Coastal Evolution of Batiquitos Lagoon

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Our research could impact urban development!

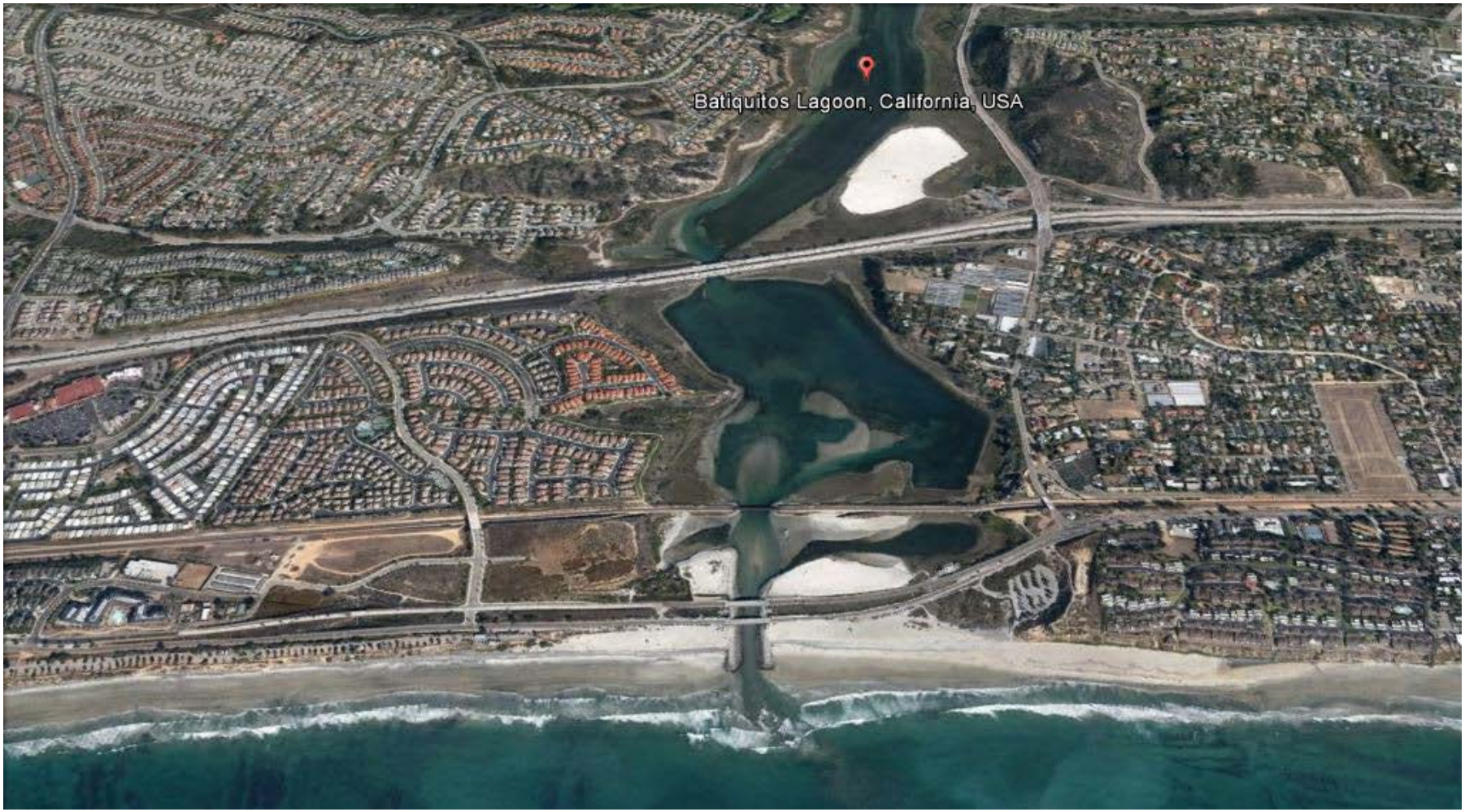
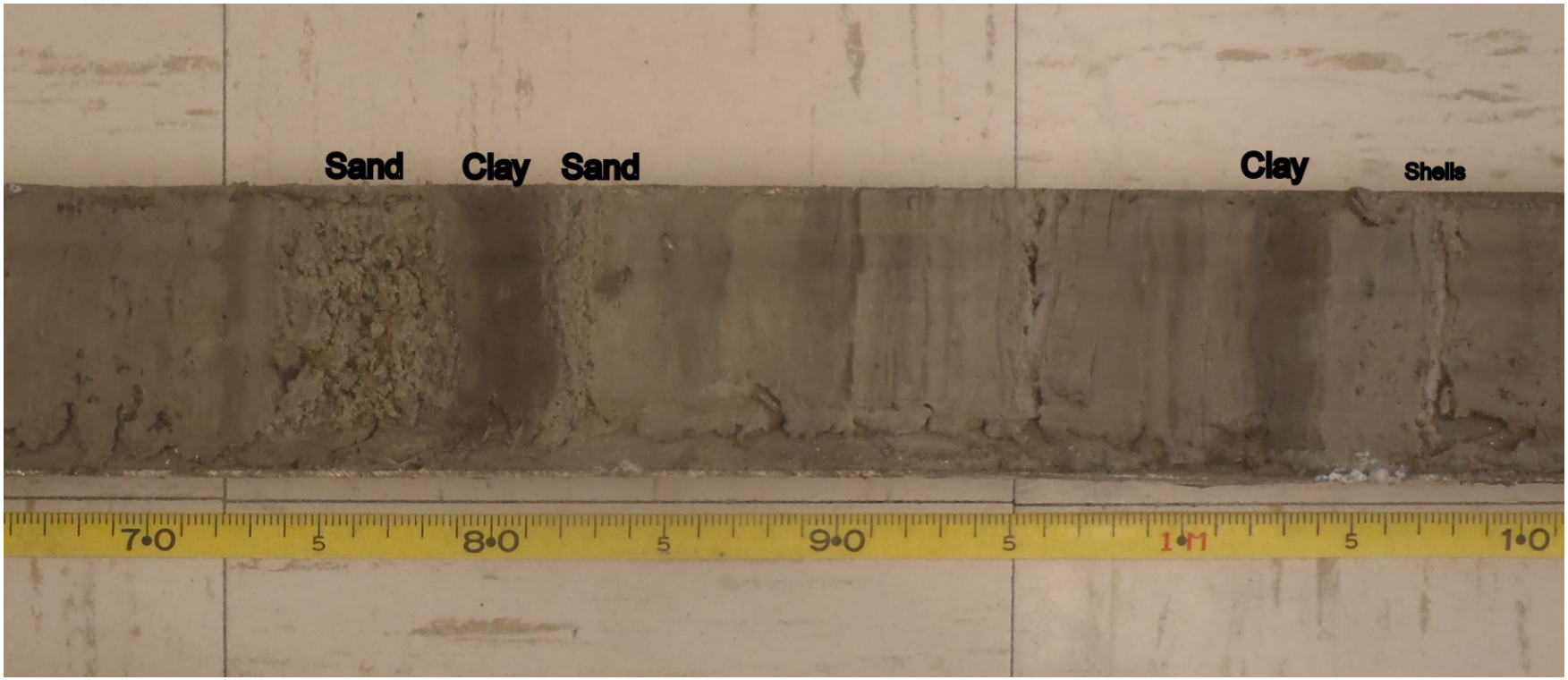


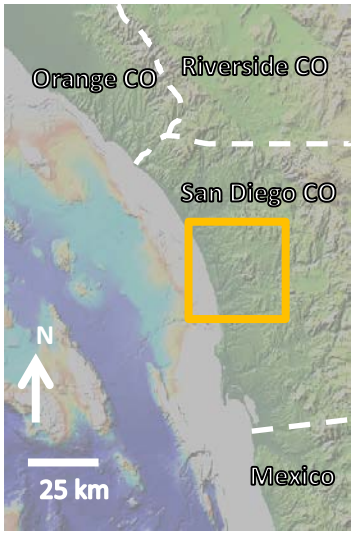
Image provided by Google Earth

What can coastal sediment tell us?



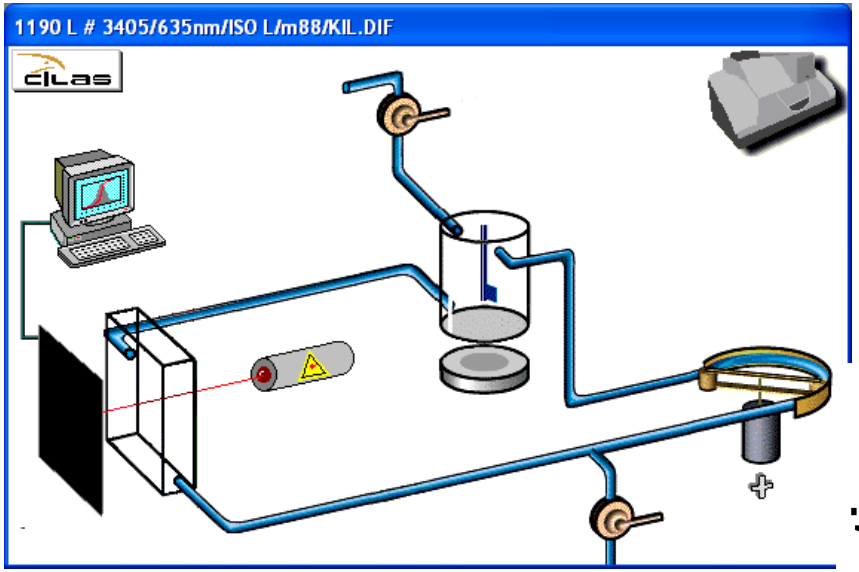
Coarse Sand	Medium Sand	Fine Sand	Silt	Clay
0.5-2 mm	0.25-0.5 mm	0.06-0.25 mm	0.004-0.06 mm	<0.004 mm

Sample Source



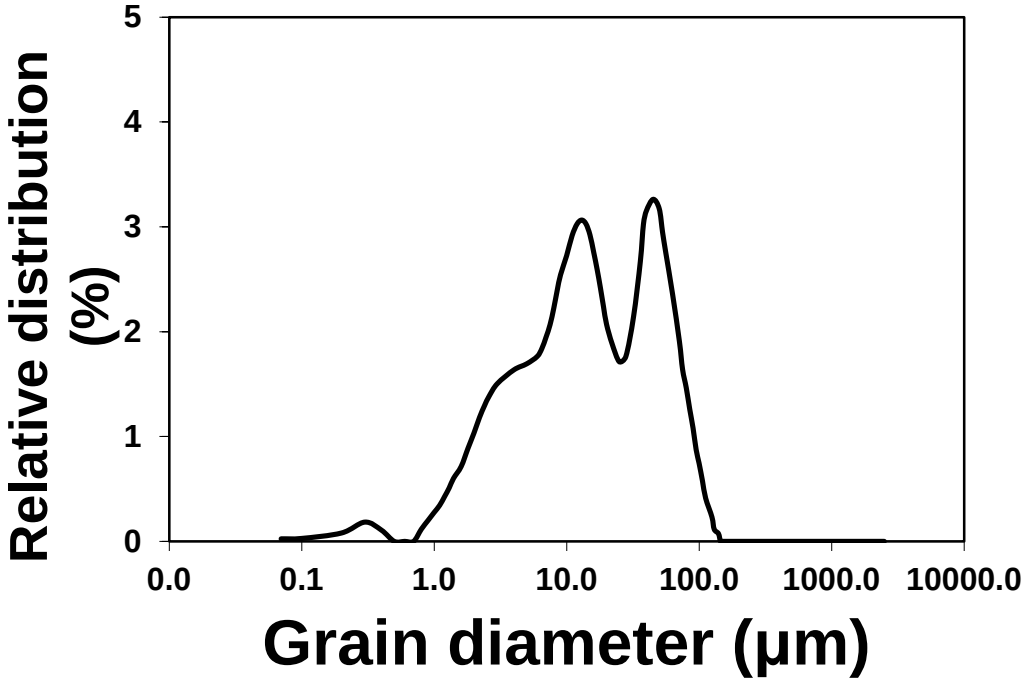
Maps made by Baird King

Determining Grain Size



Laser Diffraction

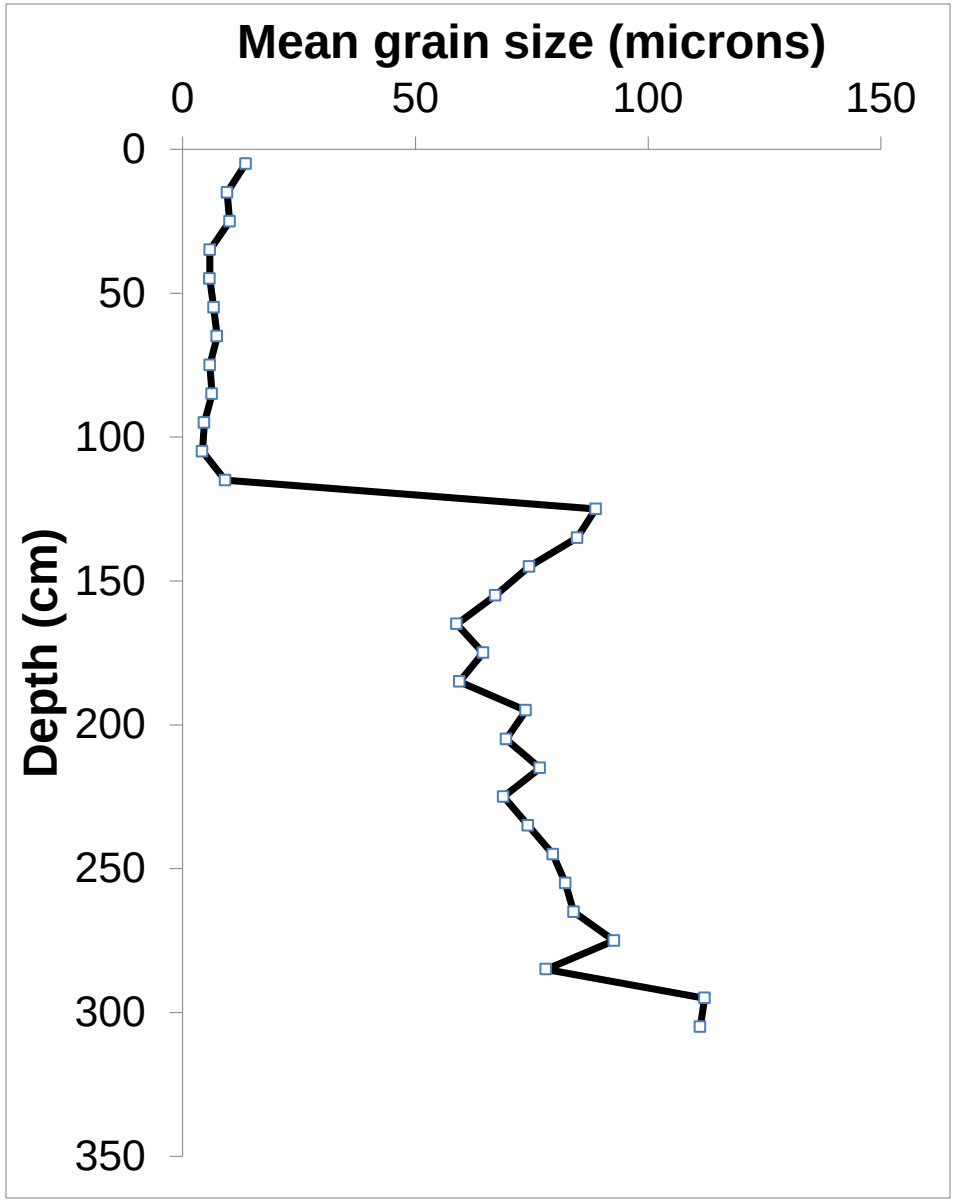
Cilas Particle Size Analyzer 1190

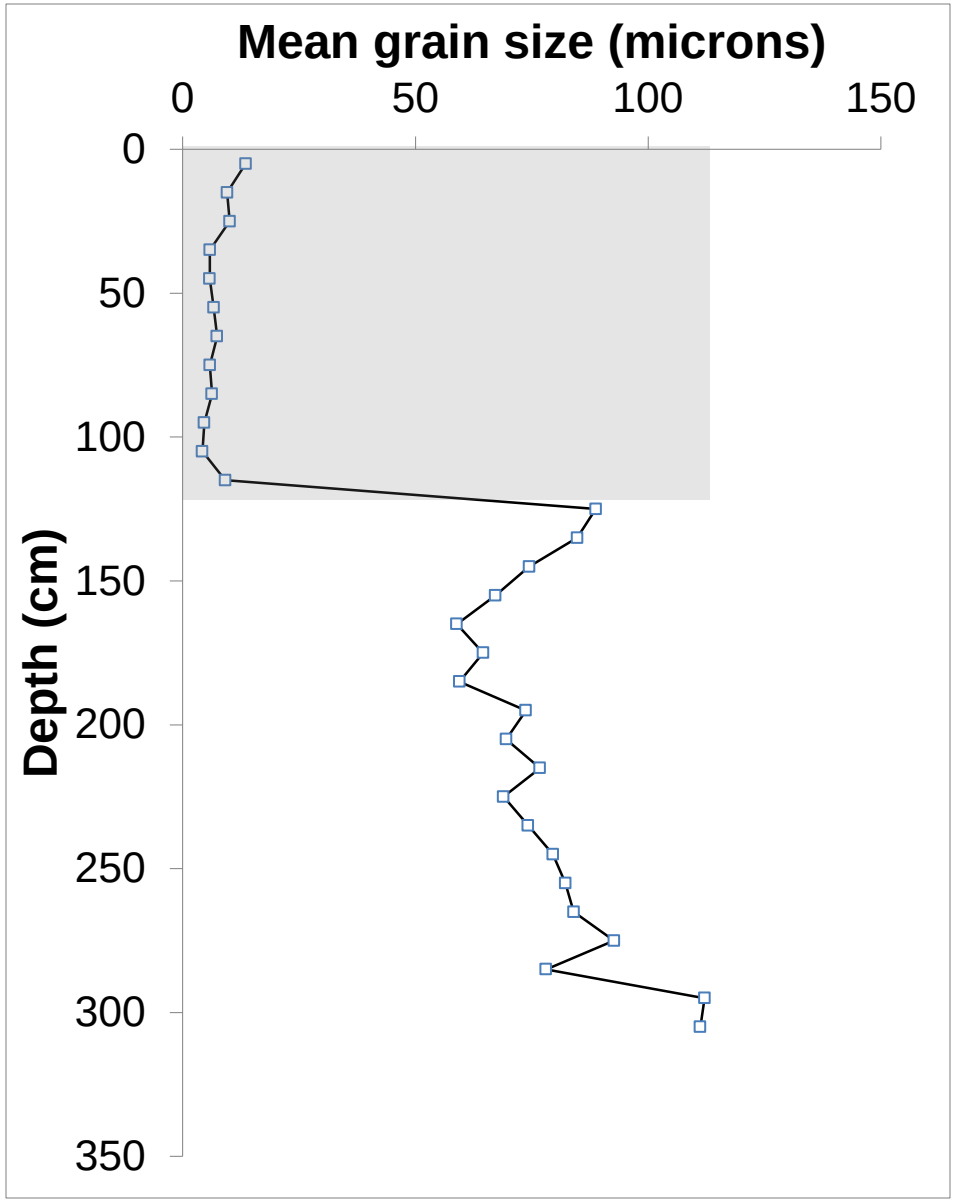


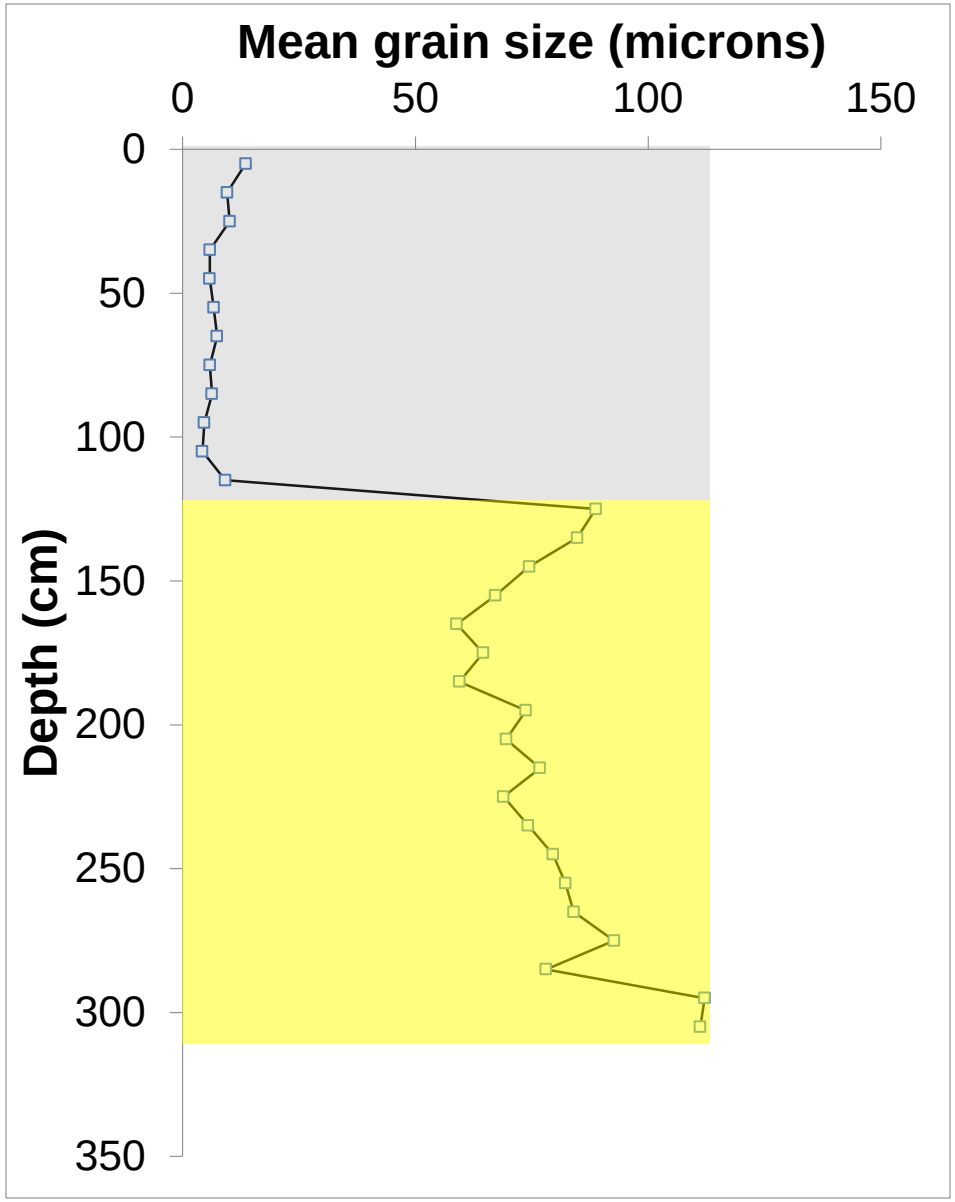
Histogram Results

Microfossil count

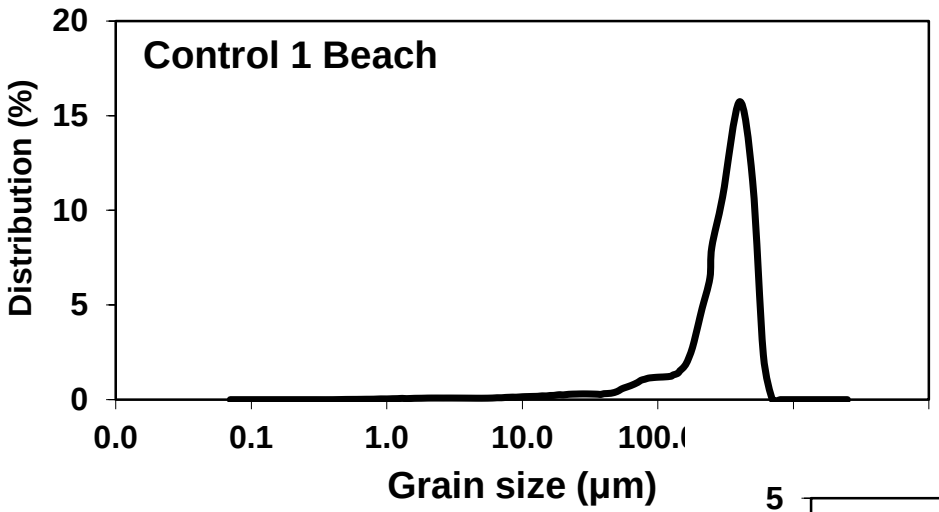
Core sample - Mean grain size results

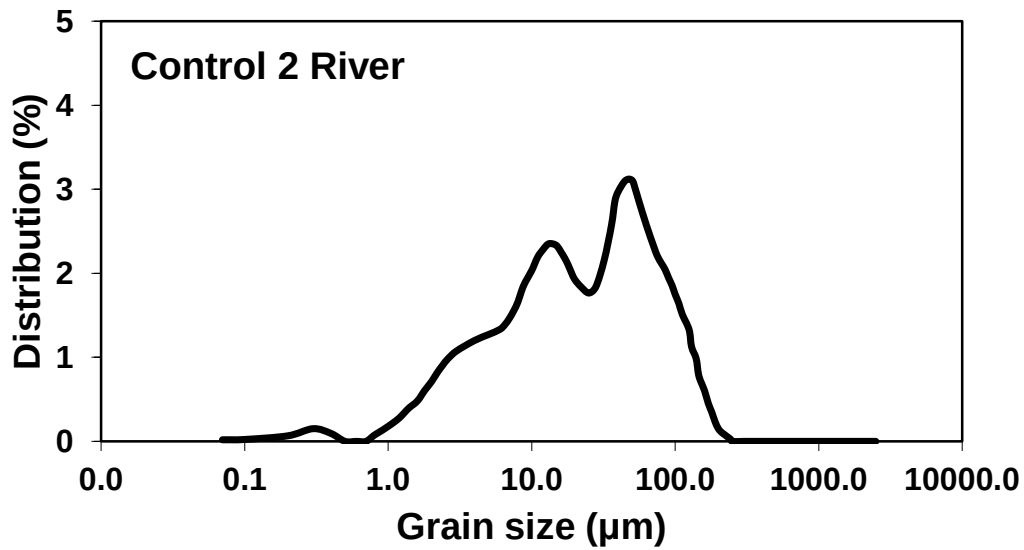



Mean grain size (microns)
0
50
100
150
Depth (cm)
0
50
100
150
200
250
300
350

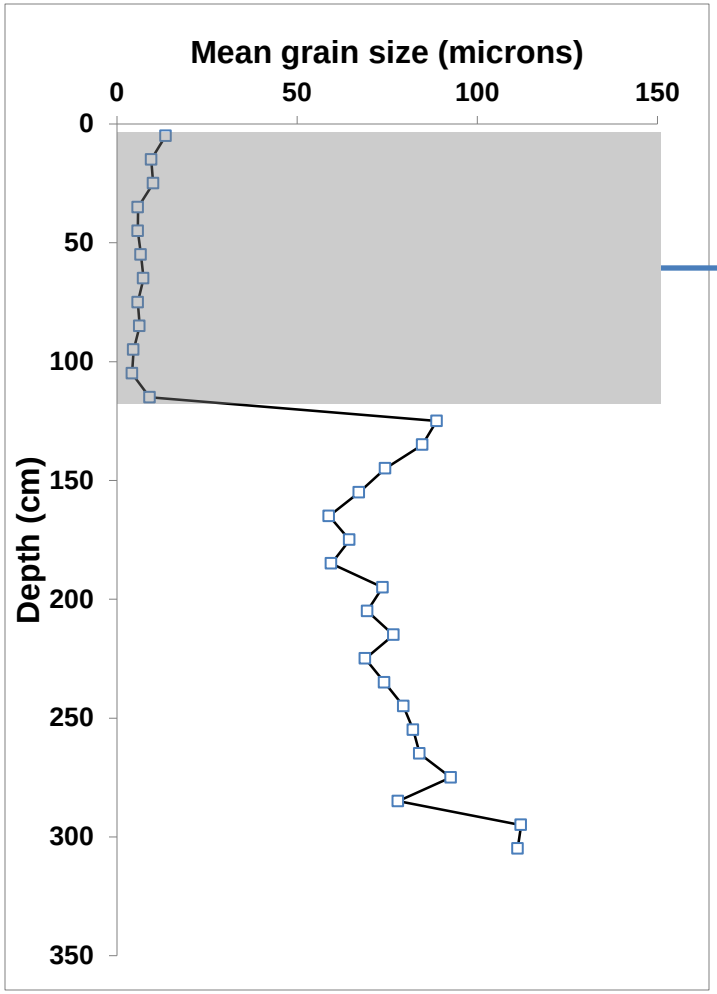

Mean grain size (microns)
0
50
100
150
Depth (cm)
0
50
100
150
200
250
300
350

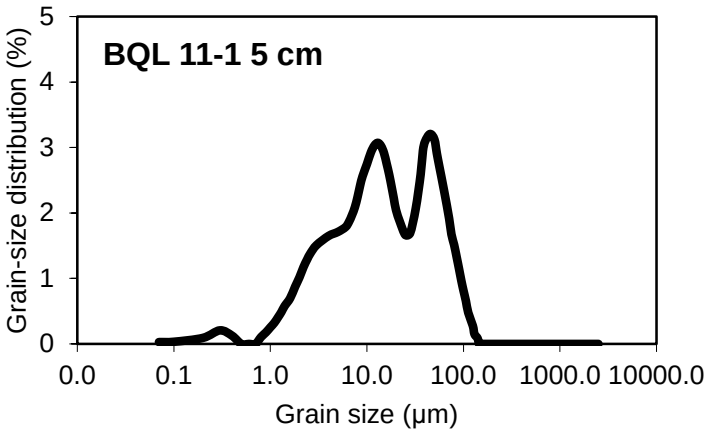
Grain Size Controls

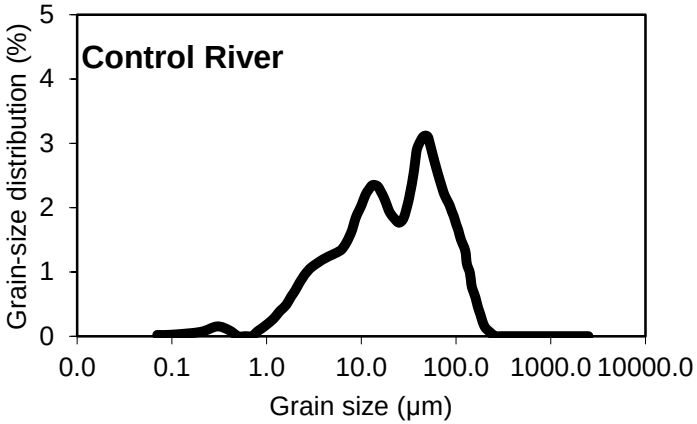




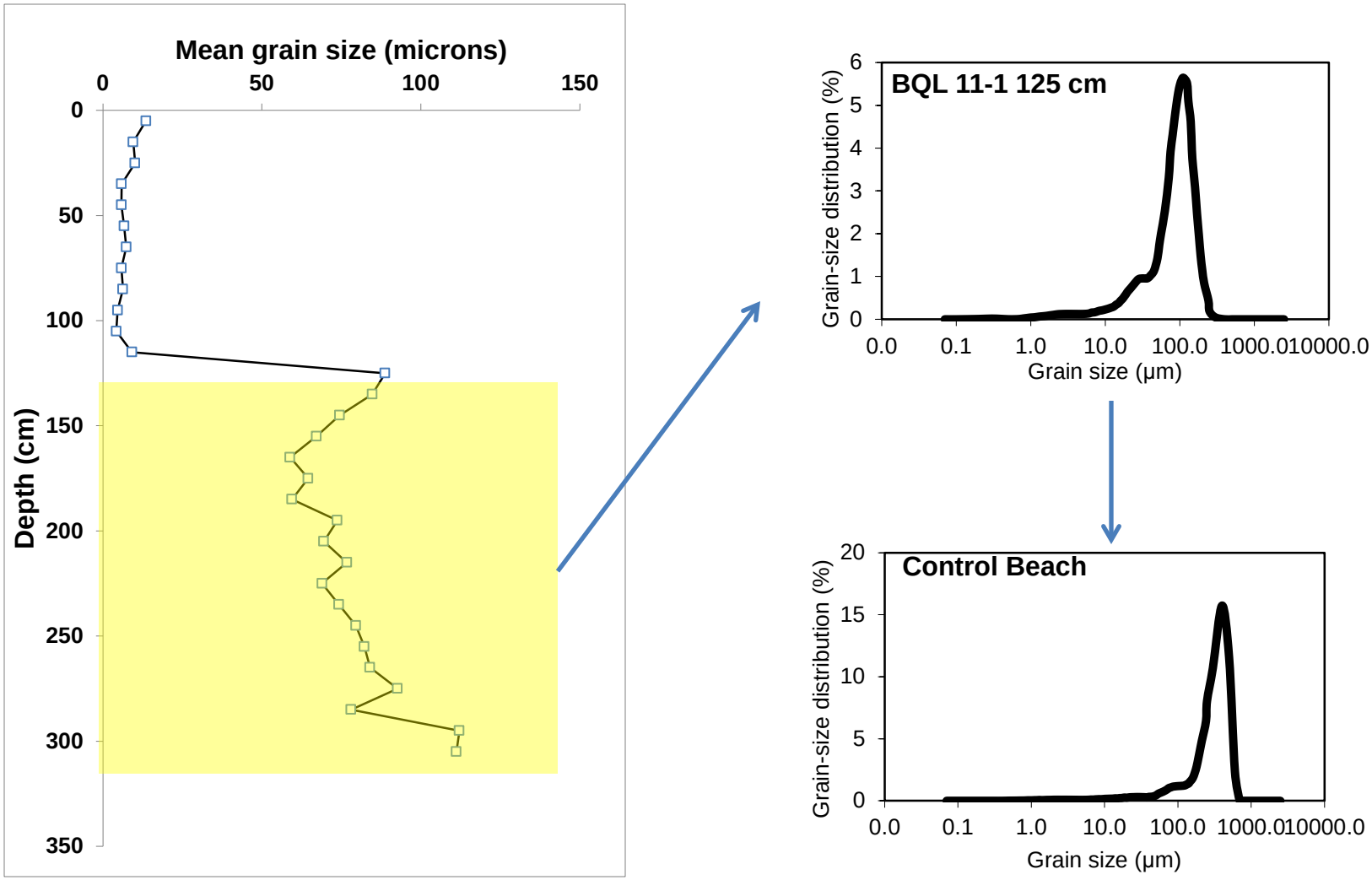
Trend 1


Mean grain size (microns)
0
50
100
150
Depth (cm)
0
50
100
150
200
250
300
350

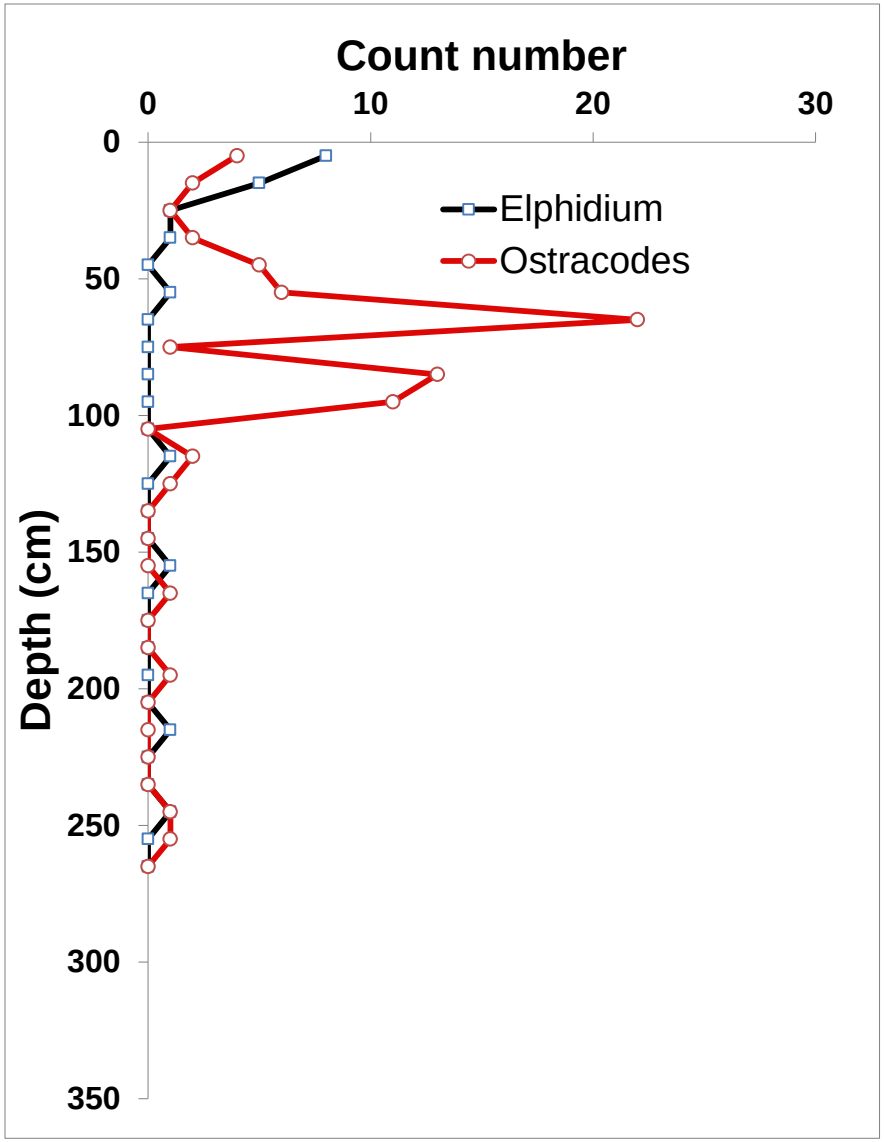

BQL 11-1 5 cm
Grain-size distribution (%)
0
1
2
3
4
5
0.0
0.1
1.0
10.0
100.0
1000.0
10000.0
Grain size (µm)

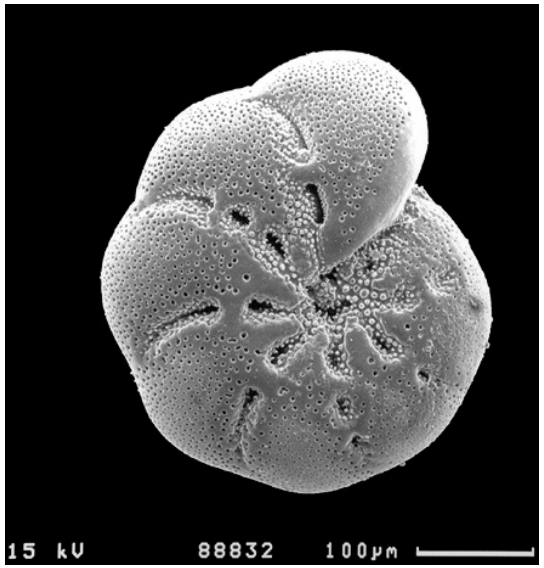

Control River
Grain-size distribution (%)
0
1
2
3
4
5
0.0
0.1
1.0
10.0
100.0
1000.0
10000.0
Grain size (µm)

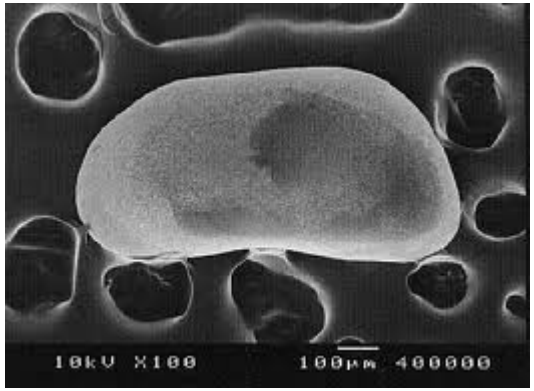
Trend 2


Mean grain size (microns)
0
50
100
150
Depth (cm)
0
50
100
150
200
250
300
350
BQL 11-1 125 cm
Grain-size distribution (%)
0
1
2
3
4
5
6
0.0
0.1
1.0
10.0
100.0
1000.0
10000.0
Grain size (µm)
Control Beach
Grain-size distribution (%)
0
5
10
15
20
0.0
0.1
1.0
10.0
100.0
1000.0
10000.0
Grain size (µm)

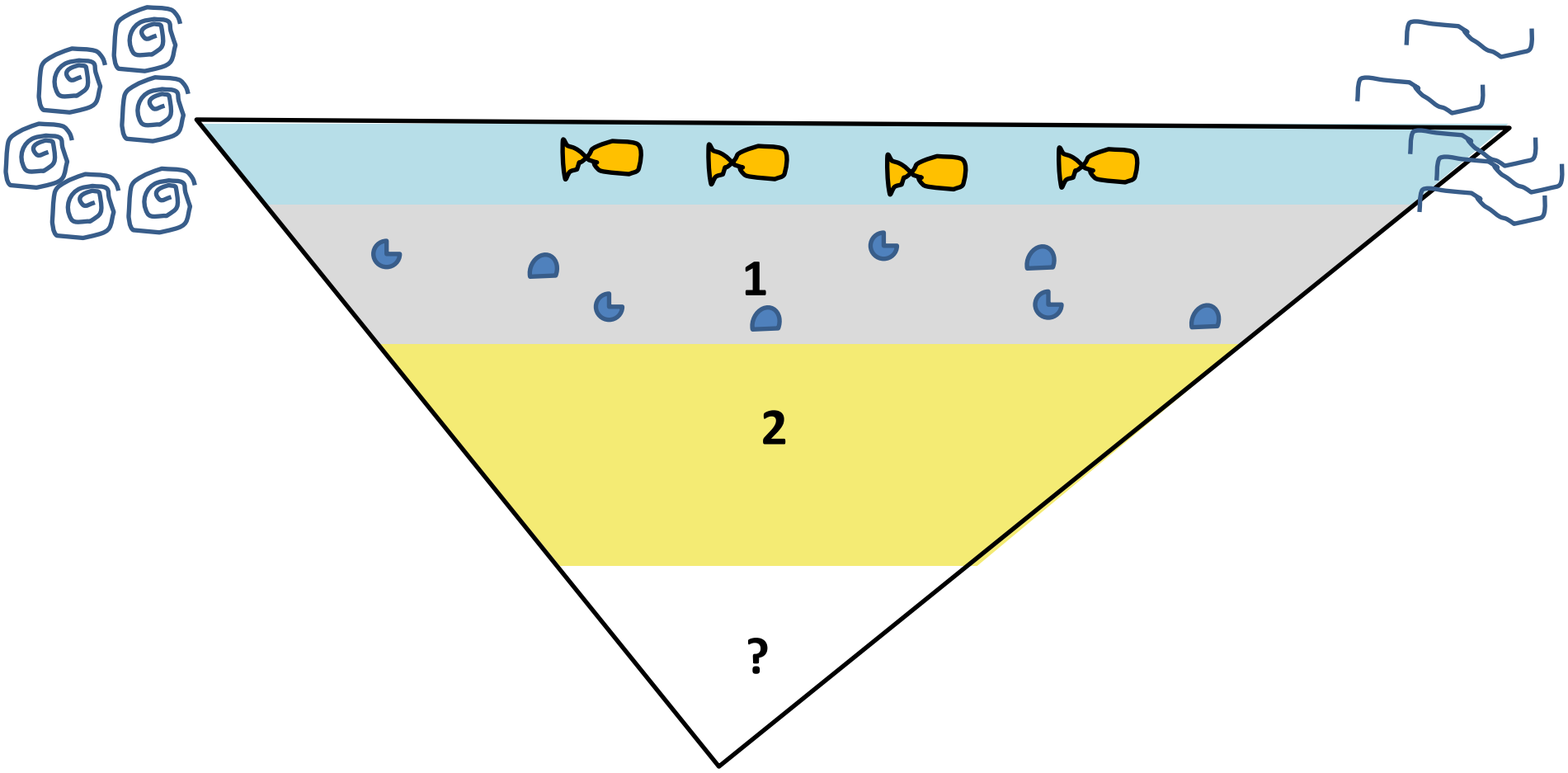
Microorganisms need water!







Conclusion



1 – Fine sediment, microfossils, dominated by river = Lagoon

2 – Sandy, dominated by beach = Sand Flat

Further Work

- Obtain ages for our core
- Get longer and deeper cores
- Additional microfossil research

Acknowledgements

Lauren Simkins
Alex Sims

Anthony Karmis
Jacob Feinberg-Somerson
Matt Crossley

Laura Reynolds
John “Coreman”