

ACIDIFICATION AND HYPOXIA MODELING OF THE SOUTHERN CALIFORNIA BIGHT

Update on Independent Peer Review Process



March 3, 2023
Commission Meeting

Context for Today's Discussion on Model Peer Review

A coupled physical-biogeochemical model is being used to simulate algal blooms, acidification and hypoxia (OAH)

Recently, that model has been applied to estimate effects of anthropogenic nutrients on seawater chemistry and habitat for marine life

- And investigate how scenarios of nitrogen and recycled water brine management effect OAH

Questions exist about how much confidence to place in modeling, given potential expense of management actions that ROMS-BEC is informing

CTAG Prioritized Three Tasks on Model Uncertainty Analysis

1. Updated model validation
2. Context: Effects of natural variability versus climate change on acidification
3. Independent peer review

CTAG has provided feedback on draft workplans and we are ready to proceed

Why Peer Review?

What is it?

- Independent experts evaluate model and intended applications

Why do it?

- Get advice on quantifying model uncertainty
- Get advice on how to improve confidence in model

How are we doing this?

- Independent, transparent, fair and balanced process, with community

Goal: Community acceptance of model as decision support tool

Key to Independent and Fair Process: Steering Committee

Role:

- Selection of expert panel
- Charge question
- Establish agenda for meetings

Steering Committee and Facilitator

Regular (voting) Steering Committee Members

Sector	Name and Affiliation
State Water Board	Karen Mogus, Water Board
Regional Water Board	David Gibson, San Diego Water Board
Ocean Protection Council	Justine Kimball, OPC
CTAG POTW	Lan Wiborg, OC San
Small POTW	Steve Wagner, Goleta Sanitary District
CASA	Lorien Fono, BACWA

Ex Officio Science Advisor (Non-voting)

Name	Institution
Kristen Davis	UCI
Stephen Weisberg	SCCWRP

Facilitator

Name	Institution
Kevin Hardy	NWRI

CTAG Discussed An Initial Set of Charge Questions... To be Refined By Steering Committee

1. Is the model approach, methods, and predictions appropriate for intended applications?
2. What is the uncertainty in the predictions that are relevant for intended applications?
3. What investments would most enhance performance and reduce model certainty?

Criteria To Select Panelists

Basic Criteria:

- Recognized scientific expert in coastal oceanography
- Have experience using scientific information to support management decisions, and
- Have no identifiable conflict of interest

Areas of expertise

- Coastal physics (modeling and observations)
- Coastal biogeochemistry and linkage to biological effects (modeling and observations)
- Coastal exports of human nutrients
- Model as decision support tools to support coastal water quality management
- Expert in model uncertainty

Initial Thoughts: In-Person Meetings, 3 days in Length

Peer Review

- Meeting #1 (Fall 2023)
- Meeting #2 (Spring 2024)
- Meeting #3 (Fall 2024?)

(Final report)

Topics

- Onboarding, management concerns, overview of modeling approach and status of work
- Validation and linkage to management applications
- TBD

Comments? Questions?