

Practical Salt Tectonics
Spring 2019

GEOL 5162 CRN 28791

GEOL 6105 CRN 28793

Undergraduate Learning Center Wednesday & Thursday Room 346, Friday Room 128
January 16, 17, & 18, 2019 8am-5pm

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Office Hours: M-Th 11:00 - Noon

A short course emphasizing the geometry and evolution of salt structures and their impact on petroleum systems in salt basins around the world

Introduction

Salt basins

- deposition of layered evaporite sequences
- tectonic settings of evaporite basins

Exercise 1 – Salt and presalt

Mechanics

Diapir initiation

- contraction and strike-slip
- turtle structures
- progradational loading
- extension

Exercise 2 – Evacuation geometries

Diapir reactivation

- extension
- contraction
- strike-slip

Exercise 3 – Diapir styles

Passive diapirs

- diapir margins
- halokinetic sequences and drape folding
- megaflaps
- diapir flanking faults

Exercise 4 – Halokinetic sequences

Allochthonous salt

- emplacement
- styles (cont.)
- inclined feeders and salt-tongue canopies
- deep evacuation recorded by shallow salt
- salt nappes
- distribution
- diapir

Exercise 5 – GoM allochthonous salt

Salt in thick-skinned extension

Exercise 6 – Central North Sea

Salt in convergent-margin foldbelts

- emplacement (cont.)
- styles
- vertical feeders and salt-stock canopies
- thin-skinned shortening

Salt in convergent-margin foldbelts (cont.)

- thin-skinned shortening (cont.)
- thick-skinned inversion