

## ATCF TC Genesis Process - 12/2015

A genesis area is started by clicking on Manage-Storms / "Start a Genesis Area". The "Start a Genesis Area" dialog allows the user to enter the genesis-area-number, the area's sub-basin, the storm-number, the starting date and time, and the initial lat/lon. The lat/lon's can be rough estimates since the best-track can be modified later. The genesis-area-number is a three digit annual genesis number (1 – 999). The genesis number will be initialized to one plus the last genesis number used for the selected basin for the current year. The storm name, for example GENESIS005, will be set automatically based on the selected genesis number. The storm number will be initialized to one plus the last 70's number used for the selected basin for the current year. The working best-track filename will be as follows

b<basin><storm number><year>.dat, e.g. bal712015.dat. The storm entry in the storms.txt and storm.table files will include the genesis-area-number in the 15<sup>th</sup> field. The best-track data will have a "genesis-num" userdefined tag followed by the genesis-area-number in the userdata field.

TC genesis probabilities for active genesis areas can be forecast by clicking on Forecast / "TC Genesis Probability". Forecasts can be made for 48 hour and 1 to 5 day genesis probabilities for each active genesis area in the selected basin. If the latest genesis probability forecast for an area is more than a week old, that forecast will not display in the dialog. If it has been more than 6 hours since a genesis best-track was updated then records will be added (repeating the last position) to bring that genesis best-track up to date. However if the best-track is 96 hours or more out of date, an alert will pop-up asking if you want to delete the storm. On a "yes" response the "Delete a Storm" dialog will be invoked. On a "no" response the out of date genesis area will be skipped and will not appear in the "TC Genesis Probability" dialog. Not all active genesis areas need to be forecast on each time the

dialog is invoked. Simply click on the checkbox to the left of the genesis area number to designate whether a forecast is being made for that genesis area. Once “OK” is clicked the genesis forecast data will be saved to the probability database (e-decks). The forecast will also be saved to \$ATCFMESSAGES/<basin>.genprob, e.g. al.genprob.

An invest area can be started from a genesis area by clicking on Manage-storms / “Spawn an Invest from a genesis area”. The user will enter the desired new storm name, e.g. INVEST, and storm number. The storm number is initialized to one plus the last 90's number used for the basin for the current year. Once “OK” is clicked on the storm files associated with the genesis area will be copied and modified to reflect the selected 90's storm number and the new storm name. An “invest” event will be saved to the probability database (e-deck) and a SPAWNINVEST userdefined tag will be added to the best-track data.

A list of the current TC genesis probability events for the current storm click can be obtained by clicking on Forecast / “List Genesis Probability Forecasts”. The listing includes the genesis probability forecasts and also the invest, genesis and dissipate events for the current storm.

A “genesis” event is saved to the probability database (e-deck) when a warning or advisory is created (i.e. the storm state is changed from METWATCH or TCFA to WARNING) or when a storm is renumbered from a 90's to a numbered storm. Also at this time a “TRANSITIONED” userdefined tag is added to the best-track data.

A genesis area can be made inactive by clicking on Manage-storms / “End a Genesis Area” and reactivated by clicking on Manage-storms / “Restart a Genesis Area”.

A genesis area can be archived by clicking on Manage-storms / “Archive a Genesis Area”.

This will save the genesis area data to the archives and delete the data from the active storms directory. The genesis area files will be archived using the following filename format:

<x><bb>\_g<nnn><yyyy>.dat, e.g. bal\_g0012015.dat,

where:

x – b, a, f, or e for best-track, aids, fixes or probability data

bb – the basin

nnn – the genesis area number for the year (001 – 999)

yyyy – the year

If a storm is corrected and the storm state is downgraded from WARNING to either METWATCH or TCFA then a “dissipate” event is saved to the probability database (e-deck) and a DISSIPATED userdefined tag is added to the best-track data.