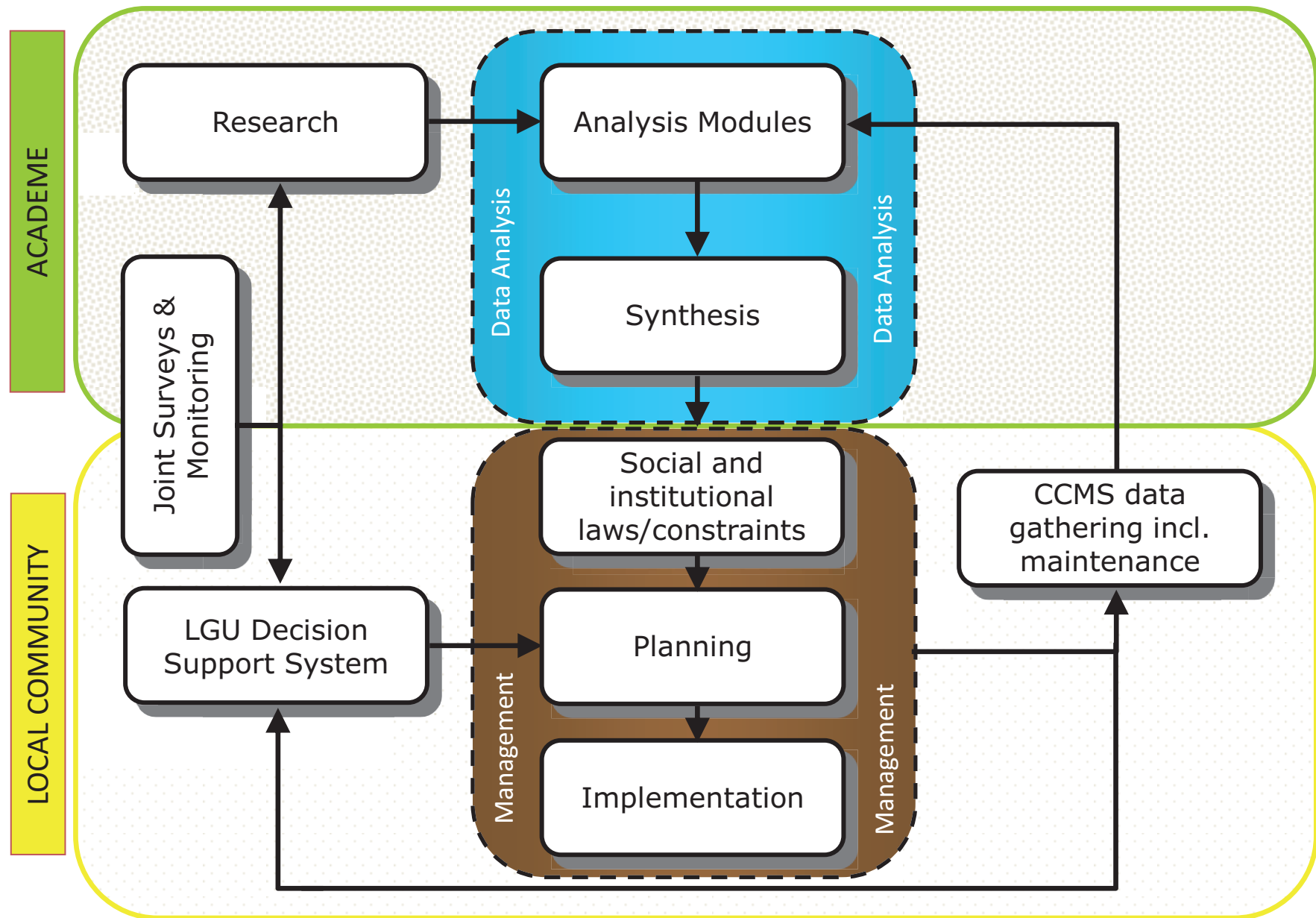


CCMS local capacity building framework



CCMS site-based workshops

Local People

LGU ↔ **CECAM**

- IECs
- Security provision
- Sensor cleaning
- Sensor maintenance
- Emergency operation
- IDSS

The collage consists of nine photographs arranged in a 3x3 grid. The top-left photo shows a group of people outdoors in a rural setting, with a date stamp of 2011/05/09. The top-middle photo shows an indoor presentation with a projector screen, dated 2007/01/07. The top-right photo shows people working at computers, dated 2011/12/06. The middle-left photo shows a diver underwater, dated 2007/04/06. The middle-middle photo shows a classroom setting with a projector, dated 2007/04/06. The middle-right photo shows a person working on a boat, dated 2007/04/06. The bottom-left photo shows a computer workstation with a date stamp of 2012/08/17. The bottom-middle photo shows a classroom setting with a projector, dated 2007/04/06. The bottom-right photo shows people working on a boat, dated 2007/04/06.

Information, education, communication

- Proper information, education and communication through workshops and trainings will need to be done regarding the CECAM project and CCMS to the local communities with the support from the local government unit. Conduct periodic visits to the platforms to increase security, thereby minimize the possibility of instrument loss.

Security provision

- Considering the monitoring platform will house various data-logging sensors, a caretaker will need to be hired and trained for providing the needed security from possible theft and/or intrusion. The LGU is expected to shoulder the required caretaker compensation.

Sensor cleaning

- In order to maintain the integrity of measurement of the data-logging sensors, regular sensor cleaning operation will need to be conducted to prevent sensor bio-fouling. Proper training will be given for properly cleaning the sensors. Caretaker can also be the sensor cleaner.

Sensor maintenance

- For the periodic maintenance of the deployed data-logging sensors (data download, battery changing and re-set-up, which is to be carried-out by the Project and/or the partner university), coordination and assistance is expected from the local government. Workshops and trainings will be conducted accordingly.

Emergency operational guideline

- An emergency operational guideline will have to be drafted and implemented (between the Project and the LGU) in the event of extreme weather disturbances. Workshops and trainings will be conducted accordingly.

Agreement

- For properly designating responsibilities, the collaborative monitoring through CCMS will have to be formalized through a written agreement between the CECAM Project and the LGU.

Periodical Monitoring



Atmospheric



Hydrodynamic



Water Quality

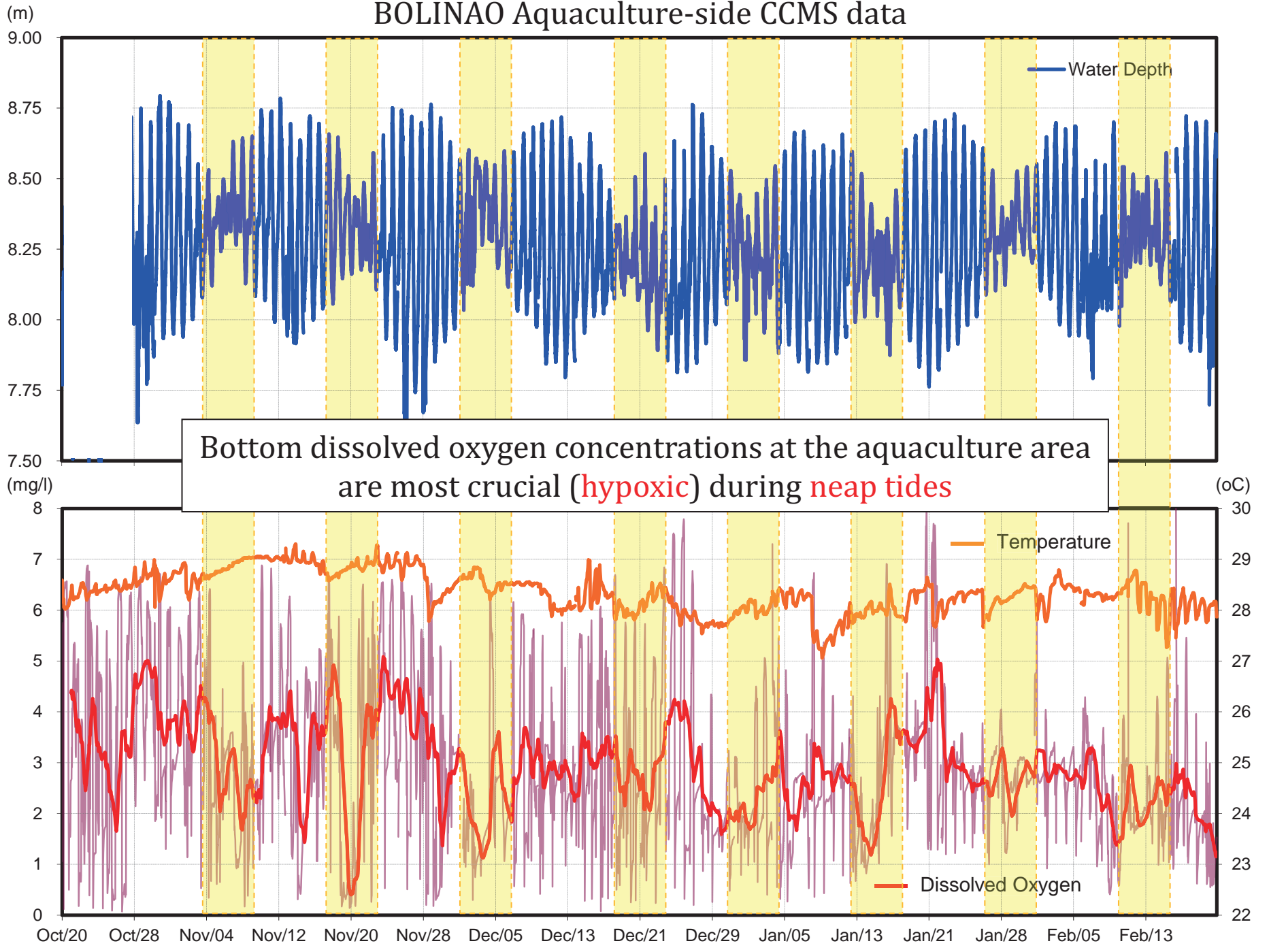
- Moored sensor deployment
- CTD vertical profiling
- Water quality sampling



- Current profiling
- Biological sampling



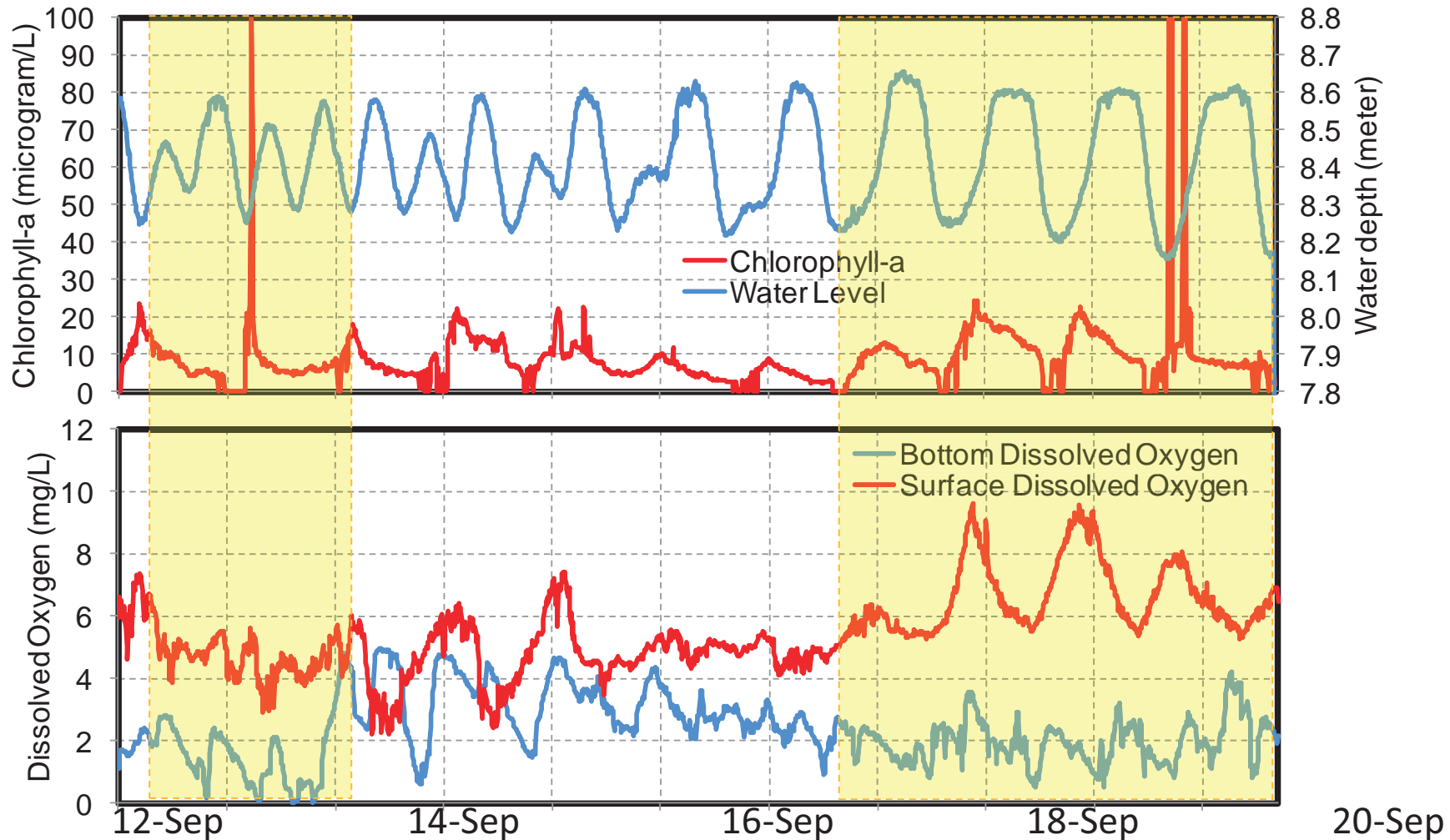
BOLINAO Aquaculture-side CCMS data



BOLINAO CCMS Observations

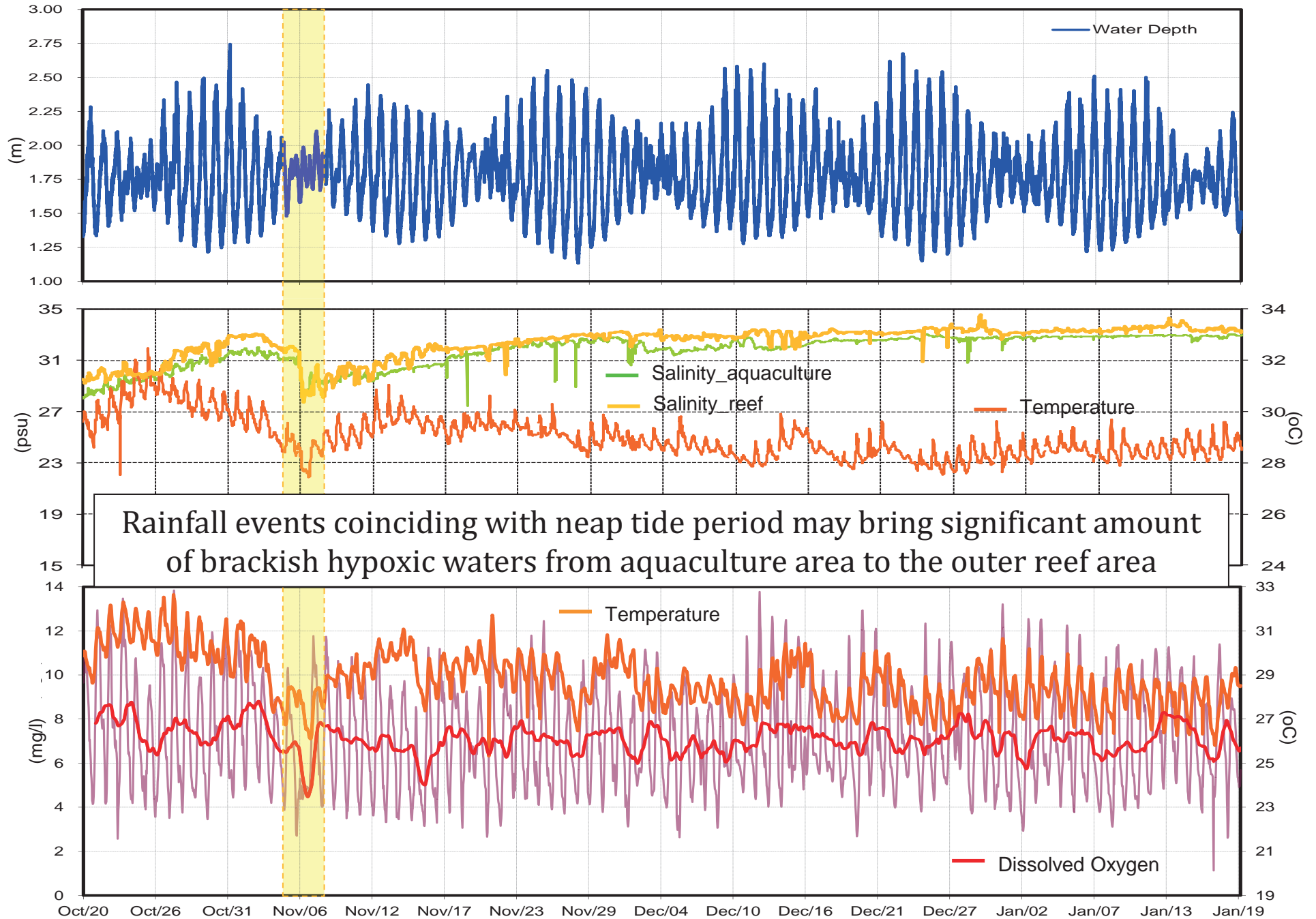
➤ Algal bloom and bottom hypoxia

Short-term analysis of observed algal blooms and bottom hypoxia however showed critical levels not only during neap tides but also during spring tides

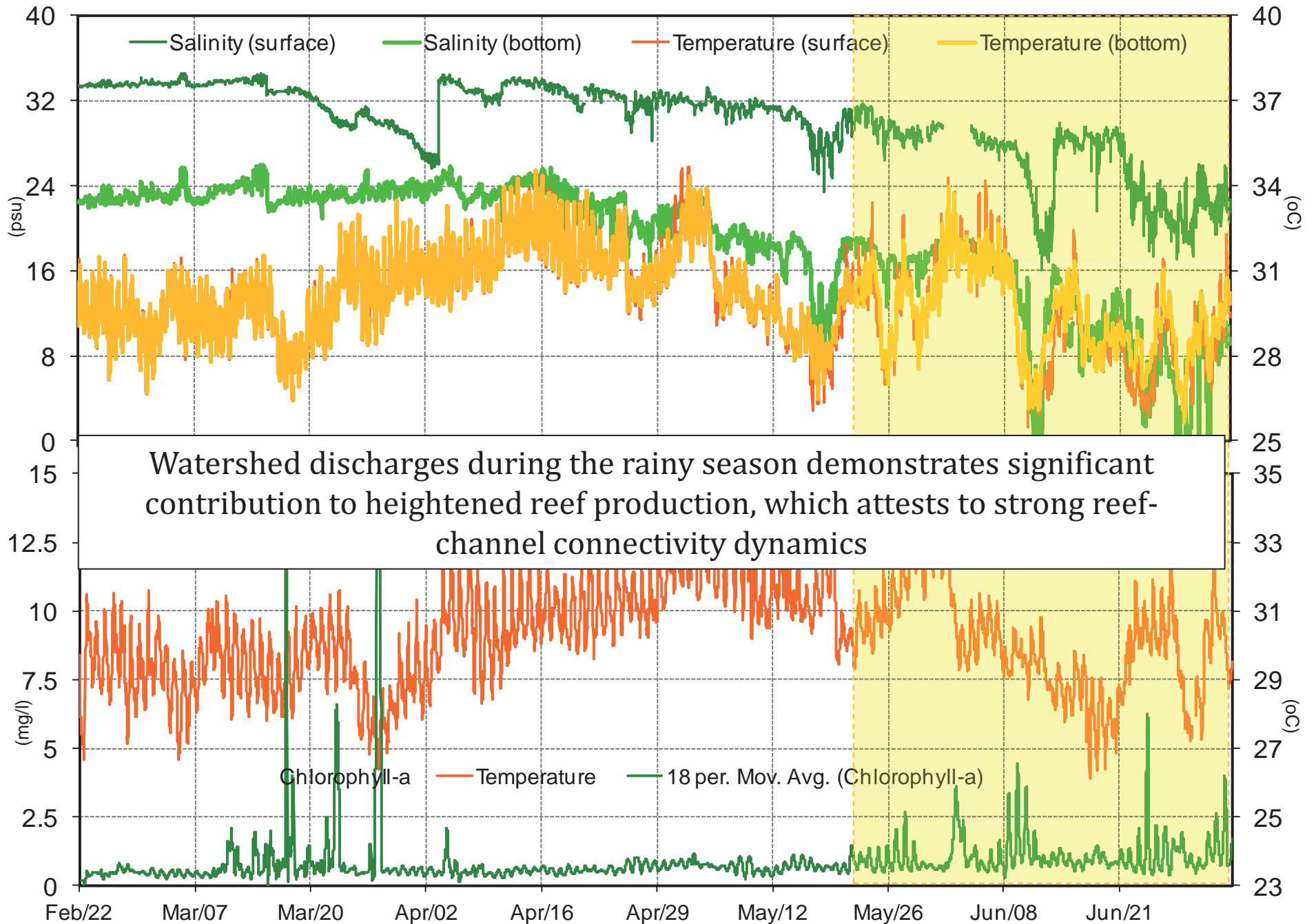


Probably associated with connectivity (exchanges) with other hypoxic bodies of water

BOLINAO Reef-side CCMS data



BOLINAO Reef-side CCMS data



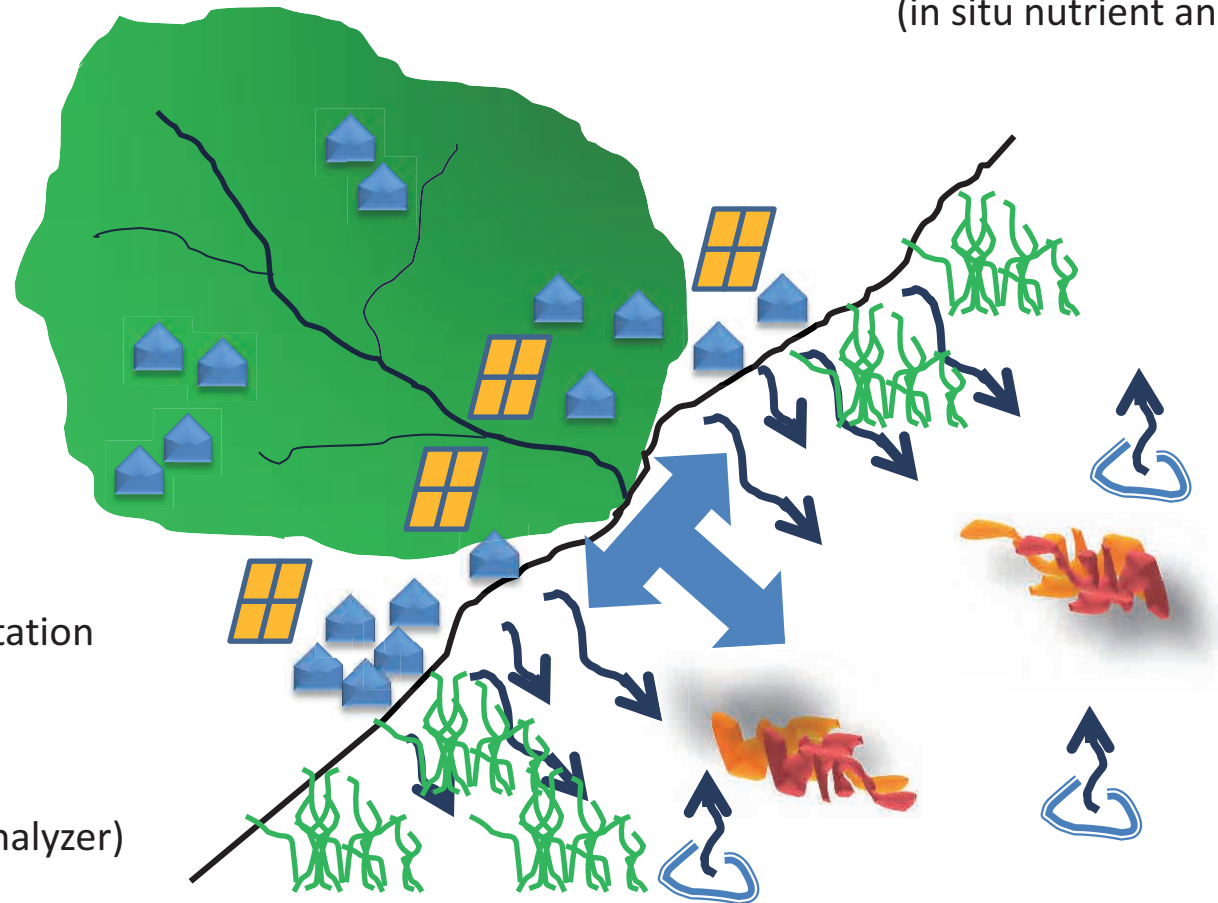
TOMAS

- Terrestrial Output Monitoring and Assessment System

TOMAS-GW Equipment

For Groundwater/SGD:

- Water level logger
- Salinity meter
- Radon monitor
- Electrical resistivity eqpmt.
- Seepage meter
- (in situ nutrient analyzer)









TOMAS-WS Equipment

For Watershed:

- Rain gauges/weather station
- Water level logger
- Turbidity meter
- Auto-water sampler
- (plus in situ nutrient analyzer)

TOMAS Sites

Legend:

-  Rain Gauge (deployed)
-  WLL and ACLW (deployed)
-  Rain Gauge (site visited; sensor not yet deployed)
-  WLL and ACLW (site visited; sensor not yet deployed)
-  Rain Gauge (site not yet visited)
-  WLL and ACLW (site not yet visited)

