

The logo for TPOS 2020 Status Report features the letters 'TPOS' in a stylized font. The 'T' and 'P' are teal, while the 'O' is a white circle with a teal outline. The 'S' is orange. To the right of 'TPOS' is the year '2020' in white on an orange background. Below this, the words 'Status Report' are written in large, bold letters, with 'Status' in orange and 'Report' in teal.

# TPOS 2020 Status Report

QUARTERLY UPDATE ON TPOS 2020  
ACTIVITIES

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## 5th Steering Committee Meeting

TPOS 2020 had its 5th Steering Committee Meeting (SC-5) from 6-8 November 2018, hosted by JAMSTEC at the Yokohama Institute for Earth Sciences (YES). The meeting report is currently being drafted but will be available on the website by early 2019.

The meeting report will detail specific outcomes and priorities from the meeting.

Of note to the wider community, steering committee (SC) co-chair Neville Smith has stepped down. Weidong Yu of the First Institute of Oceanography, Qingdao, China, will take over the role of SC co-chair as of January, 2019. Billy Kessler will continue as the other co-chair of the TPOS 2020 SC.

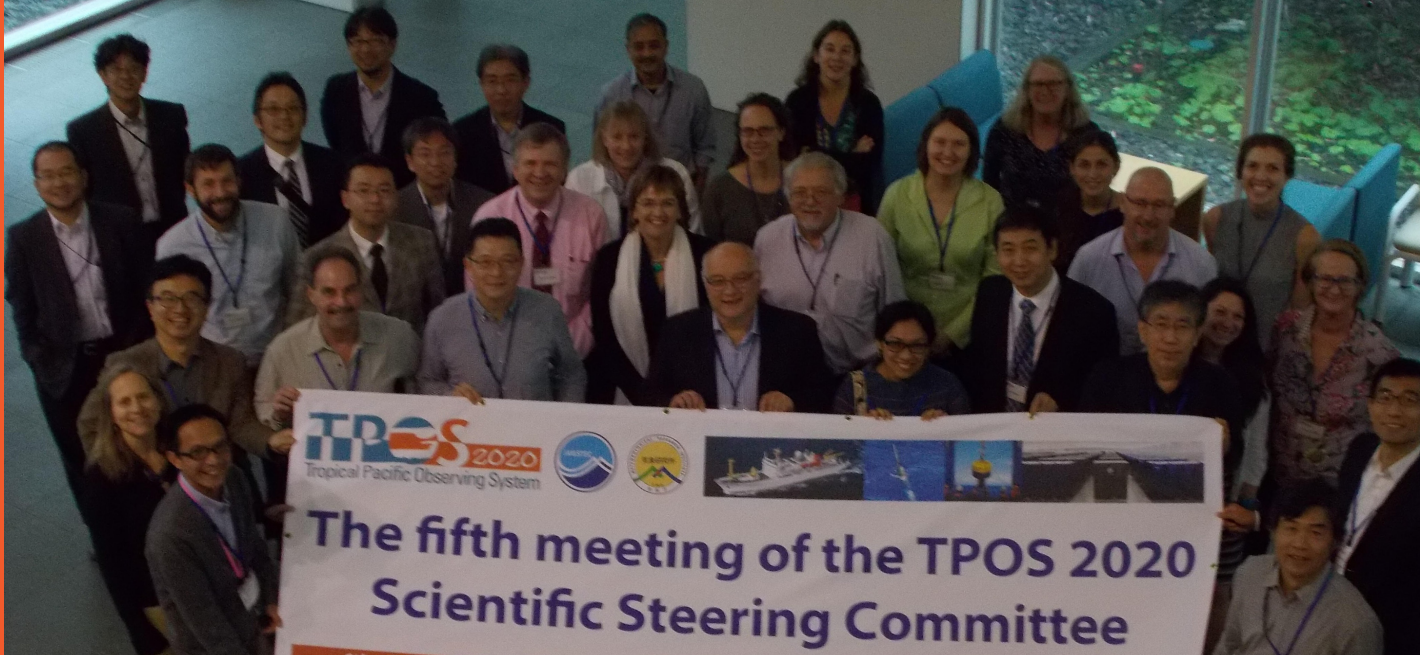
The first draft of the TPOS 2020 Second Report will be available for review in **late December 2018**. Reviews should be returned to [tpos2020@gmail.com](mailto:tpos2020@gmail.com) by **February 1, 2019**. The authors welcome review from both individuals and consensus review from community stakeholder groups. A form for submitting your review will be placed on the website alongside the draft document. [Please contact info@tpos2020.org if you would like to receive email updates and reminders of the review schedule.](mailto:info@tpos2020.org)

The finalized Second Report will be published in March 2019.

### WHAT'S IN THIS ISSUE?

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## TPOS 2020 PROJECTS

### Saildrone

On October 3, 2018, four Saildrones were launched from Keehi Marine Center in Honolulu, HI to begin a six-month research mission in the tropical Pacific Ocean. This mission is part of a series of Saildrone missions to the tropical Pacific, focusing on how this new technology could best be used within the Tropical Pacific Observing System (TPOS) to improve longterm weather forecasts. Follow the [mission blog](#).



A dolphin keeping one of the Saildrones company in Kaneohe Bay.

Recently, the Saildrones successfully sailed around the TAO mooring at 9°N, 140°W. The drones are headed south and they will pass two more TAO moorings on their way to the main study area along the Equator.

### Enhanced Moorings

The TPOS mooring enhancement project aims to improve measurement of the ocean surface boundary layer by deploying additional instrumentation on existing TAO moorings. The enhanced measurements include real-time current profilers and a closely-spaced array of temperature sensors that capture the ocean surface boundary layer between the surface and 25 meters depth, a key region for air-sea interaction that has gone nearly unobserved until these deployments.

With the addition of rain and radiation sensors at the enhanced mooring sites, these surface boundary layer observations will help to reveal the relationship between the atmosphere and the ocean in a variety of dynamical regimes in the tropical Pacific.



Recovered ADCP instruments at the end of a successful deployment at the 2°S, 140°W mooring at 23 m depth (left) and 68 m depth (right).

## Enhanced

## Moorings

## continued:

As of December

2018, seven

mooring sites have

been deployed with

this enhanced

instrumentation, and

all have begun

returning real-time

data that can be

used for analysis.

An additional three

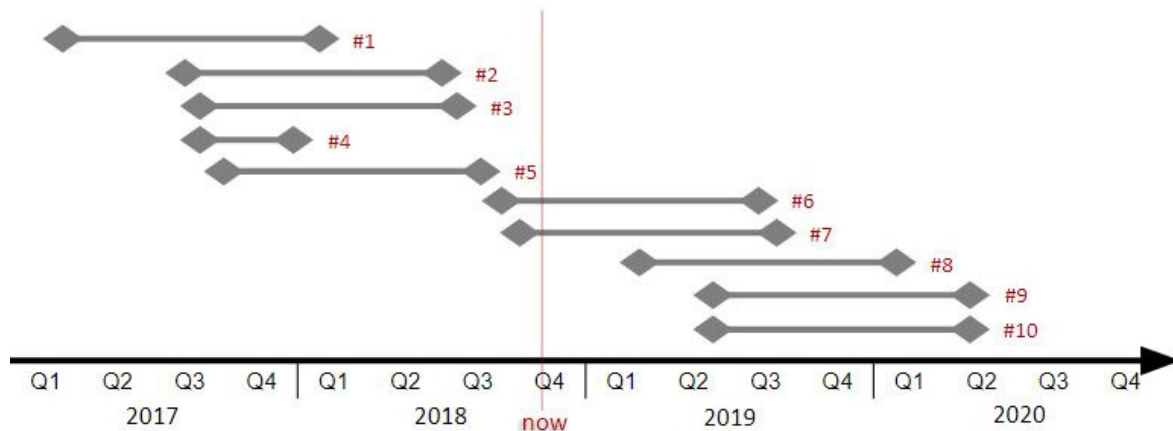
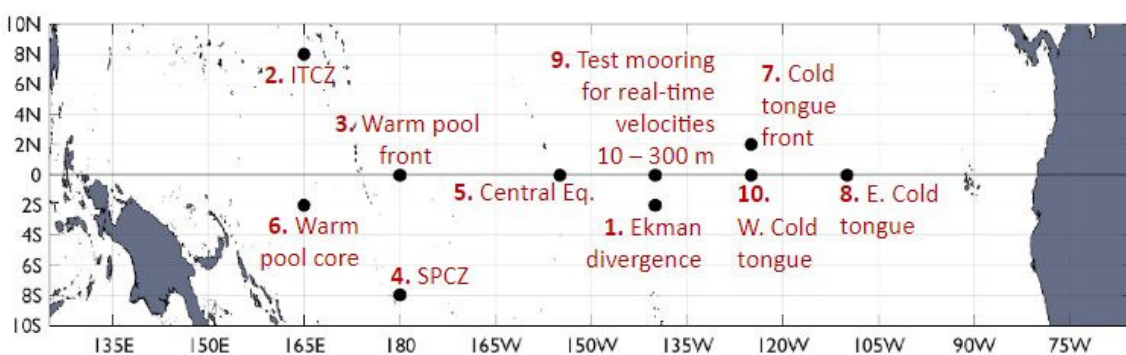
sites will be

deployed in 2019.

Plans for a stand-

alone mooring with

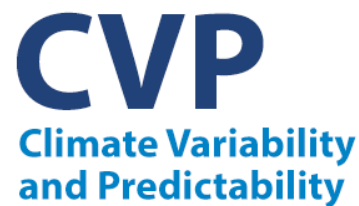
high-resolution, real-time current profiles extending to 300 m depth are also in development.



Timeline and locations of mooring enhancement deployments in the tropical Pacific.

## Pre-field modeling studies funded by NOAA's Climate Variability and Predictability (CVP) program announced

NOAA's CVP program has funded 8 pre-field modeling studies as a response to Process Studies listed in the TPOS 2020 First Report. The goal is to evaluate an ideal observing strategy for a potential field campaign. For more information, please contact program manager [Sandy.Lucas@noaa.gov](mailto:Sandy.Lucas@noaa.gov)



Funded projects include:

- State estimates for the tropical Pacific: a reanalysis for evaluating the model, observations, and mass, heat, and salt fluxes
- Use of high resolution ocean model to assess sampling strategies for TPOS 2020 process studies
- Understanding coupled ocean-atmosphere processes at the eastern edge of the warm pool in support of TPOS 2020
- Understanding processes controlling near-surface salinity in the tropical ocean using multiscale coupled modeling and analysis
- Multi-timescale near-surface salinity variability at the eastern edge of the warm pool: A modeling and an OSSE study in support of TPOS 2020
- Improved understanding of air-sea interaction processes and biases in the tropical western Pacific using observation sensitivity experiments and global forecast models
- A pre-field modeling study of scales, variability and processes in the near surface eastern equatorial Pacific ocean in support of TPOS
- Simulations and analysis of mesoscale to turbulence scale process models to facilitate observational process