

## RF on Eastern Boundary Upwelling Systems

Ryan Rykaczewski (ryan.rykaczewski@noaa.gov)  
Thomas Toniazzo(thomas.toniazzo@uni.no)  
Alban Lazar (alban.lazar@locean-ipsl.upmc.fr)

### RF overview

The Research Focus on EBUS took place from October 2015 through January 2020. This group commenced in October 2015 with a scoping workshop in Ankara, Turkey and the submission of an original EBUS RF prospectus in April of 2016. Progress continued, with a RF meeting in Qingdao in September 2016 and the outline of a collaboration with OMDP on exploring the upwelling dynamics in forced global ocean simulations. However, concern for the potential overlap with activities of other groups in the research community and changes to the leadership and membership of the group necessitated shifts in the focus of the efforts. A plan for revisions to the group to address these concerns was submitted to the SSG in November of 2017, and after encouragement from the SSG, the RF group membership was revised in April and May of 2018. The RF group submitted a revised prospectus in June of 2018 and had a one-day meeting in December 2018 and a two-day meeting in July 2019. The anticipated ending date of the RF group was January 2020.

The activities of the group were largely completed on schedule, however, we continue to work on a perspectives-type paper when time permits. A first meeting of the reconfigured RF group took place December 9, 2018, prior to the annual assembly of the AGU in Washington, DC. The key agenda item for this meeting was the preparation of a syllabus and teaching schedule for a July 2019 summer school on EBUS that took place in Trieste, Italy. The school was a success, and the presence of many RF members was leveraged to hold a workshop in the two days following the school.

In addition to capacity building, the current goals of the RF group were two-fold: to develop research recommendations for synergistic activities between the modeling and observational communities, and to improve the quantification of potential impacts of climate change on the marine ecosystem and the potential consequences on their dependent societies.

### Achievements for 2019-2020

#### *Workshops*

Nothing to report.

#### *Results from workshops*

In the months following the 4<sup>th</sup> CLIVAR EBUS meeting in 2019, virtual discussions have helped develop a draft manuscript highlighting some key questions in upwelling systems. Those discussions have slowed due to the pandemic but continue with the intermittent windows of time that members can contribute.

#### *Scientific capacity building and career support*

Following the CLIVAR-ICTP summer school in 2019, several student participants have been in contact with members of the Research Focus group seeking opportunities for collaboration. At least two of those participants have now been involved in successfully funded research proposals on EBUS.

#### *Knowledge exchange*

Research Focus members participated in a half-day of discussions and presentations with the joint PICES-CLIVAR Working Group on Climate and Ecosystem Predictability and with the CLIVAR Pacific Region Panel that occurred at the end of October 2019 in Victoria, Canada. The joint meeting was a forum for exchange of information between PICES and CLIVAR members and highlighted some of the shared interests, particularly in understanding how ENSO dynamics influence the predictability of conditions in the Pacific EBUS.

Research Focus Members have been participating in discussions of the WCRP implementation plan, when possible. Discussions are also ongoing between the Research Focus members and members of the SCOR working group on EBUS (SCOR-155) concerning a future symposium and potential activities associated with the UN Decade of Ocean Science for Sustainable Development.

### **Plans for 2021 and beyond**

Research Focus members plan to maintain many of the research connections developed over the course of the group. Discussions with companion groups (e.g., the PICES-CLIVAR Working Group on Climate and Ecosystem Predictability, the CLIVAR Pacific Region Panel, and the SCOR Working Group on EBUS) continue and focus on how EBUS research might form a component of emphasis during the UN Decade of Ocean Science for Sustainable Development. In addition, members of the Research Focus will make contributions to a SCOR summer school on EBUS (Dakar, Senegal; postponed until 2021) and a planned Open Science Conferences in 2021 (Lima, Peru).

### **Articles published in 2019/20 as part of RF activities (if any)**

No papers led by the RF group were published in this period.

### **Budget and other needs for 2021**

Nothing to request.