

The TECA, Toolkit for Extreme Climate Analysis, User's Guide

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1 Installing and Running TECA

1.1 Download

1.1.1 Binaries

1.1.2 Sources

1.2 Build and Installation

1.2.1 Prerequisites

CMake

Supported Compilers

NetCDF

Boost

VTK

1.2.2 Windows

1.2.3 Linux

1.2.4 Apple

1.2.5 Cray

1.3 Running the Pre-packaged Applications

1.3.1 AR Detector

1.3.2 TC Detector

1.3.3 ETC Detector

1.4 Algorithm Library

1.4.1 Input and Data Readers

1.4.2 Detectors

1.4.3 Analysis

1.4.4 Re-meshing

1.4.5 Output and Data Writers

1.5 Python Scripting

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2 TECA Framework Design and Architecture

2.1 The Pipeline Pattern and the Algorithm Abstraction

2.2 Information and Data Flow in the Pipeline

2.3 Algorithm Abstraction

2.4 Metadata-structures

2.5 Data-structures

2.5.1 Mesh Based Data

2.5.2 Tabular Data

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2.6 Examples

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3 Contributing Code to TECA

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3.1 Github Workflow

3.2 Coding Standard

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3.4 Writing an Algorithm

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3.7 Porting an Existing Algorithm

4 Publications

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