Tutorial Template (working outline)

Tutorial

## Project Short Title | NASA DEVELOP | Term Year

## Project Long Title

**Tutorial**

Author 1 (Project Lead)

Author 2

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***Advisors:***

Advisor 1, Affiliation (Science Advisor)

Advisor 2, Affiliation (Science Advisor)

***Previous Contributors:***

Contributor 1

Contributor 2

***Fellow:***
Node Fellow (Node Name)

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**Section Ideas**

1. **Overview**

Brief paragraph explaining goal of the tutorial.

1. **Setup & Requirements**

Basic requirements and setup to get started. For instance, in GEE, explaining that your Gmail account needs to be registered if you are a first time GEE user, etc. Should be subdivided by programs/applications to include all that are utilized for the creation of the final product.

**Methods**

Here is where the majority of this deliverable lives. This should be an ordered list of instructions, e.g., actionable steps, necessary for replicating the methods that created the handoff material, and/or to perform a desired analysis. See [examples](#_Examples) of tutorial steps and code snippets at the end of this document.

**Brief Conclusion**

Suggestions on next steps if user finishes tutorial and may want to explore further. Conclusion should reiterate the overarching processes contained in the document and how they are applied to decision-making practices. Be careful here **not** to tell partners how to make decisions that are out of bounds for NASA. Try to focus on how the type of information garnered from this tutorial is of value to the organization.

1. **Acknowledgements**

All necessary acknowledgements of software, code, licensing, and contracting.

This material contains modified Copernicus Sentinel data (insert year), processed by ESA.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration.

This material is based upon work supported by NASA through contract NNL16AA05C.

1. **Citations**

Include references for your open-source code snippets. Additionally, insert references in-text as this well will help illustrate where code is coming from. In-text citations are extremely useful, especially if you have more than one open-source code you are referring to.

1. **Licensing**

Include licensing information as part of our dos/don'ts for code.

**Tutorial Checklist**

**Dos and Don'ts for Including Code/Tutorial Best Practices**

Code tutorials explain how use to code or scripting tools that are already in the public domain. The idea here is that if the code is already in public, teams can quote that in snippets and interlace those snippets with narrative to create a hybrid kind of document that might help get partners closer to being able to code their own solutions. See [examples](#_Examples) at the end of this document.

|  |  |
| --- | --- |
| **DONT** | **DO** |
| **Don’t** include unreleased code. No code produced by the team can be shared outside of the DEVELOP program, including through tutorials. | **Do** include open-source code. There are two types of publicly released code to recognize:(1) open-source code with a license(2) public code without a license.Teams should use open-source code with a license. |
| **Don’t** include images, screenshots, or direct examples of modified open-source code. This includes changing input parameters or study area directly in the code. | **Do** *describe* any changes or modifications to code in narrative form, such as changes in input parameters and study area. |
| **Don’t** describe the methods how you would in the tech paper. | **Do** write steps with an instructional tone. |
| **Don’t** combine or “mash up” various lines of code into one code chunk. Each code chunk or individual line of code should come from one source. | **Do** cite code included in the tutorial. Any code in the tutorial needs to be referenced clearly indicating the origin of the code. |

**Formatting**

1. Limit your tutorial to around 20-30 pages. Do not cram everything into one page, but also do not create a bloated 80-page tutorial. Be as concise and as descriptive as possible without creating a very long and hard to read tutorial.
2. Strongly recommend use of **images/diagrams** to help illustrate steps better. Can include arrows, boxes, etc.
3. Use a screenshot utility tool for easy screenshotting of icons and open-source code snippets.
For Windows use “Snipping Tool”  For Mac use ”Grab” 
4. GIS tutorials only: Have icons in-text showing buttons for the user to select in ArcGIS Pro or ArcMap. Example: 
5. Use **Century Gothic** for headers and table of contents.
6. Use **Garamond** for non-code text in text body.
7. Highlight key steps/words by app area color and in **bold font**. This should be used consistently throughout the document.
8. Code snippets or screenshots of code must only include non-modified open-sourced *licensed* code.
9. Paragraphs are okay to introduce sections, but all steps should be in numbered format. Complete sentences are not required in bullet points but are necessary for paragraphs.

**Content**

1. **Table of Contents is** **required**. Here are the guidelines for how to use the Table of Contents. See [examples](#_Examples) at the end of this document.
	1. Make sure to use the correct headings styles throughout the document. The styles are: Body Text, Heading 1, Heading 2, and Heading 3.
* **Body Text** – Used for most of the text throughout the document. Format when necessary (resize, bold, underline, etc)
* **Heading 1** – Used for the Main headings (Overview, Set Up & Requirements, Method, etc)
* **Heading 2** – Used for Section headings (Program, Data Acquisition, etc)
* **Heading 3** – Used for Sub Section headings (Study Area Shapefile, etc)
* To add/change a heading, highlight the text, go to the **Home** tab, go to **Styles**, and choose the one that you need.
	1. Once you’ve added new content to your document, you’re then able to Update the Table of Contents.
		+ 1. Right click anywhere within the Table of Contents and select “**Update Field**”
			2. Click “**Update entire table**” and click “**Ok**”
			3. Everything is now updated, including the page numbers

**NOTE**: DO NOT edit the Table of Contents manually. As long as the right headings are used, it should appear correctly when updated.

1. All websites, software packages, etc., should be properly introduced at the first mention with how to access it (including links)
2. **Don’t assume your audience knows everything** – be detailed yet concise!
	1. Tailor this to the partner skill level as much as possible. Are they GIS experts or are they volunteers who have never done mapping/GEE before?
3. Include actionable steps – background info is better located in the tech paper. Keep this deliverable goal oriented.
4. Section at the beginning of tutorial describing purpose of document, how and why should be used, etc.
5. Brief conclusion section detailing how the methods described are applicable to decision making.

## Examples

**Tutorial Steps and Code Snippets**



**Table of Contents**



**Heading Styles**

**Examples of Headings being used**



**Select “Update entire table” and “Ok”**

**Right-Click and select “Update Field”**