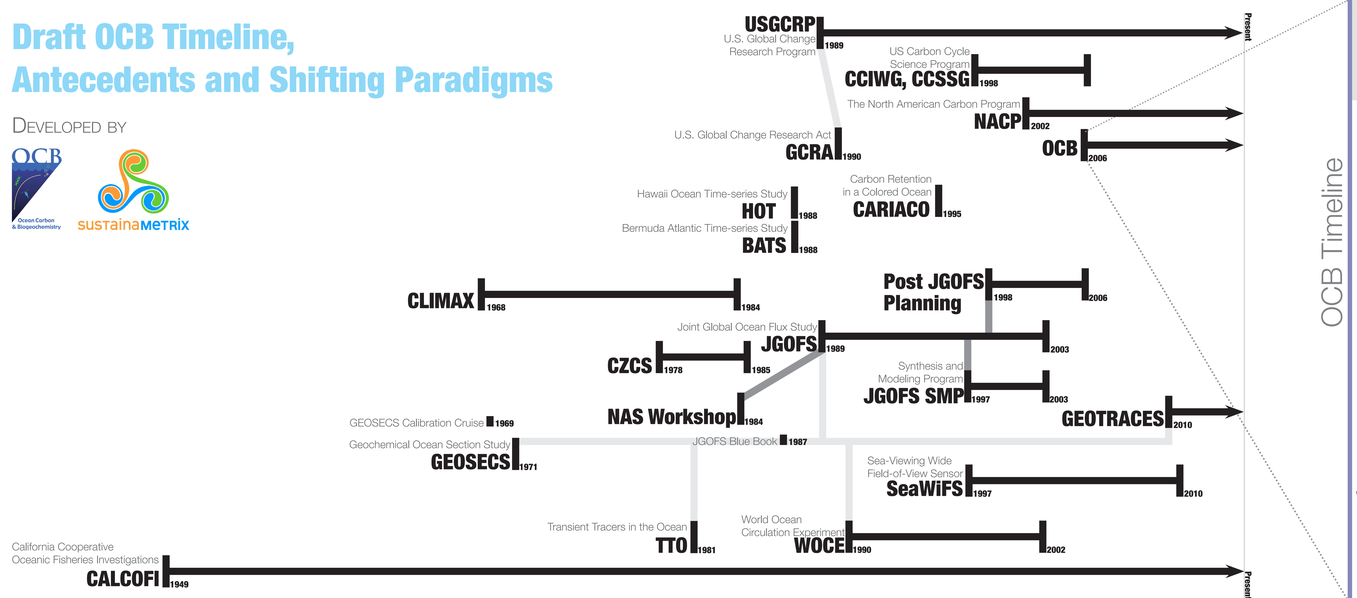
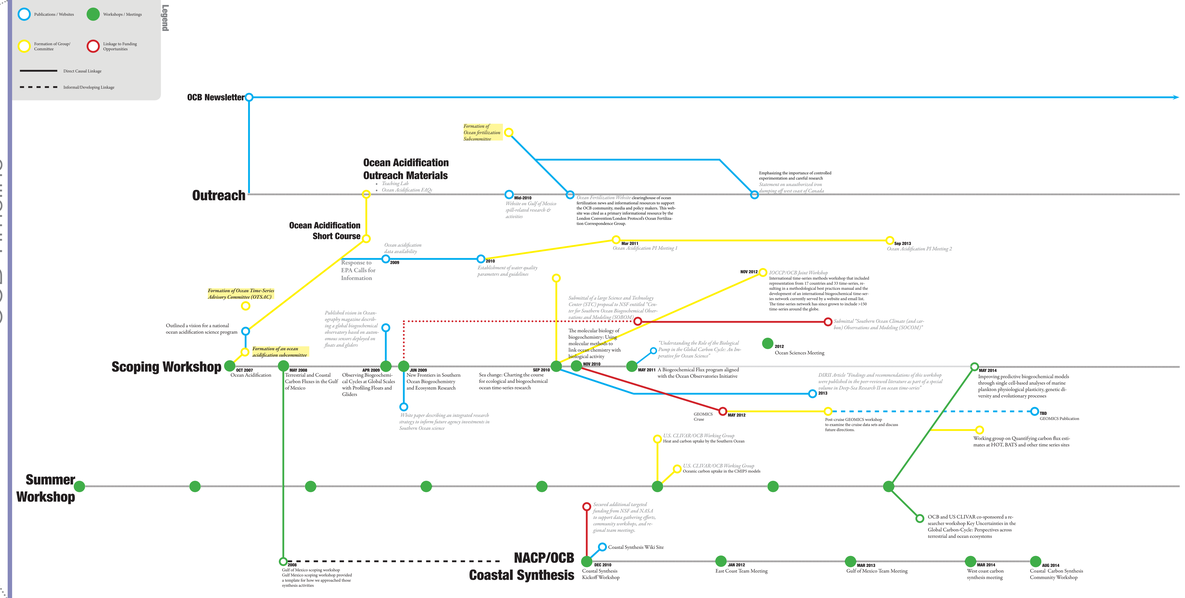
Draft OCB Timeline, Antecedents and Shifting Paradigms

DEVELOPED BY

OCB Ocean Carbon & Biogeochemistry

sustainaMETRIX





OCB Program Antecedents

1934 Redfield Cooper Flemmings

1946 First Plankton Model, Riley

1951 CPR Analysis Standardized

1954 Hydrostation S, Hank Stommel

1960 Mariana Trench Dive, Trieste

1974 Microbial Loop, Pomeroy

1975 SCBS South California Bight Study

1977 Hydrothermal Vent Found

1979 Synechococcus Discovery

Sediment Trap Intercomparison Experiment, Panama Basin

1984 Microbial Loop, Azam

1988 Prochlorococcus Discovery

1990 Plankton Food Web Model with JGOFS, Fasham et al

Particles Workshop, Hawaii

SAR II Discovered

1991 Seattle DOM Workshop

1993 Iron Ex I

Discovery of DOC as an Export Vector

1997 Glider test demoed VW, SCRIPPS, RU

2004 VERTIGO

EDDIES

2006 - Present C-MORE STC

NAB 2008, Floats & Gliders

2010 Deep Horizon Spill

2011 Trophic BATS

2015 Green Edge (Arctic Ice-Edge Bloom)

Shifting of Paradigms

Getting Started **GEN 1**

Integration and Innovation **GEN 2**

Program Success Meets Overextension **GEN 3**

What are the physical and biological controls on primary, new and export production?

What are the roles of multiple limiting nutrients, meso-scale variability and trophic structure?

How are organic and inorganic carbon transported, transformed and re-mineralized below the surface layer?

How much anthropogenic carbon does the ocean take up and where?

How does ocean biogeochemistry respond to climate variability and are there feedbacks on climate change?