

**SIO 220 SCHEDULE**  
**Observations of Large Scale Ocean Circulation**  
Spring 2020: T 1:30-3:20; Th 1:30-2:20/3:30  
Updated April 9, 2020

T: March 31: Introduction, class objectives, and decide on class topics and presenters, Introduction to the global observing system, and Example: Bryden Nature 2005

**Subtropics**

Th: April 2:

Agulhas Current (Lynne) (Beal et al., JPO 2015)

T: April 7:

a) (Gulf Stream) Western boundary current “tight recirculation gyres” (Hayden)  
(Richardson, JMR 1985)

b) Ekman spiral and transport (Youran) (Chereskin and Roemmich, JPO 1991)

Th: April 9

California Current (Mitchell) (Auad et al., PiO 2011)

T: April 14:

Kuroshio (Karen) (Jayne et al., DSR 2009)

Th: April 16:

Sverdrup balance (Monica)

**Tropics**

T: April 21

Ocean circulation and El Niño (Hayden)

Th: April 23

Geostrophy near the Equator (Youran)

**High latitudes**

T: April 28 (NOTE DOUBLE TOPICS)

Large scale freshwater cycles of the Arctic (Mitchell)

Southern Ocean surface layer under seasonal ice (Karen)

Th: April 30

AABW formation (Monica)

T: May 5

Ocean forced glacial melting (Hayden)

**Overturning circulation and abyssal circulation**

Th: May 7  
Ocean Mixing (Youran)

T: May 12  
Deep transport from S. Pacific via Samoan Passage (Mitchell)

Th: May 14  
North Atlantic heat transport (Karen)

T: May 19  
Eddies in the ocean (Monica)

### **Global change**

Th: May 21  
Global Ocean Warming (Hayden)

T: May 26:  
Sea level rise (Youran)

Th: May 28:  
Sea ice changes (Mitchell)

T: Jun 2  
Glacial-interglacial variations of the MOC (Karen)

Th: Jun 4  
Deep ocean warming (Monica)

**June 8-12: Optional** meeting during finals week to prep for written/orals

### **Data:**

Argo

- Repeat Hydrography
- Velocity - LADCP
- Tracer data
- Satellite observations: SST/SSH/SSC
- Moorings
- Modals and reanalysis products
- XBT program
- Surface drifter program
- Microstructure measurements
- Wave moorings