

# Geneva

## Lake Overview

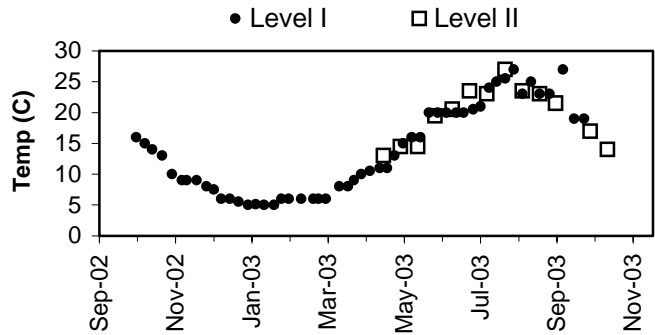
Volunteer monitoring began at Lake Geneva in the 1980s and continued through 2003, with a four-year hiatus in the early 1990s. The data indicate that this lake is moderate in primary productivity (mesotrophic) with good water quality. Since the lake surface makes up nearly 13% of the drainage area, direct precipitation is an important water source in addition to watershed inputs. There are no significant wetlands in the basin. Land use analysis of 2002 aerial photographs showed 92% of the surrounding watershed has been developed for uses other than agriculture.

Lake Geneva has a public access boat ramp, and residents have funded efforts to control water lilies in the past. Eurasian milfoil has recently been identified in the lake and discussions for control are underway.

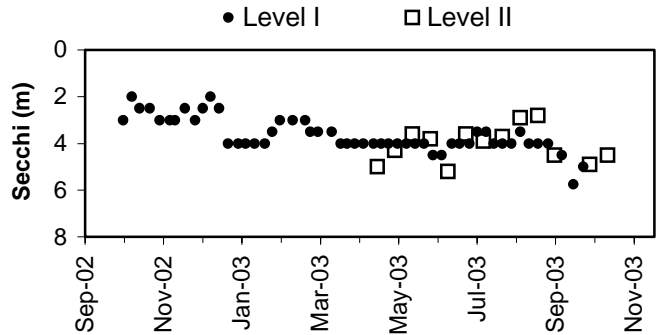
## Physical Parameters

Secchi transparency ranged between 2.0 and 5.8m through the year. Annual surface water temperatures ranged between 5.0 and 27.0 degrees Celsius. Excellent records were available for water levels and precipitation. Water levels were consistent with the regional pattern of winter high - autumn low stands.

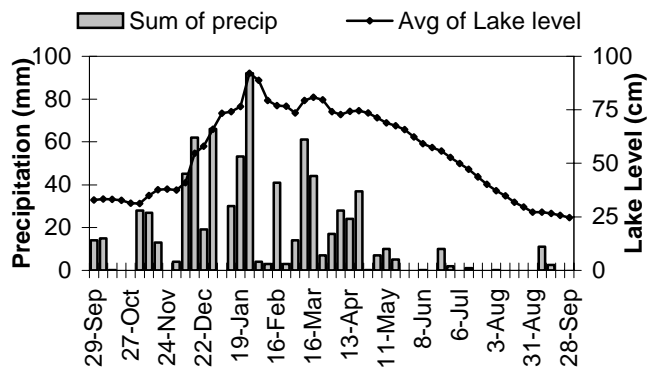
Lake Temperature



Secchi Depth

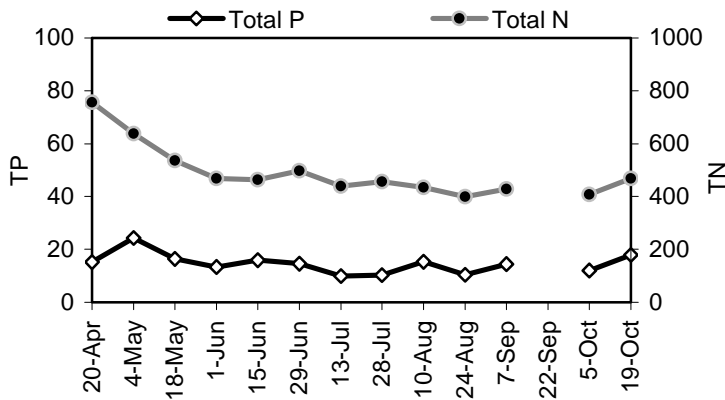


Lake Level and Precipitation

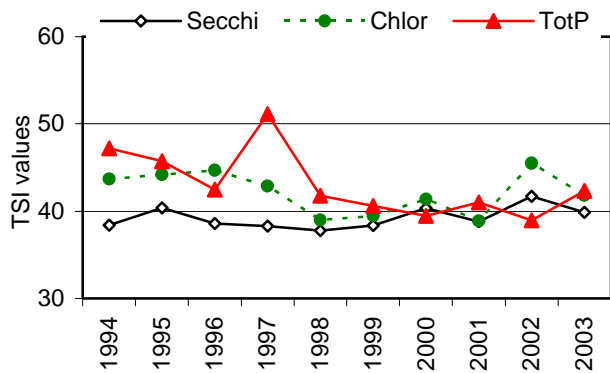


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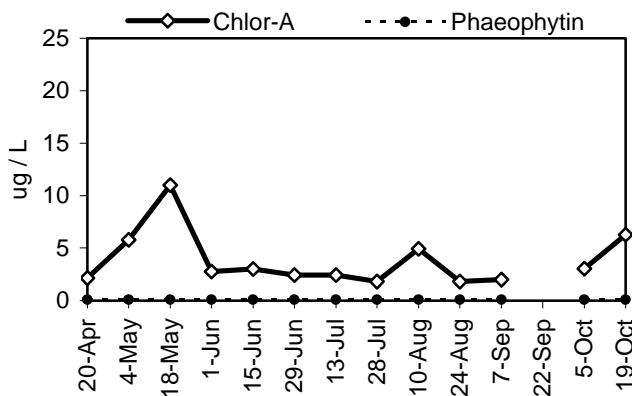
### Nutrient Analysis



### TSI Ratings



### Chlorophyll a Concentrations (ug/L)



## Nutrient Analysis and TSI Ratings

Total phosphorus and total nitrogen remained in reasonably constant proportion to each other through the sampling period, with total nitrogen slightly higher in spring. The N:P ratio ranged from 26 to 50. The 2003 TSI indicators were very close to each other, slightly above the threshold between oligotrophy and mesotrophy.

## Chlorophyll and Algae

Chlorophyll peaked in mid-May, remained low through summer, and rose slightly at the end of the sample season. Phytoplankton was dominated in the spring by the chlorophyte *Botryococcus braunii* and in the fall by the bluegreen *Aphanizomenon flos-aquae*. Other important species included the diatom *Cyclotella* and a variety of cryptophyte species. The bluegreen *Anabaena* was a rare component of the plankton.

### Common algae

### Group

<i>Botryococcus braunii</i>	chlorophyte
<i>Aphanizomenon flos-aquae.</i>	bluegreen
<i>Cyclotella</i> sp.	diatom-chrysophyte



## Geneva

## 2003 Level II Data

Date (2003)	Temp (°C)	Secchi (m)	Chl-a (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI			Notes
								Secc	chl-a	TP	
20-Apr	13.0	5.0	2.1	15.2	756	1	50	36.8	38.0	43.4	
4-May	14.5	4.3	5.8	24.3	638	2	26	39.0	47.8	50.2	
18-May	14.5	3.6	11.0	16.4	537	2	33	41.5	54.1	44.5	
1-Jun	19.5	3.8	2.8	13.4	468	2	35	40.7	40.5	41.6	
15-Jun	20.5	5.2	3.0	15.9	464	2	29	36.2	41.3	44.1	
29-Jun	23.5	3.6	2.4	14.6	498	2	34	41.5	39.2	42.8	
13-Jul	23.0	3.9	2.4	9.9	439	2	44	40.4	39.2	37.2	
28-Jul	27.0	3.7	1.8	10.3	456	2	44	41.1	36.3	37.8	
11-Aug	23.5	2.9	4.9	15.3	434		28	44.6	46.2	43.5	
25-Aug	23.0	2.8	1.8	10.4	399	2	38	45.1	36.3	37.9	
7-Sep	21.5	4.5	2.0	14.4	428	2	30	38.3	37.4	42.6	
22-Sep											No sample.
5-Oct	17.0	4.9	3.0	12.0	408	2	34	37.1	41.5	40.0	
19-Oct	14.0	4.5	6.3	17.9	468	3	26	38.3	48.6	45.8	
	Temp (°C)	Secchi (m)	Chl-a (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI			
								Secc	chl-a	TP	
<b>Mean</b>	19.6	4.1	3.8	14.6	491.8	2.0	35	40.0	42.0	42.4	<b>TSI Average = 41.5</b>
<b>Median</b>	20.5	3.9	2.8	14.6	464.0	2	34	40.4	40.5	42.8	
<b>Min</b>	13.0	2.8	1.8	9.9	399.0	1	26	36.2	36.3	37.2	
<b>Max</b>	27.0	5.2	11.0	24.3	756.0	3	50	45.1	54.1	50.2	
<b>Count</b>	13	13	13	13	13	12	13	13	13	13	