DYNAMO Summary

This document includes basic information of the DYNAMO field campaign. It is posted here to assist DYNAMO proposal writing. For more information, please contact Chidong Zhang at
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Please also contact Chidong Zhang if you want to use figures of this document in your proposals. Please do not use them in presentations or publications without permission from the authors of the figures.

DYNAMO Field Experiment (October 2011 – March 2012)

Falcon

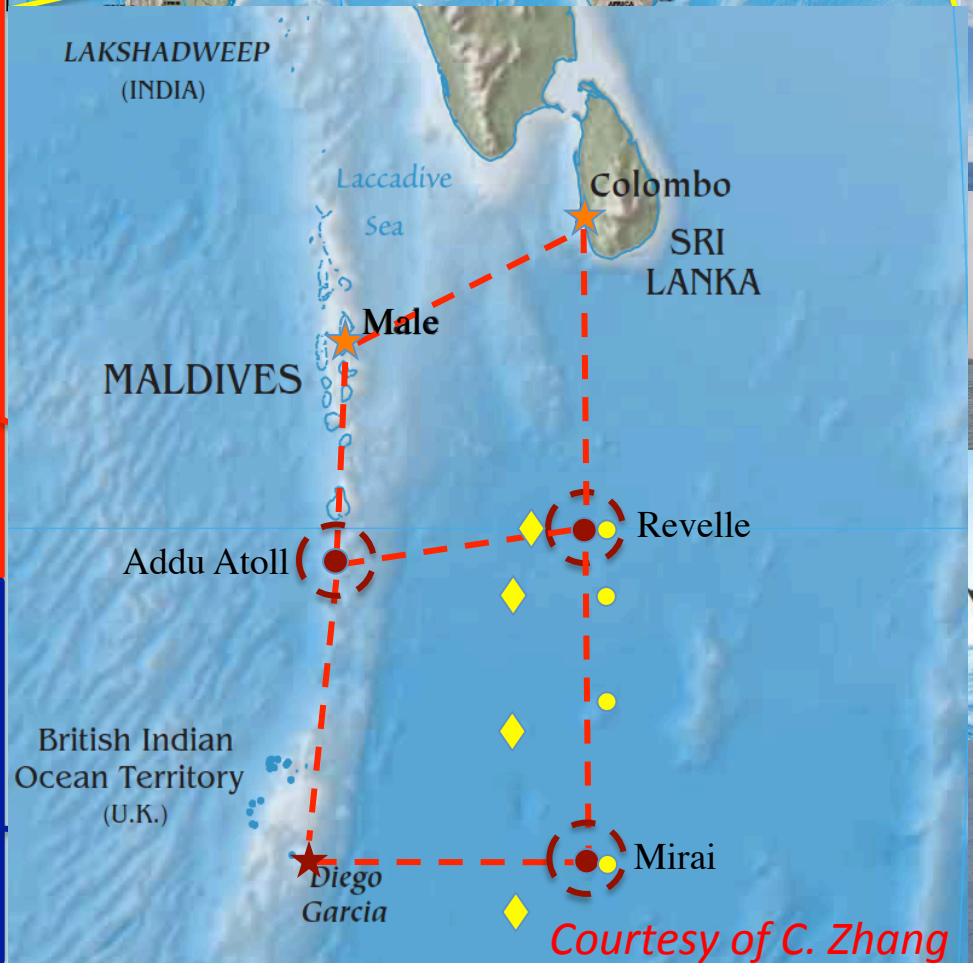
S-PolKa

SMART-R

AMF2

ISS

P-3



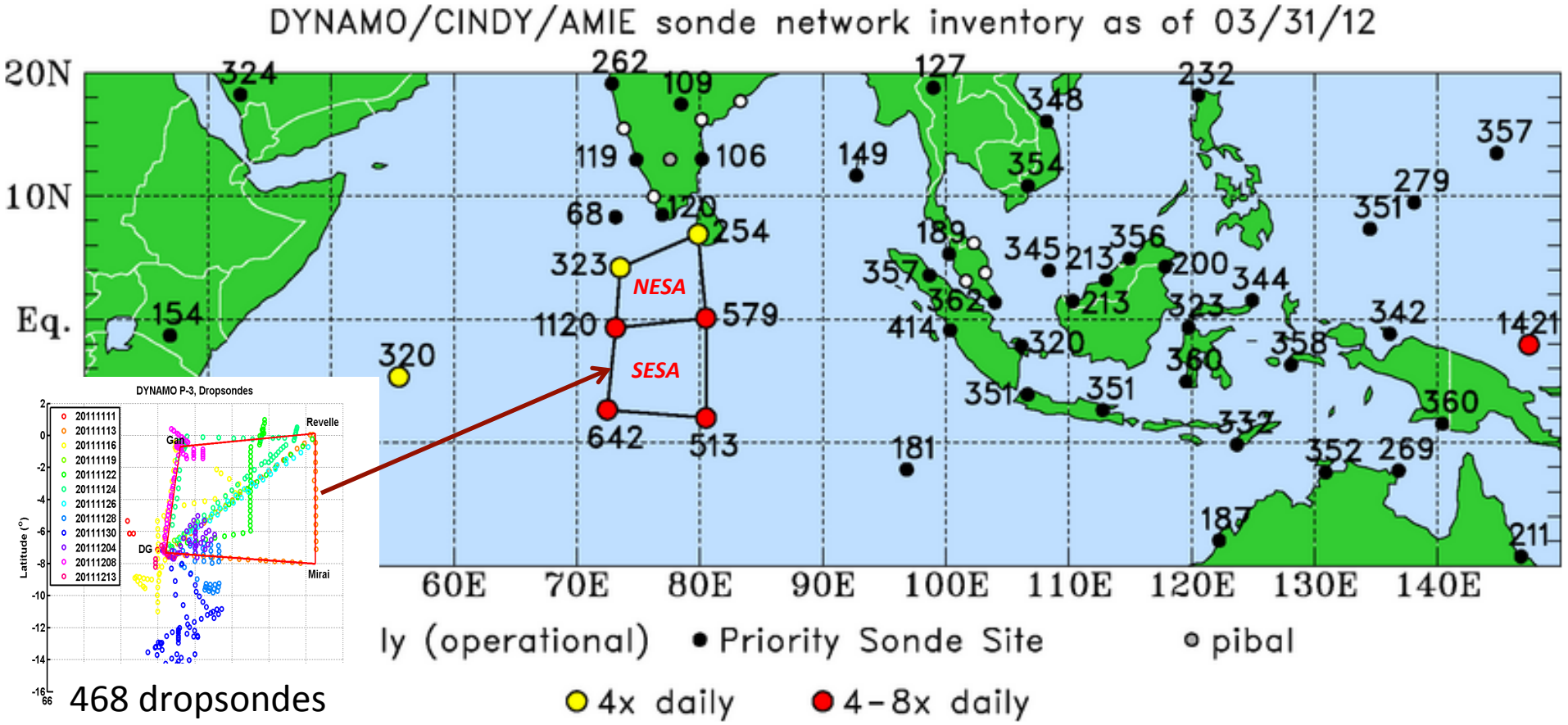
R/V B. Jaya-III

R/V R. Revelle

R/V S. Kanya

R/V Mirai

DYNAMO/CINDY Atmospheric Sounding Network



Total number of soundings: 18,992* + 4,401** = 23,393

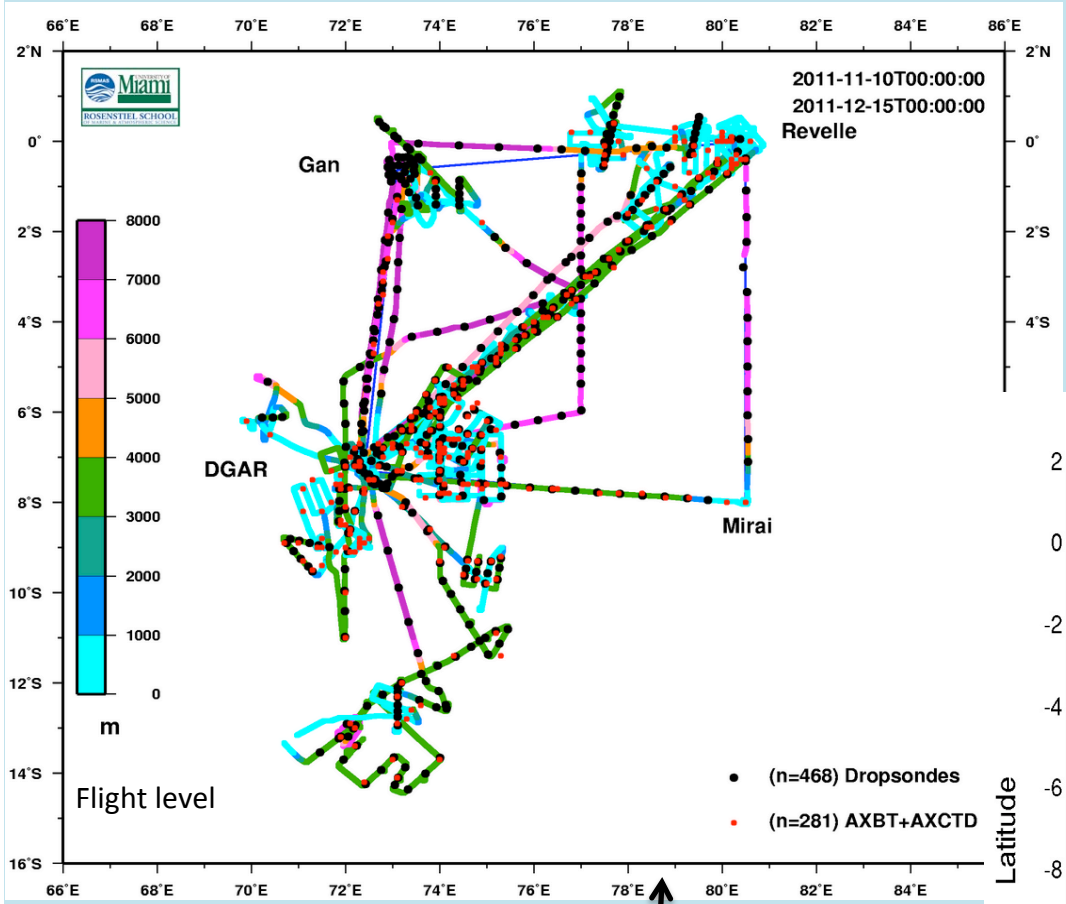
* Priority Sounding Site (PSS) sondes: 17,544
Non-PSS sondes: 1448

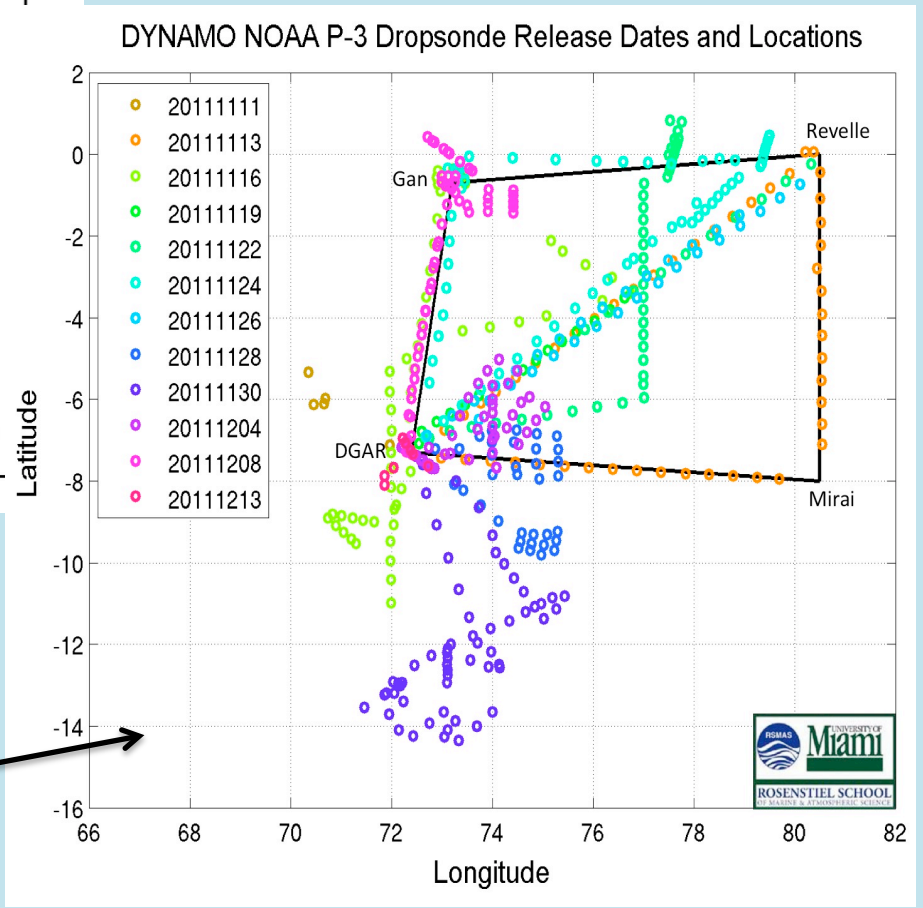
**Pibals

Total high-resolution soundings: 11,918 (incl. 469 dropsondes)

Courtesy of R. Johnson, P. Ciesielski and Q. Wang

NOAA P-3 Flights: 10 Science Missions + 2 Test/Calibration Flights

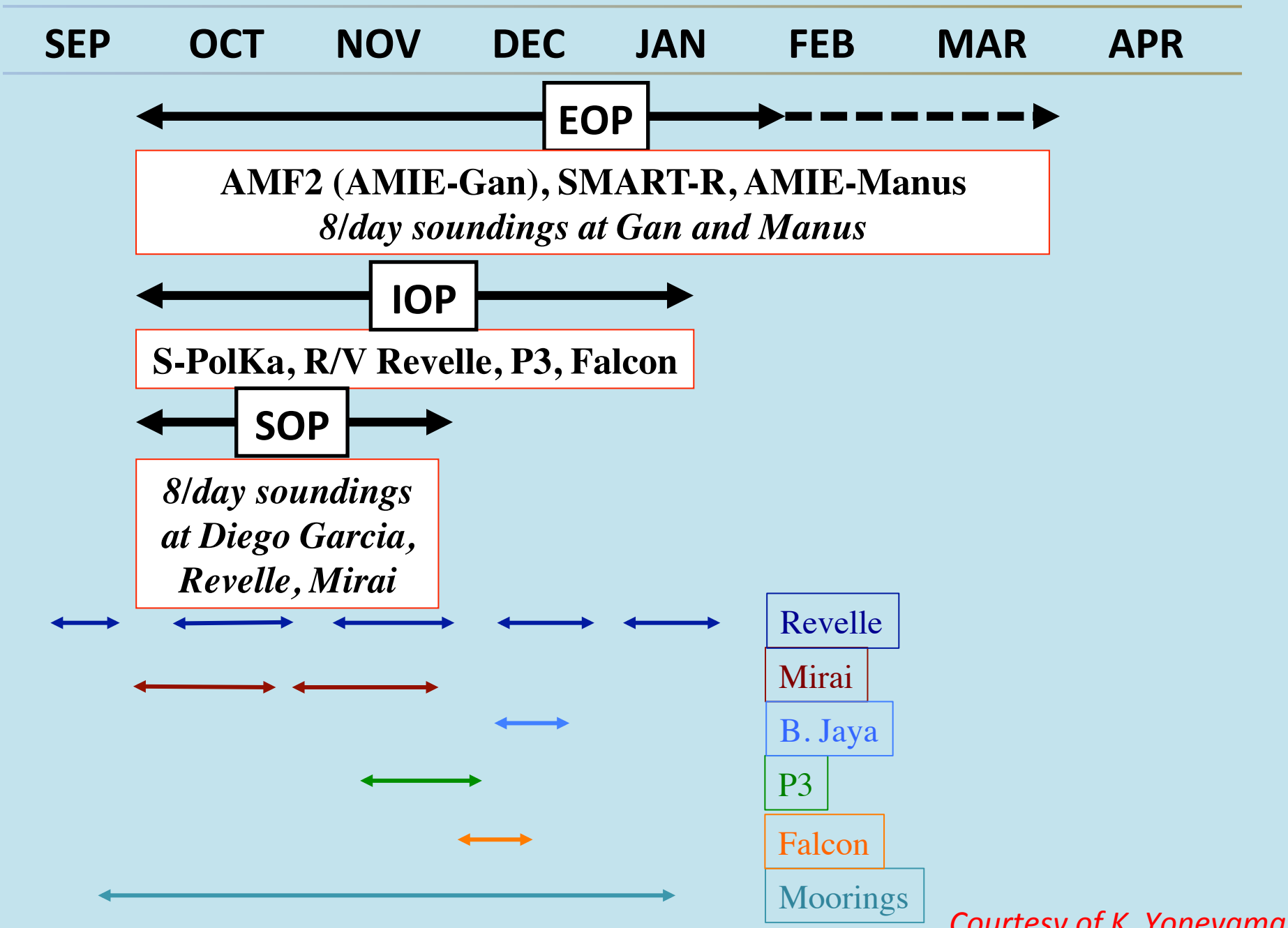




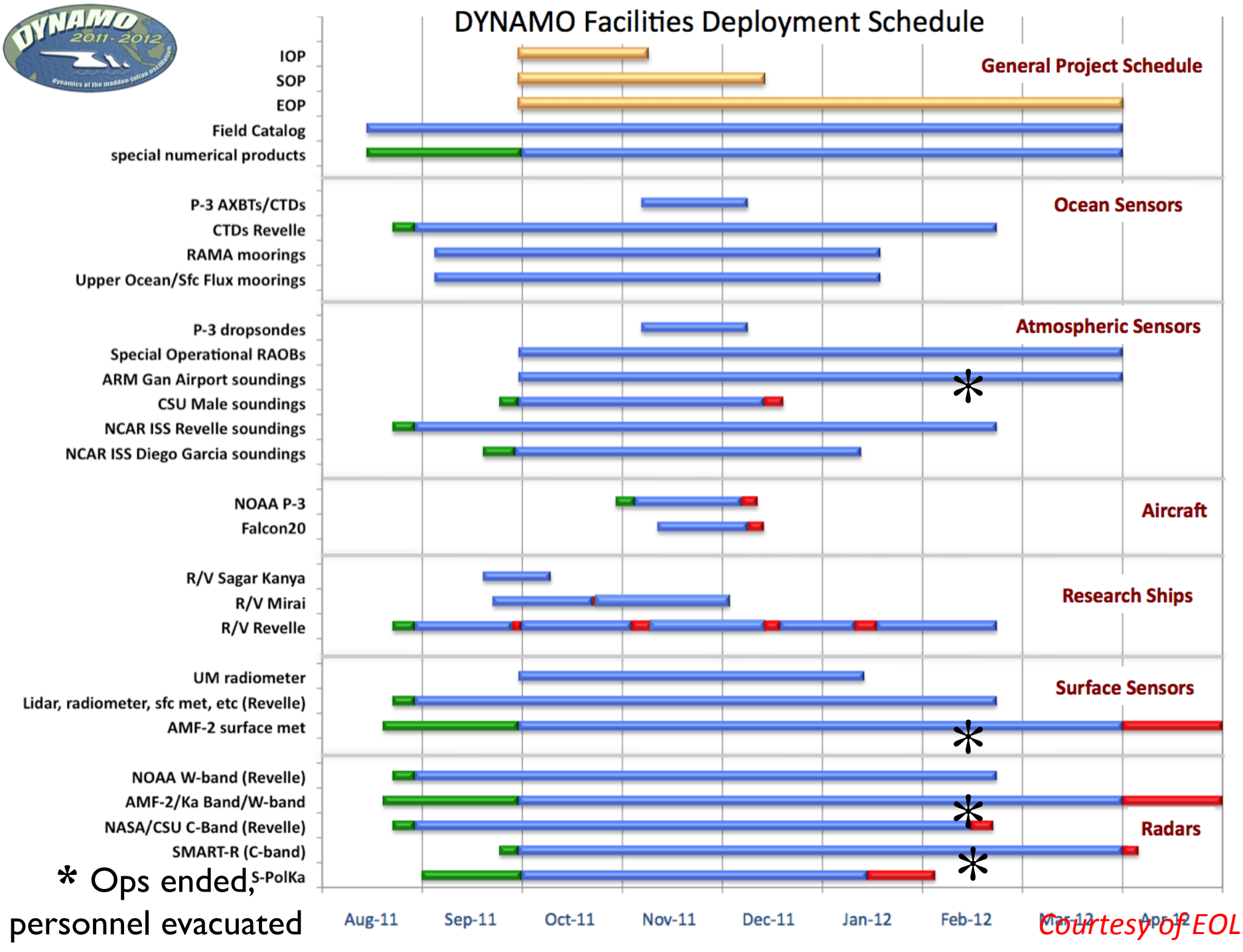
- 281 AXBTs+AXCDTs
- 468 Dropsondes

Courtesy of S. Chen

Timeline

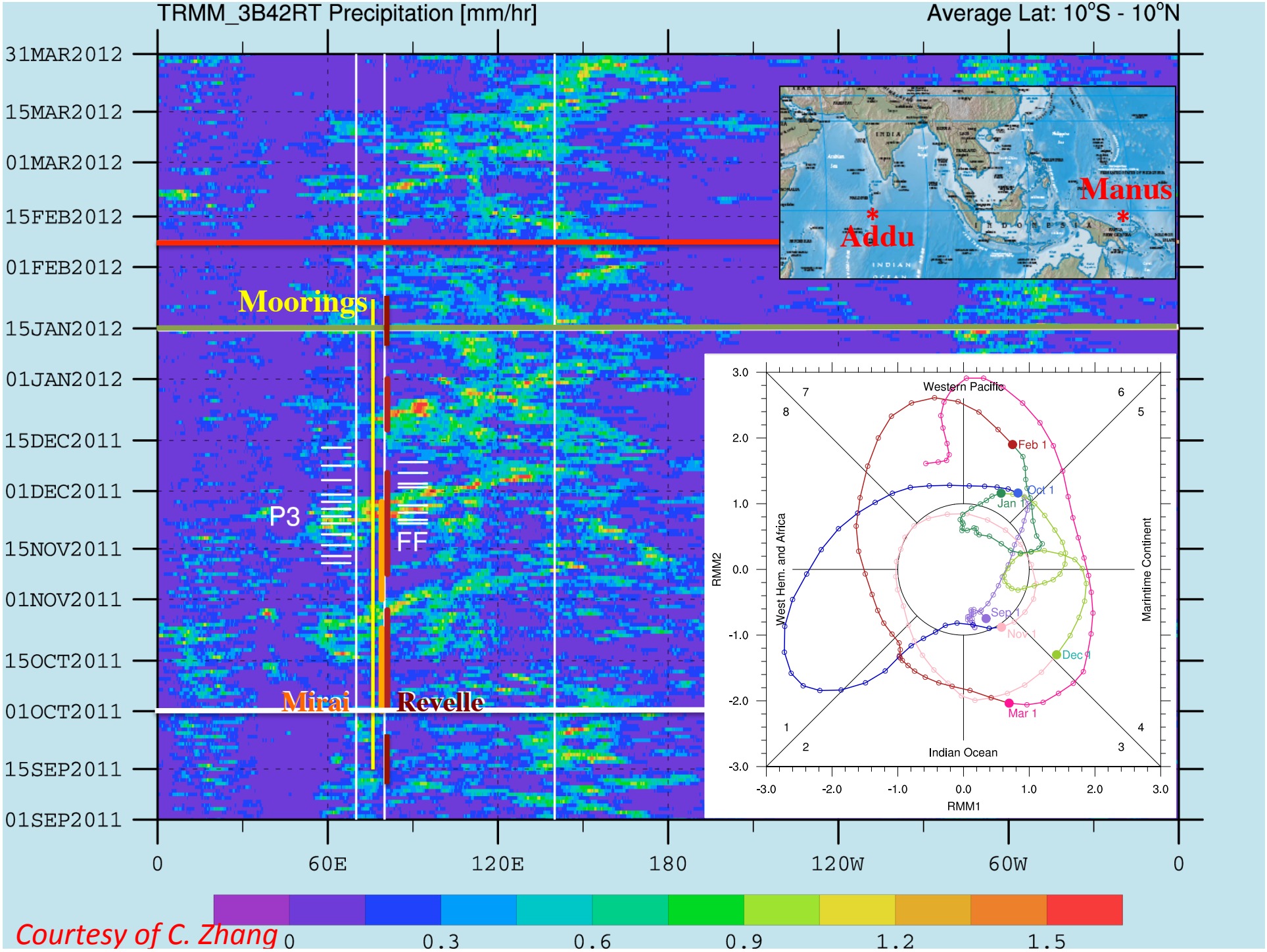


Courtesy of K. Yoneyama



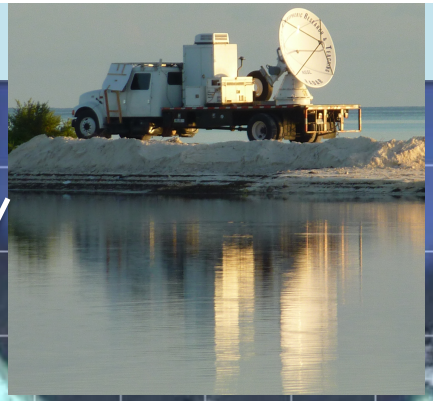
* Ops ended, personnel evacuated

Courtesy of EOL



Courtesy of C. Zhang

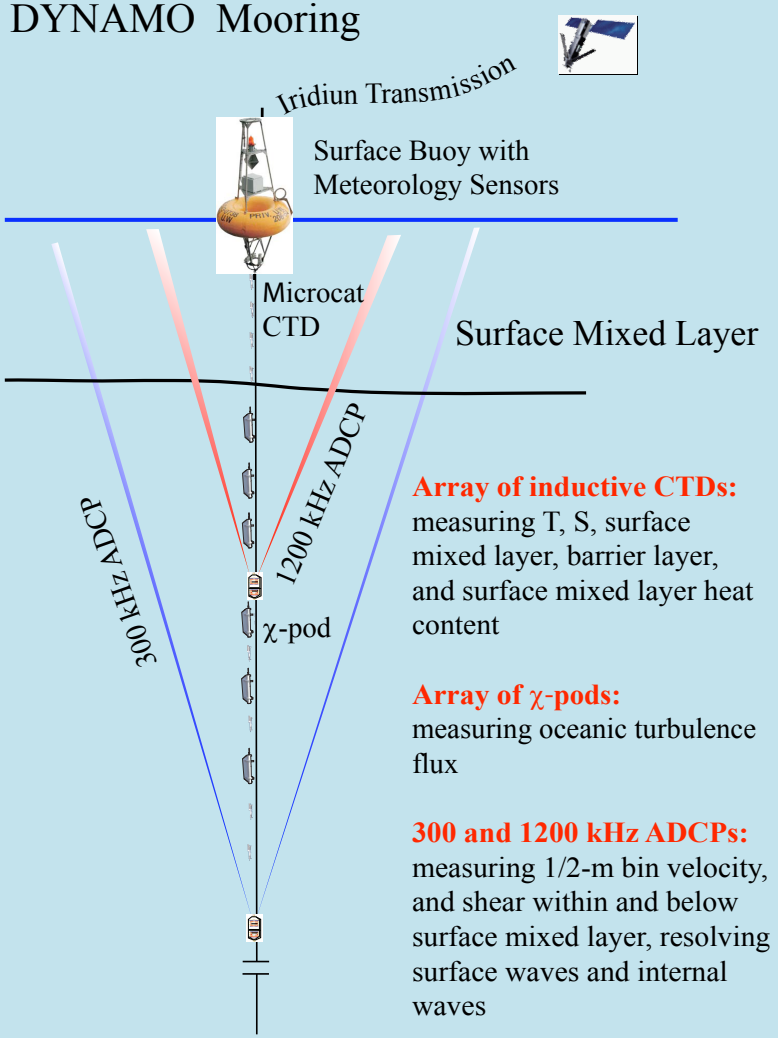
Addu Atoll



S0.58°
S0.6°
S0.62°
S0.68°
E73.07°
E73.09°
E73.11°
E73.13°
E73.21°
E73.23°
E73.25°
E73.27°
Image © 2009 DigitalGlobe
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
©2009 Google
6.30 km
Imagery Date: Mar 5, 2005
lat -0.646847° lon 73.167246° elev 0 m
Eye alt 21.79 km

Courtesy of C. Zhang

DYNAMO Mooring

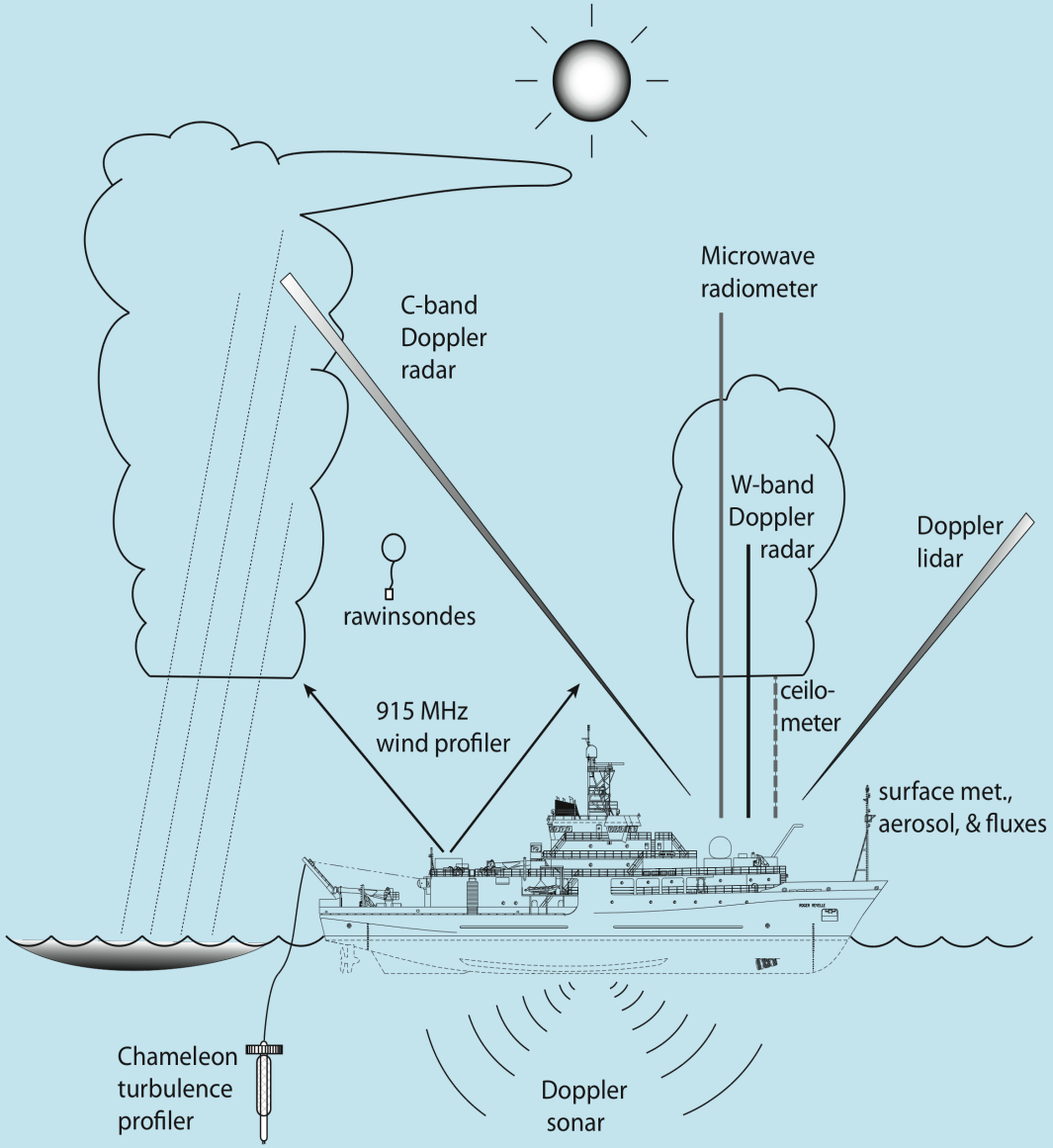


Array of inductive CTDs:
measuring T, S, surface mixed layer, barrier layer, and surface mixed layer heat content

Array of χ-pods:
measuring oceanic turbulence flux

300 and 1200 kHz ADCPs:
measuring 1/2-m bin velocity, and shear within and below surface mixed layer, resolving surface waves and internal waves

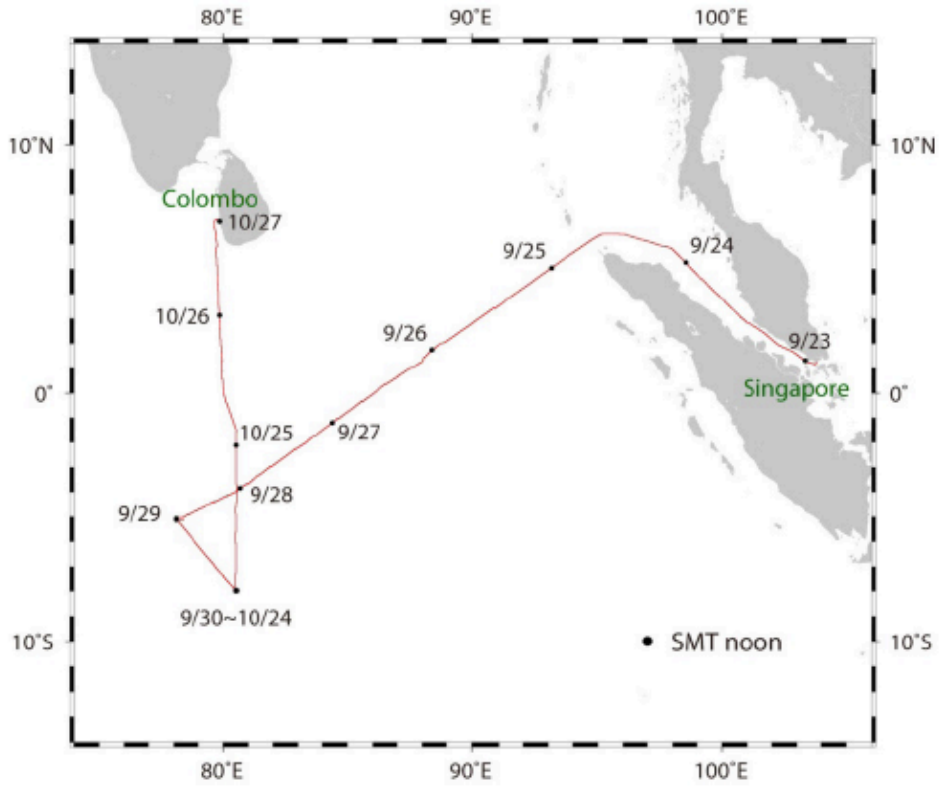
DYNAMO Ship Observations



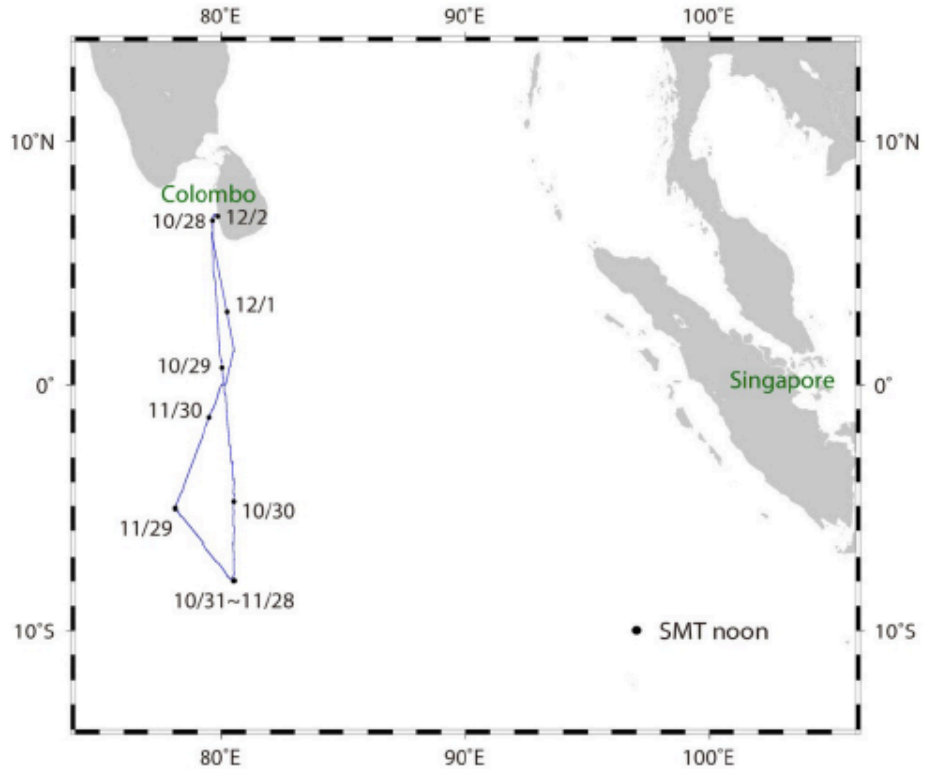
Courtesy of R.-C. Lien and S. de Soeke

R/V Mirai

MR11–07 Leg-1 Cruise track



MR11–07 Leg-2 Cruise track



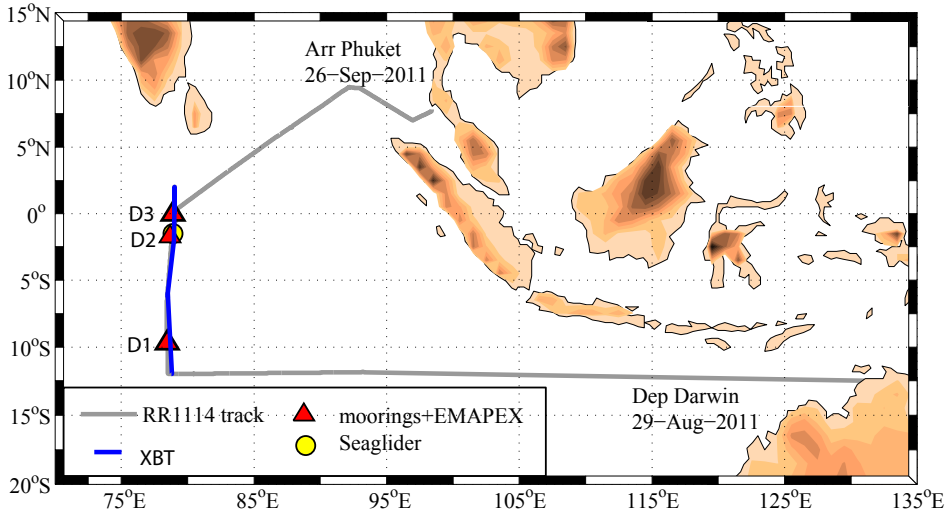
500 Radiosondes, 423 CTDs, 14 XCTDs

Courtesy of K. Yoneyama and M. Katsumata

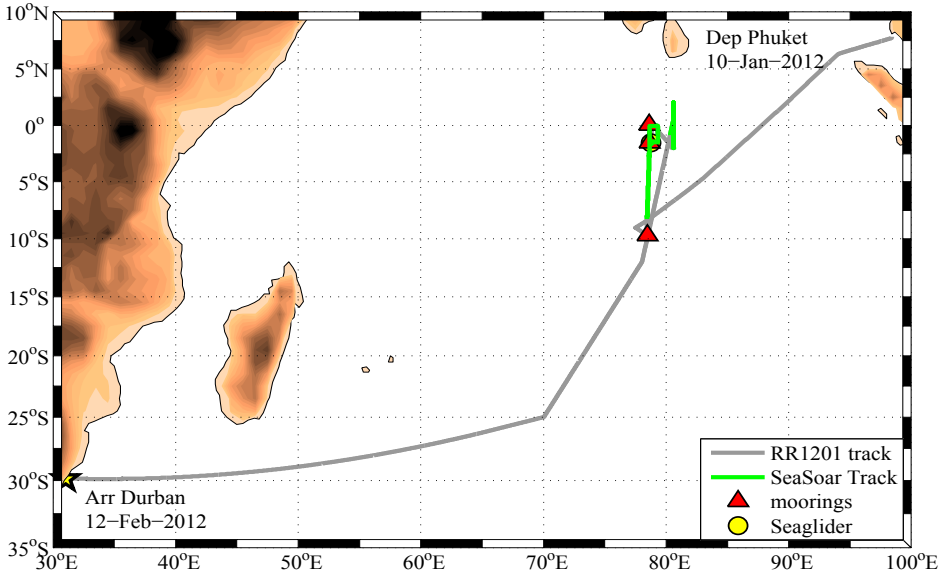
R/V Roger Revelle

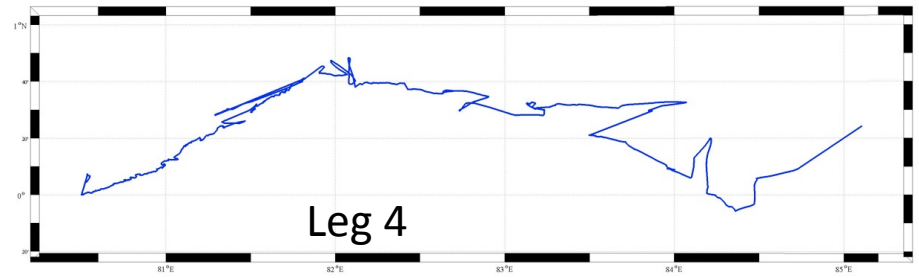
Courtesy of J. Moum and R. Pinkel

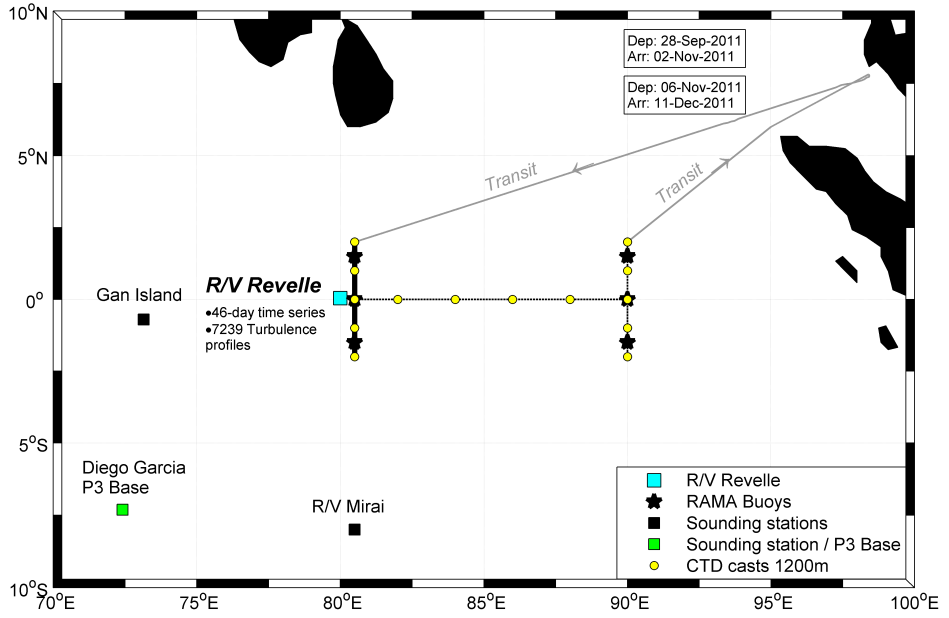
DYNAMO leg 1: Aug 29, 2011 - Sep 26, 2011



DYNAMO leg 5: Jan 10, 2012 - Feb 12, 2012







CINDY2011/DYNAMO Participating Countries:

Australia, France, India, Indonesia, Japan, Kenya, Korea, Maldives, Papua New Guinea, Poland, Seychelles, Singapore, Sri Lanka, Taiwan, UK, US

CINDY2011/DYNAMO Participating Institutes:

37 universities (~100 students)

32 national centers and laboratories

CINDY2011/DYNAMO Data collection:

- Sounding/radar arrays: October 1 – November 28, 2011
- Radar and soundings at Addu Atoll: October 1, 2011 – February 8, 2012
  Soundings at Manus: October 1, 2011 – March 31, 2012
- Aircraft: November 11, 2011 – December 13, 2011
- CTD: September 30, 2011 – December 7, 2011
- Moorings: September 11, 2011 – January 20, 2012
- Sea-glider: September 14, 2011 – January 23, 2012

DYNAMO Data release: April 2013