If you read The Australian or Britain's The Times this week, you might have concluded that concerns about ocean warming and acidification are all a big beat-up.

Based on a study of the expert literature, the newspapers ran with a line that the marine science expert community has a penchant for "doom and gloom stories which has skewed academic reporting" because we only report the bad bits and rarely the good.

Given that the majority of scientists in this area (including the hundreds working in the Intergovernmental Panel on Climate Change process) do not feel this is the case, what is going on?

Newsflash: the dog isn't barking

Reporting that a dog isn't barking can sometimes be as important as reporting when it is. However, if we were to follow the newspapers' rationale, the scientific community should be pumping out endless scientific papers that report that nothing has happened. This would lead to numerous and repetitive studies showing that there is no significant effect (if that were indeed the case).

Print space in science journals is in short and coveted supply. To publish in a respected journal, you need to have something new, significant and well supported to say. In the case of the impacts of ocean acidification, it would indeed be newsworthy if a study reported that a set of organisms was unaffected by ocean acidification (to use our analogy, a newsworthy non-barking dog).

Indeed, some studies have shown precisely that , in the case of some invertebrate and fish species. These studies have received considerable attention given their departure from a literature that is finding a vast number of species that are affected.

This is not surprising. But after several studies have convincingly documented how one group of organisms responds, the novelty, significance and appeal of publishing further papers about those organisms quickly falls away. That doesn't mean that the observations of no effect have

been discarded or demoted in importance. The conclusion of “no effect” will remain until credible studies demonstrating the opposite come along. That is, until a study finds a dog that is barking.

Paper weight versus significance?

The importance of an idea is not a simple function of the number of papers. We don’t rate an idea or conclusion solely on the weight of the pages on one side versus another. This is where the newspapers and the original study wrongly assumed that the smaller proportion of “no effect” papers on the subject of ocean acidification was an indication of “skewed academic reporting”.

In reality, the massive and growing proportion of studies showing that ocean warming and acidification have real effects on ocean life shows that there is much to learn and be concerned about when it comes to these issues.

If the headlines from The Australian and The Times were correct, then conclusions about risks associated with ocean warming and acidification could be refuted at every turn. Our projections of the future of coral reefs, based on our allegedly distorted scientific literature, could be safely ignored.

That couldn’t be further from the truth.

Over the past year or so, many marine scientists like myself have been watching a very large b lob of ocean water
, up to 2 warmer than normal, across the equatorial Pacific and Atlantic oceans. We have been predicting substantial mass coral bleaching across the planet as 2016 unfolds.

At first, you might question our hypothesis and projections – these changes seem to be small changes in sea temperature. Yet we know these small variations can have huge implications. An increase of as little as 1-2 on top of regular summer temperatures can mean the difference between life and death for coral reefs.

However, the past, plus a rich and valuable scientific literature, has taught us that these changes are serious. The Great Barrier Reef, for instance, has lost up to 10% of its corals to these warming events over the past three decades. Over the past 25 years, relatively short periods of anomalously high sea temperatures have killed up to 95% of corals on some reefs.

The evidence suggests that we are likely to lose most corals worldwide in as little as 30 to 40 years if we continue to warm the climate at current rates.

Science works

The ultimate test is whether the elevated sea surface temperatures (the “warm blob”) translates into impacts on the ground. True to expert predictions, Hawaii and many other parts of the Pacific, including Australia, have begun bleaching on cue – hardly evidence of biased and unreliable science.

And as the year rolls out, we should see mass coral bleaching and mortality across the western Indian Ocean, Southeast Asia and, later, the Northern Hemisphere as the year progresses and the third global bleaching event rolls out around the planet. We should also see the significant loss of corals from many parts of the world.

There is no doubt that this type of information sounds alarming. It is not, however, a consequence of biased or skewed science. Rather, it is a function of the careful build-up of significant ideas to which we would be well advised to pay attention.

Professor Hoegh-Guldberg undertakes research on coral reef ecosystems and their response to rapid environmental change, which is supported primarily by the Australian Research Council (Canberra), National Oceanic and Atmospheric Administration (Washington, D.C.), Catlin Group (London), and Great Barrier Reef Foundation (Brisbane). He did not receive salary for writing this article.

Read more http://theconversation.com/its-not-doom-and-gloom-to-point-out-whats-really-happening-to-coral-reefs-55695