METplus Version 2.0
Automation for the Model Evaluation Tools

Developmental Testbed Center
Boulder, Colorado

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Foreword: A note to METplus users

This User’s Guide is provided as an aid to users of the Model Evaluation Tools (MET) and its companion package METplus. MET is a set of verification tools developed and supported to community via the Developmental Testbed Center (DTC) for use by the numerical weather prediction community. METplus is intended to be a suite of Python wrappers and ancillary scripts to enhance the user’s ability to quickly set-up and run MET. Over the next few years, METplus will become the authoritative repository for verification of the Unified Forecast System.

It is important to note here that METplus is an evolving software package. Previous releases of METplus have occurred since 2017. This documentation describes the 2.0 release in September 2018. Intermediate releases may include bug fixes. METplus is also be able to accept new modules contributed by the community. If you have code you would like to contribute, we will gladly consider your contribution. While we are setting up our community contribution protocol, please send email to: met_help@ucar.edu and inform us of your desired contribution. We will then determine the maturity of new verification method and coordinate the inclusion of the new module in a future version.

This User’s Guide was prepared by the developers of the METplus, including Dan Adriaansen, Minna Wingenmeister, Julie Prestopnik, Jim Frimel, Mallory Row, John Halley Gotway, George McCabe, Paul Prestopnik, Christana Kalb, Hank Fisher, Jonathan Vigh, Lisa Goodrich, Tara Jensen, Tatiana Burek, and Bonny Strong.

New for METplus v2.0

METplus v2.0 includes some new wrappers:

- pb2nc_wrapper
  - Python wrapper to the MET tool pb2nc

- point_stat_wrapper
  - Python wrapper to the MET tool point_stat

Enhancements, refactoring, and bug fixes have been addressed in the following wrappers:
- tc_stat_wrapper
  - can now be run stand-alone
- tc_pairs_wrapper
  - can now read ATCF input file formats
  - support for numerous input file naming conventions
  - support for input data organized into one directory or subdirectories with date information in the name
- cyclone_plotter_wrapper
  - replaced the dependency on Basemap toolkits (which are unstable on some platforms) with Cartopy for map rendering
- tcmpr_plotter_wrapper
  - now supports whitespace in plot title, sub-title, and legend
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Acknowledgments

We thank the the National Science Foundation (NSF) along with three organizations within the National Oceanic and Atmospheric Administration (NOAA): 1) Office of Atmospheric Research (OAR); 2) Next Generation Global Prediction System project (NGGPS); and 3) United State Weather Research Program (USWRP) for their support of this work. Thanks also go to the staff at the Developmental Testbed Center for their help, advice, and many types of support. We released METplus Alpha in February 2017 and would not have made a decade of cutting-edge verification support without those who participated in DTC planning workshops and the NGGPS United Forecast System Strategic Implementation Plan Working Groups (NGGPS UFS SIP WGs).

The DTC is sponsored by the National Oceanic and Atmospheric Administration (NOAA), the United States Air Force, and the National Science Foundation (NSF). NCAR is sponsored by the National Science Foundation (NSF).
Chapter 1

Overview of METplus

1.1 Purpose and organization of the User’s Guide

The goal of this User’s Guide is to equip users with the information needed to use the Model Evaluation Tools (MET) and its companion package METplus. MET is a set of verification tools developed and supported to community via the Developmental Testbed Center (DTC) for use by the numerical weather prediction community. METplus is a suite of Python wrappers and ancillary scripts to enhance the user’s ability to quickly set-up and run MET. Over the next few years, METplus will become the authoritative repository for verification of the Unified Forecast System.

The METplus User’s Guide is organized as follows. Chapter 1 provides an overview of METplus. Chapter 2 contains basic information about how to get started with METplus - including system requirements, required software, and how to download METplus. Chapter 3

1.2 The Developmental Testbed Center (DTC)

METplus has been developed, and will be maintained and enhanced, by the Developmental Testbed Center (DTC; [http://www.dtcenter.org/]). The main goal of the DTC is to serve as a bridge between operations and research, to facilitate the activities of these two important components of the numerical weather prediction (NWP) community. The DTC provides an environment that is functionally equivalent to the operational environment in which the research community can test model enhancements; the operational community benefits from DTC testing and evaluation of models before new models are implemented operationally. METplus serves both the research and operational communities in this way - offering capabilities for researchers to test their own enhancements to models and providing a capability for the DTC to evaluate the strengths and weaknesses of advances in NWP prior to operational implementation.

METplus will also be available to DTC visitors and to the WRF modeling community for testing and evaluation of new model capabilities, applications in new environments, and so on. The METplus release
schedule is coincident with the MET release schedule and the METplus major release number is six less than the MET major release number (e.g. MET 8.0 is released with METplus 2.0).

1.3 METplus goals and design philosophy

METplus is a Python scripting infrastructure for the MET tools. The primary goal of METplus development is to provide MET users with a highly configurable and simple means to perform model verification using the MET tools. Prior to the availability of METplus, users who had more complex verifications that required the use of more than one MET tool were faced with setting up multiple MET config files and creating some automation scripts to perform the verification. METplus provides the user with the infrastructure to modularly create the necessary steps to perform such verifications.

METplus has been designed to be modular and adaptable. This is accomplished through wrapping the MET tools with Python and the use of hierarchical configuration files to enable users to readily customize their verification environments. Wrappers can be run individually, or as a group of wrappers that represent a sequence of MET processes. New wrappers can readily be added to the METplus package due to this modular design. Currently, METplus can easily be applied by any user on their own computer platform that supports Python 2.7.

The METplus code and documentation is maintained by the DTC in Boulder, Colorado. METplus is freely available to the modeling, verification, and operational communities, including universities, governments, the private sector, and operational modeling and prediction centers through a publicly accessible GitHub repository. Users simply need access to a web browser to download the source code and any other relevant documentation and data samples.

1.4 METplus components

The major components of METplus package are METplus Python wrappers to the MET tools, MET configuration files and a hierarchy of METplus configuration files. Some Python wrappers do not correspond to a particular MET tool, but wrap utilities to extend METplus functionality.

1.5 Future development plans

METplus is an evolving application. New capabilities are planned in controlled, successive version releases that are synchronized with MET releases. Bug fixes and user-identified problems will be addressed as they are found and posted to the known issues section of the METplus Users web page [www.dtcenter.org/met/users/support](http://www.dtcenter.org/met/users/support). Future METplus development plans are based on several contributing factors, including the needs of both the operational and research community. Issues that are in the development queue detailed in the “Issues” section of the GitHub repository. Please send questions to met_help@ucar.edu
1.6 Code support

METplus support is provided through a MET-help e-mail address: met_help@ucar.edu. We will endeavor to respond to requests for help in a timely fashion. In addition, information about METplus and tools that can be used with MET are provided on the MET Users web page (http://www.dtcenter.org/met/users/).

We welcome comments and suggestions for improvements to METplus, especially information regarding errors. Comments may be submitted using the MET Feedback form available on the MET website. In addition, comments on this document would be greatly appreciated. While we cannot promise to incorporate all suggested changes, we will certainly take all suggestions into consideration.

METplus is a "living" set of wrappers and configuration files. Our goal is to continually enhance it and add to its capabilities. Because our time, resources, and talents are limited, we welcome contributed code for future versions of METplus. These contributions may represent new use cases or new plotting functions. For more information on contributing code to METplus, please contact met_help@ucar.edu.
Chapter 2

Software Installation/Getting Started

2.1 Introduction

This chapter describes how to download and set up METplus. METplus has been developed and tested on the Debian Linux operating system.

2.2 Supported architectures

METplus was developed on Debian Linux and is supported on this platform.

2.3 Programming/scripting languages

METplus is written in Python 2.7. METplus is intended to be a tool for the modeling community to use and adapt. As users make upgrades and improvements to the tools, they are encouraged to offer those upgrades to the broader community by offering feedback to the developers or coordinating for a GitHub pull. For more information on contributing code to METplus, please contact met_help@ucar.edu.

2.4 Pre-requisites

The following software is required to run METplus:

- Python 2.7
CHAPTER 2. SOFTWARE INSTALLATION/GETTING STARTED

- R version 3.2.5
- nco (netCDF operators)
- MET version 6.1 or above
- Basic familiarity with MET
- GitHub account (if you plan on contributing code to METplus)

2.5 METplus directory structure

Once you have cloned the METplus from the GitHub repository at https://github.com/NCAR/METplus to a location on your host, change directories to the METplus directory. You should have the following directory structure:

```
METplus
  doc
  internal_tests
  parm
  sorc
  ush
  README.md
```

The top-level METplus directory consists of a README.md file and several subdirectories.

The doc/ directory contains documentation for users (PDF) and Doxygen files that are used to create the developer documentation. The Doxygen documentation can be created and viewed via web browser if the developer has Doxygen installed on the host.

The internal_tests/ directory contains unit test scripts that are only relevant to METplus developers and contributors.

The parm/ directory contains all the configuration files for MET and METplus.

The sorc/ directory contains Doxygen executables to generate documentation for developers.

The src/ directory contains the source code for each of the wrappers in METplus.

The ush/ directory contains the Python wrappers to the MET tools.

---

1R version 3.2.5 is required when the tcmpr_plotter_wrapper.py wraps the plot_tcmpr.R script. Please refer to Chapter 21 Plotting and Graphics Support for more information about plot_tcmpr.R.
2.6 Getting the METplus source code

The METplus source code is available for download from a public GitHub repository. You can retrieve the source code through your web browser or the command line.

2.6.1 Get the source code via your Web Browser

2.6.1.1 Source code only:

If you wish to retrieve only the source code, then the following steps will illustrate how to quickly access the METplus source code and relevant documentation:

- On your local host (or wherever you wish to install the METplus code) create a directory where you want the code to reside
- Open the browser of your choice and navigate to https://github.com/NCAR/METplus. You will see something like the following:
Python scripting infrastructure for MET tools.

METplus Repository README File {#METplus_README}

Welcome to the documentation for the Model Evaluation Tools Plus (METplus).

This is the METplus repository Top level README.md

Basic DOCUMENTATION - getting started

ALL Documentation specific to this repository can be found in the doc/ directory.

The ORIGINAL setup text documentation in a markdown file is found here.
- doc/README_install.md — installation, configuration, running
- doc/README_terms_of_use.md — legal Terms Of Use

METplus is a Python scripting infrastructure around the MET verification tools (and eventually METViewer, a tool used for plotting MET output verification statistics).

This infrastructure utilizes the NCEP product package. A Platform-independent weather and ocean forecasting utility package, Developed at the National Oceanic and Atmospheric Administration (NOAA).

Website Documentation

Users can generate an entire METplus documentation website, if they have Doxygen version 1.8.9.1 or later installed.

```
cd METplus/sorc
make doc
```

In your browser, open the page METplus/doc/html/index.html

Terms of Use

@ref METplus_TermsOfUse

Install/Configure/Run Guide

@ref METplus_install_guide

Product Guide

@ref METplus_product
- You should be directed to the 'master' branch, verify this by looking at the button labelled 'Branch' in the upper left corner of your window, directly beneath the solid blue horizontal line.

- Click on the green “Clone or download” button near the top right of the page.

- A box appears with “Clone with HTTPS” label

- Click on the blue text: “Download Zip”:

- Your browser should prompt you on what to do with this file. Save it to the directory you created above.

- cd to the directory where you saved the code. You should see the file METplus-master.zip

- Uncompress the file:
  - Linux/Unix:
    - unzip METplus-master.zip
  - You should now have a METplus-master directory
    * If you downloaded the code via the command line, you will get a METplus directory rather than METplus-master.
    * GitHub appends the '-master' to the name to emphasize that is is from the master branch
    * To avoid clutter and confusion, you can now remove the METplus-master.zip (optional)
2.6.1.2 Source code, additional documentation, and sample data

If you are a new METplus user and would like to experiment with the use cases, you will want to follow these instructions to retrieve the source code, additional documentation and sample data that accompanies the use cases:

• On your local host (or wherever you wish to install the METplus code) create a directory where you want the code to reside

• Open the browser of your choice and navigate to https://github.com/NCAR/METplus. You will see something like the following:
Python scripting infrastructure for MET tools.

METplus Repository README File (#METplus_README)

Welcome to the documentation for the Model Evaluation Tools Plus (METplus).

This is the METplus repository Top level README.md

Basic DOCUMENTATION - getting started

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This infrastructure utilizes the NCEP product package. A Platform-independent weather and ocean forecasting utility package, developed at the National Oceanic and Atmospheric Administration (NOAA).

Website Documentation

Users can generate an entire METplus documentation website, if they have Doxygen version 1.8.9.1 or later installed.

```
cd METplus/source
make doc
In your browser, open the page METplus/doc/html/index.html
```

Terms of Use

@ref METplus_TermsOfUse

Install/Configure/Run Guide

@ref METplus_install_guide

Product Guide

@ref METplus_product
• Click on the 'releases' link, highlighted by a red circle in the diagram below:

![Diagram](image)

• You will be redirected to another screen. The latest available release appears at the top of the screen:

![Screen](image)

• Click on the 'Source code' link (either the zip or tar.gz) and when prompted, save it to the directory you created.
• Uncompress the source code (on Linux/Unix: `gunzip` for zip file or `tar xvfz` for the tar.gz file)

• Create a directory for the sample data directory

• Click on the `sample_data.tar.gz` link and when prompted, save the file to the directory you created above

### 2.6.2 Get the source code via Command line

• On your local host (or wherever you wish to install the METplus code) create a directory where you want the code to reside

• cd to the directory you just created.

• On the command line, enter the following:
  
  ```bash
  git clone https://github.com/NCAR/METplus
  ```

  The source code should appear under the METplus directory

• To update your copy, cd to your METplus install directory: `/path/to/METplus` and enter `git pull` at the command line

### 2.7 Set up your environment

Environment variables need to be set to allow the METplus application to be run from any directory and for locating the necessary Python modules. There is an option to set the JLOGFILE environment variable, which indicates where JLOGS will be saved. JLOGS provide information pertinent to the configuration-file framework. If this environment is unset, then output from the configuration framework will be directed to stdout (your display).

Add the following information to your `.cshrc` (C shell) or `.bashrc` (Bash shell):

#### .cshrc:

- Open your `.cshrc` file and do the following:
- To your PATH, add: `full-path-to-METplus/ush`
- To your PYTHONPATH, add: `full-path-to-METplus/ush;full-path-to-METplus/parm`
- Optional: add JLOGFILE variable and set to `full-path-to-save-jlog-files`
- Close your `.cshrc` file and run `source ~/.cshrc`
2.8 Set up METplus Configuration files

There are four METplus configuration files that must be defined prior to running METplus. These configuration files reside in the METplus_INSTALL_DIRECTORY/METplus/parm/metplus_config

The following configuration files are automatically loaded during a METplus run and do not need to be invoked on the command line.

- **metplus_data.conf**
  - data-relevant settings:
    * filename templates
    * regular expressions for input or output filenames
    * directories where input data are located

- **metplus_logging.conf**
  - set logging levels for METplus and MET output
  - turn on/off logging to stdout (screen) or log files
• **metplus_runtime.conf**
  - runtime-related settings:
    * location of METplus master_metplus.conf file (the 'master' conf file that is a collection of all the final METplus configuration files)

• **metplus_system.conf**
  - system-related settings:
    * location of METplus source code
    * location of MET source and build
    * location of other non-MET executables/binaries
    * location of METplus parm directory

They must be fully defined by replacing all variables with /path/to's with valid path names, or have those variables defined in a down-stream config file. If configuring METplus in a common location for multiple users, it is recommended that the these four configuration files are fully defined. Individual users have the option to make customizations by over-riding any of these values in their own configuration files.

### 2.9 Running METplus

Running METplus involves invoking the Python script `master_metplus.py` from any directory followed by a list of configuration files (file path relative to the `path_to_METplus_install_dir/METplus/parm` directory).

**Example: Using a default configuration**

```
>master_metplus.py
```

Does nothing, a usage message appears, indicating that other config files are required to perform useful tasks.

**Example: Using a use-case configuration**

```
>master_metplus.py -c use_cases/feature_relative/feature_relative.conf
```

Runs METplus using the defaults set in the three config files found in `parm/metplus_config`. Any variables defined in these three config files can be over-ridden in the `parm/use_cases/feature_relative/feature_relative.conf` file. METplus will run using the values specified in the `feature_relative.conf` file.

**Example: Using example configuration to perform specific evaluation (e.g. Model 1 vs. Obs1, Model 1 vs Obs 2, Model 2 vs. Obs 1, etc.)**

```
>master_metplus.py -c use_cases/feature_relative/feature_relative.conf
 -c use_cases/feature_relative/example/series_by_lead_all_fhrs.conf
```

This runs METplus using the defaults set in the three config files found in `parm/metplus_config`, where variables can be over-ridden by `parm/use_cases/feature_relative/feature_relative.conf` or in `parm/use_cases/feature_relative/example/series_by_lead_all_fhrs.conf`. The order in which conf files are called is important. Variables that are defined in intermediate conf files will be over-ridden by the same variables set in the conf file following it, or the last conf file.
Chapter 3

METplus System Configuration

This chapter is a guide on configuring METplus.

3.1 Config Best Practices

Below is a list of Best Practices:

1. Set your log level to an appropriate level.
   (a) Debug is the most verbose and is useful for developers and when you are troubleshooting problems
   (b) Info is the less verbose than Debug and is the recommended level to initially set your log level
   (c) Warning - only logs warnings, error or critical events
   (d) Error - only logs errors or critical events
   (e) Critical is the least verbose

2. Direct your logging either to stdout or to a log file.

3. Review your log file to verify that all your processes ran cleanly.

4. The order in which you list your METplus config files matter. The last config file on the command line will over-ride any key-values defined in an earlier config file.

5. Check the master_metplus.conf file, as it contains all the key-values based on what you have specified. This will help you determine whether you forgot to replace any /path/to with valid paths or to verify that you have defined things as you expected.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

3.2 Config File Structure

METplus employs a hierarchy of configuration files employed in METplus. At the lowest level are the “set-and-forget” type configuration files that reside in the 
METplus_installation_dir/parm/metplus_config At the next level are the configuration files that pertain to a user’s specific needs in the METplus_installation_dir/parm/use_cases/specific_use_case

- Four configuration files are required for METplus to be fully configured (i.e. all keywords are defined by either whitespace or a valid value):
  - metplus_system
  - metplus_data
  - metplus_logging
  - metplus_runtime

By default, key-values that require the user’s input are set to /path/to. Make sure to replace these with the appropriate directory for your project.

- Additional configuration files are optional and the key-values defined there will over-ride any values defined in the four mandatory METplus configuration files. These additional configuration files enables users to use a common set of configuration files and to create customized environments for their verification tasks.

3.3 Config Quick Start Example

Track and Intensity Use case with sample data

- Create a directory where you wish to store the sample data
- Retrieve the sample data from the GitHub repository:
  - In your browser, navigate to https://github.com/NCAR/METplus/releases
  - locate the latest release and click on the sample_data.tar.gz link associated with that release
  - save it to the directory you created above, hereafter referred to as INPUT_DATA_DIRECTORY
  - cd to your $INPUT_DATA_DIRECTORY and uncompress the tarball: tar xvfz sample_data.tar.gz
  - when you perform a listing of the sample_data directory, the INPUT_DATA_DIRECTORY/sample_data/GFS contains the data you will need for this use case

- Set up the configuration file:
  - Your METplus install directory will hereafter be referred to as METplus_INSTALL
Verify that all the path/to values are replaced with valid paths in the METplus_INSTALL/parm/metplus_conf/metplus_data.conf and METplus_INSTALL/parm/metplus_conf/metplus_system.conf files.

Two configuration files are used in this use case, track_and_intensity.conf file and tcmp_mean_median.conf to take cyclone track data, and using tc_pairs_wrapper.py which wraps the MET TC-Pairs tool (to match ADeck and BDeck cyclone tracks to generate matched pairs and error statistics). The tcmpr_plotter_wrapper.py is then used (wraps the MET tool plot_tcmpr.R) to generate a mean and median plots for these matched pairs.

In your editor, open the METplus_INSTALL/METplus/parm/use_cases/track_and_intensity.conf file:

* You will replace any /path/to with actual paths by setting the following:
  * METPLUS_BASE to the path to where you installed METplus with 'ush': METplus_INSTALL/all_users/METplus
  * PARM_BASE to the path to where you installed METplus, appended with with 'parm': METplus_INSTALL/all_users/METplus/parm
  * OUTPUT_BASE to where you wish to save the output:
    * ADECK_TRACK_DATA_DIR to INPUT_DATA_DIRECTORy/sample_data/GFS/track_data
  * save your changes and exit your editor
  * In your editor, open the METplus_INSTALL/METplus/parm/use_cases/track_and_intensity/examples/tcmpr_mean_median.conf
  * Verify that PROCESS_LIST is set to TcPairs, TCMPRPlotter. This instructs METplus to run the TcPairs wrapper first (TC-Pairs) followed by the TCMPR plotter wrapper (plot_TCMPR.R).

* Run the use case:

  * Make sure you have set the following environment in your .cshrc (C shell) or .bashrc (Bash):
    * csh: setenv RSCRIPTS_BASE $MET_BASE/scripts/Rscripts
    * bash: export RSCRIPTS_BASE $MET_BASE/scripts/Rscripts
  * Refer to Section 2.7 for the full instructions on setting up the rest of your environment
  * on your command line, run:
    * master_metplus.py -c use_cases/track_and_intensity/track_and_intensity.conf -c use_cases/track_and_intensity/examples/tcmpr_mean_median.conf
  * When complete, you will have a log file in the output directory you specified, and under the tc_pairs directory you will see .tcst files under the 201412 subdirectory. These are the matched pairs created by the MET tool Tc-pairs and can be viewed in any text editor.
  * Plots are generated under the tcmpr_plots subdirectory, in .png format. You should have the following plots which can be viewed by any graphics viewers such as `display` on Linux/Unix hosts:
    * AMAX_WIND-BMAX_WIND_mean.png
    * AMAX_WIND-BMAX_WIND_median.png
    * AMSLP-BMSLP_mean.png
    * AMSLP-BMSLP_median.png
    * TK_ERR_mean.png
    * TK_ERR_median.png
3.4 A-Z Config Glossary

This glossary was created from the two commands:

\$ cat METplus/parm/metplus_cong/*.conf METplus/parm/use_cases/*//*.conf METplus/parm/use_cases/*//*/conf > allopts.conf
\$ grep = allopts.conf | grep -v \\# | sort | uniq > uniqueopts.conf

General form of glossary entry:

**CONFIG_NAME_HERE**
...
Some description here...

*Used by*: Which METplus utility is this used by?
*Family*: Which family? [dir], [config], [filename_templates], [exe], [regex_pattern], etc...
*Default*: If it makes sense to include a default value (or value shipped in a release), do it here

3.4.1 A

---

**ADECK_FILE_PREFIX**
Prefix of the files in ATCF format containing tropical cyclone forecast data (“adeck” matched pairs).

*Used by*: tc_pairs_wrapper.py
*Family*: [config]
*Default*: Varies

---

**ADECK_TRACK_DATA_DIR**
Directory that contains the ATCF formatted files containing tropical cyclone forecast data (“adeck” matched pairs).

*Used by*: tc_pairs_wrapper.py
*Family*: [dir]
*Default*: Varies

---

**AMODEL**
The model name of the ADeck model data

*Used by*: cyclone_plotter_wrapper.py, tc_stat_wrapper.py
*Family*: [config]
*Default*: 

---

**ANLY_ASCII_REGEX_LEAD**
The regular expression describing the analysis (obs) file name (in ASCII format) of the intermediate file generated when running a series by lead case.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**Used by:** series_by_lead_wrapper.py  
**Family:** [regex_pattern]  
**Default:**

---

**ANLY_NC_TILE_REGEX**

The regular expression used to search the input files that are in netCDF format and used in the series by analysis task.

**Used by:** series_by_lead_wrapper.py, series_by_init_wrapper.py  
**Family:** [regex_pattern]  
**Default:**

---

**ANLY_TILE_PREFIX**

The prefix to the filename for the analysis file that is created as part of a series analysis.

**Used by:** feature_util.py  
**Family:** [regex_pattern]  
**Default:**

---

**ANLY_TILE_REGEX**

The regular expression for the analysis input file the file is in GRIB2.

**Used by:** series_by_lead_wrapper.py, series_by_init_wrapper.py  
**Family:** [regex_pattern]  
**Default:**

---

### 3.4.2 B

**BACKGROUND_MAP**

Control whether or not a background map shows up for series analysis plots. Set to 'yes' if background map desired.

**Used by:** series_by_lead_wrapper.py, series_by_init_wrapper.py  
**Family:** [config]  
**Default:** no

---

**BASIN**

Control what basins are desired for tropical cyclone analysis.

Per the MET users’ guide, acceptable basin ID’s are:

WP = Western Northern Pacific  
IO = Northern Indian Ocean
SH = Southern Hemisphere
CP = Central Northern Pacific
EP = Eastern Northern Pacific
AL = Northern Atlantic
SL = Southern Atlantic

*Used by:* cyclone_plotter_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

**BDECK_FILE_PREFIX**
Relevant for non-ATCF tropical cyclone data. The filename prefix for the BDeck data.

*Used by:* tc_pairs_wrapper.py
*Family:* [config]
*Default:* Varies

**BDECK_TRACK_DATA_DIR**
The input directory where the BDeck track data resides.

*Used by:* tc_pairs_wrapper.py
*Family:* [dir]
*Default:* Varies

**BEG_TIME**
Beginning time for analysis in YYYYMMDD format.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

**BMODEL**
The model name of the BDeck model data.

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

### 3.4.3 C

**CIRCLE_MARKER_SIZE**
Control the size of the circle marker in the cyclone plotter.
**Used by:** cyclone_plotter_wrapper.py  
**Family:** [config]  
**Default:** 41

---

**CONFIG_DIR**  
Directory containing config files relevant to MET tools.  
**Used by:** compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py  
**Family:** [dir]  
**Default:** Varies

---

**CONFIG_FILE**  
Specific configuration file name to use for MET tools.  
**Used by:** grid_stat_wrapper.py, mode_wrapper.py, tcmpr_plotter_wrapper.py, tc_stat_wrapper.py  
**Family:** [config]  
**Default:** Varies

---

**CONVERT_EXE**  
Path to the ImageMagick “convert” executable.  
**Used by:** pb2nc_wrapper.py, point_stat_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py  
**Family:** [exe]  
**Default:** /path/to

---

**CROSS_MARKER_SIZE**  
Control the size of the cross marker in the cyclone plotter.  
**Used by:** cyclone_plotter_wrapper.py  
**Family:** [config]  
**Default:** 51

---

**CUT_EXE**  
Path to the Linux “cut” executable.  
**Used by:** pb2nc_wrapper.py, point_stat_wrapper.py  
**Family:** [exe]  
**Default:** /path/to

---

**CYCLONE**  
Specify which cyclone numbers to include in the tropical cyclone analysis. Per the MET users’ guide, this can be any number 01-99 (HH format). Use a space or comma separated list, or leave unset if all cyclones are desired.  
**Used by:** tc_pairs_wrapper.py, tc_stat_wrapper.py  
**Family:** [config]
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Default: Varies

**CYCLONE_INIT_DATE**
Initialization date for the cyclone forecasts in YYYYMMDD format.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**CYCLONE_INIT_HR**
Initialization hour for the cyclone forecasts in HH format.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**CYCLONE_INPUT_DIR**
Input directory for the cyclone plotter. This should be the output directory for the MET TC Pairs utility.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**CYCLONE_MODEL**
Define the model being used for the tropical cyclone forecasts.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**CYCLONE_OUT_DIR**
Specify the directory where the output from the cyclone plotter should go.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**CYCLONE_PLOT_TITLE**
Title string for the cyclone plotter.

*Used by:* cyclone_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies
### 3.4.4 D

**DEMO_YR**
The demo year. This is an optional value used by the plot_TCMPR.R script, (which is wrapped by tcmpr_plotter_wrapper.py). Please refer to Chapter 21 in the MET User's Guide for more details.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**DEP_VARS**
Corresponds to the optional flag -dep in the plot_TCMPR.R, which is wrapped by tcmpr_plotter_wrapper.py. The value to this flag is a comma-separated list of dependent variable columns to plot. Please refer to Chapter 21 in the MET User's Guide for more details.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**DLAND_FILE**
The file generated by the MET tool tc_dland, containing the gridded representation of the minimum distance to land. Please refer to Chapter 18 of the MET User's Guide for more information about the tc_dland tool.

*Used by:* tc_pairs_wrapper.py  
*Family:* [config]  
*Default:* Varies

**DLAT**
The latitude value, in degrees.

*Used by:* met_util.py  
*Family:* [config]  
*Default:* 0.5

**DLON**
The longitude value, in degrees.

*Used by:* met_util.py  
*Family:* [config]  
*Default:* 0.5
3.4.5  E

EGREP_EXE
Path to the Linux “egrep” executable.

*Used by:* feature_util.py, pb2nc_wrapper.py, point_stat_wrapper.py
*Family:* [exe]
*Default:* /path/to

END_DATE
Ending time/date string for analysis with format YYYYMMDDHH.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

END_HOUR
Ending hour for analysis with format HH.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

END_TIME
Ending date string for analysis with format YYYYMMDD.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

EXTRACT_OUT_DIR
Set the output directory for the METplus extract_tiles utility.

*Used by:* extract_tiles_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py
*Family:* [dir]
*Default:* Varies

EXTRACT_TILES_FILTER_OPTS
Control what options are passed to the METplus extract_tiles utility.

*Used by:* extract_tiles_wrapper.py
*Family:* [config]
*Default:* Varies
EXTRACT_TILES_VAR_LIST
Control what variables the METplus extract_tiles utility runs on.

Used by: feature_util.py
Family: [config]
Default: Varies

3.4.6

FCST_1_FIELD_NAME
This variable is used to define a 1 hour accumulation field in the forecast dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

FCST_6_FIELD_NAME
This variable is used to define a 6 hour accumulation field in the forecast dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

FCST_ASCII_REGEX_LEAD
Regular expression used to find the forecast file (ASCII format) generated as an intermediate step in the series by lead use case.

Used by: series_by_lead_wrapper.py
Family: [regex_pattern]
Default: Varies

FCST_GEMPAK_INPUT_DIR
Input directory for GEMPAK formatted forecast files.

Used by: pcp_combine_wrapper.py
Family: [dir]
Default: Varies

FCST_GEMPAK_TEMPLATE
Template used to specify input filenames for GEMPAK formatted forecast files.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Used by: pcp_combine_wrapper.py
Family: [filename_templates]
Default: Varies

**FCSTGRID_STAT_INPUT_DIR**
Input directory for forecast files to use with the MET tool grid_stat.

Used by: ensemble_stat_wrapper.py, grid_stat_wrapper.py
Family: [dir]
Default: Varies

**FCSTGRID_STAT_INPUT_TEMPLATE**
Template used to specify input filenames for the MET tool grid_stat.

Used by: grid_stat_wrapper.py, grid_stat_wrapper.py
Family: [filename_templates]
Default: Varies

**FCST_HR_END**
Specify the maximum forecast hour to use.

Used by: point_stat_wrapper.py
Family: [config]
Default: Varies

**FCST_HR_INTERVAL**
Specify the stride for forecast lead times.

Used by: point_stat_wrapper.py
Family: [config]
Default: Varies

**FCST_HR_START**
Specify the starting forecast hour to use.

Used by: point_stat_wrapper.py
Family: [config]
Default: Varies

**FCST_INIT_INTERVAL**
Specify the stride for forecast initializations.

Used by: compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py
Family: [config]
Default: Varies
**FCST_INPUT_DIR_REGEX**
Specify the regular expression used for searching for forecast file input directories.

*Used by:* point_stat_wrapper.py  
*Family:* [regex_pattern]  
*Default:* Varies

**FCST_INPUT_DIR**
Specify the input directory for the forecast files.

*Used by:* compare_gridded_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py, point_stat_wrapper.py, pcp_combine_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**FCST_INPUT_FILE_REGEX**
Regular expression to use when identifying which forecast file to use.

*Used by:* point_stat_wrapper.py  
*Family:* [regex_pattern]  
*Default:* Varies

**FCST_INPUT_FILE_TMPL**
Specify the filename template for input forecast files.

*Used by:* point_stat_wrapper.py  
*Family:* [filename_templates]  
*Default:* Varies

**FCST_IS_DAILY_FILE**
Specify whether the forecast file is a daily file or not.

Acceptable values: true/false

*Used by:* pcp_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**FCST_IS_PROB**
Specify whether the forecast data are probabilistic or not.

Acceptable values: true/false

*Used by:* compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py  
*Family:* [config]
**FCST_LEVEL**
Specify what accumulation level should be used from the forecast data for the analysis.

*Used by:* `pcp_combine_wrapper.py`
*Family:* `[config]`
*Default:* Varies

**FCST_MAX_FORECAST**
Specify the maximum forecast lead time to use for the analysis.

*Used by:* `compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py`
*Family:* `[config]`
*Default:* Varies

**FCST_MXUPHL_5000-2000_THRESH**
Deprecated.

*Used by:*
*Family:*
*Default:*

**FCST_NATIVE_DATA_TYPE**
Specify the data format of the forecast data.

*Used by:* `pcp_combine_wrapper.py`
*Family:* `[config]`
*Default:* Varies

**FCST_NC_TILE_REGEX**
Define the regular expression for input forecast files that are in netCDF.

*Used by:* `series_by_lead_wrapper.py, series_by_init_wrapper.py`
*Family:* `[regex_pattern]`
*Default:* Varies

**FCST_PCP_COMBINE_INPUT_DIR**
Specify the input directory for forecast files used with the MET `pcp_combine` tool.

*Used by:* `pcp_combine_wrapper.py`
*Family:* `[dir]`
*Default:* Varies
**FCST_PCP_COMBINE_INPUT_TEMPLATE**
Template used to specify input filenames for forecast files used by the MET pcp_combine tool.

*Used by:* pcp_combine_wrapper.py  
*Family:* [filename_templates]  
*Default:* Varies

---

**FCST_PCP_COMBINE_OUTPUT_DIR**  
Specify the output directory for forecast files generated by the MET pcp_combine tool.

*Used by:* pcp_combine_wrapper.py  
*Family:* [dir]  
*Default:* Varies

---

**FCST_PCP_COMBINE_OUTPUT_TEMPLATE**  
Template used to specify output filenames for forecast files generated by the MET pcp_combine tool.

*Used by:* pcp_combine_wrapper.py  
*Family:* [filename_templates]  
*Default:* Varies

---

**FCST_PCP_COMBINE_RUN**  
Specify whether to run the MET pcp_combine tool on forecast data or not.

Acceptable values: true/false  

*Used by:* pcp_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**FCST_REFC_0_THRESH**  
Deprecated.

*Used by:*  
*Family:*  
*Default:*  

---

**FCST_REGRID_DATA_PLANE_TEMPLATE**  
Template used to specify filenames for forecast data used by the MET regrid_data_plane tool.

*Used by:* regrid_data_plane_wrapper.py  
*Family:* [filename_templates]  
*Default:* Varies

---

**FCST_TILE_PREFIX**
Prefix for forecast tile files. Used to create filename of intermediate files that are created while performing a series analysis.

**Used by:** feature_util.py  
**Family:** [regex_pattern]  
**Default:** Varies

---

**FCST_TILE_REGEX**  
Regular expression for forecast input files that are in GRIB2.

**Used by:** series_by_init_wrapper.py, series_by_lead_wrapper.py  
**Family:** [regex_pattern]  
**Default:** Varies

---

**FCST_VAR**  
Define the name of the forecast variable to be used in the analysis.

**Used by:** compare_gridded_wrapper.py, ensemble_stat_wrapper.py, make_plots_wrapper.py, met_util.py  
**Family:** [config]  
**Default:** Varies

---

**FCST_VAR1_LEVELS**  
Define the levels for the first forecast variable to be used in the analysis. There can be N number of these variables defined in configuration files, simply increment the “VAR1_” string to match the total number of variables being used, e.g.:

FCST_VAR1_LEVELS
FCST_VAR2_LEVELS

..

FCST_VARN_LEVELS

**Used by:** make_plots_wrapper.py, met_util.py  
**Family:** [config]  
**Default:** Varies

---

**FCST_VAR1_NAME**  
Define the name for the first forecast variable to be used in the analysis. There can be N number of these variables defined in configuration files, simply increment the “VAR1_” string to match the total number of variables being used, e.g.:

FCST_VAR1_NAME
FCST_VAR2_NAME

..
FCST_VARN_NAME

*Used by:* make_plots_wrapper.py, met_util.py  
*Family:* [config]  
*Default:* Varies

---

**FCST_VAR1_OPTIONS**

Define the options for the first forecast variable to be used in the analysis. There can be N number of these variables defined in configuration files, simply increment the “_VAR1_” string to match the total number of variables being used, e.g.:  

FCST_VAR1_OPTIONS  
FCST_VAR2_OPTIONS

---

**FCST_VARN_OPTIONS**

*Used by:* make_plots_wrapper.py, met_util.py  
*Family:* [config]  
*Default:* Varies

---

**FCST_VAR1_THRESH**

Define the threshold(s) for the first forecast variable to be used in the analysis. There can be N number of these variables defined in configuration files, simply increment the “_VAR1_” string to match the total number of variables being used, e.g.:  

FCST_VAR1_THRESH  
FCST_VAR2_THRESH

---

**FCST_VARN_THRESH**

*Used by:* met_util.py  
*Family:* [config]  
*Default:* Varies

---

**FHR_BEG**

Specify the first forecast lead time to use in the analysis. Use in combination with FHR_END and FHR_INC.  

*Used by:* series_by_lead_wrapper.py  
*Family:* [config]  
*Default:* Varies
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**FHR_END**

Specify the last forecast lead time to use in the analysis. Use in combination with FHR_BEG and FHR_INC.

*Used by:* series_by_lead_wrapper.py

*Family:* [config]

*Default:* Varies

**FHR_GROUP_BEG**

Define which forecast lead time should be first in a group of forecast leads to use in the analysis. Use in combination with FHR_GROUP_END and FHR_INC.

Example:

FHR_GROUP_BEG = 24
FHR_GROUP_END = 42
FHR_INC = 6

List of forecast leads processed: [24, 30, 36, 42]

*Used by:* series_by_lead_wrapper.py

*Family:* [config]

*Default:* Varies

**FHR_GROUP_END**

Define which forecast lead time should be the last in a group of forecast leads to use in the analysis. Use in combination with FHR_GROUP_BEG and FHR_INC.

Example:

FHR_GROUP_BEG = 24
FHR_GROUP_END = 42
FHR_INC = 6

List of forecast leads processed: [24, 30, 36, 42]

*Used by:* series_by_lead_wrapper.py

*Family:* [config]

*Default:* Varies

**FHR_GROUP_LABELS**

Label strings to use for the forecast groups.

*Used by:* series_by_lead_wrapper.py

*Family:* [config]

*Default:* Varies

**FHR_INC**

Stride to use for incrementing forecast lead times used in the analysis. Use in combination with FHR_BEG and FHR_END or FHR_GROUP_BEG and FHR_GROUP_END.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Used by: series_by_lead_wrapper.py
Family: [config]
Default: Varies

FILTER
Corresponds to the optional -filter argument to the plot_TCMPR.R script which is wrapped by tcmpr_plotter_wrapper.py. This is a list of filtering options for the tc_stat tool.

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies

FILTERED_TCST_DATA_FILE
Corresponds to the optional -tcst argument to the plot_TCMPR.R script which is wrapped by tcmpr_plotter_wrapper.py. This is a test data file to be used instead of running the tc_stat tool. Indicate a full path to the data file.

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies

FOOTNOTE_FLAG
This corresponds to the optional -footnote flag in the plot_TCMPR.R script which is wrapped by tcmpr_plotter_wrapper.py. According to the plot_TCMPR.R usage, this flag is used to disable footnote (date).

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies

FORECAST TMPL
Filename template used to filter forecast files.

Used by: tc_pairs_wrapper.py
Family: [filename_templates]
Default: Varies

FOURIER_HEIGHT_DECOMP
Specify whether to perform a Fourier height decomposition or not.

Acceptable values: true/false

Used by: make_plots_wrapper.py, stat_analysis_wrapper.py
Family: [config]
Default: Varies
3.4.7 G

GEMPAKTOCF_INPUT_DIR
Specify the input directory for the tool used to convert GEMPAK files to netCDF.

*Used by:* gempak_to_cf_wrapper.py
*Family:* [dir]
*Default:* Varies

GEMPAKTOCF_INPUT_TEMPLATE
Filename template used for input files to the tool used to convert GEMPAK files to netCDF.

*Used by:* gempak_to_cf_wrapper.py
*Family:* [filename_templates]
*Default:* Varies

GEMPAKTOCF_OUTPUT_DIR
Specify the output directory for files generated by the tool used to convert GEMPAK files to netCDF.

*Used by:* gempak_to_cf_wrapper.py
*Family:* [dir]
*Default:* Varies

GEMPAKTOCF_OUTPUT_TEMPLATE
Filename template used for output files from the tool used to convert GEMPAK files to netCDF.

*Used by:* gempak_to_cf_wrapper.py
*Family:* [filename_templates]
*Default:* Varies

GENERATE_TRACK_ASCII
Specify whether or not to produce an ASCII file containing all of the tracks in the plot.

Acceptable values: true/false

*Used by:* cyclone_plotter_wrapper.py
*Family:* [conf]
*Default:* Varies

GEN_SEQ
Deprecated.

*Used by:*
*Family:*
Default:

GFS_ANALY_FILE_TML
Filename template used to identify the GFS analysis file.

Used by: feature_util.py
Family: [filename_templates]
Default: Varies

GFS_FCST_FILE_TML
Filename template used to identify the GFS forecast files.

Used by: feature_util.py
Family: [filename_templates]
Default: Varies

GRID_STAT_CONFIG
Specify the absolute path to the configuration file used by the MET grid_stat tool.

Used by: grid_stat_wrapper.py
Family: [config]
Default: Varies

GRID_STAT_OUT_DIR
Specify the output directory where files from the MET grid_stat tool are written.

Used by: grid_stat_wrapper.py
Family: [dir]
Default: Varies

3.4.8 H

HFIP_BASELINE
Corresponds to the optional -hfip_bsln flag in the plot_TCMPR.R script which is wrapped by tcmpr_plotter_wrapper.py. This is a string that indicates whether to add the HFIP baseline, and indicates the version (no, 0, 5, 10 year goal).

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies
3.4.9 INIT

INIT_BEG
Specify the beginning initialization time to be used in the analysis. Format can be controlled by INIT_TIME_FMT.

*Used by:* command_builder.py, extract_tiles_wrapper.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [config]
*Default:* Varies

INIT_BEG_HOUR
Specify the beginning initialization hour to be used in the analysis. Format is HH.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py

*Family:* [config]
*Default:* Varies

INIT_END
Specify the ending initialization time to be used in the analysis. Format can be controlled by INIT_TIME_FMT.

*Used by:* command_builder.py, extract_tiles_wrapper.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [config]
*Default:* Varies

INIT_END_HOUR
Specify the ending initialization hour to be used in the analysis. Format is HH.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py

*Family:* [config]
*Default:* Varies

INIT_EXCLUDE
Specify which, if any, forecast initializations to exclude from the analysis.

*Used by:* tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [config]
*Default:* Varies

INIT_HOUR_END
Specify the ending initialization hour to be used in the analysis. Format is HH.

*Used by:* extract_tiles_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [config]
**INIT_INCLUDE**
Specify which forecast initializations to include in the analysis.

*Used by:* tc_pairs_wrapper.py, tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**INIT_INCREMENT**
Control the increment or stride to use when stepping between forecast initializations. Units are seconds.

*Used by:* command_builder.py, extract_tiles_wrapper.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**INIT_TIME_FMT**
Specify a formatting string to use for INIT_BEG and INIT_END.

*Used by:* command_builder.py, master_metplus.py  
*Default:* 

**INTERVAL_TIME**
Define the interval time in hours (HH) to be used by the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

3.4.10  J

3.4.11  K

3.4.12  L

**LAT_ADJ**
Specify a latitude adjustment, in degrees to be used in the analysis.

*Used by:* met_util.py  
*Family:* [config]
**LEAD**
For `cyclone_plotter_wrapper.py`, this refers to the column of interest in the input ASCII cyclone file.

In the `tcmpr_plotter_wrapper.py`, this corresponds to the optional `-lead` argument in the `plot_TCMPR.R` script (which is wrapped by `tcmpr_plotter.py`). This argument is set to a comma-separated list of lead times (h) to be plotted.

In `feature_util.py`, this corresponds to the name of the column of interest in the input ASCII data file.

In `tc_stat_wrapper.py`, this corresponds to the name of the column of interest in the input ASCII data file.

*Used by*: `cyclone_plotter_wrapper.py`, `tcmpr_plotter_wrapper.py`, `feature_util.py`, `tc_stat_wrapper.py`

*Family*: [config]

*Default*: Varies

**LEAD_LIST**
Specify a list of forecast leads to include in the analysis. Comma separated list format, e.g.:

0, 24, 48, 72, 96, 120

*Used by*: `make_plots_wrapper.py`, `stat_analysis_wrapper.py`

*Family*: [config]

*Default*: Varies

**LEAD_SEQ**
Specify the sequence of forecast lead times to include in the analysis. Comma separated list format, e.g.:

0, 6, 12

*Used by*: `compare_gridded_wrapper.py`, `ensemble_stat_wrapper.py`, `gempak_to_cf_wrapper.py`, `grid_stat_wrapper.py`, `mode_wrapper.py`, `reformat_gridded_wrapper.py`

*Family*: [config]

*Default*: Varies

**LEGEND**
The text to be included in the legend of your plot.

*Used by*: `tcmpr_plotter_wrapper.py`

*Family*: [config]

*Default*: Varies

**LOG_DIR**
Specify the directory where log files from MET and METplus should be written.

*Used by*: `command_builder.py`, `met_util.py`

*Family*: [dir]
**Default:** Varies

**LOG_LEVEL**
Specify the level of logging.

Everything above this level is sent to standard output. To quiet the output to a comfortable level, set this to “ERROR”.

Options (ordered MOST verbose to LEAST verbose):
NOTSET
DEBUG
INFO
WARNING
ERROR
CRITICAL

*Used by:* met_util.py
*Family:* [config]
*Default:* Varies

**LOG_METPLUS**
Control the filename of the METplus log file. Control the timestamp appended to the filename with LOG_TIMESTAMP_TEMPLATE. To turn OFF all logging, do not set this option.

*Used by:* master_metplus.py, met_util.py
*Family:* [config]
*Default:* Varies

**LOG_MET_OUTPUT_TO_METPLUS**
Control whether logging output from the MET tools is sent to the METplus log file, or individual log files for each MET tool.

*Used by:* command_runner.py
*Family:* [config]
*Default:* yes/no

**LOG_MET_VERBOSITY**
Control the verbosity of the logging from the MET tools.
0 = Least amount of logging (lowest verbosity)
5 = Most amount of logging (highest verbosity)

*Used by:* command_builder.py
*Family:* [config]
*Default:* 2
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

LOG_TIMESTAMP_TEMPLATE
Set the timestamp template for the METplus log file. Use Python strftime directives, e.g. %Y%m%d for YYYYMMDD.

*Used by:* met_util.py  
*Family:* [config]  
*Default:* %Y%m%d

---

LON_ADJ
Specify a longitude adjustment, in degrees to be used in the analysis.

*Used by:* met_util.py  
*Family:* [config]  
*Default:* Varies

---

LOOP_BY_INIT
Control whether the analysis is processed across initialization times or not.

*Used by:* command_builder.py, compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, make_plots_wrapper.py, master_metplus.py, mode_wrapper.py, stat_analysis_wrapper.py  
*Family:* [config]  
*Default:* true

---

LOOP_METHOD
Control the looping method for METplus. Valid options are “times” or “processes”.

*Used by:* master_metplus.py, pb2nc_wrapper.py, point_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

3.4.13 M

---

METPLUS_BASE
Set the base directory for the METplus installation.

*Used by:* config_launcher.py, grid_stat_wrapper.py, pb2nc_wrapper.py, point_stat_wrapper.py, tc_stat_wrapper.py  
*Family:* [dir]  
*Default:* /path/to

---

METPLUS_CONF
Provide the absolute path to the METplus final configuration file. This file will contain every configuration option and value used when METplus was run.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

*Used by:* config_launcher.py  
*Family:* [config]  
*Default:* Varies

---

**MET_BASE**  
The base directory where your MET installation resides.

*Used by:* cyclone_plotter_wrapper.py, extract_tiles_wrapper.py, master_metplus.py, met_util.py, pb2nc_wrapper.py, point_stat_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py, tcmpr_plotter_wrapper.py, tc_pairs_wrapper.py, usage_wrapper.py  
*Family:* [dir]  
*Default:*

---

**MET_BIN**  
The location of MET binaries.

*Used by:*

*Family:*  
*Default:*

---

**MET_BUILD_BASE**  
The base directory of the MET install. Only needed if using MET version 6.0

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [dir]  
*Default:* Varies

---

**MET_INSTALL_DIR**  
The base directory of the MET install. To be defined when using MET version 6.1 and beyond

*Used by:* compare_gridded_wrapper.py, cyclone_plotter_wrapper.py, ensemble_stat_wrapper.py, extract_tiles_wrapper.py, feature_util.py, grid_stat_wrapper.py, mode_wrapper.py, pb2nc_wrapper.py, pcp_combine_wrapper.py, point_stat_wrapper.py, regrid_data_plane_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py, stat_analysis_wrapper.py, tcmpr_plotter_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py, wavelet_stat_wrapper.py  
*Family:* [dir]  
*Default:* Varies

---

**MISSING_VAL**  
Specify the missing value code.

*Used by:* tc_pairs_wrapper.py  
*Family:* [config]  
*Default:* Varies
MISSING_VAL_TO_REPLACE
Specify the missing value code to replace.

*Used by:* tc_pairs_wrapper.py
*Family:* [config]
*Default:* Varies

---

MODEL
Specify the model name.

*Used by:* compare_gridded_wrapper.py, ensemble_stat_wrapper.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py
*Family:* [config]
*Default:* Varies

---

MODEL_DATA_DIR
Specify the directory where the model data are located.

*Used by:* feature_util.py
*Family:* [dir]
*Default:* Varies

---

MODEL_LIST
Specify the list of models that were used in the analysis.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py
*Family:* [config]
*Default:* Varies

---

MODEL_NAME
Specify the model name.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

---

MODEL_TYPE
Specify the model name.

*Used by:* compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_2dpy, stat_analysis_wrapper.py
*Family:* [config]
*Default:* Varies
3.4.14  N

NCAP2_EXE
Path to the “ncap2” executable.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py, series_by_lead_wrapper.py
*Family:* [exe]
*Default:* /path/to

NCDUMP_EXE
Path to the “ncdump” executable.

*Used by:* met_util.py, pb2nc_wrapper.py, point_stat_wrapper.py, series_by_lead_wrapper.py
*Family:* [exe]
*Default:* /path/to

NC_FILE_TMPL
File template used to match netCDF files used for analysis.

*Used by:* pb2nc_wrapper.py
*Family:* [filename_templates]
*Default:* Varies

NLAT
The number of latitude points.

*Used by:* met_util.py
*Family:* [config]
*Default:* Varies

NLON
The number of longitude points.

*Used by:* met_util.py
*Family:* [config]
*Default:* Varies

NO_EE
Set the “NO_EE” flag for the TC Matched Pairs plotting utility.

Acceptable values: yes/no

*Used by:* tcmpn_plotter_wrapper.py
*Family:* [config]
Default: no

NO_LOG
Set the “NO_LOG” flag for the TC Matched Pairs plotting utility.

Acceptable values: yes/no

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: no

3.4.15 OBS_12_FIELD_NAME
This variable is used to define a 12 hour accumulation field in the observation dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

OBS_1_FIELD_NAME
This variable is used to define a 1 hour accumulation field in the observation dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

OBS_24_FIELD_NAME
This variable is used to define a 24 hour accumulation field in the observation dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

OBS_3_FIELD_NAME
This variable is used to define a 3 hour accumulation field in the observation dataset used in the MET tool pcp_combine.

Used by: pcp_combine_wrapper.py
Family: [config]
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Default: Varies

**OBS_6_FIELD_NAME**
This variable is used to define a 6 hour accumulation field in the observation dataset used in the MET tool pcp_combine.

*Used by:* pcp_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_BUFR_VAR_LIST**
Specify which BUFR codes to use from the observation dataset when using the MET pb2nc tool. Format is comma separated list, e.g.:

PMO, TOB, TDO

*Used by:* pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_DATA_INTERVAL**
Specify the accumulation interval of the observation dataset used by the MET pcp_combine tool.

*Used by:* pcp_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_GEMPAK_INPUT_DIR**
Specify the input directory for GEMPAK formatted observation files.

*Used by:* pcp_combine_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**OBS_GEMPAK_TEMPLATE**
Filename template used to filter GEMPAK formatted observation files.

*Used by:* pcp_combine_wrapper.py  
*Family:* [filename_templates]  
*Default:* Varies

**OBS_GRID_STAT_INPUT_DIR**
Specify the directory where the input observation files are for the MET grid_stat tool.

*Used by:* grid_stat_wrapper.py  
*Family:* [dir]
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**Default:** Varies

**OBS_GRID_STAT_INPUT_TEMPLATE**
Filename template used to filter input observation files used by the MET grid_stat tool.

*Used by:* grid_stat_wrapper.py
*Family:* [filename_templates]
*Default:* Varies

**OBS_INPUT_DIR**
Specify the input directory for observation files.

*Used by:* compare_gridded_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py, point_stat_wrapper.py
*Family:* [dir]
*Default:* Varies

**OBS_INPUT_DIR_REGEX**
Specify the regular expression to use when searching for observation file input directories.

*Used by:* point_stat_wrapper.py
*Family:* [regex_pattern]
*Default:* Varies

**OBS_INPUT_FILE_REGEX**
Regular expression used to filter observation input files used in the analysis.

*Used by:* point_stat_wrapper.py,
*Family:* [regex_pattern]
*Default:* Varies

**OBS_INPUT_FILE_TEMPL**
Specify the filename template to use for observation input files.

*Used by:* point_stat_wrapper.py,
*Family:* [filename_templates]
*Default:* Varies

**OBS_IS_DAILY_FILE**
Specify whether the forecast file is a daily file or not.

Acceptable values: true/false

*Used by:* pcp_combine_wrapper.py
*Family:* [config]
*Default:* Varies
**OBS_LEVEL**
Specify what accumulation level should be used from the observation data for the analysis.

*Used by:* pcpx_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_MXUPHL_500_THRESH**
Deprecated.

*Used by:*
*Family:*
*Default:*

**OBS_MergedReflectivityQCComposite_500_THRESH**
Deprecated.

*Used by:*
*Family:*
*Default:*

**OBS_NAME**
Provide a string to identify the observation dataset name.

*Used by:* point_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_NATIVE_DATA_TYPE**
Specify the data format of the observation data.

*Used by:* pcpx_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**OBS_PCP_COMBINE_INPUT_DIR**
Specify the input directory for the observation data used by the MET pcpx_combine tool.

*Used by:* pcpx_combine_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**OBS_PCP_COMBINE_INPUT_TEMPLATE**
Filename template used to filter input observation files used by the MET pcpx_combine tool.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Used by: pcp_combine_wrapper.py
Family: [filename_templates]
Default: Varies

OBS_PCP_COMBINE_OUTPUT_DIR
Specify the output directory where files from the MET pcp_combine tool are written.

Used by: pcp_combine_wrapper.py
Family: [dir]
Default: Varies

OBS_PCP_COMBINE_OUTPUT_TEMPLATE
Filename template used for writing output files from the MET pcp_combine tool.

Used by: pcp_combine_wrapper.py
Family: [filename_templates]
Default: Varies

OBS_PCP_COMBINE_RUN
Specify whether to run pcp_combine on the observation data or not.

Acceptable values: True/False

Used by: pcp_combine_wrapper.py
Family: [config]
Default: Varies

OBS_REGRID_DATA_PLANE_INPUT_DIR
Specify the input directory for observation files used by the MET regrid_data_plane tool.

Used by: regrid_data_plane_wrapper.py
Family: [dir]
Default: Varies

OBS_REGRID_DATA_PLANE_OUTPUT_DIR
Specify the output directory where files are written from the MET regrid_data_plane tool.

Used by: regrid_data_plane_wrapper.py
Family: [dir]
Default: Varies

OBS_REGRID_DATA_PLANE_RUN
Specify whether to run regrid_data_plane on the observation data or not.

Acceptable values: True/False
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Used by: regrid_data_plane_wrapper.py
Family: [config]
Default: Varies

OBS_REGRID_DATA_PLANE_TEMPLATE
Specify the filename template to use for observation files (input and output) used by the MET regrid_data_plane tool.

Used by: regrid_data_plane_wrapper.py
Family: [filename_templates]
Default: Varies

OBS_VAR
Specify the string for the observation variable used in the analysis.

Used by: compare_gridded_wrapper.py
Family: [config]
Default: Varies

OBS_WINDOW_BEG
Corresponds to the OBS_WINDOW_BEG in the MET config file for pb2nc. Please refer to Chapter 4 of the MET User’s Guide.

Used by: pb2nc_wrapper.py, point_stat_wrapper.py
Family: [config]
Default: Varies

OBS_WINDOW_END
Corresponds to the OBS_WINDOW_END in the MET config file for pb2nc. Please refer to Chapter 4 of the MET User’s Guide.

Used by: pb2nc_wrapper.py, point_stat_wrapper.py
Family: [config]
Default: Varies

OB_TYPE
Provide a string to represent the type of observation data used in the analysis.

Used by: compare_gridded_wrapper.py, ensemble_stat_wrapper.py, grid_stat_wrapper.py, mode_wrapper.py, stat_analysis_wrapper.py
Family: [config]
Default: Varies

OUTPUT_BASE
Provide a path to the top level output directory for METplus.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**OVERWRITE_NC_OUTPUT**
Specify whether to overwrite the netCDF output or not when using the MET pb2nc tool.

Acceptable values: yes/no

*Used by:* pb2nc_wrapper.py

*Family:* [config]

*Default:* yes

**OVERWRITE_TRACK**
Specify whether to overwrite the track data or not.

Acceptable values: yes/no

*Used by:* extract_tiles_wrapper.py, feature_util.py

*Family:* [config]

*Default:* no

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**PARM_BASE**
Specify the top level METplus parameter file directory.

*Used by:* config_launcher.py, pb2nc_wrapper.py, point_stat_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [dir]

*Default:* Varies

**PB2NC_CONFIG_FILE**
Specify the absolute path to the configuration file for the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py

*Family:* [config]

*Default:* Varies

**PB2NC_GRID**
Specify a grid to use with the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py

*Family:* [config]
**Default:** Varies

**PB2NC_MESSAGE_TYPE**
Specify which PREPBUFR (PB) message types to convert using the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

**PB2NC_OUTPUT_DIR**
Specify the directory where files will be written from the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**PB2NC_POLY**
Specify a polygon to be used with the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

**PB2NC_STATION_ID**
Specify the ID of the station to use with the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

**PCP_COMBINE_METHOD**
Specify the method to be used with the MET pcp_combine tool.

*Used by:* pcp_combine_wrapper.py  
*Family:* [config]  
*Default:* Varies

**PLOTTING_OUT_DIR**
Specify the output directory where plots will be saved.

*Used by:* make_plots_wrapper.py  
*Family:* [dir]  
*Default:* Varies
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

PLOTTING_SCRIPTS_DIR
Specify the directory where the plotting scripts are located.

*Used by:* make_plots_wrapper.py
*Family:* [dir]
*Default:* Varies

PLOT_CONFIG_OPTS
Specify plot configuration options for the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py
*Family:* [config]
*Default:* Varies

PLOT_STATS_LIST
Specify which statistics should be plotted in a comma separated list, e.g.: acc, bias, rmse

*Used by:* make_plots_wrapper.py
*Family:* [config]
*Default:* Varies

PLOT_TYPES
Specify what plot types are desired for the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py
*Family:* [config]
*Default:* Varies

POINT_STAT_CONFIG_FILE
Specify the absolute path to the configuration file to be used with the MET point_stat tool.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

POINT_STAT_GRID
Specify the grid to use with the MET point_stat tool.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies
POINT_STAT_MESSAGE_TYPE
Specify which PREPBUFR message types to process with the MET point_stat tool.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

POINT_STAT_OUTPUT_DIR
Specify the directory where output files from the MET point_stat tool are written.

*Used by:* point_stat_wrapper.py
*Family:* [dir]
*Default:* Varies

POINT_STAT_POLY
Specify a polygon to use with the MET point_stat tool.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

POINT_STAT_STATION_ID
Specify the ID of a specific station to use with the MET point_stat tool.

*Used by:* point_stat_wrapper.py
*Family:* [config]
*Default:* Varies

PREFIX
This corresponds to the optional -prefix flag of the plot_TCMPR.R script (which is wrapped by tcmpr_plotter_wrapper.py). This is the output file name prefix.

*Used by:* tcmpr_plotter_wrapper.py
*Family:* [config]
*Default:* Varies

PREPBURFR_DATA_DIR
Specify the directory where the PREPBURFR data are located for the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py
*Family:* [dir]
*Default:* Varies

PREPBURFR_DIR_REGEX
Regular expression to use when searching for PREPBURFR data.
**Used by:** pb2nc_wrapper.py  
*Family:* [regex_pattern]  
*Default:* Varies

**PREPBUFR_FILE_REGEX**

Regular expression to use when searching for PREPBUFR files.

**Used by:** pb2nc_wrapper.py  
*Family:* [regex_pattern]  
*Default:* Varies

**PREPBUFR_MODEL_DIR_NAME**

Specify the name of the model being used with the MET pb2nc tool.

**Used by:** pb2nc_wrapper.py  
*Family:* [config]  
*Default:* Varies

**PROCESS_LIST**

Specify the list of processes for METplus to perform, in a comma separated list.

**Used by:** master_metplus.py  
*Family:* [config]  
*Default:* Varies

**PROJ_DIR**

A directory for generic use. The user can store input files (if INPUT_BASE is not defined), intermediate files, and any other project-related files.

**Used by:** pb2nc_wrapper.py, point_stat_wrapper.py, tc_stat_wrapper.py  
*Family:* [dir]  
*Default:* Varies

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**REFERENCE_TMPL**

The filename template describing the observation/reference data.

**Used by:** tc_pairs_wrapper.py  
*Family:* [filename_templates]
Default: Varies

REGION_LIST
A list of the regions of interest.

Used by: make_plots_wrapper.py, stat_analysis_wrapper.py
Family: [config]
Default: Varies

REGRID_TO_GRID
If supported, provide the output grid that is desired from the MET tool being used in the analysis.

Used by: make_plots_wrapper.py, point_stat_wrapper.py
Family: [config]
Default: Varies

REGRID_USING_MET_TOOL
Specify whether to regrid using the MET regrid_data_plane tool or not.

Acceptable values: yes/no

Used by: feature_util.py, met_util.py, series_by_init_wrapper.py, series_by_lead_wrapper.py
Family: [config]
Default: yes

RM_EXE
Specify the path to the Linux “rm” executable.

Used by: pb2nc_wrapper.py, point_stat_wrapper.py, series_by_lead_wrapper.py
Family: [exe]
Default: /path/to

RP_DIFF
This corresponds to the optional -rp_diff flag of the plot_TCMPR.R script (which is wrapped by tcmpr_plotter_wrapper.py).
This a comma-separated list of thresholds to specify meaningful differences for the relative performance plot.

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies

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SAVE
Corresponds to the optional -save flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is a yes/no value to indicate whether to save the image (yes).

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SAVE_DATA**
Corresponds to the optional -save_data flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). Indicates whether to save the filtered track data to a file instead of deleting it.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SCATTER_X**
Corresponds to the optional -scatter_x flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is a comma-separated list of x-axis variable columns to plot.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SCATTER_Y**
Corresponds to the optional -scatter_y flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is a comma-separated list of y-axis variable columns to plot.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SERIES**
Corresponds to the optional -series flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is the column whose unique values define the series on the plot, optionally followed by a comma-separated list of values, including: ALL, OTHER, and colon-separated groups.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SERIES_ANALYSIS_BY_INIT_CONFIG_FILE**
Specify the absolute path for the configuration file to use with the MET series_analysis tool by initialization time.

*Used by:* series_by_init_wrapper.py  
*Family:* [config]
**CHAPTER 3. METPLUS SYSTEM CONFIGURATION**

---

**Default:** Varies

**SERIES_ANALYSIS_BY_LEAD_CONFIG_FILE**
Specify the absolute path for the configuration file to use with the MET series_analysis tool by lead time.

*Used by:* series_by_lead_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SERIES_ANALYSIS_FILTER_OPTS**
Filtering options to be applied during series analysis. Filter options are performed by invoking the MET tc_stat tool within the METplus wrapper.

*Used by:* series_by_lead_wrapper.py, series_by_init_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SERIES_CI**
Corresponds to the optional -series_ci flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is a list of true/false for confidence intervals. This list can be optionally followed by a comma-separated list of values, including ALL, OTHER, and colon-separated groups.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SERIES_INIT_FILTERED_OUT_DIR**
Specify the directory where filtered files will be written from the MET series_analysis tool when processing by initialization time.

*Used by:* series_by_init_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**SERIES_INIT_OUT_DIR**
Specify the directory where files will be written from the MET series analysis tool when processing by initialization time.

*Used by:* series_by_init_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**SERIES_LEAD_FILTERED_OUT_DIR**
Specify the directory where filtered files will be written from the MET series_analysis tool when processing by lead time.
**SERIES_LEAD_OUT_DIR**

Specify the directory where files will be written from the MET series analysis tool when processing by lead time.

*Used by:* series_by_lead_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**SKILL_REF**

This corresponds to the optional -skill_ref flag in plot_TCMPR.R (which is wrapped by tcmpr_plotter_wrapper.py). This is the identifier for the skill score reference.

*Used by:* tcmpr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies

**START_DATE**

Specify the start data for the analysis time period. Format is YYYYMMDDHH.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**START_HOUR**

Specify the start hour for the analysis time period. Format is HH.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**STAT_ANALYSIS_CONFIG**

Specify the absolute path for the configuration file used with the MET stat_analysis tool.

*Used by:* stat_analysis_wrapper.py  
*Family:* [config]  
*Default:* Varies

**STAT_ANALYSIS_LOOKIN_DIR**

Specify the input directory where the MET stat_analysis tool will find input files.

*Used by:* stat_analysis_wrapper.py  
*Family:* [dir]
**STAT_ANALYSIS_OUT_DIR**
Specify the output directory where files will be written from the MET stat_analysis tool.

*Used by:* stat_analysis_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**STAT_FILES_INPUT_DIR**
Specify the directory where stat files exist that plots can be generated from.

*Used by:* make_plots_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**STAT_LIST**
Specify a list of statistics to be computed by the MET series_analysis tool.

*Used by:* series_by_init_wrapper.py, series_by_lead_wrapper.py  
*Family:* [config]  
*Default:* Varies

**STORM_ID**
The identifier of the storm(s) of interest.

*Used by:* cyclone_plotter_wrapper.py, met_util.py, tc_pairs_wrapper.py, tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**STORM_NAME**
The name(s) of the storm of interest.

*Used by:* tc_pairs_wrapper.py, tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**SUBTITLE**
The subtitle of the plot.

*Used by:* tcmptr_plotter_wrapper.py  
*Family:* [config]  
*Default:* Varies
3.4.20 TC

TCMPR_DATA
Provide the input directory for the track data for the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py
*Family:* [dir]
*Default:* Varies

TCMPR_PLOT_OUT_DIR
Provide the output directory where the TC Matched Pairs plotting tool will create files.

*Used by:* tcmpr_plotter_wrapper.py
*Family:* [dir]
*Default:* Varies

TC_PAIRES_CONFIG_FILE
Provide the absolute path to the configuration file for the MET tc_pairs tool.

*Used by:* tc_pairs_wrapper.py
*Family:* [config]
*Default:* Varies

TC_PAIRES_DIR
Specify the directory where the MET tc_pairs tool will write files.

*Used by:* tc_pairs_wrapper.py
*Family:* [dir]
*Default:* Varies

TC_PAIRES_FORCE_OVERWRITE
Specify whether to overwrite the output from the MET tc_pairs tool or not.

Acceptable values: yes/no

*Used by:* tc_pairs_wrapper.py
*Family:* [config]
*Default:* no

TC_STAT_AMODEL
Specify the AMODEL for the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py
*Family:* [config]
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**Default:** Varies

**TC_STAT_BASIN**
Specify the BASIN for the MET tc_stat tool.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies

**TC_STAT_BMODEL**
Specify the BMODEL for the MET tc_stat tool.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies

**TC_STAT_CMD_LINE_JOB**
Specify expression(s) that will be passed to the MET tc_stat tool via the command line.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies

**TC_STAT_COLUMN_STR_NAME**
Specify the string names of the columns for stratification with the MET tc_stat tool.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies

**TC_STAT_COLUMN_STR_VAL**
Specify the values for the columns set via the TC_STAT_COLUMN_STR_NAME option for use with the MET tc_stat tool.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies

**TC_STAT_COLUMN_THRESH_NAME**
Specify the string names of the columns for stratification by threshold with the MET tc_stat tool.

**Used by:** tc_stat_wrapper.py
**Family:** [config]
**Default:** Varies
TC_STAT_COLUMN_THRESH_VAL
Specify the values used for thresholding the columns specified in the TC_STAT_COLUMN_THRESH_NAME option for use with the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

TC_STAT_CYCLONE
Specify the CYCLONE of interest for use with the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

TC_STAT_DESC
Specify the DESC option for use with the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

TC_STAT_INIT_BEG
Specify the beginning initialization time for stratification when using the MET tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

TC_STAT_INIT_END
Specify the ending initialization time for stratification when using the MET tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

TC_STAT_INIT_EXCLUDE
Specify the initialization times to exclude when using the MET tc_stat tool, via a comma separated list e.g.:

20141220_18, 20141221_00
Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_INIT_HOUR**  
The beginning hour (HH) of the initialization time of interest.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_INIT_INCLUDE**  
Specify the initialization times to include when using the MET tc_stat tool, via a comma separated list e.g.:

20141220_00, 20141220_06, 20141220_12

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_INIT_MASK**  
This corresponds to the INIT_MASK keyword in the MET tc_stat config file. For more information, please refer to Chapter 20 in the MET User's Guide.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_INIT_STR_NAME**  
This corresponds to the INIT_STR_NAME keyword in the MET tc_stat config file. Please refer to Chapter 20 in the MET User's Guide for more details.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_INIT_STR_VAL**  
This corresponds to the INIT_STR_VAL keyword in the MET tc_stat config file. Please refer to Chapter 20 in the MET User's Guide for more information.
**CHAPTER 3. METPLUS SYSTEM CONFIGURATION**

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STAT_INPUT_DIR**  
Specify the input directory where the MET tc_stat tool will look for files.

*Used by:* tc_stat_wrapper.py  
*Family:* [dir]  
*Default:* Varies

---

**TC_STAT_JOBS_LIST**  
Specify expressions for the MET tc_stat tool to execute.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STAT_LANDFALL**  
Specify whether only those points occurring near landfall should be retained when using the MET tc_stat tool.

Acceptable values: True/False

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* False

---

**TC_STAT_LANDFALL_BEG**  
Specify the beginning of the landfall window for use with the MET tc_stat tool.

Acceptable formats: HH, HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* -24

---

**TC_STAT_LANDFALL_END**  
Specify the end of the landfall window for use with the MET tc_stat tool.

Acceptable formats: HH, HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies
**TC_STAT_LEAD**
Specify the lead times to stratify by when using the MET tc_stat tool.

Acceptable formats: HH, HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_LEAD_REQ**
Specify the LEAD_REQ when using the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

**TC_STAT_MATCH_POINTS**
Specify whether only those points common to both the ADECK and BDECK tracks should be written out or not when using the MET tc_stat tool.

Acceptable values: True/False

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* false

**TC_STAT_OUTPUT_DIR**
Specify the output directory where the MET tc_stat tool will write files.

*Used by:* tc_stat_wrapper.py  
*Family:* [dir]  
*Default:* Varies

**TC_STAT_RUN_VIA**
Specify the method for running the MET tc_stat tool.

Acceptable values: CONFIG

If left blank (unset), tc_stat will run via the command line.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* CONFIG
TC_STAT_STORM_ID
Set the STORM_ID(s) of interest with the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

TC_STAT_STORM_NAME
Set the STORM_NAME for use with the MET tc_stat tool.

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

TC_STAT_TRACK_WATCH_WARN
Specify which watches and warnings to stratify over when using the MET tc_stat tool.

Acceptable values: HUWARN, HUWATCH, TSWARN, TSWATCH, ALL

If left blank (unset), no stratification will be done.

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

TC_STAT_VALID_BEG
Specify a comma separated list of beginning valid times to stratify with when using the MET tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

TC_STAT_VALID_END
Specify a comma separated list of ending valid times to stratify with when using the MET tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py
*Family:* [config]
*Default:* Varies

TC_STAT_VALID_EXCLUDE
Specify a comma separated list of valid times to exclude from the stratification with when using the MET
tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STATVALID_HOUR**

This corresponds to the VALID_HOUR keyword in the MET tc_stat config file. For more information, please refer to Chapter 20 of the MET User’s Guide.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STATVALIDINCLUDE**

Specify a comma separated list of valid times to include in the stratification with when using the MET tc_stat tool.

Acceptable formats: YYYYMMDD_HH, YYYYMMDD_HHmmss

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STATVALIDMASK**

This corresponds to the VALID_MASK in the MET tc_stat config file. Please refer to Chapter 20 of the MET User’s Guide for more information.

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TC_STATWATERONLY**

Specify whether to exclude points where the distance to land is $\leq 0$. If set to TRUE, once land is encountered the remainder of the forecast track is not used for the verification, even if the track moves back over water.

Acceptable values: true/false

*Used by:* tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies
**TIME_METHOD**
Specify which time method to use with the MET pb2nc and point_stat tools.

Acceptable values: BY_VALID, BY_INIT

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py
*Family:*
*Default:*

---

**TIME_SUMMARY_BEG**
Specify the starting time of the summary when using the MET pb2nc tool.

Acceptable formats: HHMMSS

*Used by:* pb2nc_wrapper.py
*Family:* [config]  
*Default: 000000

---

**TIME_SUMMARY_END**
Specify the ending time of the summary when using the MET pb2nc tool.

Acceptable formats: HHMMSS

*Used by:* pb2nc_wrapper.py
*Family:* [config]  
*Default: 235959

---

**TIME_SUMMARY_FLAG**
Specify whether to receive a time summary from the MET pb2nc tool or not.

Acceptable values: True/False

*Used by:* pb2nc_wrapper.py
*Family:* [config]  
*Default: False

---

**TIME_SUMMARY_TYPES**
Specify a comma separated list of time summary types to receive from the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py
*Family:* [config]  
*Default: Varies

---

**TIME_SUMMARY_VAR_NAMES**
Specify a comma separated list of time summary variable names to receive from the MET pb2nc tool.
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

Used by: pb2nc_wrapper.py
Family: [config]
Default: Varies

TITLE
Specify a title string for the TC Matched Pairs plotting tool.

Used by: tcmpr_plotter_wrapper.py
Family: [config]
Default: Varies

TMP_DIR
Specify the path to a temporary directory where the user has write permissions.

Used by: extract_tiles_wrapper.py, pb2nc_wrapper.py, point_stat_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py, tc_stat_wrapper.py
Family: [dir]
Default: Varies

TOP_LEVEL_DIRS
Specify whether to use top-level directories when using the MET tc_pairs utility or not.

Acceptable values: yes/no

Used by: tc_pairs_wrapper.py
Family: [config]
Default: no

TRACK_DATA_DIR
Specify the directory where track data are located for use with the MET tc_pairs tool.

Used by: tc_pairs_wrapper.py
Family: [dir]
Default: Varies

TRACK_DATA_MOD_FORCE_OVERWRITE
Specify whether to force an overwrite of the track data or not.

Acceptable values: yes/no

Used by: tc_pairs_wrapper.py
Family: [config]
Default: no
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**TRACK_DATA_SUBDIR_MOD**
Specify the sub-directory where modified track data files are stored for use with the MET tc_pairs tool.

*Used by:* tc_pairs_wrapper.py  
*Family:* [dir]  
*Default:* Varies

---

**TRACK_TYPE**
Specify the track type to filter by when using the MET tc_pairs tool.

*Used by:* tc_pairs_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**TR_EXE**
Specify the path to the Linux “tr” executable.

*Used by:* pb2nc_wrapper.py, point_stat_wrapper.py  
*Family:* [exe]  
*Default:* /path/to

---

**VALID_BEG**
Specify a begin time for valid times for use in the analysis.

Acceptable formats: YYYYMM[DD]_HH]

*Used by:* command_builder.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py  
*Family:* [config]  
*Default:* Varies

---

**VALID_BEG_HOUR**
Specify a beginning hour for valid times for use in the analysis.

Acceptable formats: HH

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py  
*Family:* [config]
**VALID_END**
Specify an end time for valid times for use in the analysis.

Acceptable formats: controlled via VALID_TIME_FMT

*Used by:* command_builder.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_pairs_wrapper.py, tc_stat_wrapper.py

*Family:* [config]

*Default:* Varies

**VALID_END_HOUR**
Specify an end hour for valid times for use in the analysis.

Acceptable formats: controlled via VALID_TIME_FMT

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py

*Family:* [config]

*Default:* Varies

**VALID_INCREMENT**
Specify the time increment for valid times for use in the analysis.

Acceptable formats: seconds

*Used by:* command_builder.py, make_plots_wrapper.py, master_metplus.py, stat_analysis_wrapper.py, tc_stat_wrapper.py

*Family:* [config]

*Default:* Varies

**VALID_TIME_FMT**
Specify a strftime formatting string for use with VALID_BEG and VALID_END.

*Used by:* command_builder.py, master_metplus.py

*Family:* [config]

*Default:* Varies

**VAR_LIST**
Specify a comma separated list of variables to be used in the analysis.

*Used by:* feature_util.py, pb2nc_wrapper.py, series_by_init_wrapper.py, series_by_lead_wrapper.py

*Family:* [config]

*Default:* Varies
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

VERIFICATION_GRID
Specify the absolute path to a file containing information about the desired output grid from the MET regrid_data_plane tool.

*Used by:* regrid_data_plane_wrapper.py
*Family:* [config]
*Default:* Varies

VERIF_CASE
Specify a string identifying the verification case being performed.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py
*Family:* [config]
*Default:* Varies

VERIF_TYPE
Specify a string describing the type of verification being performed.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py
*Family:* [config]
*Default:* Varies

VERTICAL_LOCATION
Specify the vertical location desired when using the MET pb2nc tool.

*Used by:* pb2nc_wrapper.py
*Family:* [config]
*Default:* Varies

3.4.23 W

WAVE_NUM_BEG_LIST
Specify a comma separated list of desired beginning wave numbers.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py
*Family:* [config]
*Default:* Varies

WAVE_NUM_END_LIST
Specify a comma separated list of desired ending wave numbers.

*Used by:* make_plots_wrapper.py, stat_analysis_wrapper.py
*Family:* [config]
CHAPTER 3. METPLUS SYSTEM CONFIGURATION

**Default:** Varies

---

**WGRIB2**
Specify the path to the “wgrib2” executable.

*Used by:* feature_util.py, pb2nc_wrapper.py, point_stat_wrapper.py

*Family:* [exe]

*Default:* /path/to

---

3.4.24 X

---

**XLAB**
Specify the x-axis label when using the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py

*Family:* [config]

*Default:* Varies

---

**XLIM**
Specify the x-axis limit when using the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py

*Family:* [config]

*Default:* Varies

---

3.4.25 Y

---

**YLAB**
Specify the y-axis label when using the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py

*Family:* [config]

*Default:* Varies

---

**YLIM**
Specify the y-axis limit when using the TC Matched Pairs plotting tool.

*Used by:* tcmpr_plotter_wrapper.py

*Family:* [config]

*Default:* Varies
3.4.26 Z
References


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