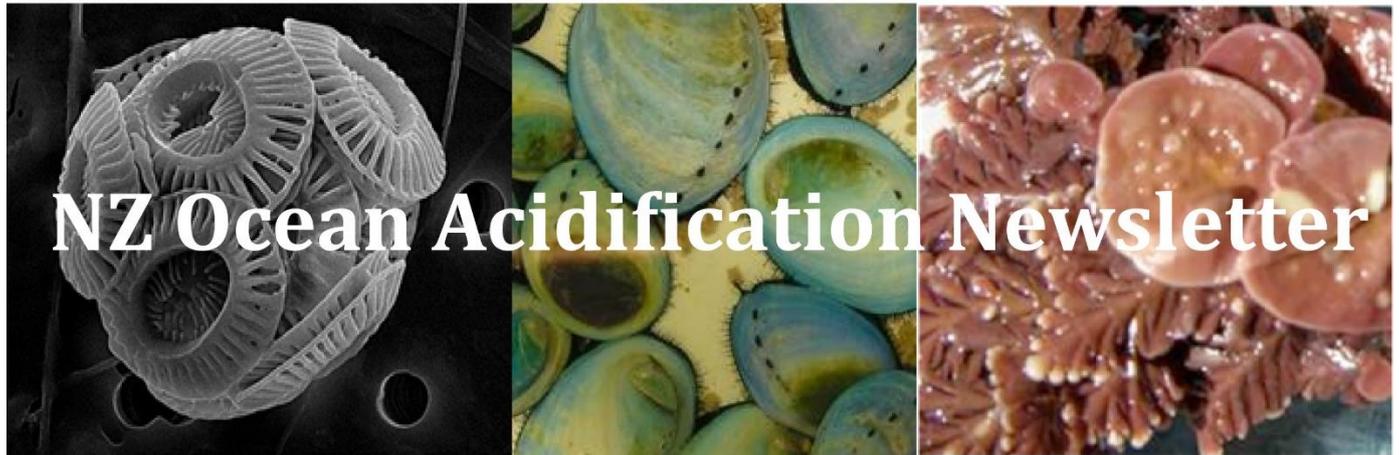


#15 – June 2015



News

It's a quiet month this month which either means everyone is on holiday, at conferences or just incredibly busy.

OA & ANTARCTICA

Marine Science is deeply under-represented in the latest round of NZARI-funded projects.

Who's keen to work together as a community to put together a multi-scientist multi-organisation bid for next year?

Continue to send your names to victoria.metcalf@gmail.com by July 31st and we'll put together a consortium to discuss a bid. We need to get onto this as the portal opens next month and close in September. Thanks to those that have responded already.

RECENT CONFERENCES

The New Zealand Antarctic Research Institute (NZARI) conference was held at the University of Canterbury at the end of June and covered a range of research including ocean acidification research. A Storify of the conference tweets can be found at <https://storify.com/lapsedchemist/2015-antarctic-science-conference-5594e1f28ef517b106fae763>

The NZ Marine Sciences Society conference has just been held in Auckland jointly with the Oceania Chondrichthyan Society. For those of Twitter you can look at the official conference Twitter account <https://twitter.com/NZMSSconference> or search #nzms2015. If a Storify appears of conference tweets the link will appear in the next newsletter.

SCIENCE MEDIA SAVVY EXPRESS

The Science Media Centre is helping scientists showcase their science in video form. The Science Media Centre has been on-site recently at science conferences offering one-on-one camera and interview training through its new Science Media SAVVY Express programme. Get useful tips on explaining your work to a general audience and walk away with a professionally-produced 90 second video for YouTube about your research. Participation in these rapid-fire, 15 minute sessions is open and free-of-charge for all New

Zealand-based researchers.

If you know of a conference that the SMC could attend to film Savvy Express videos, please let them know (smc@sciencemediacentre.co.nz). Videos get uploaded to the SMC YouTube channel <https://www.youtube.com/channel/UCD3PhPljYNcKK1smHSY5jGw>. *So expect a bunch of marine and hopefully some ocean acidification videos released there in the near future.*

OUTREACH AND SCIENCE COMMUNICATION

Please send me a brief email (victoria.metcalf@gmail.com) of any media, community and school talks, blogs, articles etc you do that mention OA. I can feature these in upcoming newsletters and add them to my database.

CONFERENCE PRESENTATION TIPS

As we're in conference mode this newsletter I'll share my latest blog post here on one way to improve presentations which originally appeared here <http://sciblogs.co.nz/icedoctor/2015/07/03/death-by-outline/> :

[Death by outline](#) Victoria Metcalf Jul 03

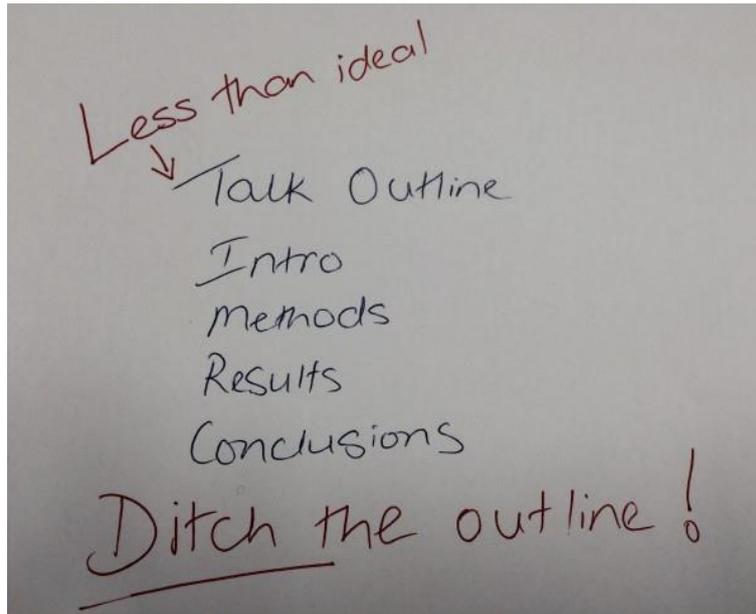


Source: Wikimedia Commons, uploaded by le L.E. https://commons.wikimedia.org/wiki/File:Apr%C3%A8s_un_meurtre.JPG

When you watch the news do the presenters first grab your attention by saying: “First we’re going to show you the top headlines in priority order. Then we’ll show you a trivial item or two, followed by the sports section, then the weather, before we wrap it up with a quick recap of the main headlines. Right now that I’ve gone over that and you know the format, let’s get started with the news”? If news presenters did do that, everyone would be screaming at the TV “ENOUGH ALREADY!” In fact, if that happened with any visual or many written formats, then the yawns would cut in almost immediately; people would likely vote with their remotes or their fingers-closing print media, or simply ignoring the pointless intro and skipping ahead.

Human beings are storytellers- it’s hard wired into us and the idea of a story is that you draw the reader or the listener in immediately. There are many devices to do this- we can make use of the shock-factor, a relatable situation, be intriguing, or use the slow-burn, but there has to be some instant hook in the language, the presentation or the images.

The dreaded talk outline slide



Why then do some presenters – thankfully, it seems to be a diminishing quantity – still persist in starting their presentation with death by outline? One of my absolutely pet peeves (and yes I will be passionate about this) is still relatively common in the academic space, either for conference talks or guest seminars. At the New Zealand Antarctic Research Institute (NZARI) [conference](#) I've been at this week, there were many examples of [death by powerpoint](#)* **. And some of the talks caused my teeth to clench as they started with the unbearable talk outline slide.

It goes something like this and forewarning it is boring: “First I'm going to give you an Introduction, then we're going to discuss the methods, then I'll go through my results and then I'll discuss my conclusions”.



Jarrod Cusens @jcusens · Jul 1

@VicMetcalf_NZ "First I will tell you what we all already know and spend less time telling you what we don't"??

For a mere ten minute talk spending a minute or more outlining what you're going to talk about in this format is insane and wasting everyone's time. In fact I think this applies to pretty much any oral presentation.

When I voiced my despair at seeing another dreaded outline at the conference on Twitter I had mixed responses. Some liked seeing talk outlines and saw them as 'useful'- safe perhaps? Consider the safe concept in the context that during a good talk everyone should be pushed slightly outside of "what they know".



Sophie Fern @SophieFern · Jul 1

@pierrerroudier @VicMetcalf_NZ Agree, but we're taught to "tell them what you'll tell them, tell them, tell them what you've told them"



I think most likely this is a cultural expectation- someone sometime unfortunately decided talk outlines were a way to command authority and now we expect them without considering whether they aid or hinder. Reference was made to the talk tips by John Roth [here](#) and that he suggests a talk outline:

“Outline your talk

Before you start, put up a brief outline on the board. Go through it quickly, spending just a few moments (one minute maximum). Don't dwell on details they can't understand yet. This outline lets them know that you've got a plan and are likely to be a competent guide. As you go through the talk refer to your outline. E. g. “We've gotten

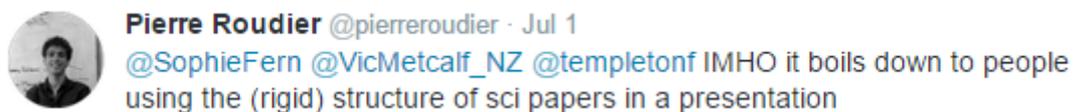
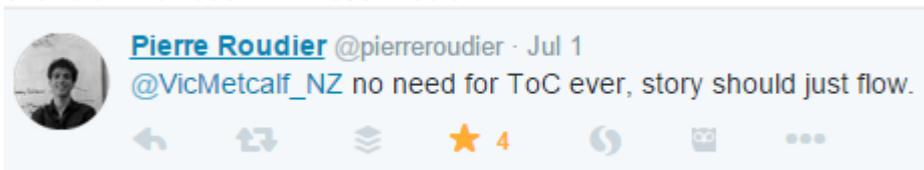
through the background section and have posed the major question. Now we'll proceed to describe experiments that are designed to approach an answer." This is another device for punctuating your talk, breaking the tension and allowing people to reset the clock of their attention span."

There are many good tips in his post but it was also written in 1996. Communication ideas have changed a lot since then. And I would say to his talk outlines ideas shown above: "Really? You need to convince people that you have a plan and are 'likely to be a competent guide'? Surely, people start from a hopeful place when someone starts to present, assuming the person has a plan for their talk? Isn't everyone meant to be prepared? Isn't the demonstration of competence achieved by hooking people in with the story at the start, rather than boring them with comfort? There are plenty of strategies for letting people know where they are in the telling of your story, but punctuating a talk with letting them know that you're about "to describe experiments that are designed to approach an answer" is just plain dull.

To be human is to tell stories

Using a talk outline is a safeguard but not a constructive one- people use them to try to convince the audience as indeed Roth suggests that they are the authority for what they are going to discuss, as well as probably also to self-reinforce they can be proper and serious; in other words up to the gravitas of the task. Except talks shouldn't be so serious. And showing the audience that we need reminding too of the talk content we are about to tell in my opinion leads to the opposite of convincing them you are a competent guide.

Demonstrating authority might be one way to manage a room, but I much prefer a leadership model where you create a respectful space through demonstrating passion, empathy and storytelling skills. Pierre Roudier hit the death by outline scenario on the head with these tweets:



And given that science papers can be pretty impenetrable as I recently wrote ([Making the impenetrable penetrable: science publications as videos](#)), it's really not a good model to base a talk on. Powerpoint is a much used and also a much maligned presentation tool that comes under frequent criticism. More often than not it's used poorly but when presentations are constructed carefully it is a [useful and constructive AID](#) to what we are saying. Talk outline slides do not sit in the constructive category. Instead, make use of storytelling techniques at the beginning of a presentation to more beautifully cover what your talk will delve into.

Let's be passionate people. Let's fill our talks with excitement and our story, which is uniquely ours to tell. And for goodness sake ditch death by outline.

*Some tips for avoiding Death by Powerpoint are [here](#).

**I'll write more on presentation tips of what to do and not to do in the future (sorry if that sounded like the outline of a future blog post(s) – it's why I put it as a footnote-because it's not important to my story).

Selection of recent papers from the SW Pacific

Quantifying anthropogenic carbon inventory changes in the Pacific sector of the Southern Ocean

The Southern Ocean plays a major role in mediating the uptake, transport, and long-term storage of anthropogenic carbon dioxide (CO₂) into the deep ocean. Examining the magnitude and spatial distribution of this oceanic carbon uptake is critical to understanding how the earth's carbon system will react to continued increases in this greenhouse gas. Here, we use the extended multiple linear regression technique to quantify the total and anthropogenic change in dissolved inorganic carbon (DIC) along the S04P and P16S CLIVAR/U.S. Global Ocean Carbon and Repeat Hydrography Program lines south of 67°S in the Pacific sector of the Southern Ocean between 1992 and 2011 using discrete bottle measurements from repeat occupations. Along the S04P section, which is located in the seasonal sea ice zone south of the Antarctic Circumpolar Current in the Pacific, the anthropogenic component of the DIC increase from 1992 to 2011 is mostly found in the Antarctic Surface Water (AASW, upper 100 m), while the increase in DIC below the mixed layer in the Circumpolar Deep Water can be primarily attributed to either a slowdown in circulation or decreased ventilation of deeper, high CO₂ waters. In the AASW we calculate an anthropogenic increase in DIC of $12 \pm 18 \mu\text{mol kg}^{-1}$ and an average storage rate of anthropogenic CO₂ of $0.10 \pm 0.02 \text{ mol m}^{-2} \text{ yr}^{-1}$ for this region compared to a global average of $0.5 \pm 0.2 \text{ mol m}^{-2} \text{ yr}^{-1}$. In surface waters this anthropogenic CO₂ uptake results in an average pH decrease of $0.0022 \pm 0.0004 \text{ pH units yr}^{-1}$, a $0.47 \pm 0.10 \text{ \% yr}^{-1}$ decrease in the saturation state of aragonite ($\Omega_{\text{Aragonite}}$) and a $2.0 \pm 0.7 \text{ m yr}^{-1}$ shoaling of the aragonite saturation horizons (calculated for the $\Omega_{\text{Aragonite}} = 1.3$ contour).

Williams N. L., Feely R. A., Sabine C. L., Dickson A. G., Swift J. H., Talley L. D. & Russell J. L., in press. Quantifying anthropogenic carbon inventory changes in the Pacific sector of the Southern Ocean. *Marine Chemistry*. [Article](#) (subscription required).

High-resolution physical and biogeochemical variability from a shallow back reef on Ofu, American Samoa: an end-member perspective

Shallow back reefs commonly experience greater thermal and biogeochemical variability owing to a combination of coral community metabolism, environmental forcing, flow regime, and water depth. We present results from a high-resolution (sub-hourly to sub-daily) hydrodynamic and biogeochemical study, along with a coupled long-term (several months) hydrodynamic study, conducted on the back reefs of Ofu, American Samoa. During the high-resolution study, mean temperature was 29.0 °C with maximum temperatures near 32 °C. Dissolved oxygen concentrations spanned 32–178 % saturation, and pHT spanned the range from 7.80 to 8.39 with diel ranges reaching 0.58 units. Empirical cumulative distribution functions reveal that pHT was between 8.0 and 8.2 during only 30 % of the observational period, with approximately even distribution of the remaining 70 % of the time between pHT values less than 8.0 and greater than 8.2. Thermal and biogeochemical variability in the back reefs is partially controlled by tidal modulation of wave-driven flow, which isolates the back reefs at low tide and brings offshore water into the back reefs at high tide. The ratio of net community calcification to net community production was 0.15 ± 0.01 , indicating that metabolism on the back reef was dominated by primary production and respiration. Similar to other back reef systems, the back reefs of Ofu are carbon sinks during the daytime. Shallow back reefs like those in Ofu may provide insights for how coral communities respond to extreme temperatures and acidification and are deserving of continued attention.

Koweeck D. A., Dunbar R. B., Monismith S. G., Mucciarone D. A., Woodson C. B. & Samuel L., in press. High-resolution physical and biogeochemical variability from a shallow back reef on Ofu, American Samoa: an end-member perspective. *Coral Reefs*. [Article](#) (not open access).

Upcoming events

The **4th Oceans in a high CO₂ world symposium** will be held at the Hotel Grand Chancellor in Hobart, Tasmania on May 3-6 2016.

Proposed Themes:

- Changing ocean carbonate chemistry from coastal to open ocean environments: past, present and future
- Linking process studies and observations from local to regional scales
- Ecosystem change and resilience in response to ocean acidification
- Multiple environmental stressors and their compounding influences on ocean acidification response
- Acclimation and adaptation to ocean acidification
- Impacts of ocean acidification on fisheries, food security and biodiversity

The Regional Committee are currently discussing session topics and associated workshops. The latter will take place, primarily in Hobart, before or after the main Symposium.

Registration opened 1st May 2015, with Abstract submissions open on 1st June and closing 2nd November 2015. Sign up on the mailing list for further information @ <http://www.highco2-iv.org/>