# Article information:

Global Trends in Marine Heatwaves and Cold Spells: The Impacts of Fixed Versus Changing Baselines - Chiswell - 2022 - Journal of Geophysical Research: Oceans - Wiley Online Library  
<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JC018757>

# Article summary:

1. Marine heatwaves (MHW) and cold spells (MCS) can have devastating impacts on marine ecosystems, with some extreme MHW causing indirect costs to local ecosystem services exceeding $1 billion.

2. There is a considerable literature on the global statistics and impacts of MHW/MCS, but there is no agreement on what baseline should be used to compute SST anomalies.

3. Recent research suggests that MCS can bring about ecological change comparable in magnitude to MHW, documenting a wide-range of impacts including the disappearance of fish, sea turtle, and algae, or the appearance of non-native species.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了海洋热浪和寒冷天气对海洋生态系统的影响，并提供了一些相关研究的例子。然而，该文章存在以下问题：

1. 偏重于MHW而忽略了MCS

虽然文章提到了近期关于MCS的研究，但是大部分内容仍然偏重于MHW。这可能会导致读者对MCS的影响和重要性缺乏充分认识。

2. 缺乏对定义标准的讨论

文章提到了不同学者对MHW定义标准的差异，但没有深入探讨这些差异可能带来的影响。例如，使用不同的温度阈值或持续时间可能会导致不同类型和程度的MHW被归类为相同类型。

3. 缺乏对地理位置和季节变化的考虑

由于海洋环境在不同地理位置和季节中存在显著差异，因此需要更多地考虑这些因素对MHW/MCS影响的差异性。例如，在某些区域，即使SST超过某个阈值也可能并不会引起严重后果。

4. 缺乏对人类活动与气候变化之间关系的探讨

尽管文章提到了一些MHW/MCS对生态系统的影响，但没有深入探讨人类活动和气候变化之间的关系。这是一个重要的问题，因为人类活动可能会加剧气候变化并导致更频繁和严重的MHW/MCS。

5. 缺乏对反驳观点的探讨

文章没有涉及任何可能与其主张相反的观点或研究结果。这可能会导致读者对该领域中存在争议或不确定性的问题缺乏充分认识。

综上所述，该文章存在一些偏见和片面报道，并缺乏对某些方面的全面考虑。为了更好地理解MHW/MCS对海洋生态系统的影响，需要更多地探讨相关因素之间的复杂关系，并平衡呈现不同观点和证据。

# Topics for further research:

* Impact of MCS on marine ecosystems
* Discussion on definition standards for MHW/MCS
* Consideration of geographical and seasonal variations
* Relationship between human activities and climate change
* Exploration of opposing viewpoints and research findings
* Comprehensive analysis of factors affecting MHW/MCS impact on marine ecosystems

# Report location:

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