Gamma irradiation does not affect the stable isotope signals of fish, crustaceans, submerged vegetation or soils.

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I work for CSIRO marine and atmospheric research in the Benthic Ecology team. I'm a former pearl diver and researcher with Paspaley Pearls in Broome WA. My main interests are…. I've never needed much coding before Data School other than loading other peoples scripts and running thenm to generate figures. I have been off work for the last two years recovering from a heart attack. I'm glad to be alive and back at work!

My Project

Uncertainty over the effects of sample preparation has been a major concern in the field of stable isotope analysis. This has been magnified given that global collaboration in environmental sciences often requires the importation and treatment of samples when they cross national and international boundaries. Many governments have enacted biosecurity controls involving gamma irradiation to prevent the importation of pests and diseases. The potential consequences of this treatment for the elemental and chemical properties of biological samples has not previous been examined. We prepared a range of common samples from a coastal wetland (fish, invertebrate, vegetation and soils) and tested the effect of gamma irradiation (γ) on the stable isotope signals (δ13C and δ15N) and elemental %C and %N values. Our analysis showed no marked variation between gamma irradiated samples and controls for any of these sample types. Indeed there was a strong correlation (>.999) between treated and control samples for both isotope signals. Our study should dispel concerns about the potential effects of gamma irradiation (for biosecurity purposes) on stable isotope samples and encourage practitioners to uphold the biological integrity of their respective nations by conforming to importation requirements.

Preliminary results

This section will demonstrate the different visuals you might want use to show off your project. Don't feel the need to go overboard, this is supposed to give a taste of the work you are doing rather than being a publication ready document.

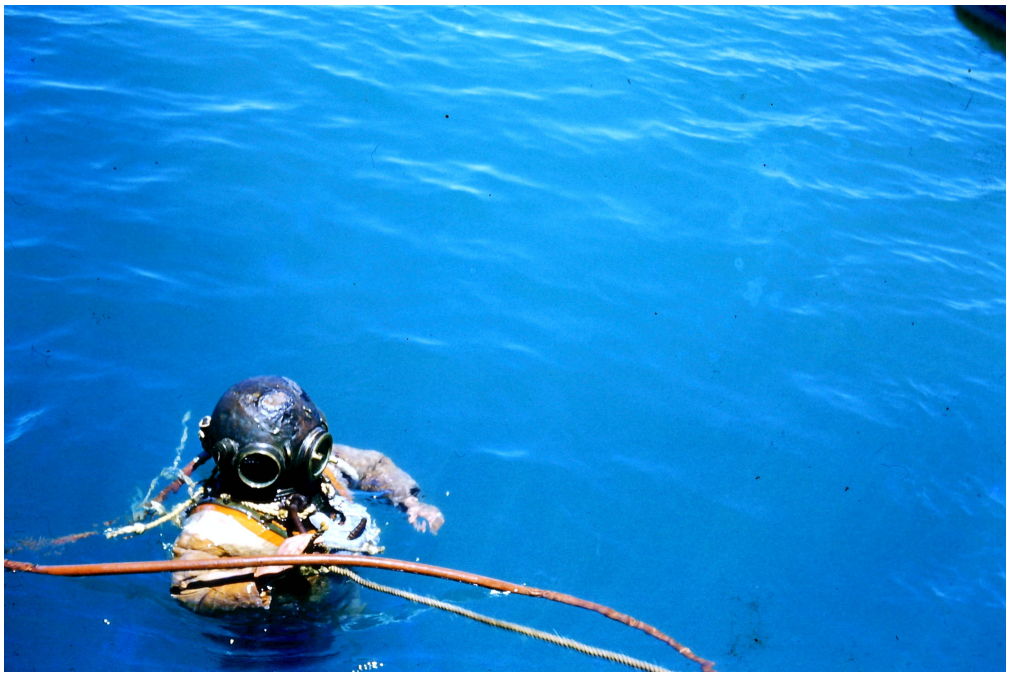
To get tables formatting correctly, use `knitr::kable` to convert the table to html format. If you also want to have alternate row highlighting, pass the result to `kable_styling('striped')` from the `kableExtra` package.

Tables

Table 1: Raw data from the project.

Sample name	sample	site	type	15N	13C	N [%]	C [%]	C/N
A1-0-SS1 C	C	Archer	crab	7.42	-17.20	13.5	45.8	3.4
A1-0-SS1 G	G	Archer	crab	7.52	-17.37	13.7	45.7	3.3
A1-0-SS2 C	C	Archer	crab	7.48	-25.23	13.5	43.7	3.2
A1-0-SS2 G	G	Archer	crab	7.46	-25.41	13.3	43.0	3.2
A1-0-HF1 C	C	Archer	fish	7.79	-17.04	14.1	45.3	3.2
A1-0-HF1 G	G	Archer	fish	7.71	-17.14	14.4	45.7	3.2
A1-0-HF2 C	C	Archer	fish	8.01	-17.86	14.7	47.1	3.2
A1-0-HF2 G	G	Archer	fish	8.04	-17.63	14.4	45.7	3.2
A1-0-RY C	C	Archer	mangrove	-0.67	-30.04	0.8	46.2	57.2
A1-0-RY G	G	Archer	mangrove	-0.86	-30.21	0.8	46.9	55.7

Images from a file



Plots from R

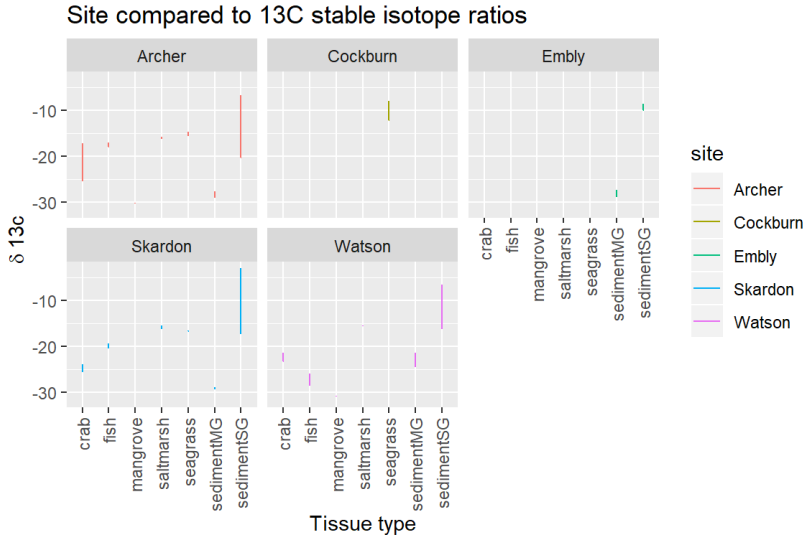


Figure 1: Stable isotope plot

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## Warning: Removed 10 rows containing missing values (geom_path).
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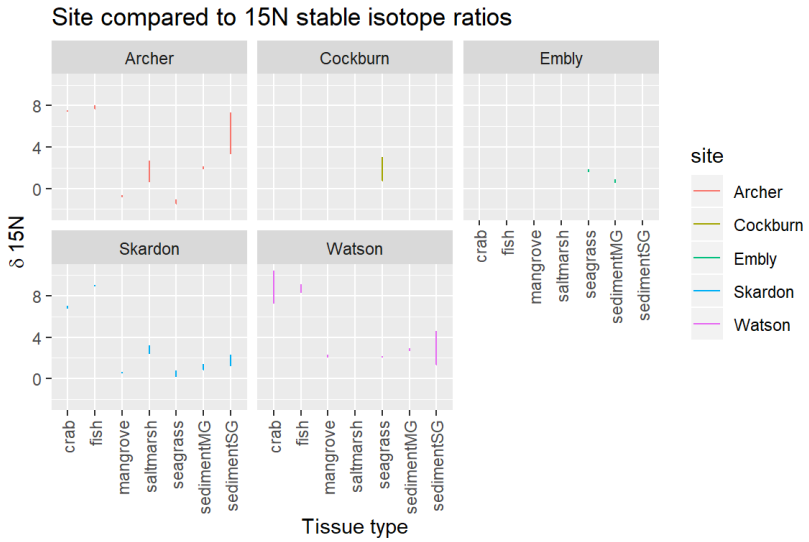

Figure 2: Stable isotope plot2

Your figure and table captions are automatically numbered and can be referenced in the text if needed: see eg. Table 1 and Figure **??**

My Digital Toolbox

What digital tools have you been using in your project? Which ones have you learned since starting Data School?

You can use all the usual R markdown features in writing a project summary, including lists:

- R - dplyr, ggplot, …
- Python
- SQL

Favourite tool (optional)

Is there a tool/package/function in particular that you've enjoyed using? Give it a special shout out here.

No prizes for guessing mine:

My time went …

What parts of the project took the most time and effort? Were there any surprising challenges you encountered, and how did you solve them?

Next steps

What further steps do you wish your project could take? Or are there any new digital skills that you are keen to develop as a result of your involvement in the Data School?

My Data School Experience

This poster is mostly about your synthesis project. However we would also like to hear about other parts of your Data School experience. What aspects of the program did you really enjoy? How have you been applying the skills you have learned in your daily work? Have you been able to transfer this knowledge to your team members? Concrete examples demonstrating this would be useful here (meetings/talks/collaborations/new roles). Any descriptions of the personal impact the program has had are welcome here as well!