



**CESAB**  
CENTRE FOR THE SYNTHESIS AND ANALYSIS  
OF BIODIVERSITY

## FORCIS

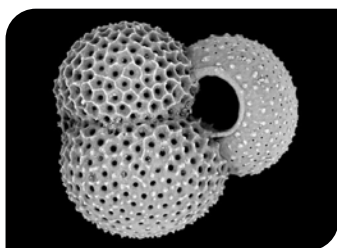
Foraminifera response to Climatic Stress: evaluating biodiversity changes of calcifying zooplankton in response to multiple stressors

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Anthropogenic CO<sub>2</sub> emissions lead to oceanic warming, and a decrease in surface water pH. Such ocean acidification (OA) is known to affect calcifying plankton groups, a key component of the carbonate pump. Fossilized shells of planktonic foraminifera comprise a major carbonate flux to the deep sea, which makes understanding their dynamics vitally important to decipher in a rapidly changing global climate. Historical changes in planktonic foraminiferal assemblages have not yet been synthesized globally, despite numerous individual collection efforts.

The **Forcis** project is filling this critical gap with a global synthesis with modern digital tools of data management and analysis. Evidently, these organisms are responding to environment change. **Forcis** assesses census counts and hydrographic data since the early 1950's to yield insights into key biodiversity metrics over the past decades, and thus also improve eco-physiological and population dynamics models. The ultimate **Forcis** goal is to understand the importance of the main stressors such as temperature and OA that govern species distribution and calcification processes, with focus on present and near-future ocean impacts.

### CESAB

*CESAB (Centre for the Synthesis and Analysis of Biodiversity) is FRB's flagship program and an internationally renowned research center whose objective is to implement innovative work to synthesize and analyze existing data sets in biodiversity research.*

