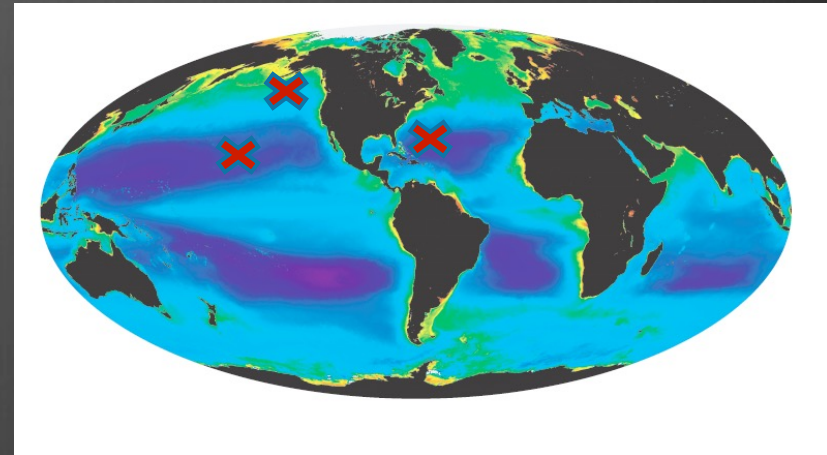
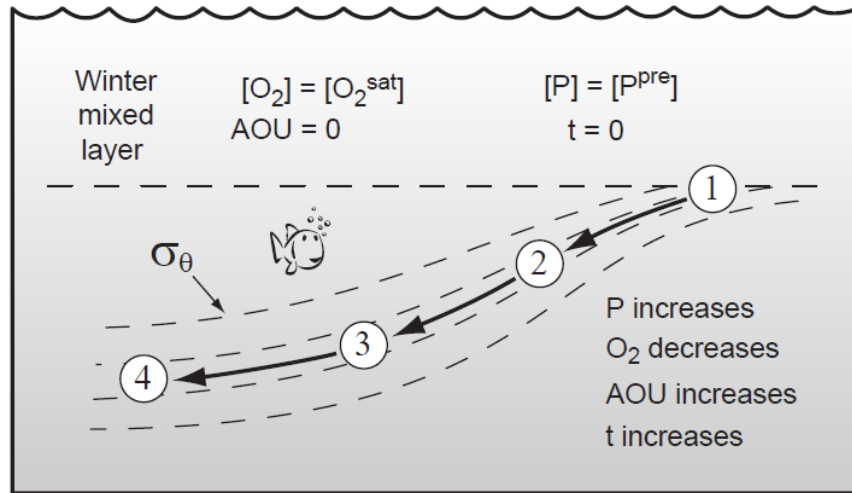
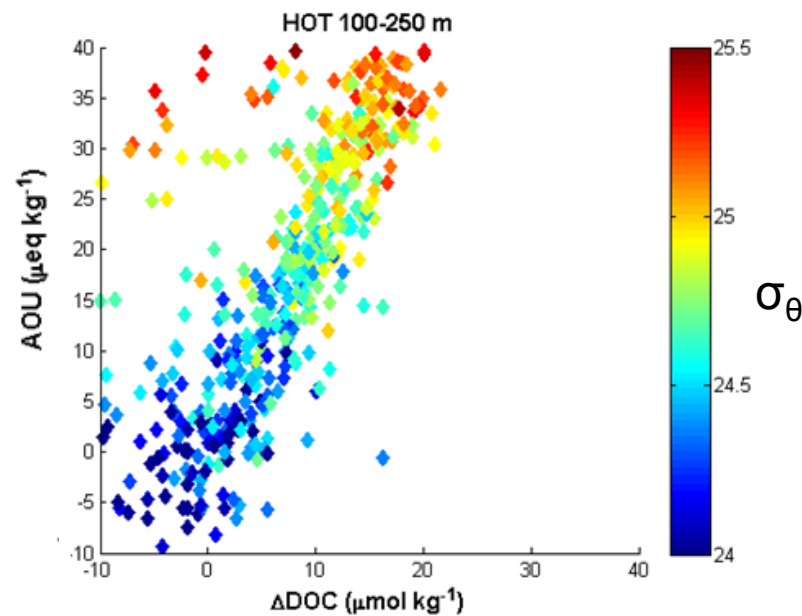


THE ROLE OF DOC IN CARBON EXPORT

Emerson (2014) GBC



HAWAII OCEAN TIME SERIES



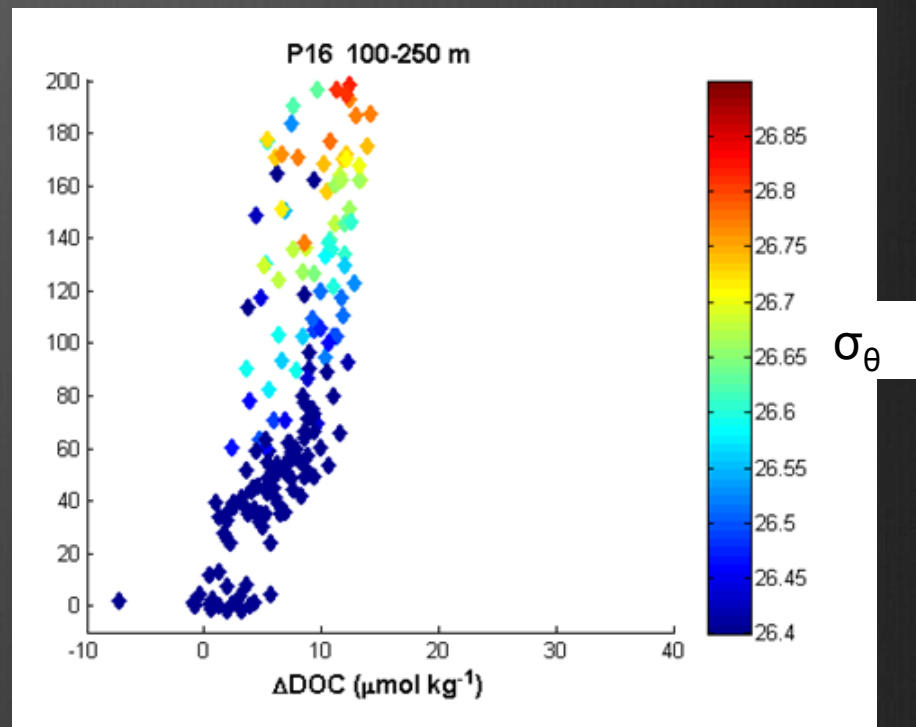
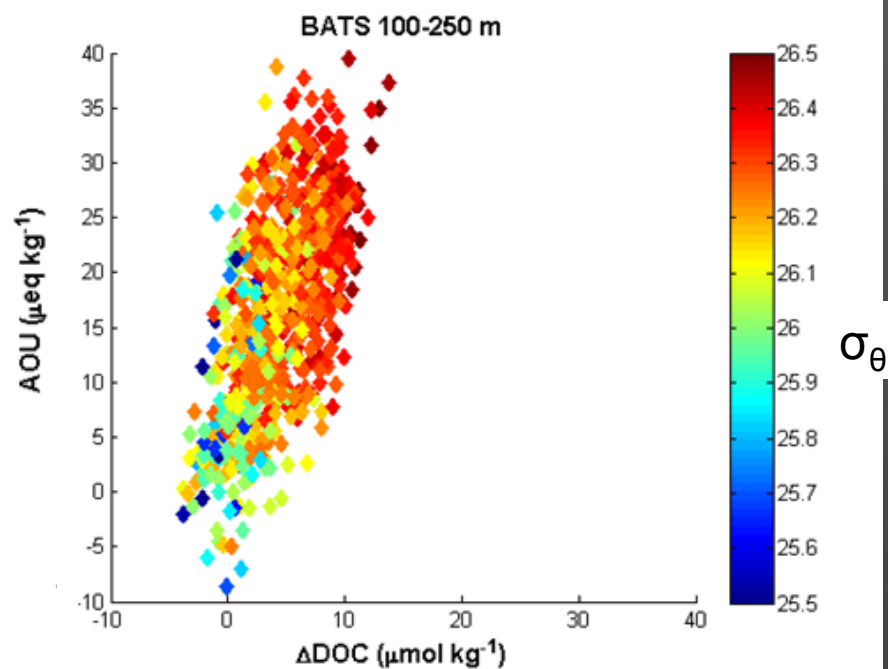
R = INTEGRATED RESPIRATION

$$R_{\text{DOC}} / R_{\Sigma} = 1.45 (\Delta\text{DOC} / \text{AOU})$$

$$\Delta\text{DOC} / \text{AOU} = 0.46$$

$$R_{\text{DOC}} / R_{\Sigma} = 0.67$$

$R_{\text{DOC}} / R_{\Sigma}$ AT BATS & OSP



BERMUDA ATLANTIC TIME
SERIES (BATS):

$$\Delta\text{DOC} / \text{AOU} = 0.09$$

$$R_{\text{DOC}} / R_{\Sigma} = 0.13$$

OCEAN STATION PAPA
(OSP):

$$\Delta\text{DOC} / \text{AOU} = 0.09$$

$$R_{\text{DOC}} / R_{\Sigma} = 0.14$$

MODES OF CARBON EXPORT AT TIME-SERIES SITES

$$\text{ANCP} = F_h = F_{\text{POC}} + F_{\text{DOC}} + F_{\text{ZOO}}$$

	ANCP mol m ² / yr	F _{DOC} / ANCP	F _{ZOO} / ANCP	F _P / ANCP
HOT	2.5	0.7	0.04	0.3
OSP	2.3	0.1	0.3	0.6
BATS	3.8	0.1	0.03	0.8