



Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from Surface underway observations using Barometric pressure sensor, Carbon dioxide (CO₂) gas analyzer and other instruments from Cap Blanche in the North Pacific Ocean and South Pacific Ocean from 2015-03-28 to 2015-12-04 (NCEI Accession 0157235)

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ABSTRACT: NCEI Accession 0157235 includes Surface underway, chemical, meteorological and physical data collected from Cap Blanche in the North Pacific Ocean and South Pacific Ocean from 2015-03-28 to 2015-12-04. These data include AIR-SEA DIFFERENCE - PARTIAL PRESSURE (OR FUGACITY) OF CARBON DIOXIDE, BAROMETRIC PRESSURE, Partial pressure (or fugacity) of carbon dioxide - atmosphere, Partial pressure (or fugacity) of carbon dioxide - water, SALINITY and SEA SURFACE TEMPERATURE. The instruments used to collect these data include Barometric pressure sensor, Carbon dioxide (CO₂) gas analyzer and thermosalinographs. These data were collected by Catherine E. Cosca, Richard A. Feely and Simone R. Alin of US DOC; NOAA; OAR; Pacific Marine Environmental Laboratory as part of the VOS_Cap_Blanche_AG5W20150328, VOS_Cap_Blanche_AG5W20150524, VOS_Cap_Blanche_AG5W20150930 and VOS_Cap_Blanche_AG5W20151120 data set. CDIAC associated the following cruise ID(s) with this data set: AG5W20150328, AG5W20150524, AG5W20150930 and AG5W20151120

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IDENTIFICATION INFORMATION FOR THIS DATA PACKAGE:

NCEI ACCESSION: 0157235

NCEI DOI: https://doi.org/10.3334/cdiac/otg.vos_cap_blanche_2015

EXPOCODE: AG5W20150328; AG5W20150524; AG5W20150930; AG5W20151120;

CRUISE ID: AG5W20150328; AG5W20150524; AG5W20150930; AG5W20151120;

TYPES OF STUDY:
Surface Underway;

TEMPORAL COVERAGE:

START DATE: 2015-03-28 END DATE: 2015-12-04

SPATIAL COVERAGE:

NORTH BOUNDARY: 32.0311
WEST BOUNDARY: 177.6894 EAST BOUNDARY: -118.0223
SOUTH BOUNDARY: -36.5413

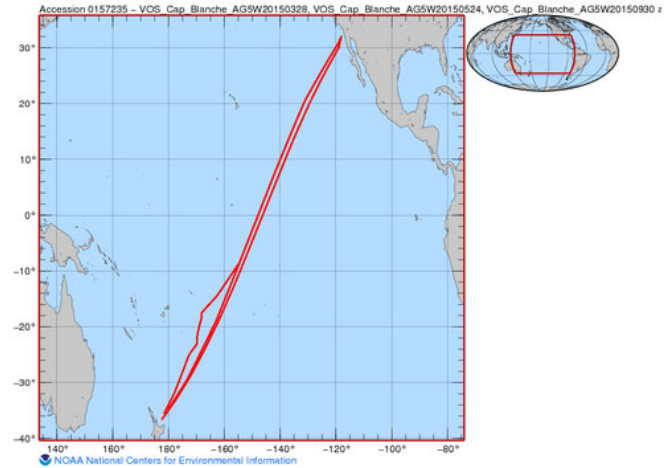
GEOGRAPHIC NAMES:

Pacific Ocean;

PLATFORMS:

Cap Blanche (ID: AG5W);

RESEARCH PROJECT(S):



VARIABLES / PARAMETERS:

xCO2W_PPM

Abbreviation: xCO2W_PPM

Unit: Mole fraction of CO2 in the equilibrator headspace (dry) at equilibrator temperature (ppm)

Controlled vocabulary name: partial pressure of carbon dioxide - water

In-situ / Manipulation / Response variable: in-situ

xCO2A_PPM

Abbreviation: xCO2A_PPM

Unit: Mole fraction of CO2 measured in dry outside air (ppm)

Controlled vocabulary name: Partial pressure (or fugacity) of carbon dioxide - atmosphere

In-situ / Manipulation / Response variable: in-situ

xCO2A_INTERPOLATED_PPM

Abbreviation: xCO2A_INTERPOLATED_PPM

Unit: Mole fraction of CO2 in outside air associated with each water analysis. These values are interpolated between the bracketing averaged good xCO2_ATM analyses (ppm)

Controlled vocabulary name: Partial pressure (or fugacity) of carbon dioxide - atmosphere

In-situ / Manipulation / Response variable: in-situ

PRES_EQUIL_hPa

Abbreviation: PRES_EQUIL_hPa

Unit: Barometric pressure in the equilibrator headspace (hectopascals)

In-situ / Manipulation / Response variable: in-situ

PRES_SEALEVEL_hPa

Abbreviation: PRES_SEALEVEL_hPa

Unit: Barometric pressure measured outside, corrected to sea level (hectopascals)

Controlled vocabulary name: BAROMETRIC PRESSURE

In-situ / Manipulation / Response variable: in-situ

EqTEMP_C

Abbreviation: EqTEMP_C

Unit: Water temperature in equilibrator (degrees Celsius)

In-situ / Manipulation / Response variable: in-situ

SST(TSG)_C

Abbreviation: SST(TSG)_C

Unit: Sea surface temperature

Controlled vocabulary name: SEA SURFACE TEMPERATURE

In-situ / Manipulation / Response variable: in-situ

SAL(TSG)_PERMIL

Abbreviation: SAL(TSG)_PERMIL

Unit: Sea surface salinity on Practical Salinity Scale (permil)

Controlled vocabulary name: SALINITY

In-situ / Manipulation / Response variable: in-situ

fCO2W@SST_uATM

Abbreviation: fCO2W@SST_uATM

Unit: Fugacity of CO2 in sea water at SST and 100% humidity (microatmospheres)

Controlled vocabulary name: partial pressure of carbon dioxide - water

In-situ / Manipulation / Response variable: in-situ

fCO2A_uATM

Abbreviation: fCO2A_uATM

Unit: Fugacity of CO2 in air corresponding to the interpolated xCO2 at SST and 100% humidity (microatmospheres)

Controlled vocabulary name: Partial pressure (or fugacity) of carbon dioxide - atmosphere

In-situ / Manipulation / Response variable: in-situ

dfCO2_uATM

Abbreviation: dfCO2_uATM

Unit: Sea water fCO2 minus interpolated air fCO2 (microatmospheres)

Controlled vocabulary name: AIR-SEA DIFFERENCE - PARTIAL PRESSURE (OR FUGACITY) OF CARBON DIOXIDE

In-situ / Manipulation / Response variable: in-situ

fCO2_FLAG

Abbreviation: fCO2_FLAG

Unit: Quality control flag for fCO2 values (2=good, 3=questionable)

**In-situ / Manipulation /
Response variable:** in-situ

DATA PACKAGES RELATED TO THIS ONE:

PUBLICATIONS DESCRIBING THIS DATA SET:

Cosca, Catherine E.; Feely, Richard A.; Alin, Simone R. (2016). Partial pressure of carbon dioxide (pCO₂), temperature, salinity and other variables collected from surface underway observations using shower head equilibrator, carbon dioxide gas detector, and other instruments from 4 trans-Pacific crossings onboard container ship Cap Blanche in the Pacific Ocean from 2015-03-28 to 2015-12-04 (NCEI Accession 0141304). [indicate subset used]. NOAA National Centers for Environmental Information. Dataset. <https://doi.org/10.7289/v5kh0kch>. Accessed [date].

ADDITIONAL INFORMATION:

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NOAA Climate Program Office - Climate Observation Division

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SUBMITTED BY: Alex Kozyr (Alex.Kozyr@noaa.gov)

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