

# Coastal Biogeochemical Cycles in a Changing World:

Environmental Sciences 11:375:474 and Marine and Coastal Sciences 11:628:474

| <u>Date</u>                                                 | <u>Lect. #</u> | <u>Assignment</u> | <u>Lecturer</u> | <u>Topic</u>                                                                     | <u>Reading</u> <a href="#"><u>()</u></a> |
|-------------------------------------------------------------|----------------|-------------------|-----------------|----------------------------------------------------------------------------------|------------------------------------------|
| <b><i>Region I Estuaries and salt marshes</i></b>           |                |                   |                 |                                                                                  |                                          |
|                                                             | 1 W            |                   | Liz             | The water: Geochemical gradients and tidal mixing, Nutrients                     |                                          |
|                                                             | 2 M            | HW #1             | both            | Project #1 introduction                                                          |                                          |
|                                                             | 3 W            |                   | Liz             | Eutrophication and Carbonate weather                                             |                                          |
|                                                             | 4 M            |                   | Kat             | Carbon cycle in marshes& estuaries                                               |                                          |
|                                                             | 5 W            |                   | Liz             | Anoxia, methane EH pH Redox Chemistry and diagenesis in coastal marine Sediments |                                          |
|                                                             | 6 M            |                   | both            | Project #1 work-up                                                               |                                          |
|                                                             | 7 W            |                   | both            | <b>Presentations wrap up</b>                                                     |                                          |
| <b><i>Region II Carbonate platforms and coral reefs</i></b> |                |                   |                 |                                                                                  |                                          |
|                                                             | 8 M            |                   | Kat             | The water: Carbonate System Alkalinity, TCO <sub>2</sub>                         |                                          |
|                                                             | 9 W            | HW #2             | both t          | Project #2 introduction                                                          |                                          |
|                                                             | 10 M           |                   | Kat             | Corals, calcifying algae,                                                        |                                          |
|                                                             | 11 W           |                   | Liz             | Carbonate extremes, sulfates, salt precipitation microbial mats stromatolites    |                                          |
|                                                             | 12 M           |                   | both            | Project #2 work-up                                                               |                                          |
|                                                             | 13 W           |                   | Kat             | Redox Chemistry and diagenesis in Marine Sediments                               |                                          |
|                                                             | 14 Mo          |                   | both            | <b>Exam</b>                                                                      |                                          |
| 13- and 16-Mar                                              |                |                   | SPRING BREAK    |                                                                                  |                                          |

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|--------------------------------------------------------|----------------|-------------------|-----------------|--------------------------------------------------------|--------------------|
| <i>Region III Upwelling and ocean dominated coasts</i> |                |                   |                 |                                                        |                    |
| 15                                                     | W              |                   | Liz             | Upwelling, carbonate weather, HNLC                     |                    |
| 16                                                     | Mo             | HW #3             | both            | Project #3 introduction                                |                    |
| 17                                                     | W              |                   | Kat             | Oxygen minimum and the nitrogen cycle                  |                    |
| 18                                                     | Mo             |                   | Liz             | Multidecadal and anthropogenic influences              |                    |
| 19                                                     | W              |                   | Kat             | CO <sub>2</sub> atmosphere, ocean exchange and climate |                    |
| 20                                                     | Mo             |                   | both            | Project #3 work-up                                     |                    |
| 21                                                     | W              |                   | both            | <b>Presentations /wrap up</b>                          |                    |
| <i>Region IV Arctic and glacier dominated coasts</i>   |                |                   |                 |                                                        |                    |
| 22                                                     | Mo             |                   | Liz             | Peat, Permafrost, ancient carbon and warming climate   |                    |
| 23                                                     | W              | HW #4             | both            | Project #4 introduction                                |                    |
| 24                                                     | Mo             |                   | Liz             | River dominated coasts oxic and anoxic diagenesis      |                    |
| 25                                                     | W              |                   | Liz             | Fjords, circulation and melting glaciers               |                    |
| 26                                                     | Mo             |                   | both            | Project #4 work-up                                     |                    |
| 27                                                     | W              |                   | Kat             | Long term view of a warming world                      |                    |
| 28                                                     | Mo             |                   | both            | <b>Presentations /wrap up</b>                          |                    |
|                                                        |                |                   |                 | FINAL EXAM                                             |                    |