

# Using Oceanography for Fisheries Stock Assessment and Management

11-14 October 2011, La Jolla, CA.

# Main (personal) Conclusions

- Fisheries stock assessment and management has been criticized for failing to account for oceanographic processes.
- The workshop review the use of oceanographic data in fisheries stock assessment and management.
- It is clear from the abundant research that fisheries scientists and managers are well aware of the role that oceanographic processes play in controlling fish populations.
- Debate about the relative roles of fisheries versus the environment in determining the abundance of fish stocks has persisted for decades.
- There are numerous examples of academic exercises developing methods to identify relationships between population dynamics and oceanography, integrate oceanographic data into stock assessment and management, and to evaluate the advantages of using oceanographic data, but there is a lack of successfully implemented examples in the real world.
- Unfortunately, the understanding of the mechanisms involved, the available data, or the large scale correlations are often too poor to provide any substantial benefits.
- In most cases, statistically significant correlations between population dynamics and population processes break down when tested against new data.
- This has led to advocating for direct monitoring or developing management strategies that are robust to the variation rather than determining the relationships between population dynamics and oceanographic processes.
- The few successfully implemented examples mainly relate to predicting the spatial distribution of a fish stock.
- Therefore, use of oceanographic data to determine dynamic spatial closures to reduce bycatch appears to be the most promising area of research.
- The availability of fine spatial and temporal scale oceanographic data from remote sensing and oceanographic models, vessel monitoring systems, and electronic tags allow research on more appropriate scales, which may lead to improvements in the near future.
- However, it would be wise for researchers and managers to be realistic about the benefits of using oceanography in fisheries stock assessment and management so that the most benefit can be made of limited funding for data collection, monitoring, and research.

# Output

- New approach
  - Previous reports get little exposure
  - Lots of work goes into providing background information
- Draft manuscript
  - Based on background information provided to the workshop
  - Drafted by the IATTC staff
  - Available at this meeting
  - Will distribute to participants for comments and potential coauthorship
- Publication
  - Submit to Fisheries Oceanography