**README: MATLAB Scripts and Data for "** **Subsurface Ocean Turbulent Mixing Enhances Central Pacific ENSO as Positive Feedback"**

**Overview**

This repository contains all the data and MATLAB scripts used to generate the figures presented in the manuscript. Specifically, it includes:

1. Figures 1–8 from the main text.
2. Extended Data Figures S1–S8.
3. MATLAB scripts used to process the data and produce the figures.
4. Processed data files used in the analysis.

**File Structure**

**1. Figures/**

This folder contains the final versions of all figures as shown in the manuscript.

* **Main\_Figures/**: Figures 1–8 from the main text.
* **Extended\_Data\_Figures/**: Figures S1–S8 from the supplementary information.

**2. Scripts/**

This folder contains MATLAB scripts for data processing and visualization.

* **FigX.m**: Corresponding script to reproduce Figure X (e.g., Figure1\_original.m for Figure 1).
* **FigSX.m**: Scripts for extended data figures (e.g., FigS1.m for Extended Data Figure S1).

**3. Data/**

This folder includes all processed data files.

* **Processed\_Data/**: Data files formatted and processed for plotting and analysis.

**Usage Instructions**

**Prerequisites**

* MATLAB (R2022b or newer recommended).
* Required MATLAB toolboxes:
  + M-MAP
  + Sea Water

**Running the Scripts**

1. Open MATLAB and run the script