Freshwater Ecology
Fall 2018 Homework 2
35 points Due 23 October 2018

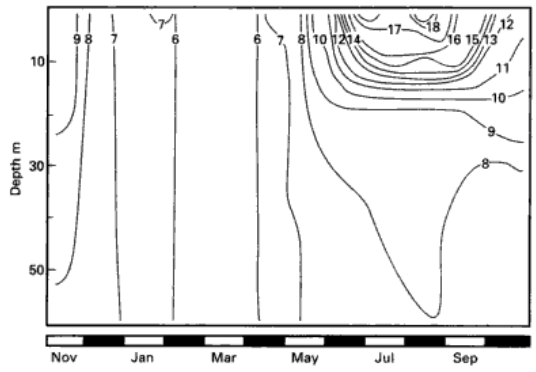
Lake thermal stratification

Thermal stratification is a basic property of lakes. Understanding when and if a lake is stratified often is a necessary first step to understand energy available to organisms and movement of matter. Although a basic property, stratification varies greatly depending on climate and lake morphometry. For each of the following nine lakes, tell me:

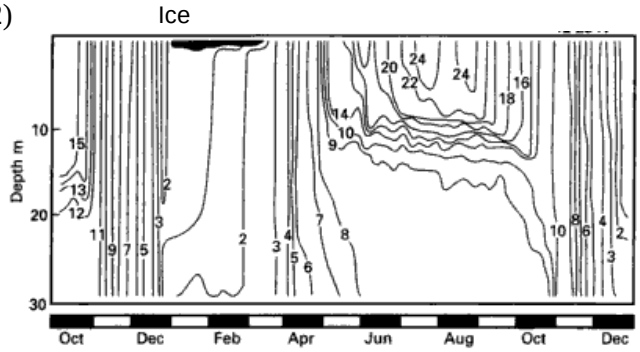
1) Whether the lake is amictic, monomictic, dimictic, or polymictic;
2) When complete mixis occurs (if it does); and
3) For one period of stratification, tell me your best estimates for the depth ranges of the epilimnion and hypolimnion (i.e., where does each layer begin and end). Make sure you specify which time period you are estimating.

Note that all figures show month on the x-axis, depth in meters on the y-axis, and show contours in °C.

1)



2)



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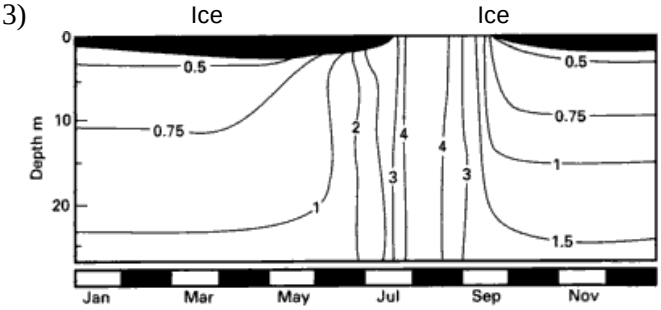
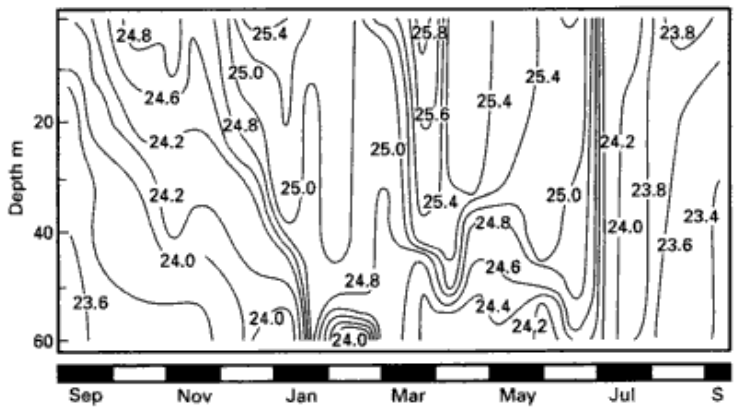
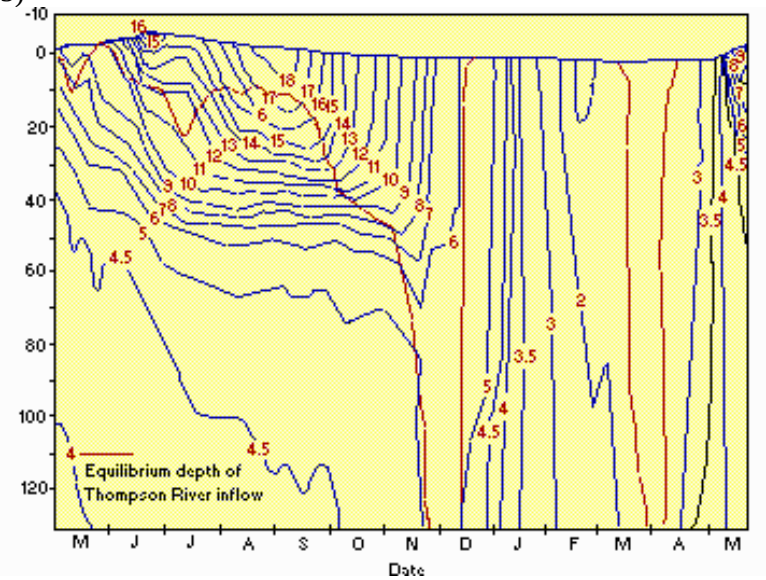


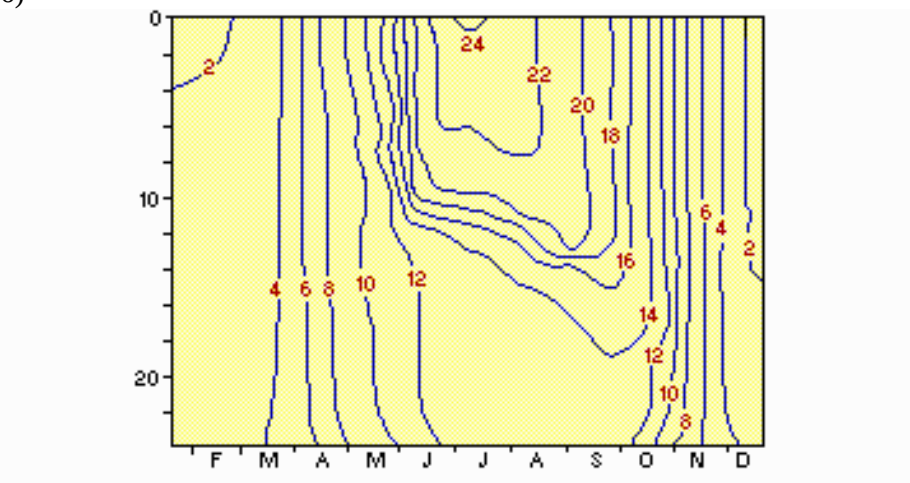
4)


Depth m
20
40
60
Sep
Nov
Jan
Mar
May
Jul
S

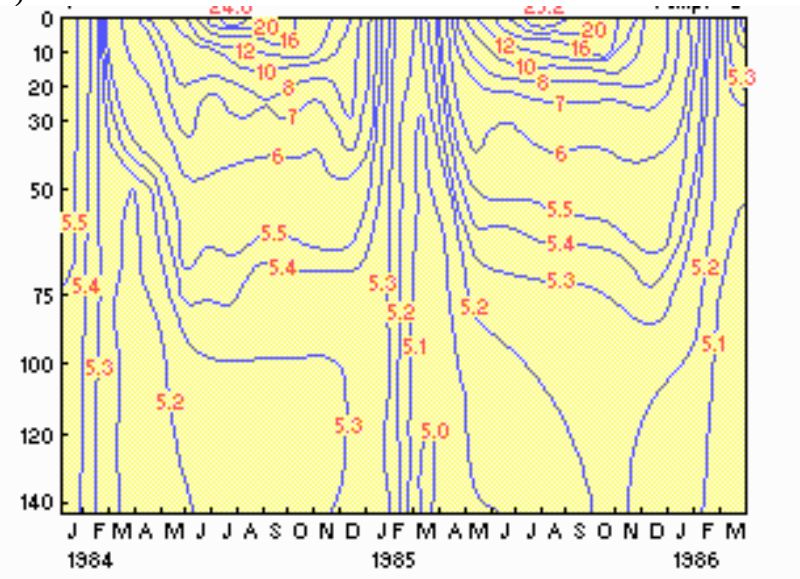
5)


-10
0
20
40
60
80
100
120
Equilibrium depth of
Thompson River inflow
M J J A S O N D J F M A M
Date

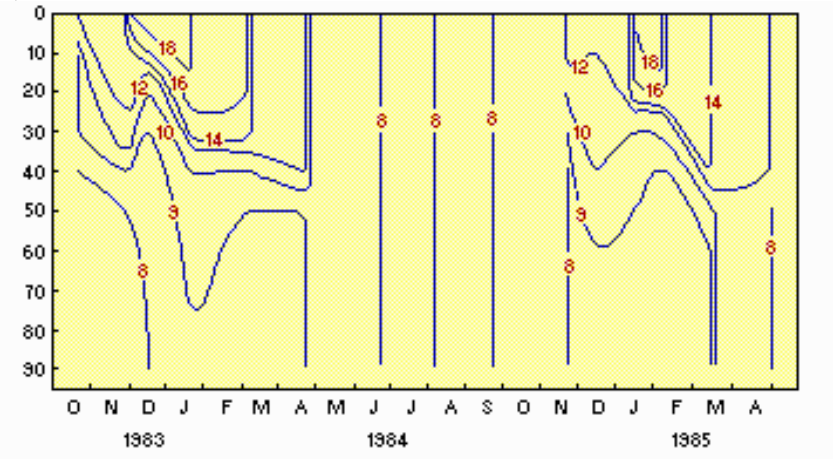
6)


0
10
20
F M A M J J A S O N D

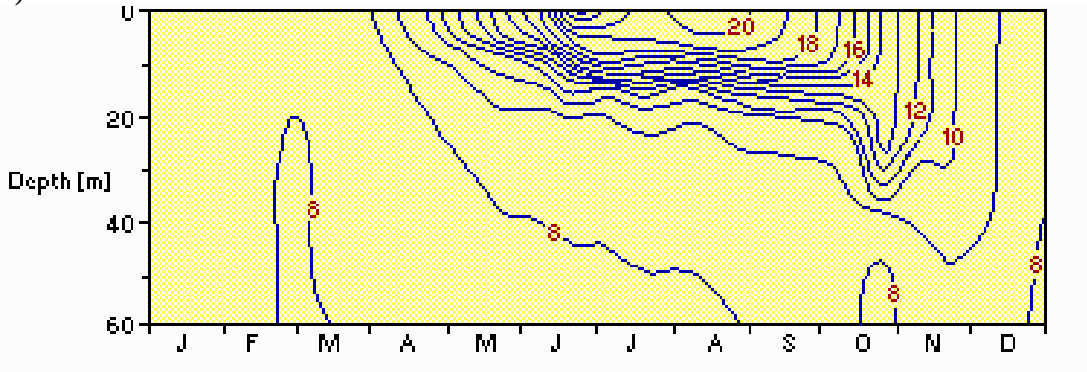
7)


0
10
20
30
50
75
100
120
140
J F M A M J J A S O N D J F M A M J J A S O N D J F M
1984
1985
1986

8)


0
10
20
30
40
50
60
70
80
90
O N D J F M A M J J A S O N D J F M A
1983
1984
1985

9)


Depth [m]
0
20
40
60
J F M A M J J A S O N D