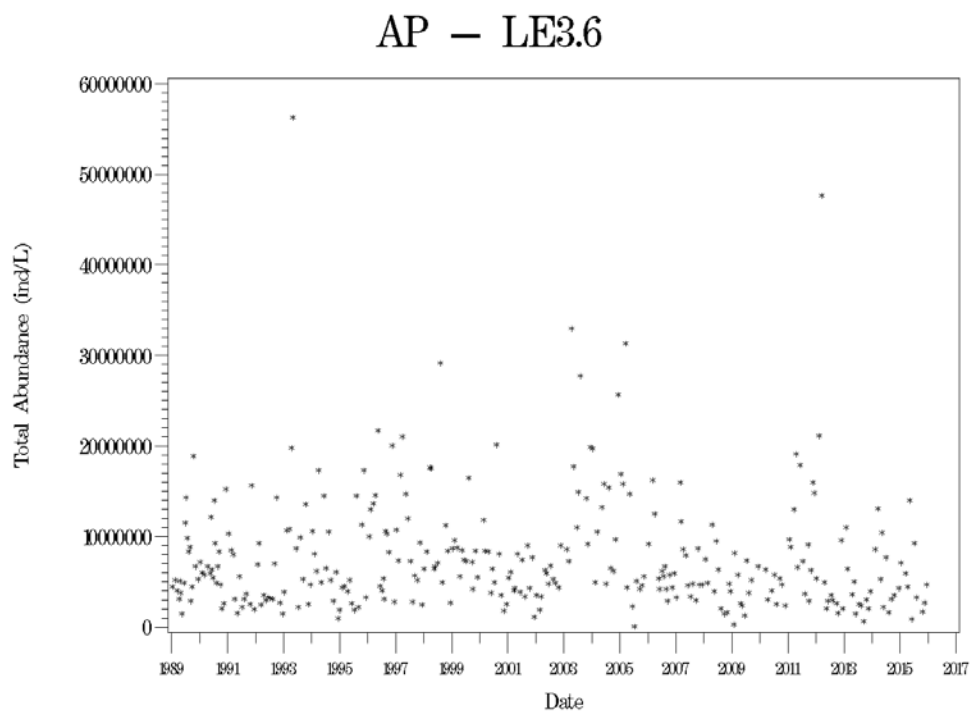


Figure 102. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station LE3.6 for the period of 1985 through 2015.

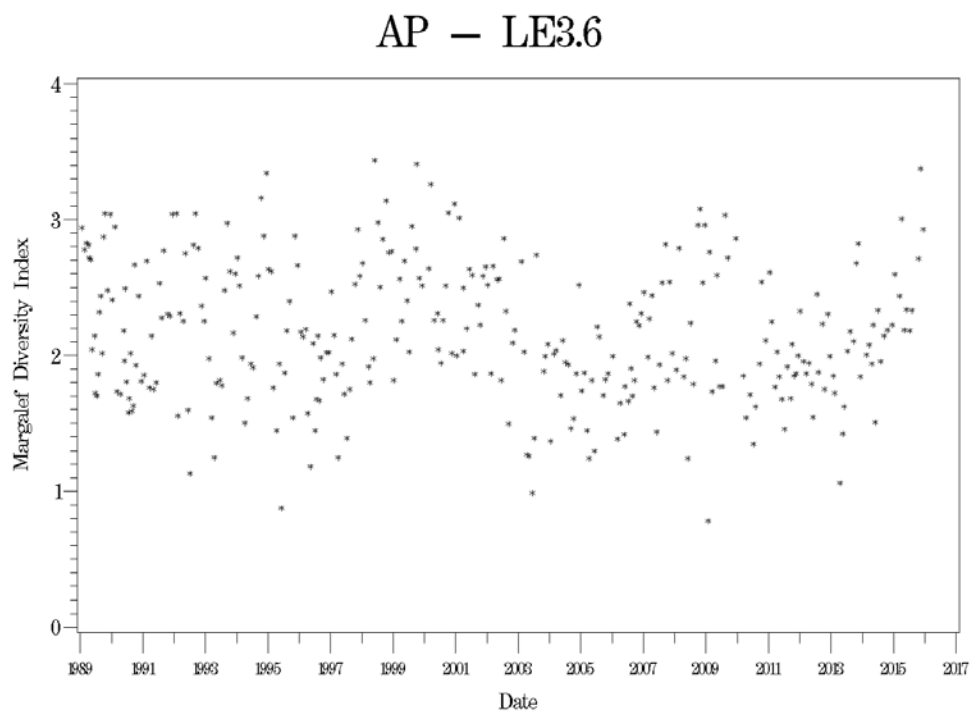


Figure 103. Plot of above pycnocline Margalef diversity index against time at station LE3.6 for the period of 1985 through 2015.

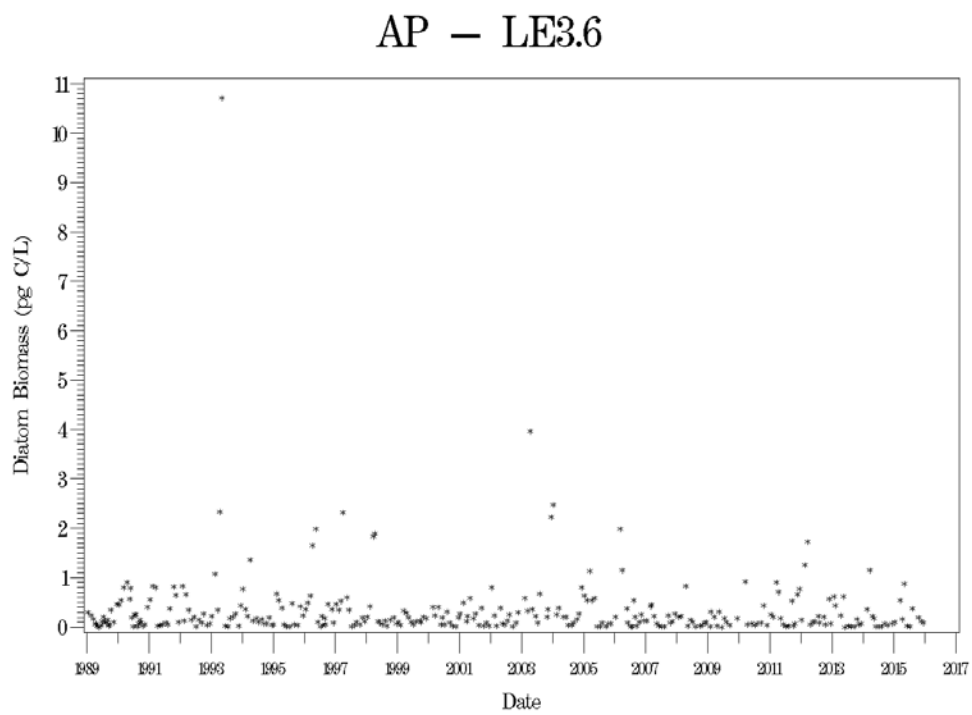


Figure 104. Plot of above pycnocline diatom biomass against time at station LE3.6 for the period of 1985 through 2015.

AP – LE3.6

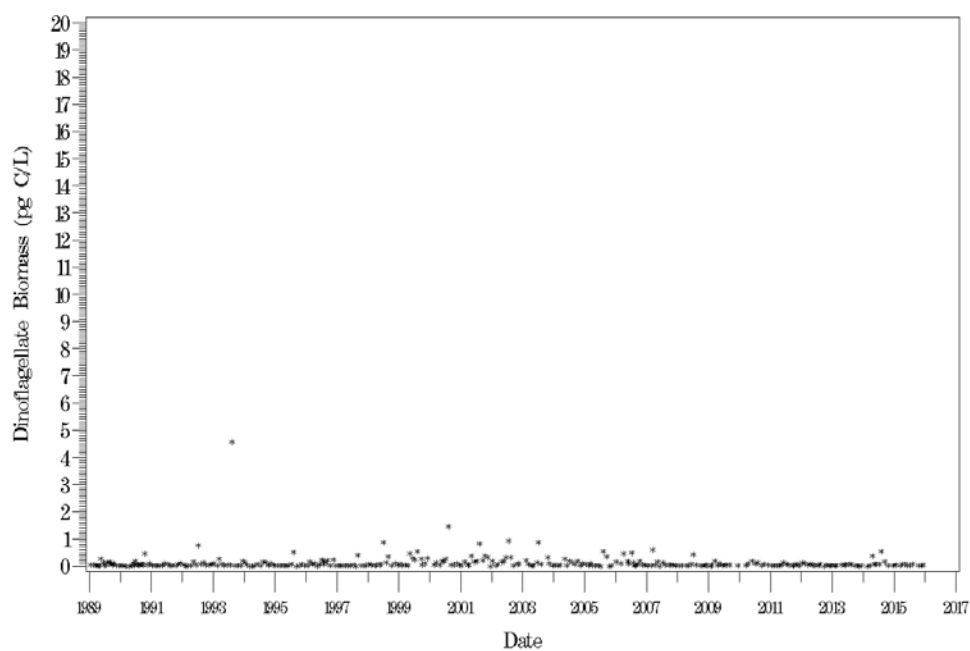


Figure 105. Plot of above pycnocline dinoflagellate biomass against time at station LE3.6 for the period of 1985 through 2015.

A scatter plot showing Cyanobacteria Biomass (pg C/L) on the y-axis (ranging from 0.0 to 1.7) against Date on the x-axis (ranging from 1989 to 2017). The data points are marked with 'x'. Most points are clustered near the 0.0 pg C/L line, indicating low biomass levels. A single, prominent outlier is visible at approximately 1.65 pg C/L around the year 1999. Other minor fluctuations are seen, with some points reaching up to 0.1 pg C/L.

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AP – LE3.6

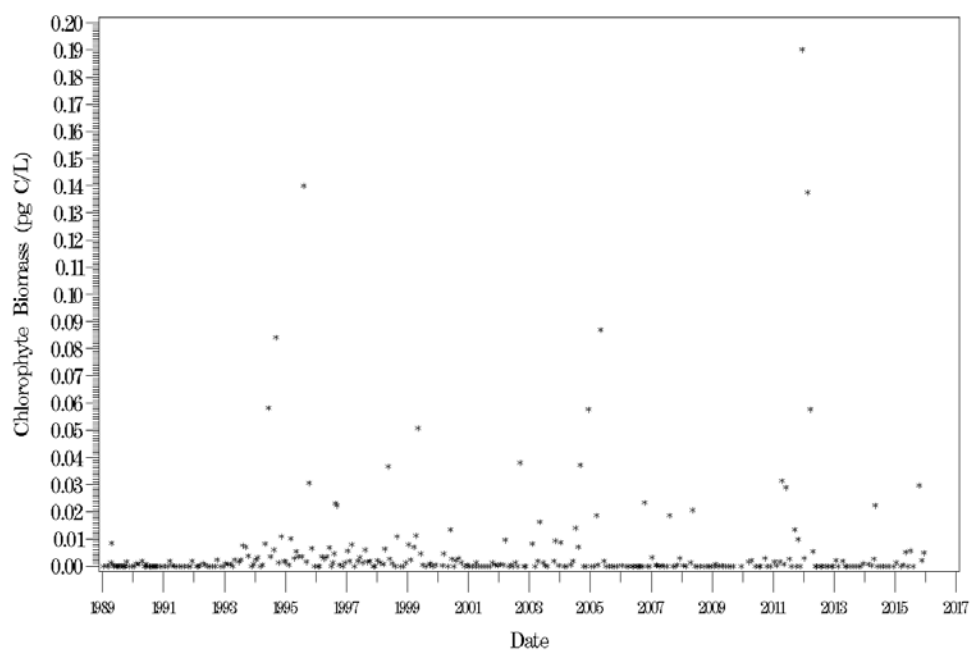


Figure 107. Plot of above pycnocline chlorophyte biomass against time at station LE3.6 for the period of 1985 through 2015.

AP – LE3.6

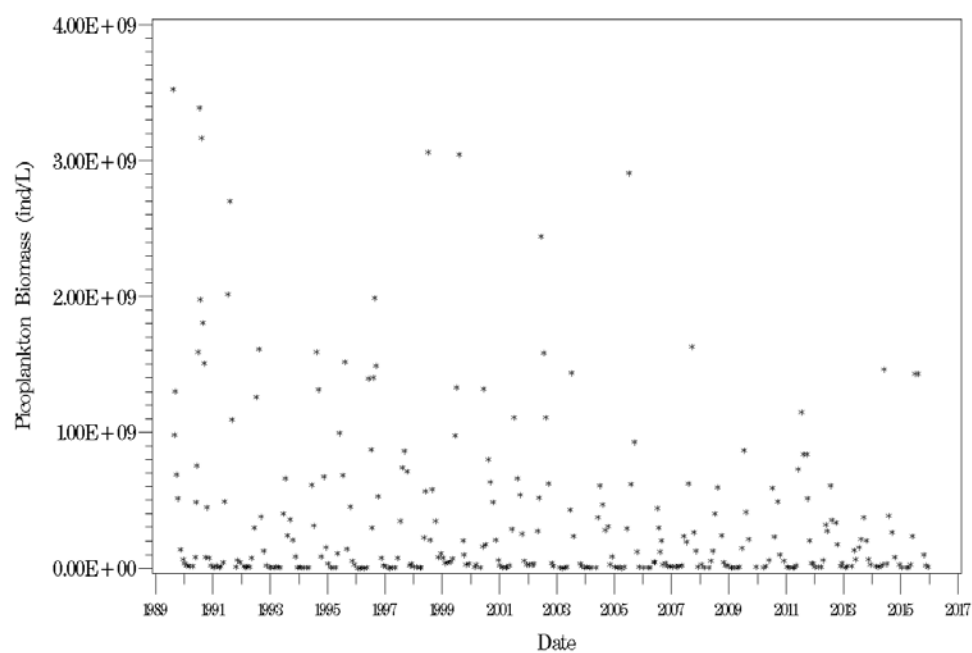


Figure 108. Plot of above pycnocline picoplankton biomass against time at station LE3.6 for the period of 1985 through 2015.

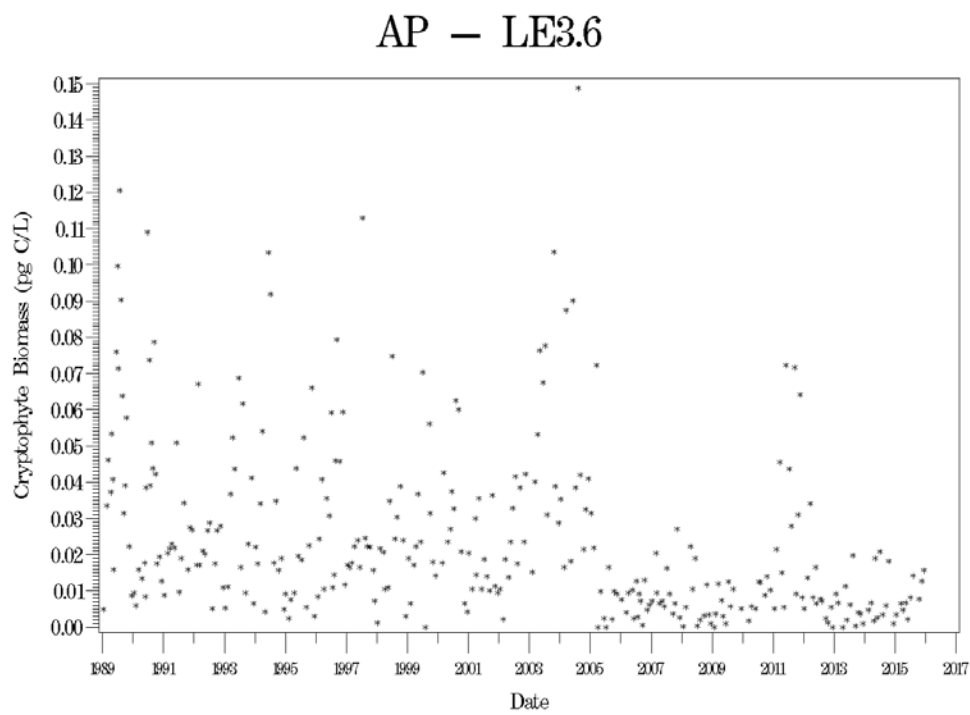


Figure 109. Plot of above pycnocline cryptophyte biomass at station LE3.6 for the period of 1985 through 2015.

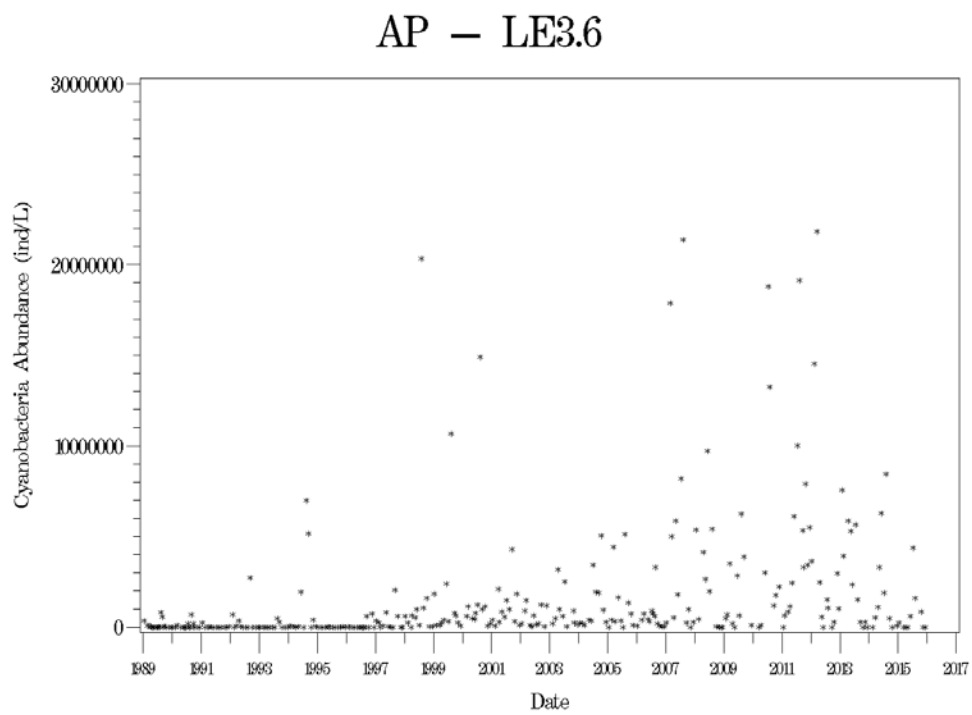


Figure 110. Plot of above pycnocline cyanophyte abundance at station LE3.6 for the period of 1985 through 2015.

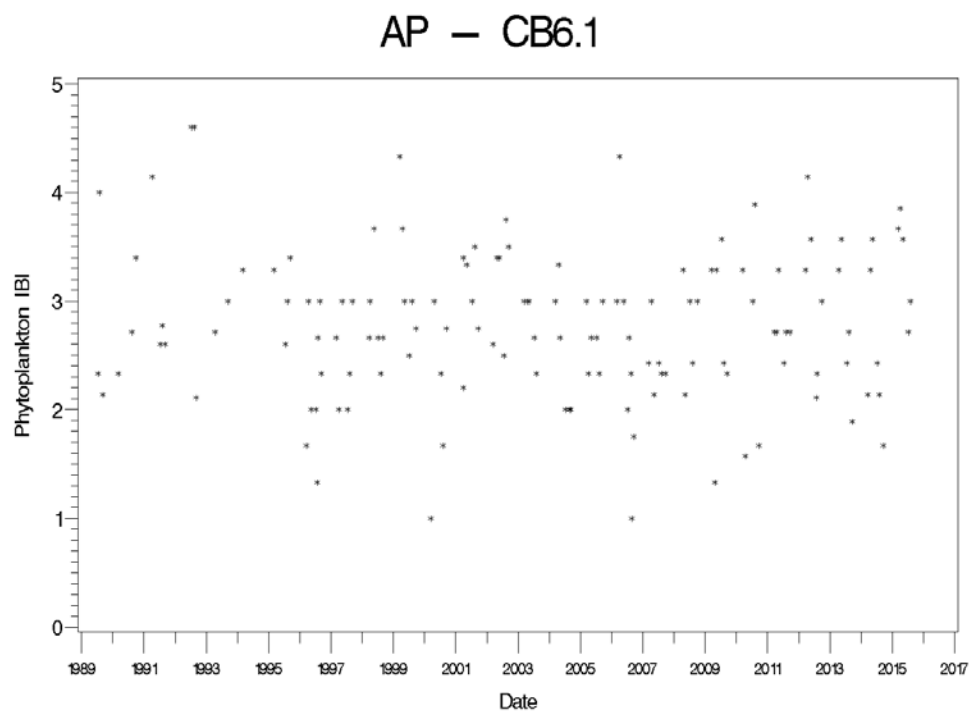


Figure 111. Plot of above pycnocline phytoplankton IBI scores against time at station CB6.1 for the period of 1985 through 2015.

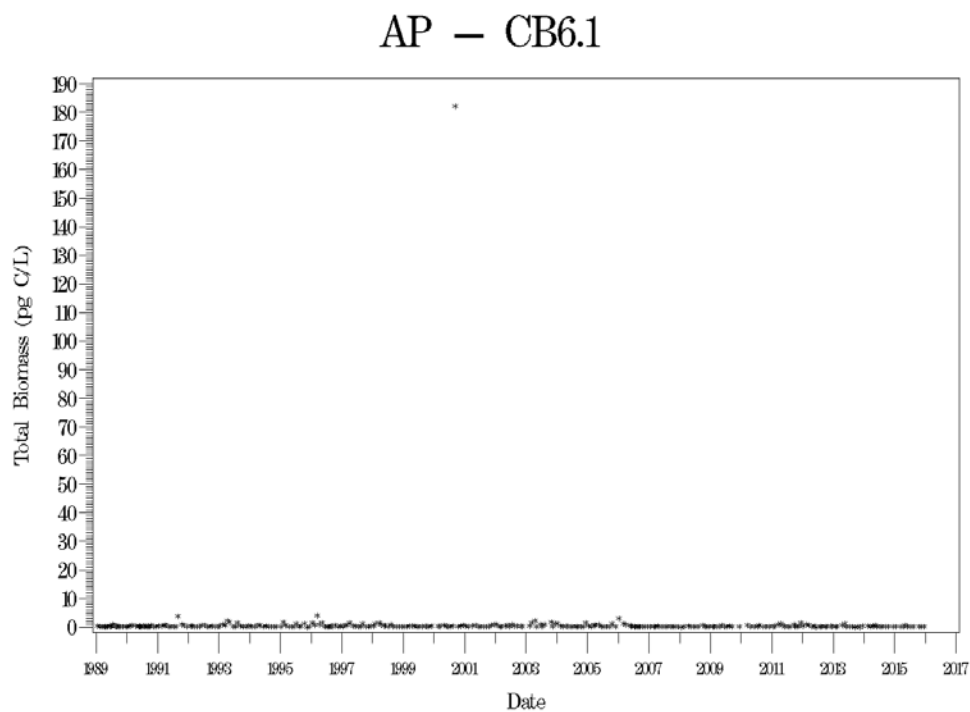


Figure 112. Plot of above pycnocline total phytoplankton biomass against time at station CB6.1 for the period of 1985 through 2015.

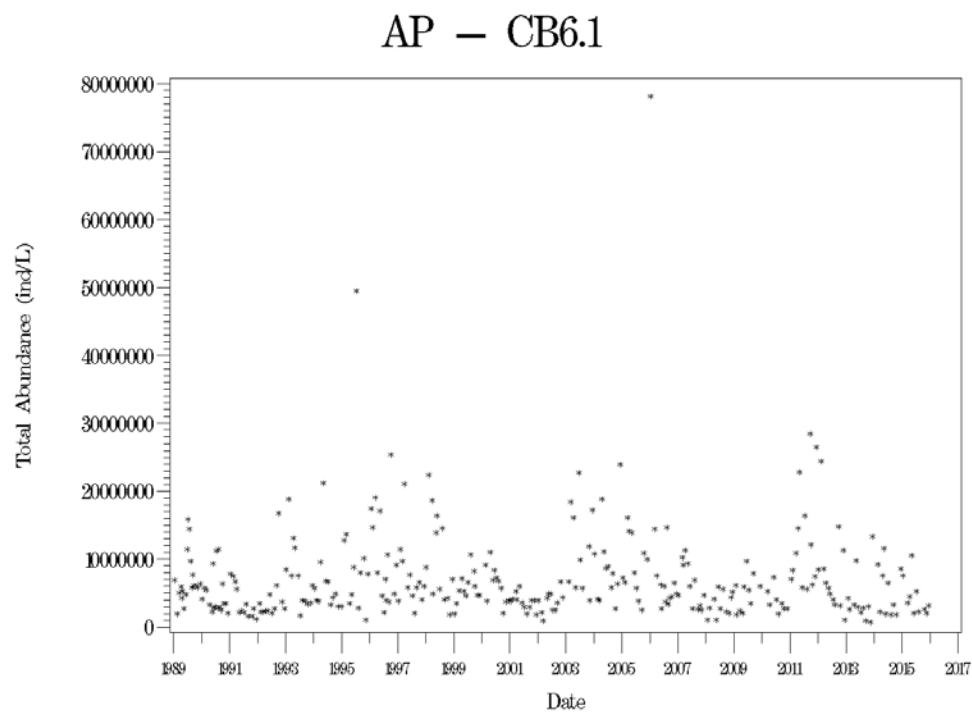


Figure 113. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station CB6.1 for the period of 1985 through 2015.

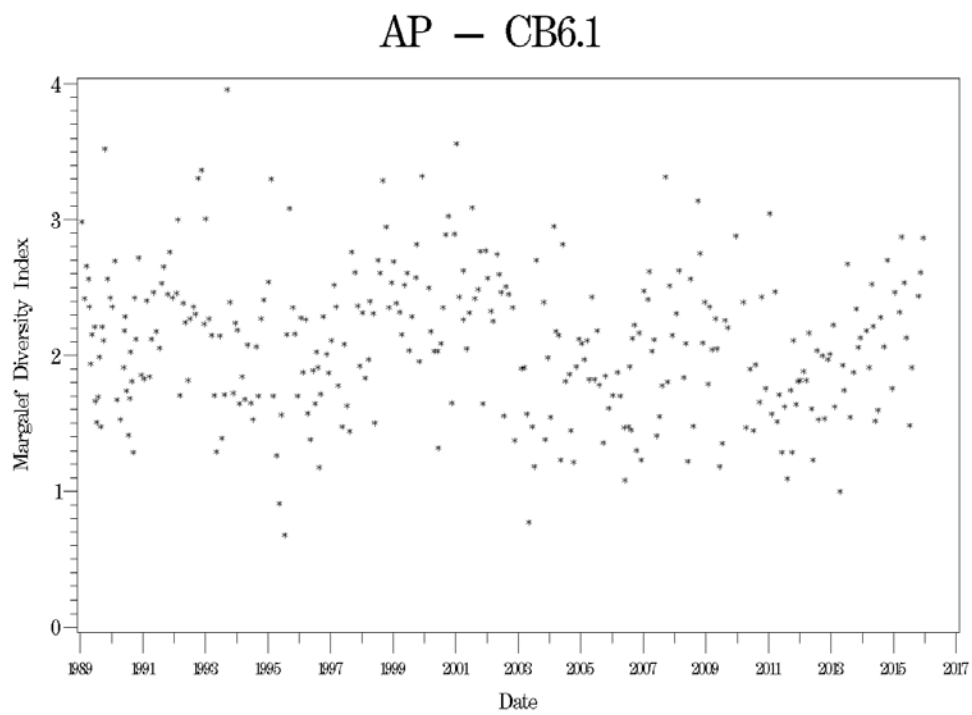


Figure 114. Plot of above pycnocline Margalef diversity index against time at station CB6.1 for the period of 1985 through 2015.

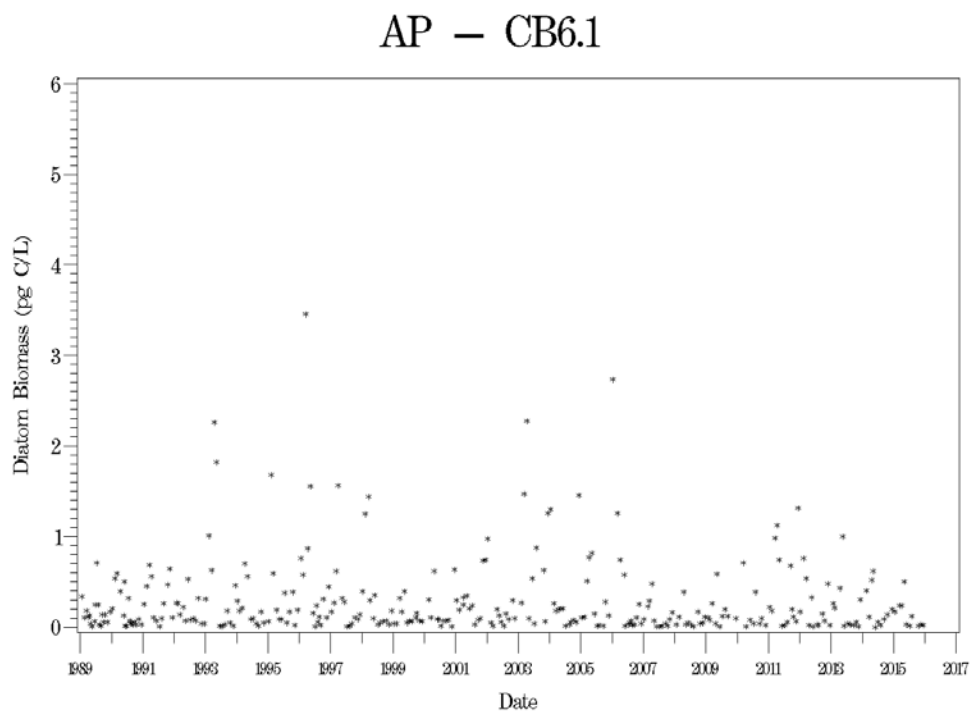


Figure 115. Plot of above pycnocline diatom biomass against time at station CB6.1 for the period of 1985 through 2015.

AP – CB6.1

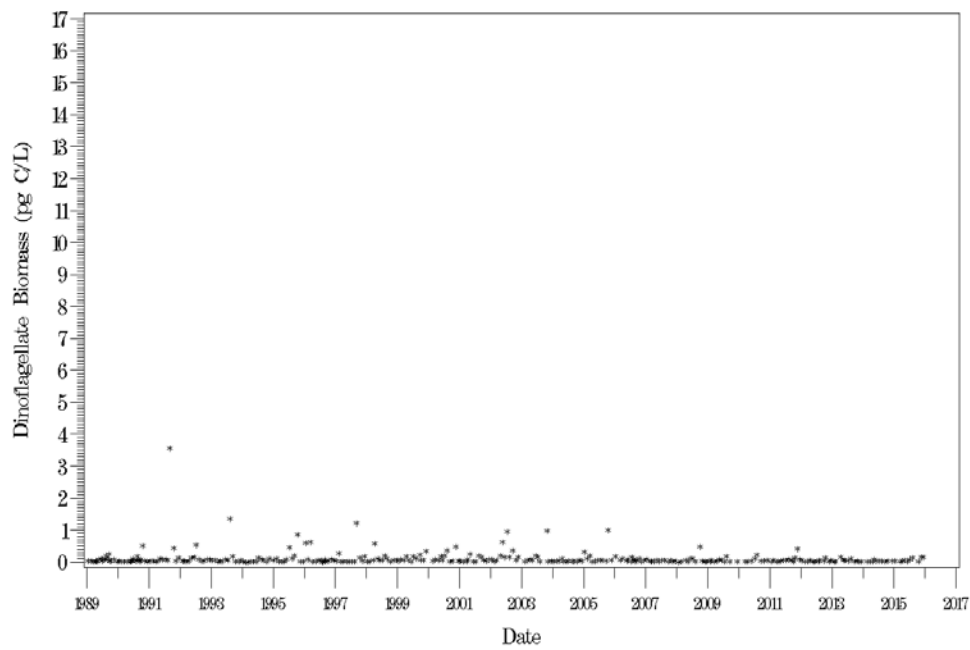


Figure 116. Plot of above pycnocline dinoflagellate biomass against time at station CB6.1 for the period of 1985 through 2015.

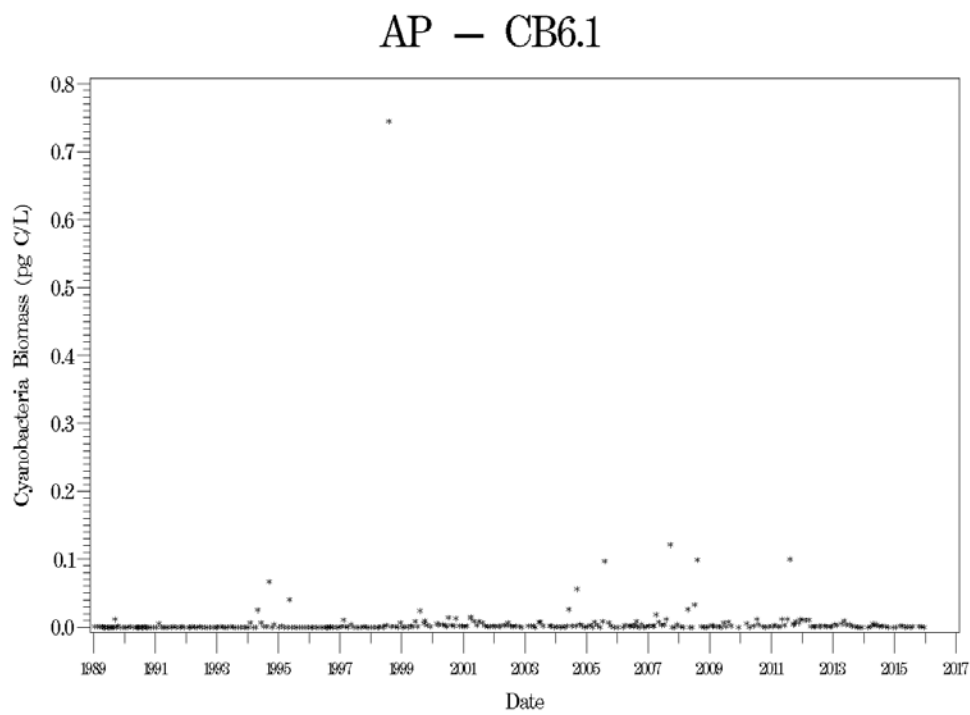


Figure 117. Plot of above pycnocline cyanobacteria biomass against time at station CB6.1 for the period of 1985 through 2015.

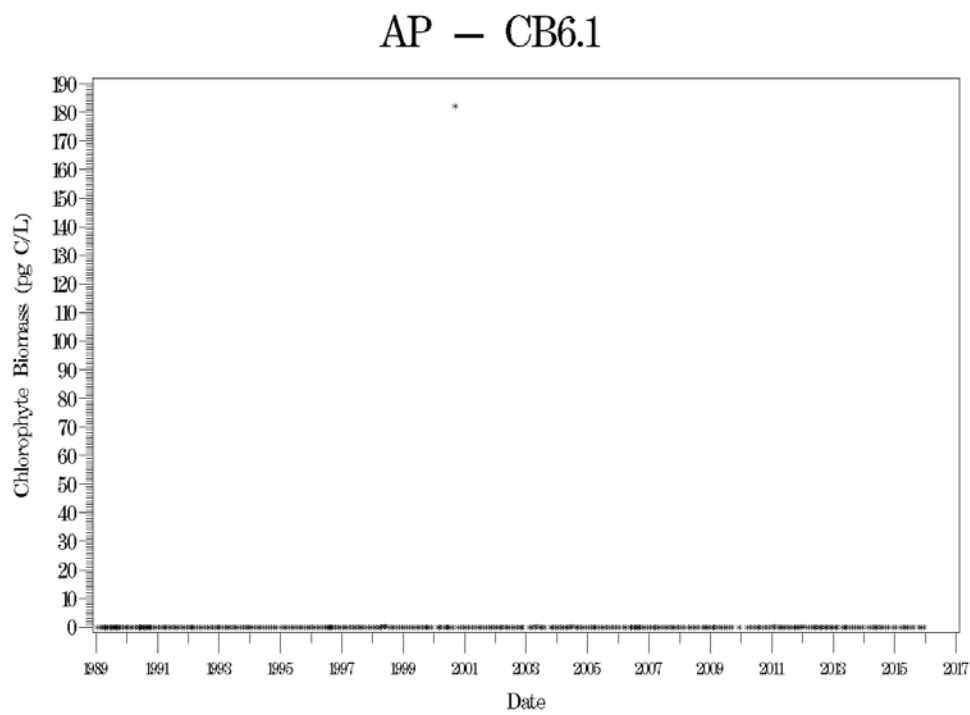


Figure 118. Plot of above pycnocline chlorophyte biomass against time at station CB6.1 for the period of 1985 through 2015.

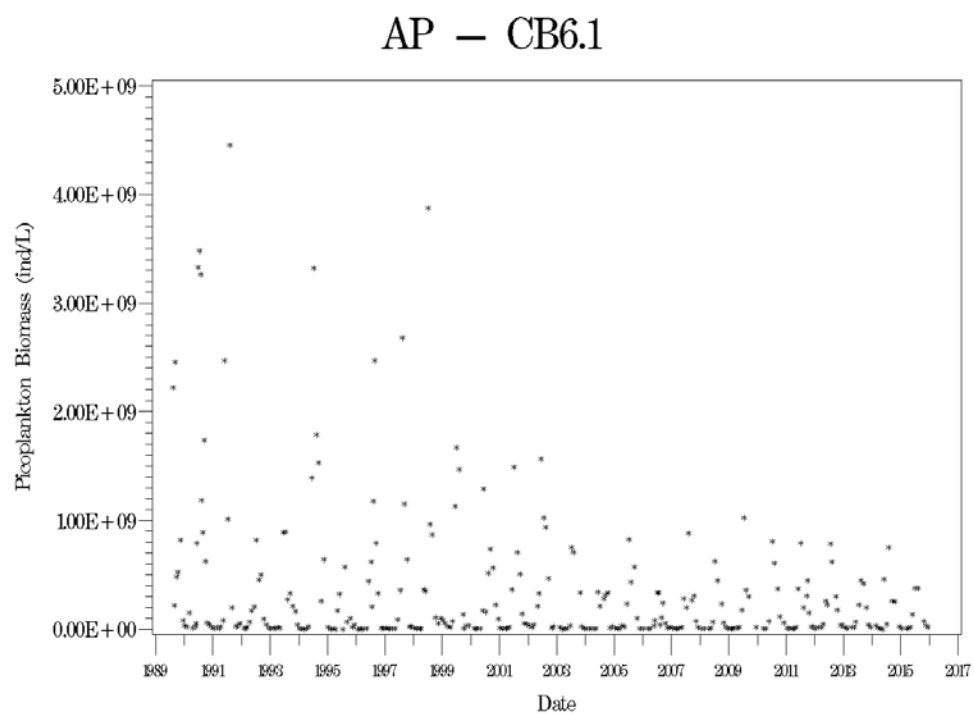


Figure 119. Plot of above pycnocline picoplankton biomass against time at station CB6.1 for the period of 1985 through 2015.

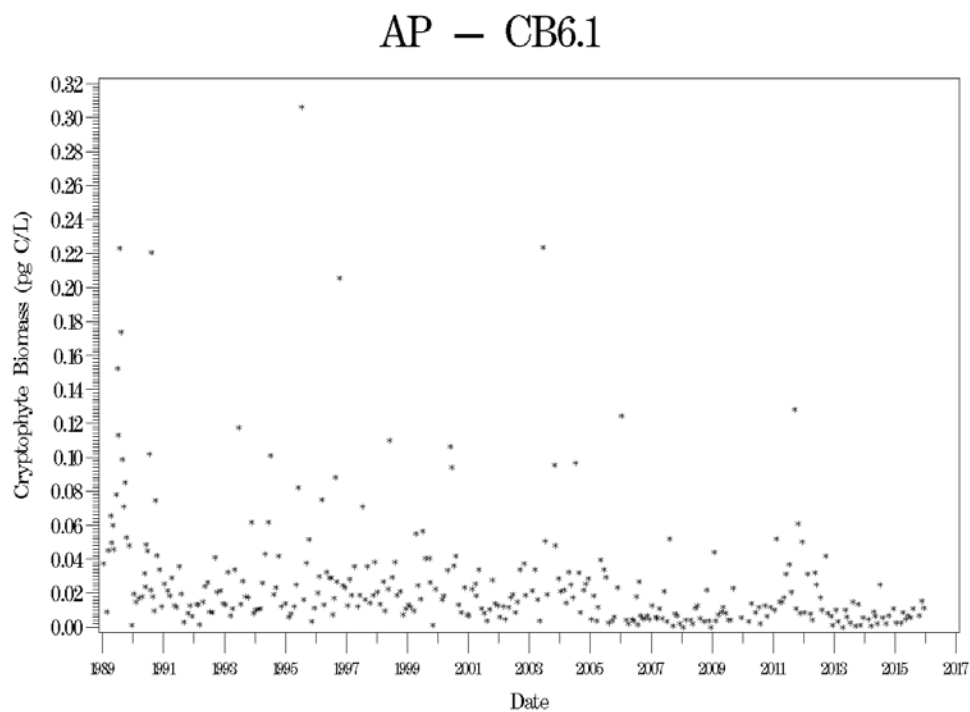


Figure 120. Plot of above pycnocline cryptophyte biomass at station CB6.1 for the period of 1985 through 2015.

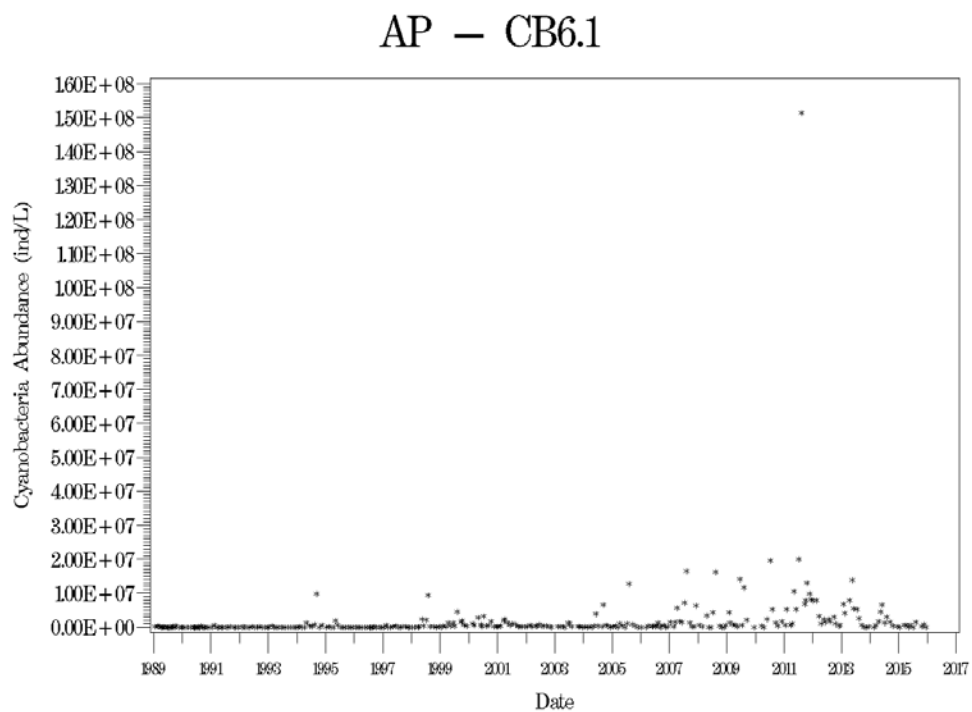


Figure 121. Plot of above pycnocline cyanophyte abundance at station CB6.1 for the period of 1985 through 2015.

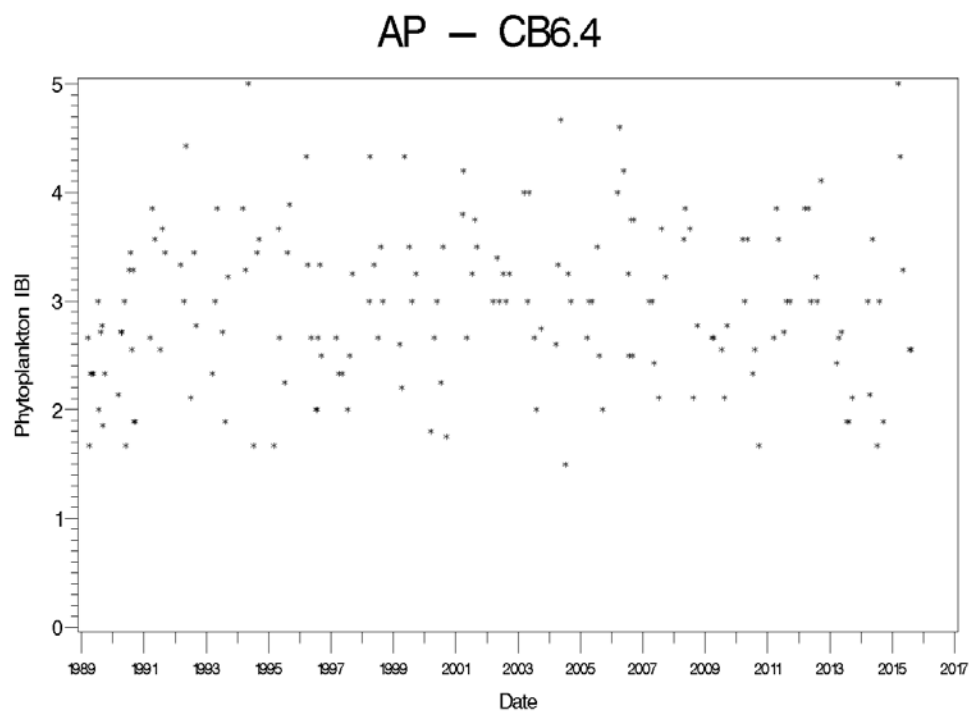


Figure 122. Plot of above pycnocline phytoplankton IBI scores against time at station CB6.4 for the period of 1985 through 2015.

AP — CB6.4

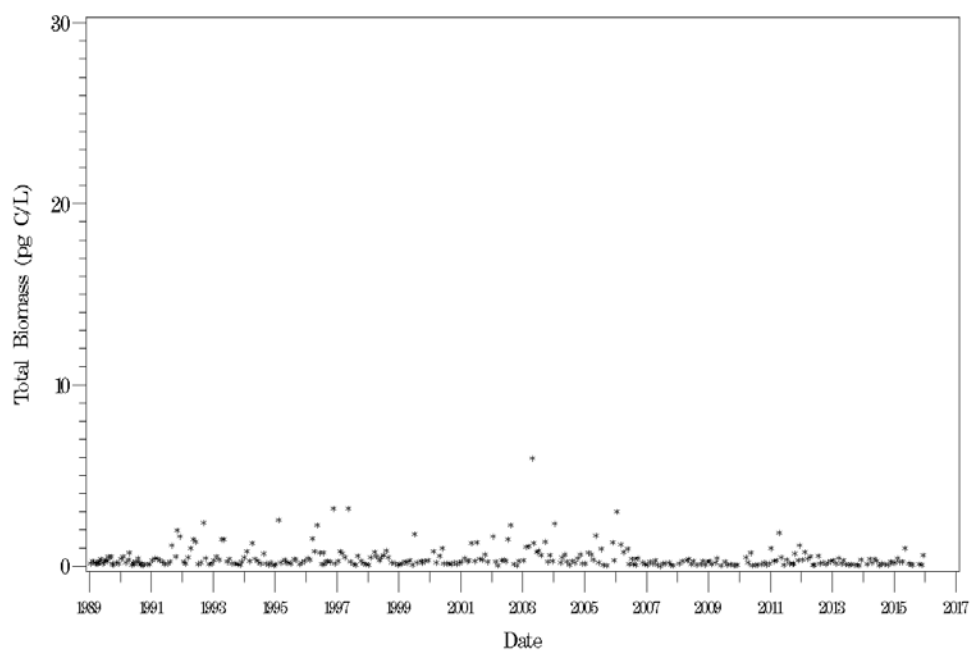


Figure 123. Plot of above pycnocline total phytoplankton biomass against time at station CB6.4 for the period of 1985 through 2015.

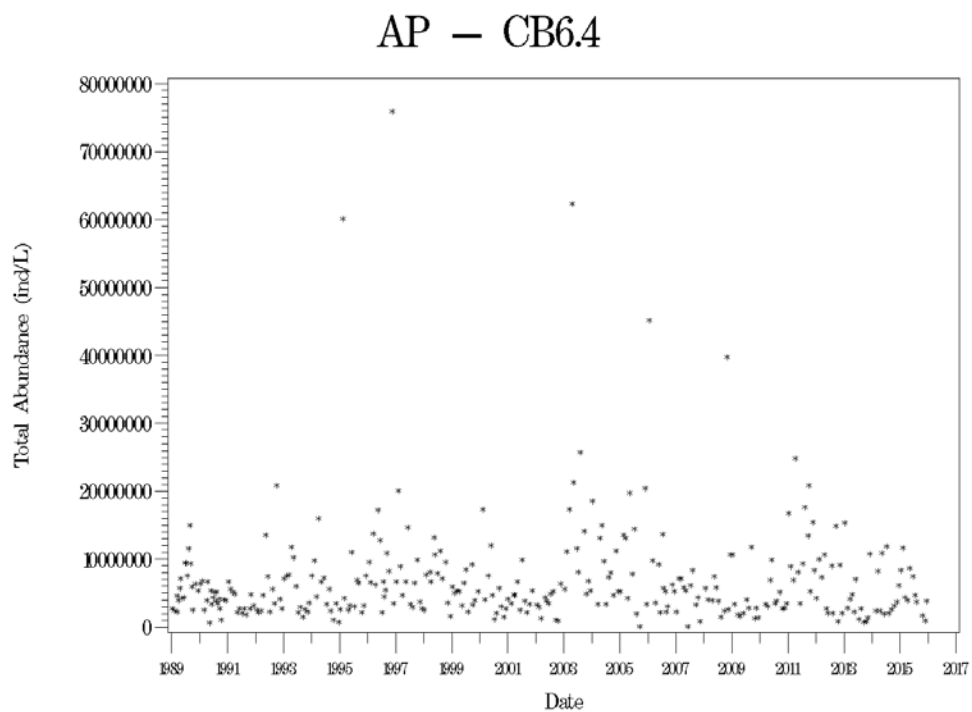


Figure 124. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station CB6.4 for the period of 1985 through 2015.

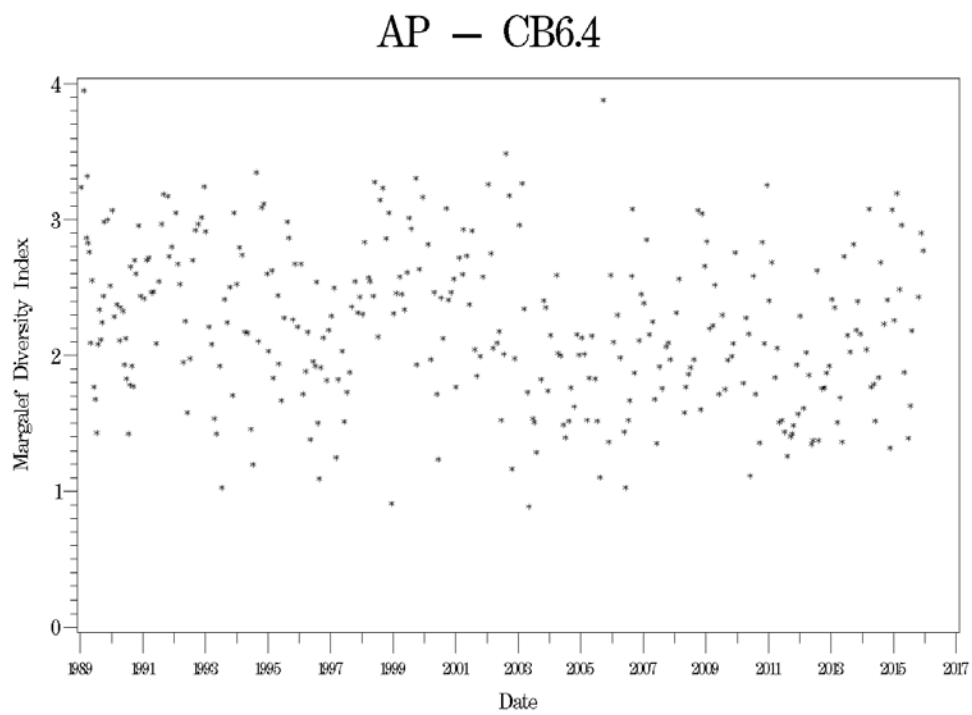


Figure 125. Plot of above pycnocline Margalef diversity index against time at station CB6.4 for the period of 1985 through 2015.

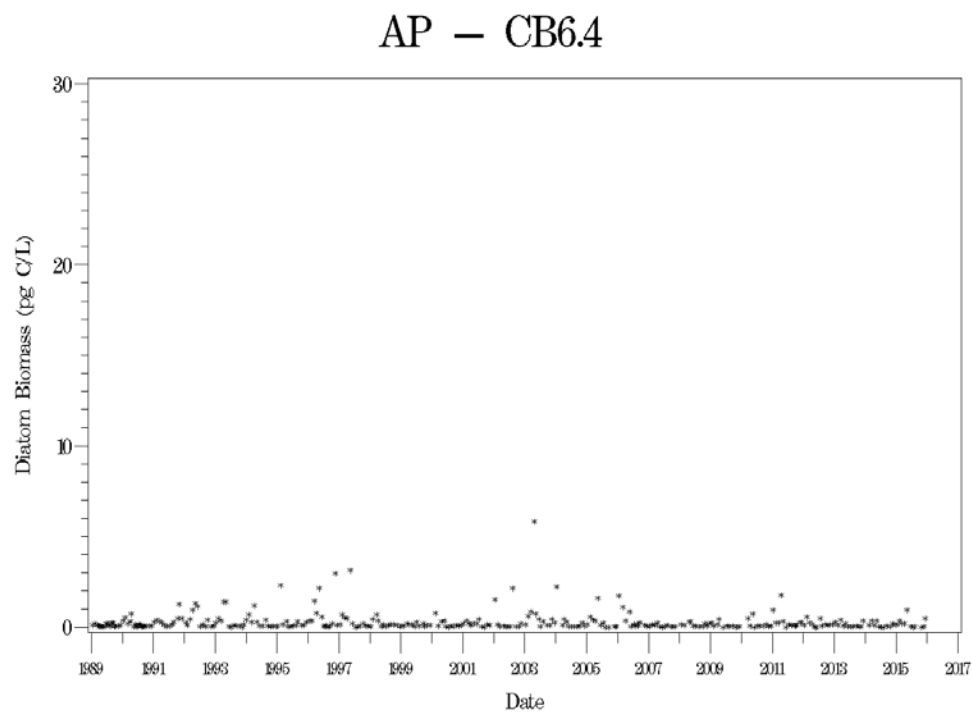


Figure 126. Plot of above pycnocline diatom biomass against time at station CB6.4 for the period of 1985 through 2015.

AP — CB6.4

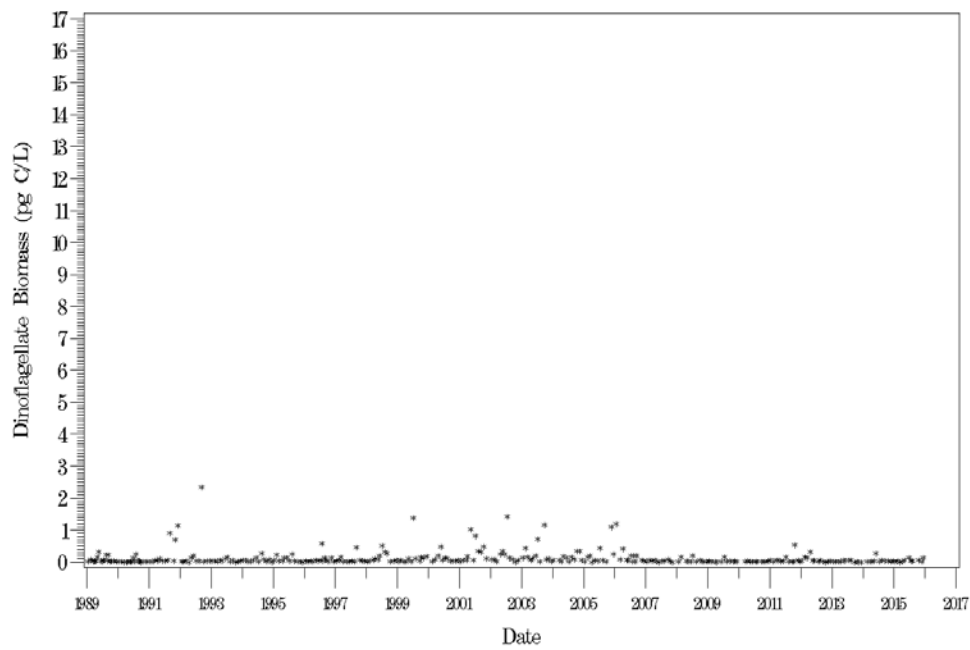


Figure 127. Plot of above pycnocline dinoflagellate biomass against time at station CB6.4 for the period of 1985 through 2015.

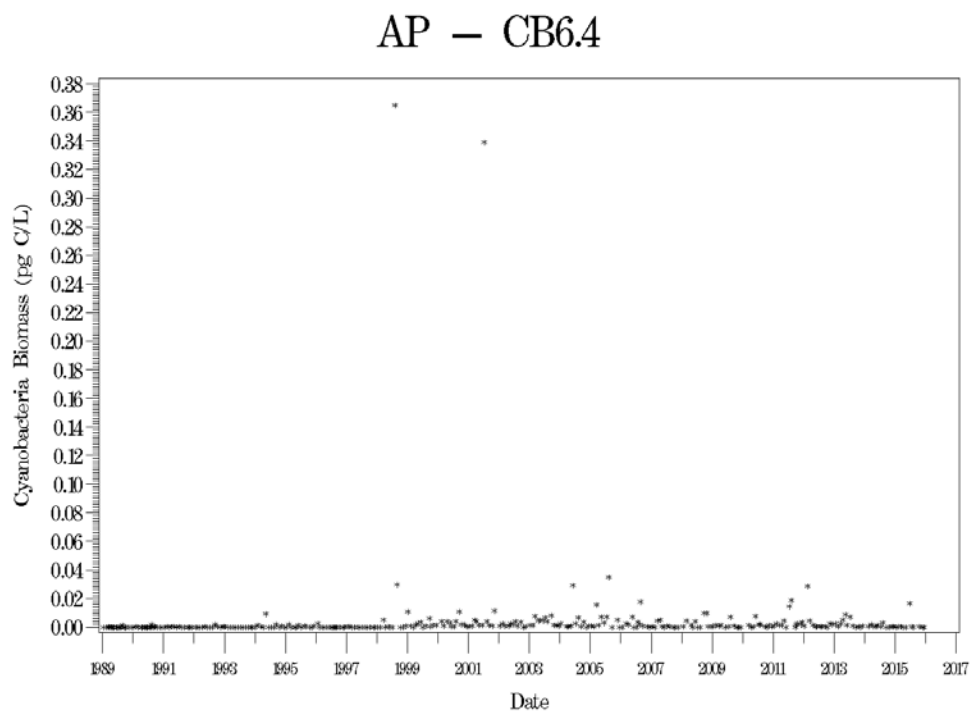


Figure 128. Plot of above pycnocline cyanobacteria biomass against time at station CB6.4 for the period of 1985 through 2015.

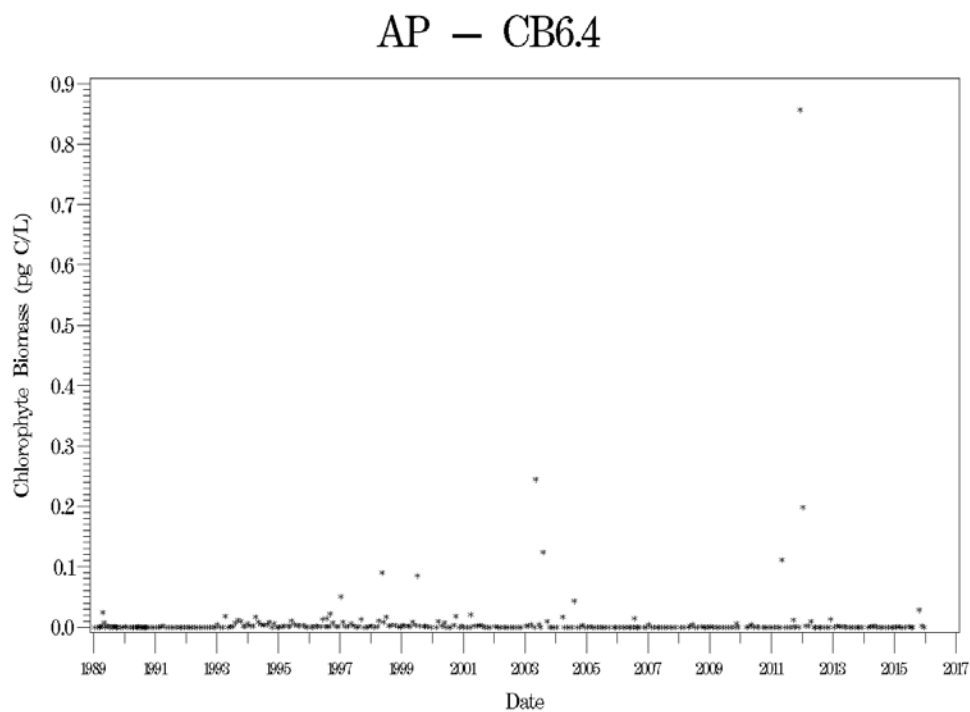


Figure 129. Plot of above pycnocline chlorophyte biomass against time at station CB6.4 for the period of 1985 through 2015.

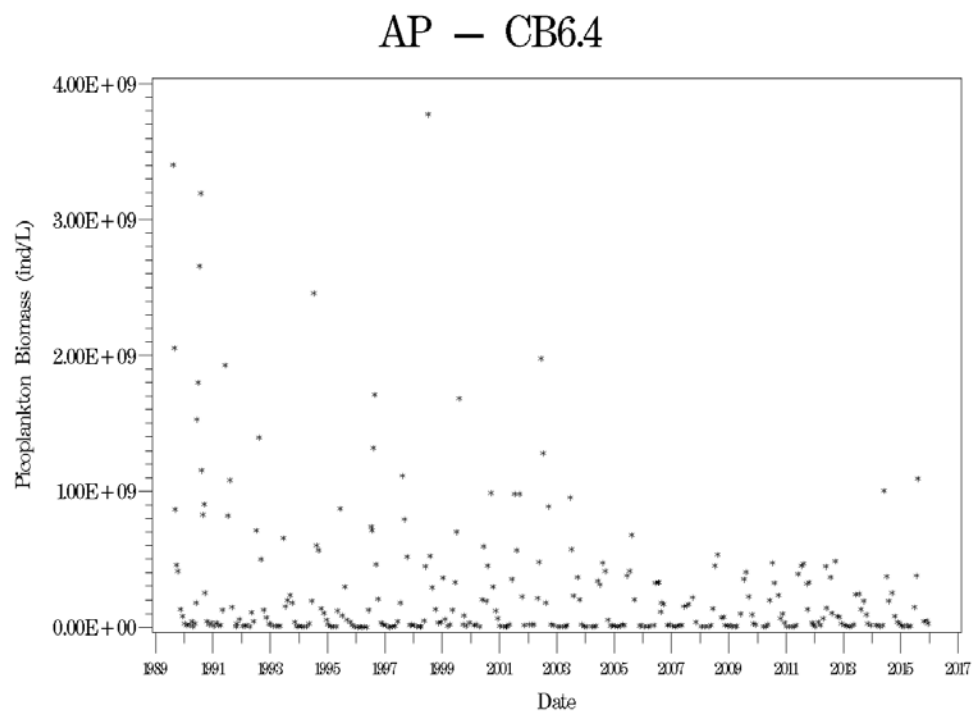


Figure 130. Plot of above pycnocline picoplankton biomass against time at station CB6.4 for the period of 1985 through 2015.

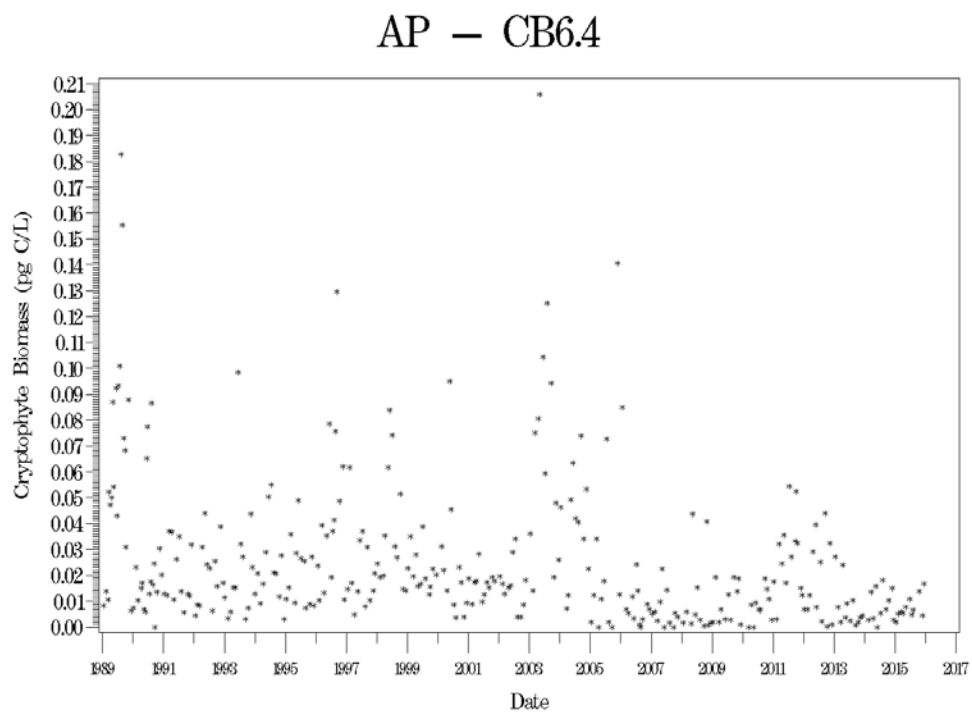


Figure 131. Plot of above pycnocline cryptophyte biomass at station CB6.4 for the period of 1985 through 2015.

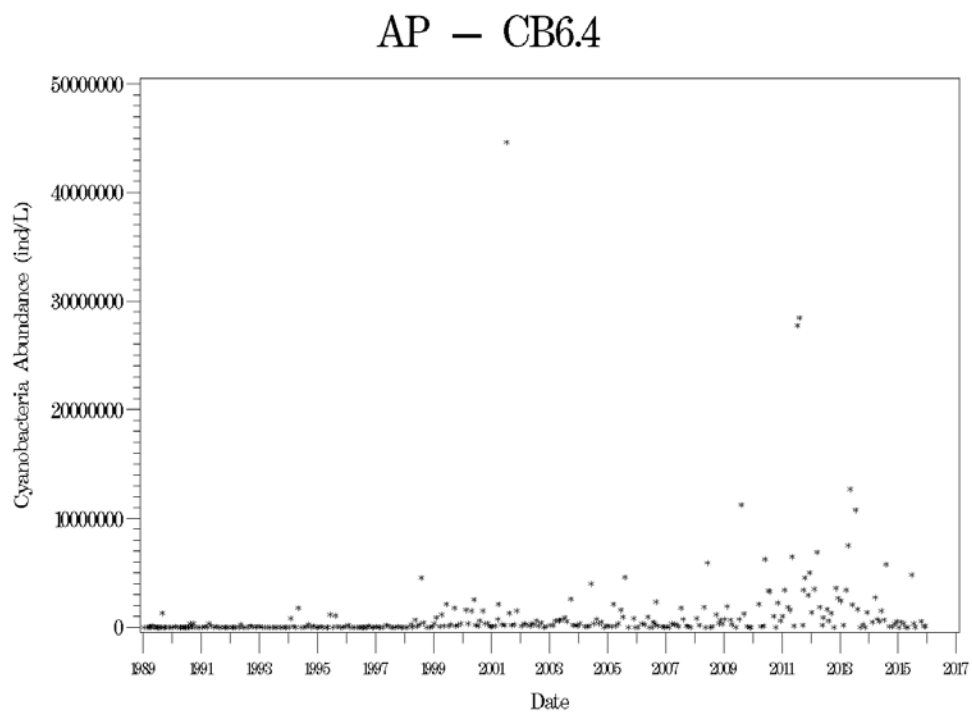


Figure 132. Plot of above pycnocline cyanophyte abundance at station CB6.4 for the period of 1985 through 2015.

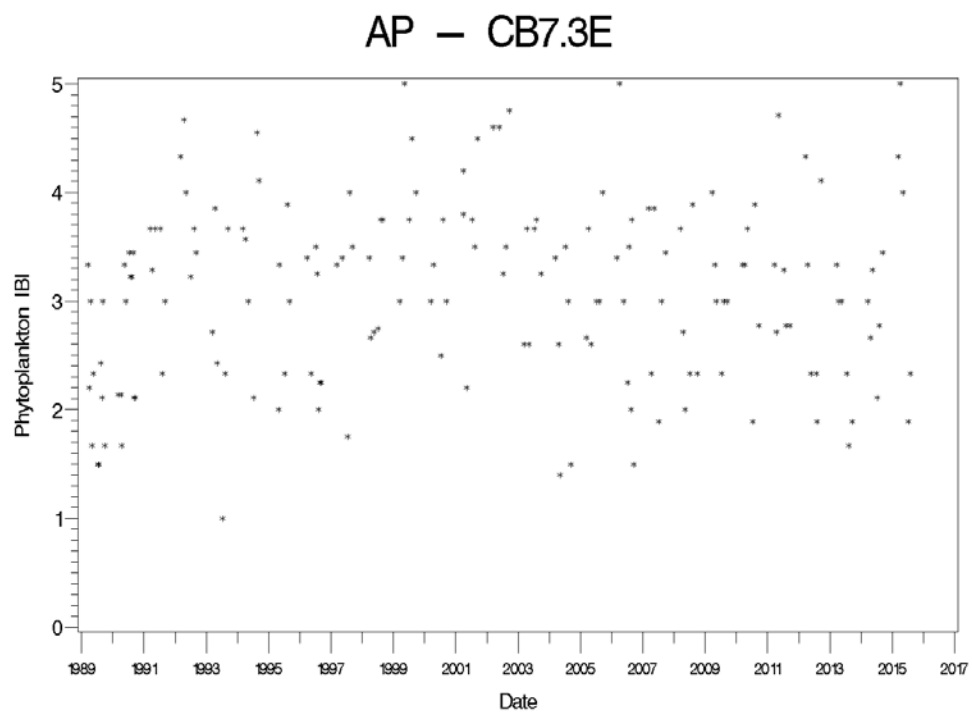


Figure 133. Plot of above pycnocline phytoplankton IBI scores against time at station CB7.3E for the period of 1985 through 2015.

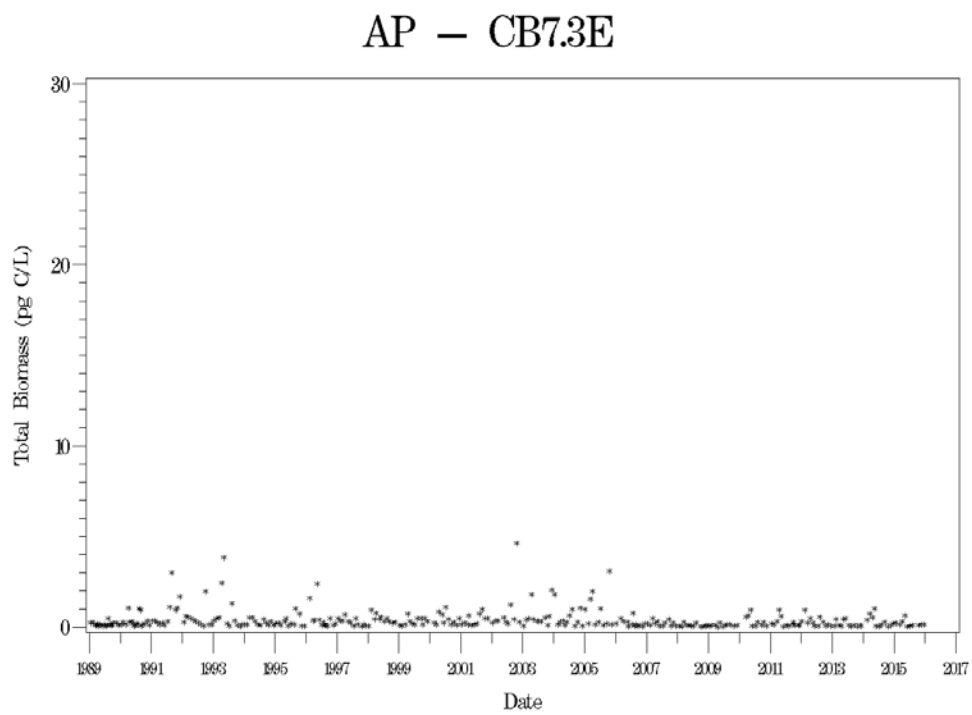


Figure 134. Plot of above pycnocline total phytoplankton biomass against time at station CB7.3E for the period of 1985 through 2015.

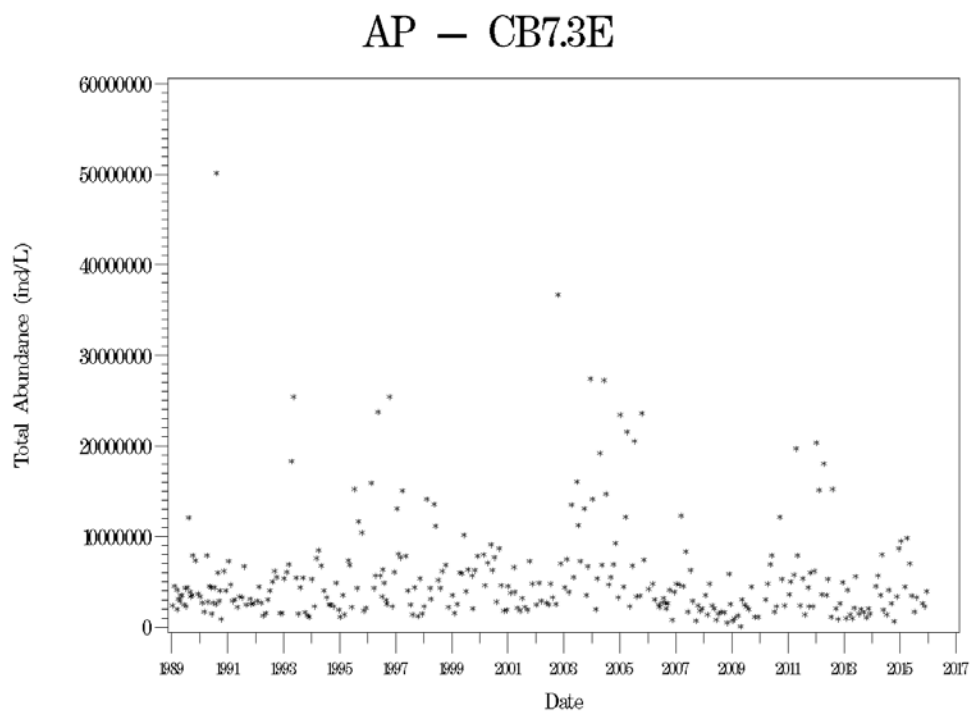


Figure 135. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station CB7.3E for the period of 1985 through 2015.

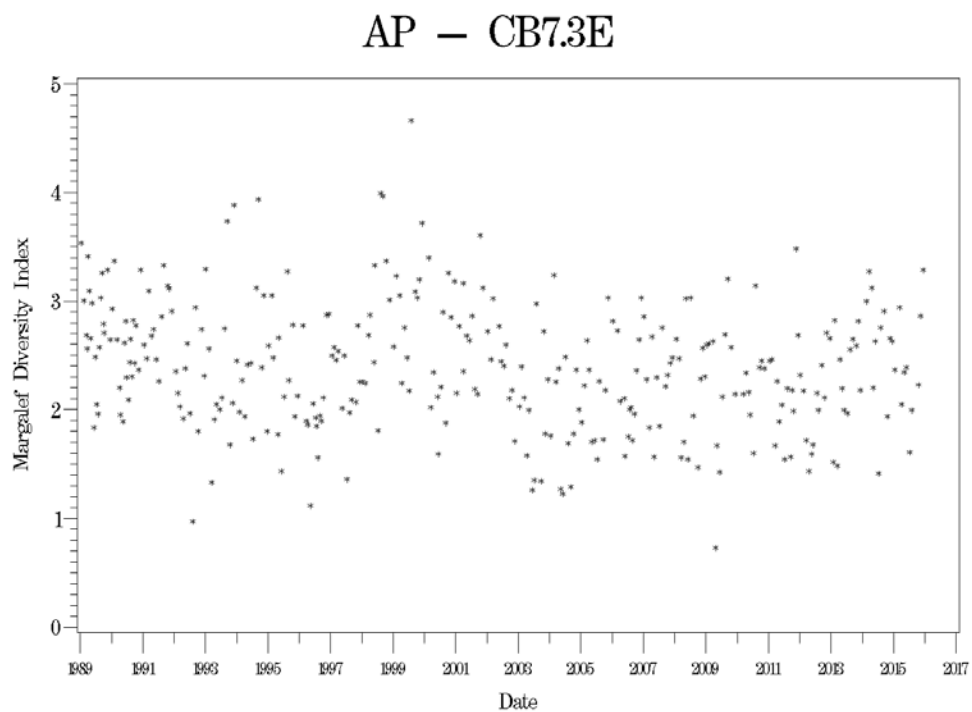


Figure 136. Plot of above pycnocline Margalef diversity index against time at station CB7.3E for the period of 1985 through 2015.

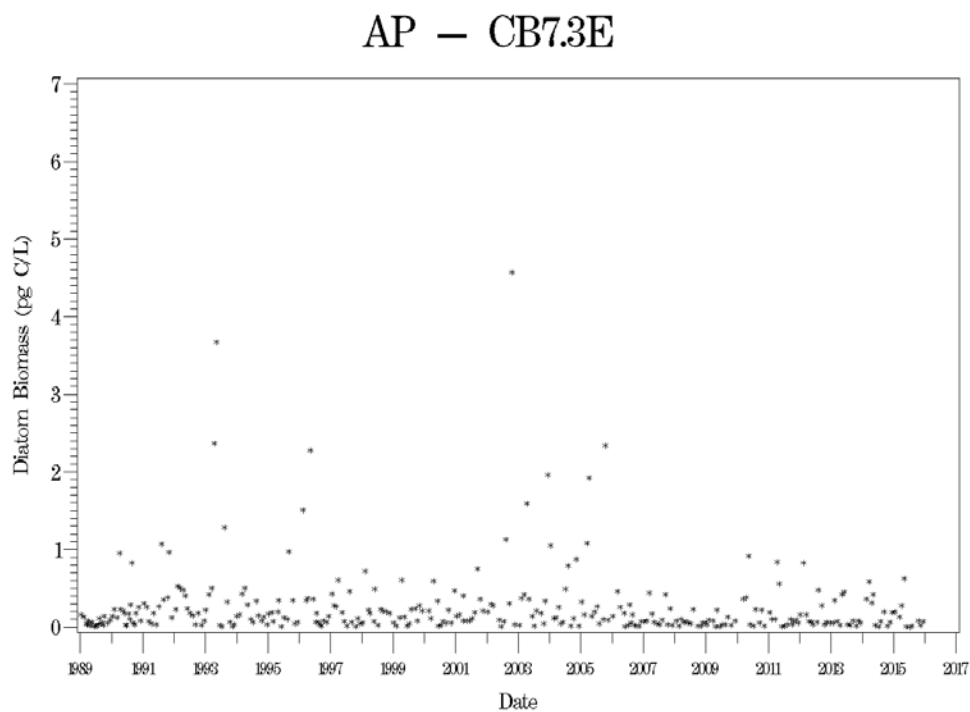


Figure 137. Plot of above pycnocline diatom biomass against time at station CB7.3E for the period of 1985 through 2015.

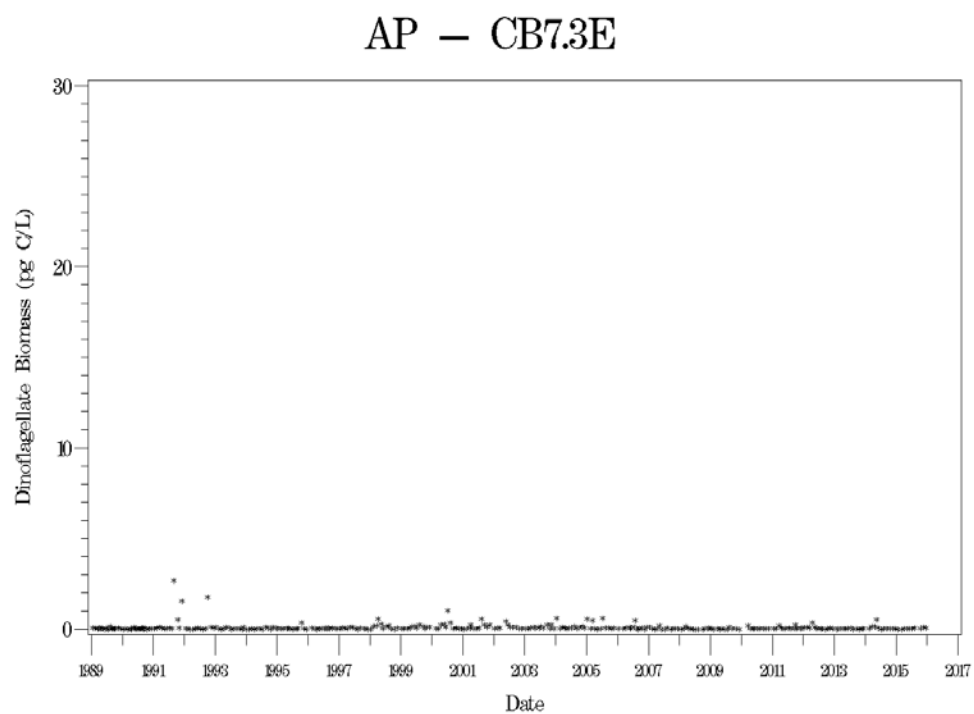


Figure 138. Plot of above pycnocline dinoflagellate biomass against time at station CB7.3E for the period of 1985 through 2015.

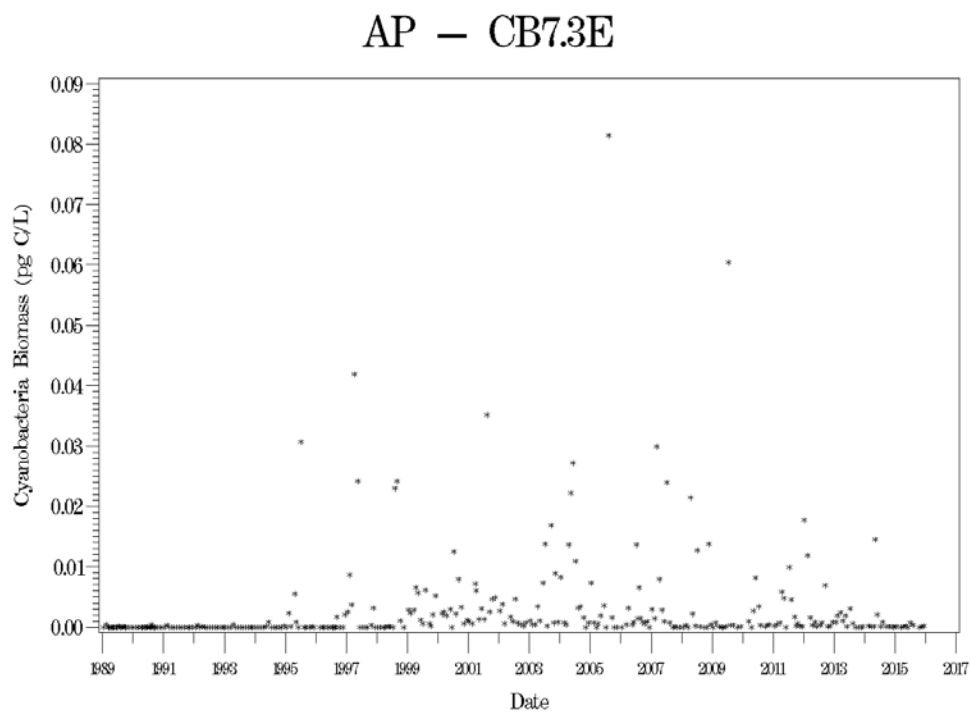


Figure 139. Plot of above pycnocline cyanobacteria biomass against time at station CB7.3E for the period of 1985 through 2015.

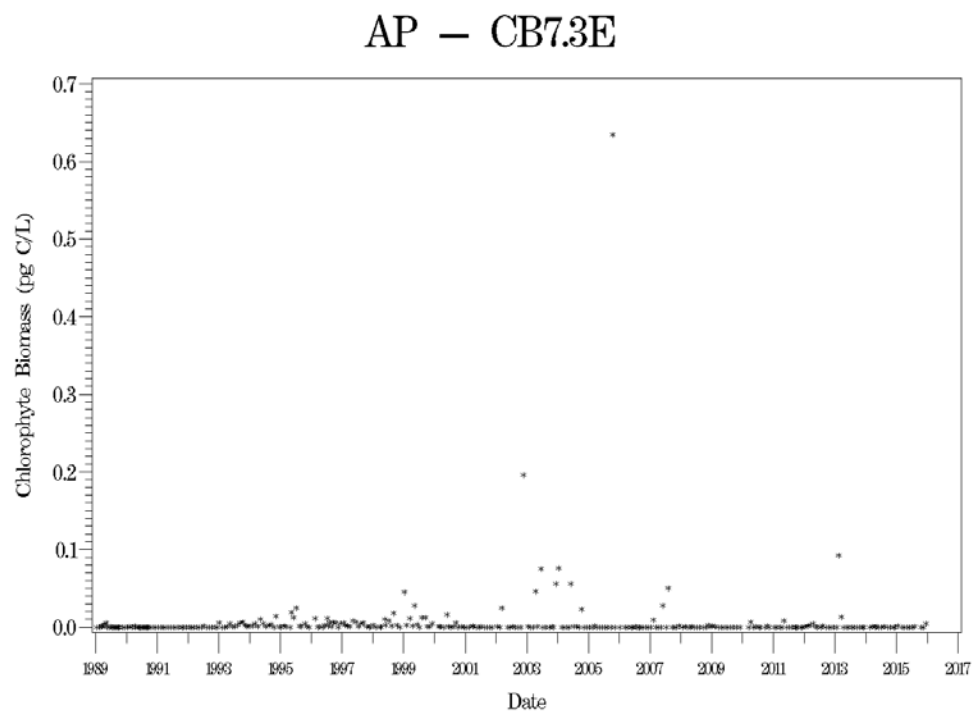


Figure 140. Plot of above pycnocline chlorophyte biomass against time at station CB7.3E for the period of 1985 through 2015.

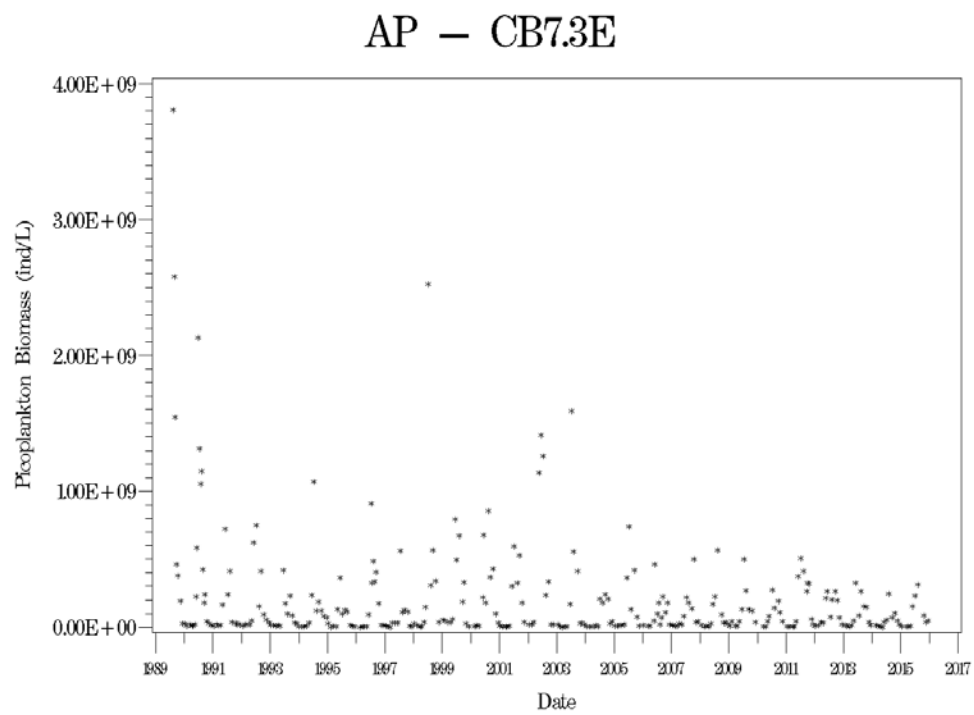


Figure 141. Plot of above pycnocline picoplankton biomass against time at station CB7.3E for the period of 1985 through 2015.

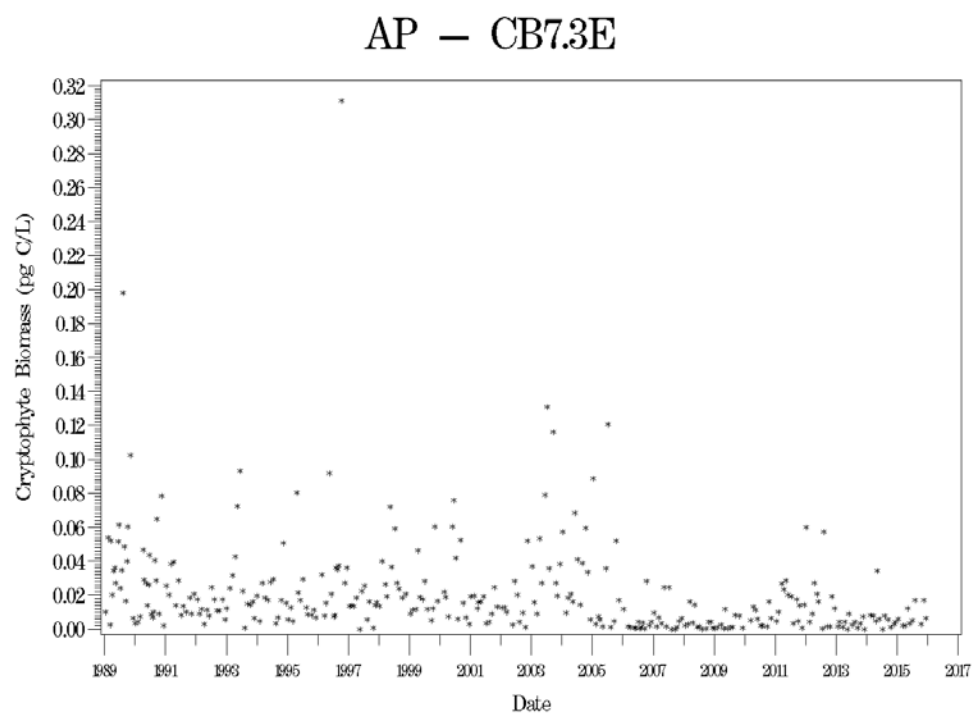


Figure 142. Plot of above pycnocline cryptophyte biomass at station CB7.3E for the period of 1985 through 2015.

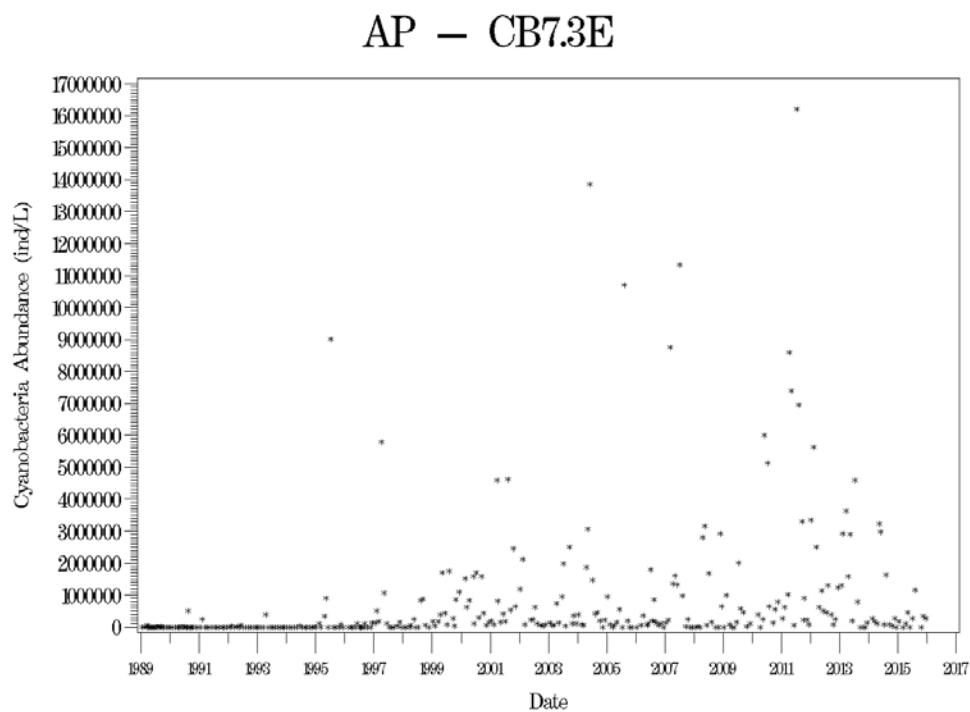


Figure 143. Plot of above pycnocline cyanophyte abundance at station CB7.3E for the period of 1985 through 2015.

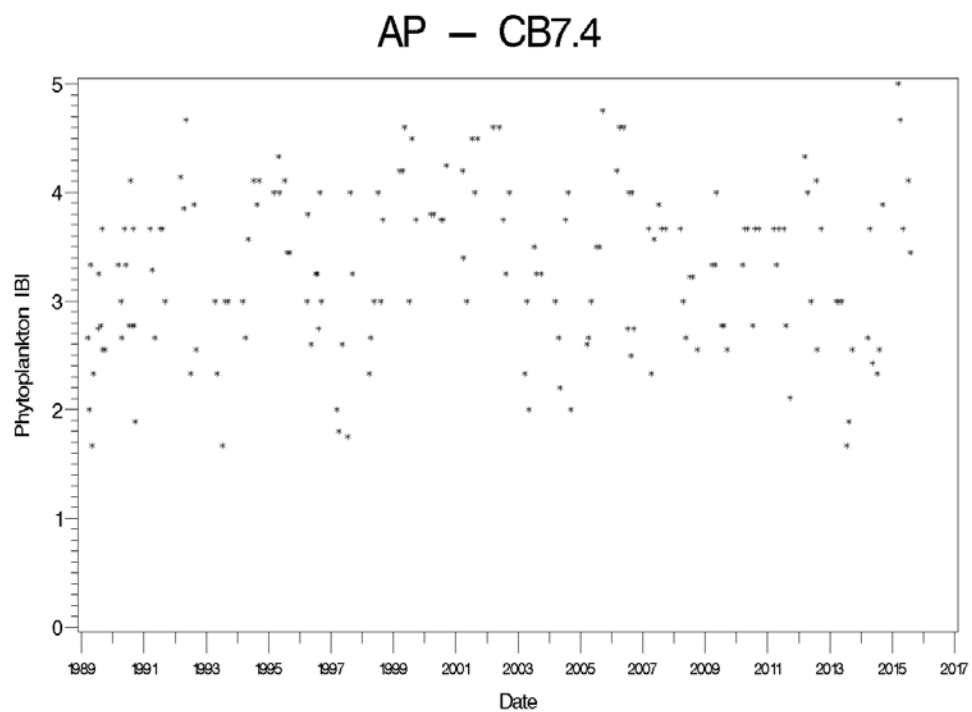


Figure 144. Plot of above pycnocline phytoplankton IBI scores against time at station CB7.4 for the period of 1985 through 2015.

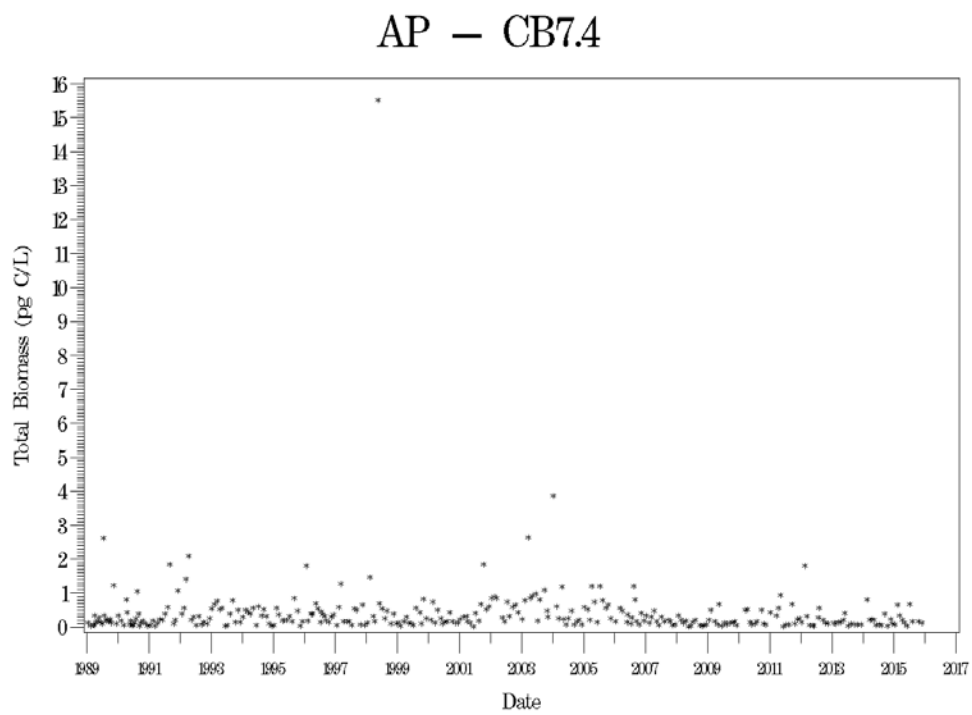


Figure 145. Plot of above pycnocline total phytoplankton biomass against time at station CB7.4 for the period of 1985 through 2015.

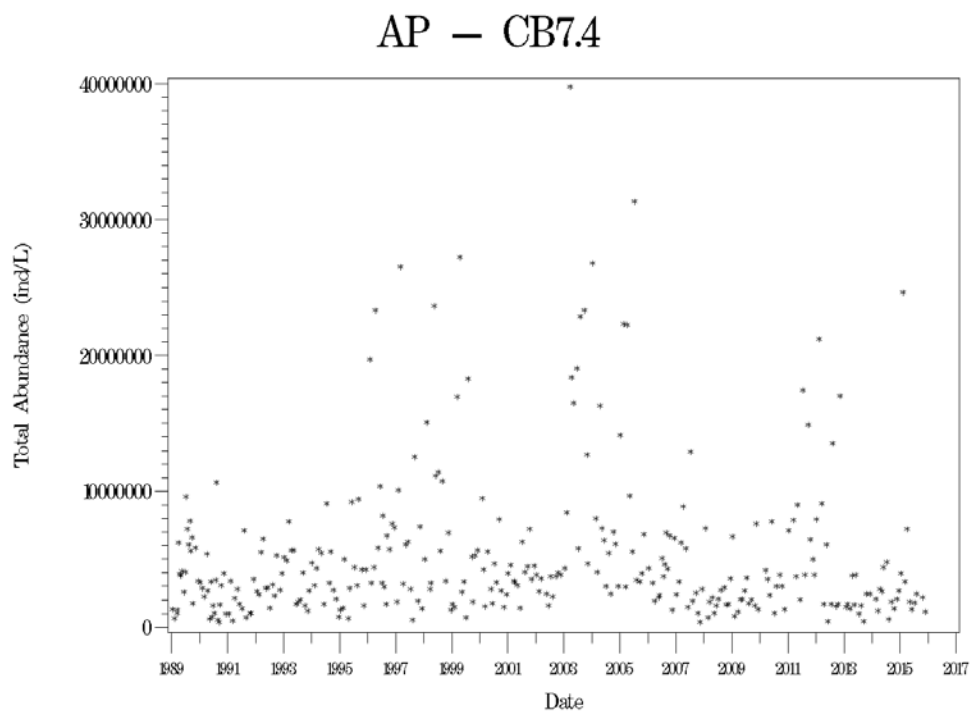


Figure 146. Plot of above pycnocline ratio of total phytoplankton biomass to total phytoplankton abundance against time at station CB7.4 for the period of 1985 through 2015.

AP – CB7.4

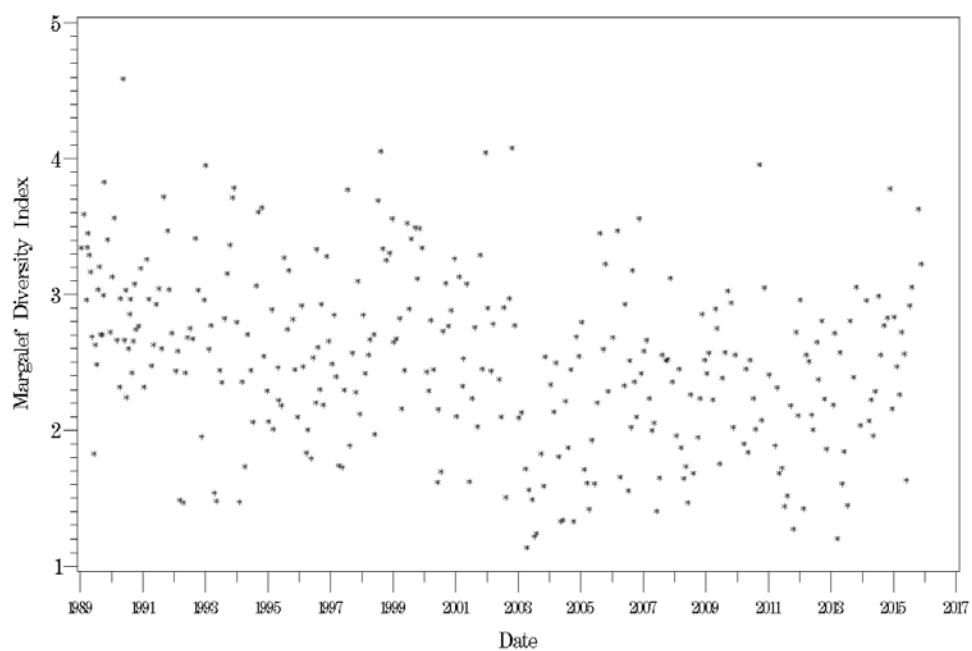


Figure 147. Plot of above pycnocline Margalef diversity index against time at station CB7.4 for the period of 1985 through 2015.

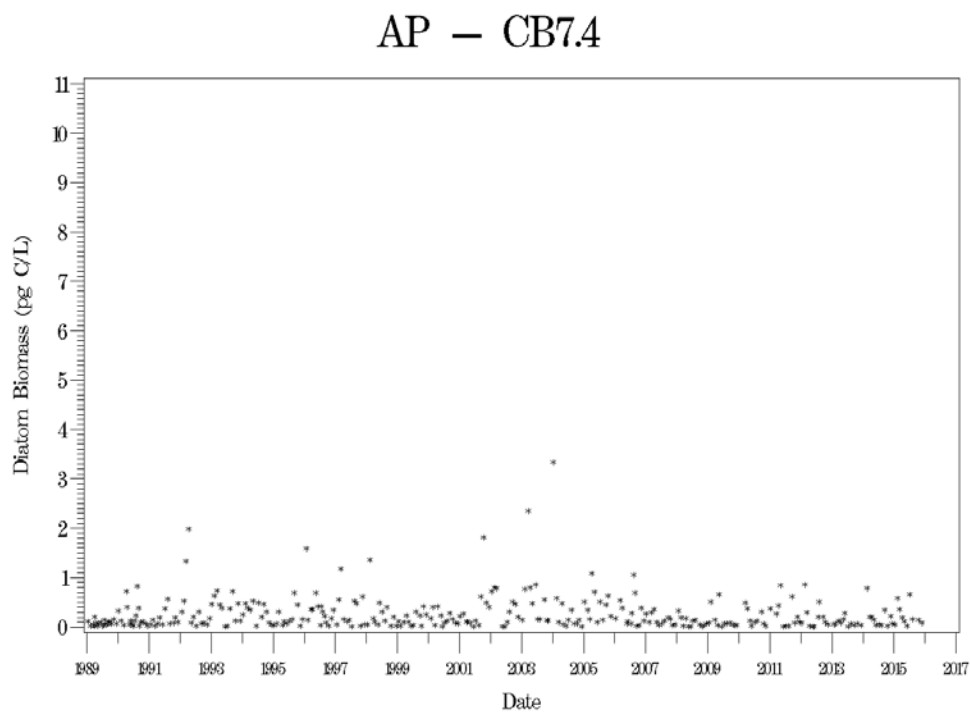


Figure 148. Plot of above pycnocline diatom biomass against time at station CB7.4 for the period of 1985 through 2015.

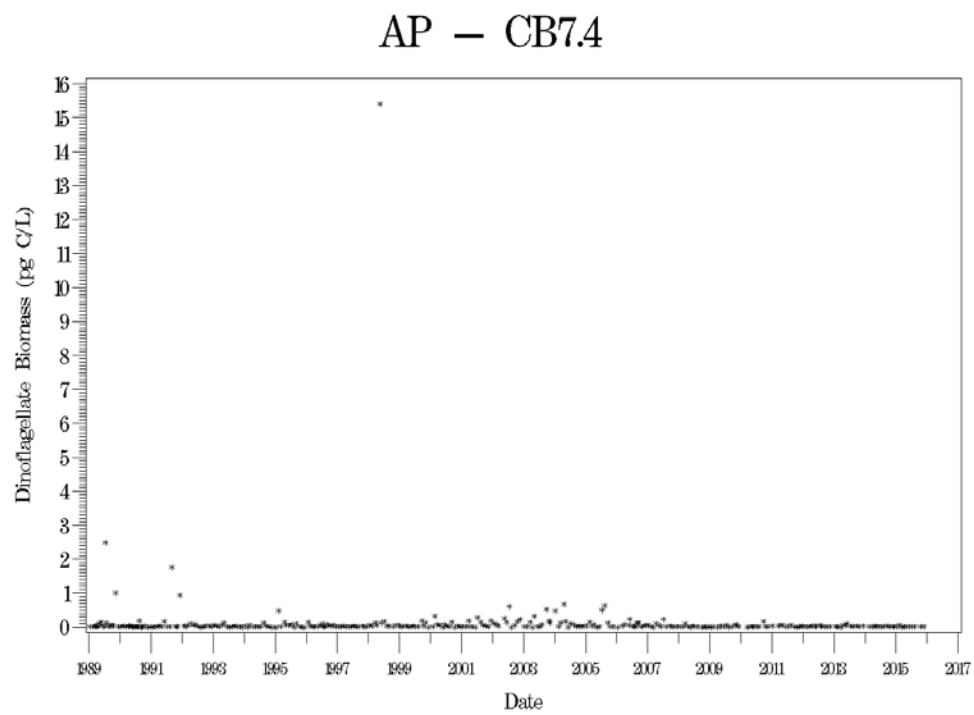


Figure 149. Plot of above pycnocline dinoflagellate biomass against time at station CB7.4 for the period of 1985 through 2015.

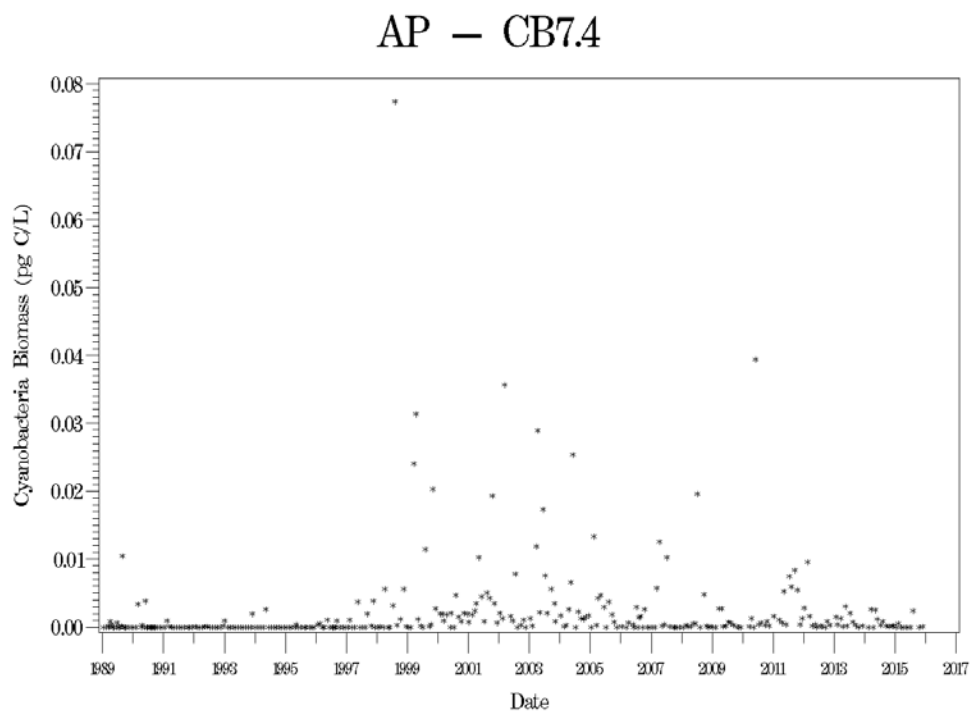


Figure 150. Plot of above pycnocline cyanobacteria biomass against time at station CB7.4 for the period of 1985 through 2015.

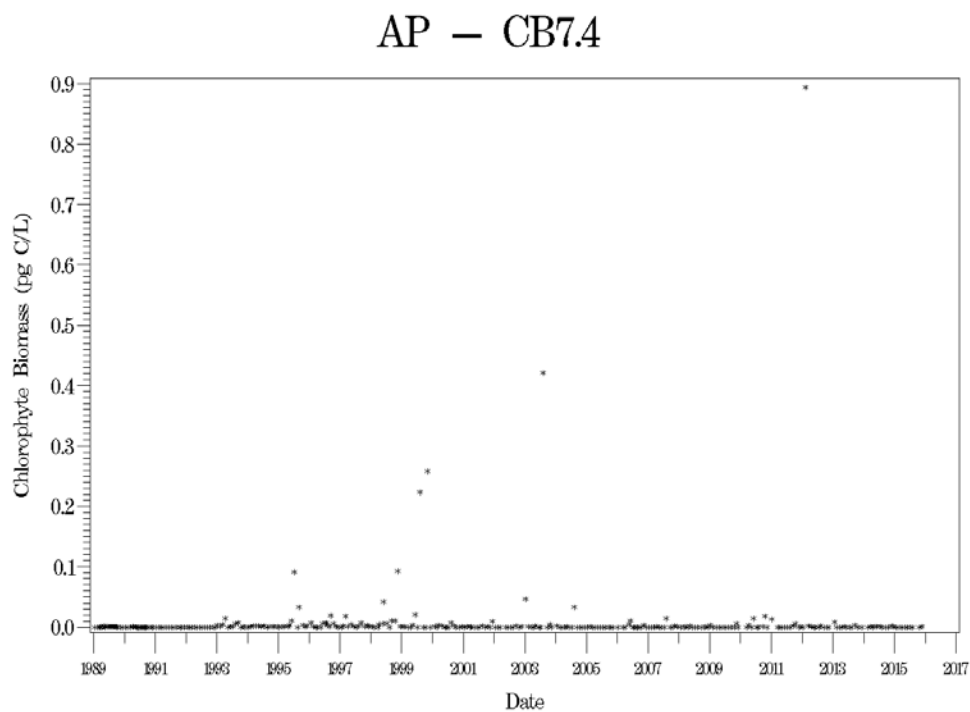


Figure 151. Plot of above pycnocline chlorophyte biomass against time at station CB7.4 for the period of 1985 through 2015.

AP – CB7.4

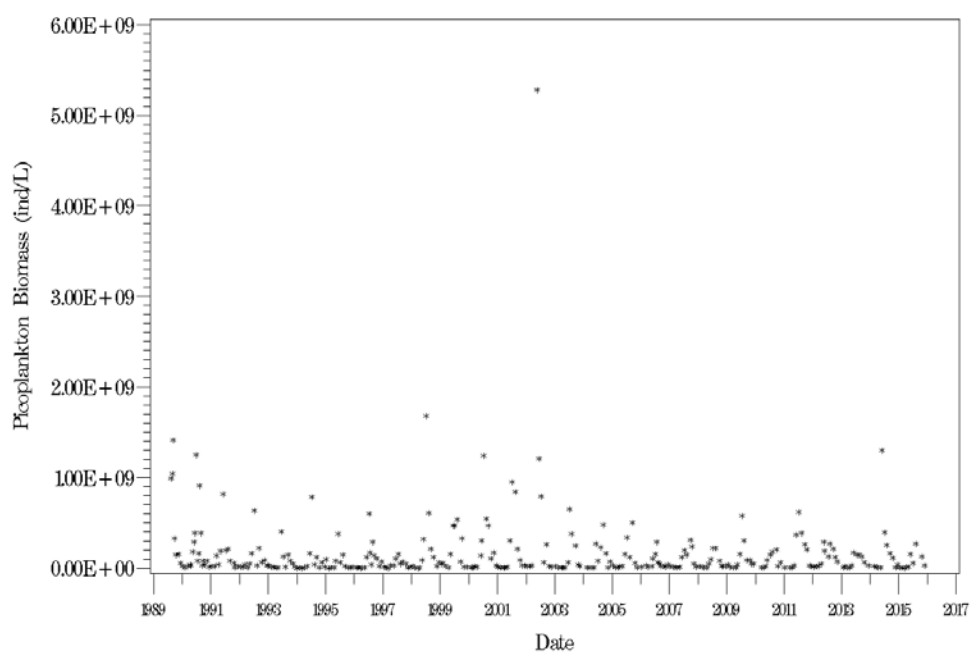


Figure 152. Plot of above pycnocline picoplankton biomass against time at station CB7.4 for the period of 1985 through 2015.

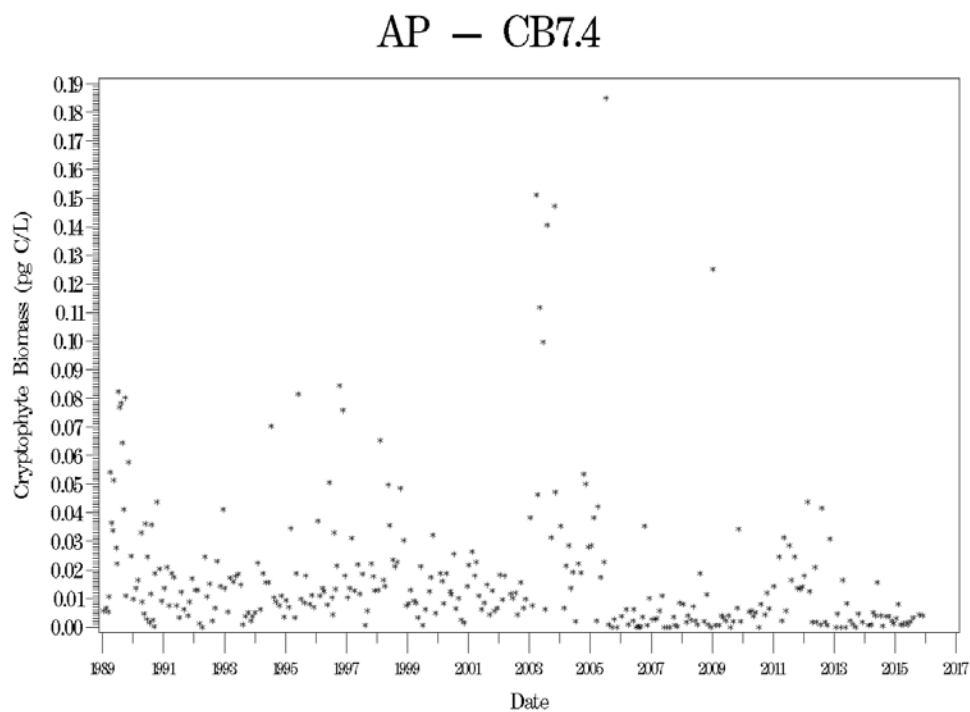


Figure 153. Plot of above pycnocline cryptophyte biomass at station CB7.4 for the period of 1985 through 2015.

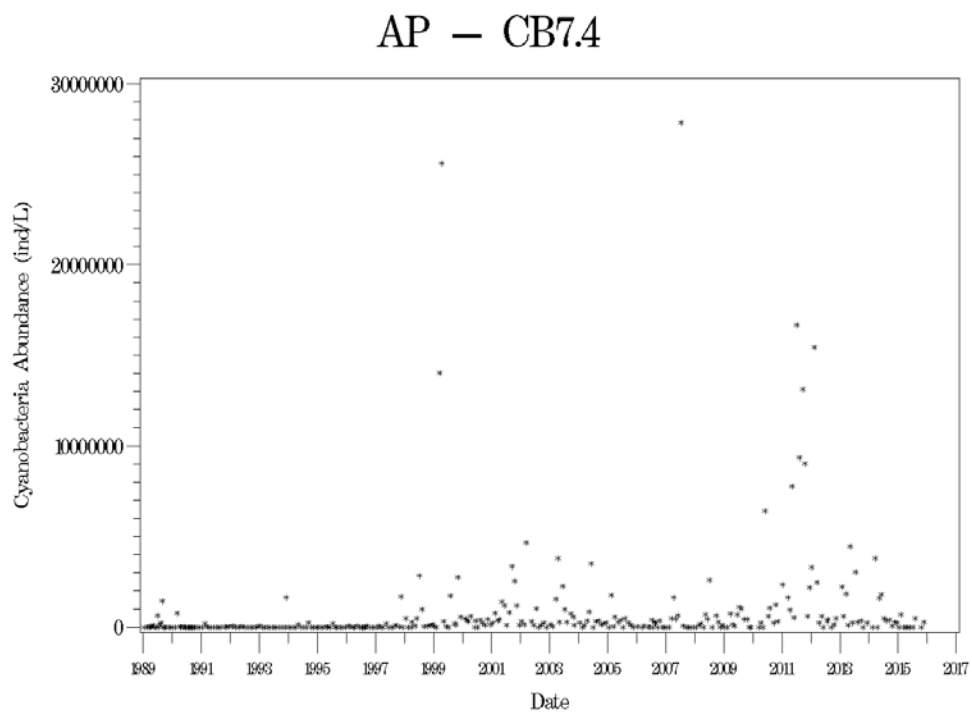


Figure 154. Plot of above pycnocline cyanophyte abundance at station CB7.4 for the period of 1985 through 2015.