ALU Release Notes
01 October 2020

ALU Version Enhancements & Bug Fixes for Version 6.1 (Version 6.1.0.4; released October 01, 2020)

This is a minor release which addresses the following issues:

- Fixes an issue with the generation of the Biomass Carbon Stock Change-Stock Difference report
- Fixes for some Windows 10 users
    - Some Module II Factor Files not saving correctly
    - Invalid Database error after re-opening ALU Tool

Previous Version Enhancement Release Notes:

ALU Version 6.1.0 Release – 2006 IPCC Guideline Version with Mitigation Potential Analysis Capability (Version 6.1.0.2; released September 7, 2018)

ALU Version 6.1.0 is the third release of Version 6.0, which is a major release with a new Mitigation Analysis module. Version 6.1.0.2 makes several minor corrections to release 6.0.0 that were recommended by users for Livestock data valid flags. A recent correction was also made for filtering out factors when no data were available for specific equations.

For Version 6.0 and above, significant improvements to enhance data integrity and validation tracking have been implemented for the main ALU Interface and data entry forms. All user data created in Version 5.0 will be maintained and the user's database will be updated automatically to Version 6.0 (please accept the opportunity to create a back-up to preserve the Version 5.0 database when prompted). We strongly recommend that all users upgrade their ALU software to this current version as it improves the data tracking and integrity over the previous version releases. The Mitigation Analysis Module is an optional feature that can be used by users to assess future scenarios of Greenhouse Gas (GHG) emissions after at least one completed Inventory Year.

The Mitigation Analysis Module allows the user to create future emission and stock change projections for a Business-As-Usual (BAU) scenario and a Mitigation (MITI) scenario for one or more GHG emission/C stock change source categories. The module provides facilities to create one or more Mitigation Analyses for a specific future projection year keyed to a specific baseline GHG Inventory year. The user can copy an Inventory, or another existing BAU/MITI scenario, and then modify activity data or emission factors for each scenario (BAU or MITI) for one or more source categories (e.g., biomass C stock change, mineral soil C stock change, biomass burning non-CO_2 emissions, soil N_2O emissions). Once data are complete (activity data are validated and emission factors fully assigned) for the Inventory and each scenario, the user can proceed with the Mitigation Analysis to calculate emissions for each scenario. The module calculates the Mitigation Potential by region and source category, and the sum of all selected source categories, as the difference in emissions/stock changes between the BAU and MITI scenarios in terms of CO_2 Equivalents.

The module is flexible in allowing the user to copy existing Inventories and scenarios and allow documentation. The main ALU Interface is used to modify data for the scenarios, one at a time. The module also provides a summary interface for overall emissions difference between the scenarios and a more detailed spreadsheet-based (Excel) report. Multiple Mitigation Analyses can be created for one or

more future projection years, effectively allowing the user to run comparative or sensitivity analyses for different mitigation opportunities.

Future releases will continue to improve the functionality of ALU and the Mitigation Module. Planned future releases will provide a management tool for emission/stock change factor files, more flexible data entry options for certain data-intensive entry forms and management options for the Mitigation Analyses. A Summary Report functionality will be added to allow all emissions to be estimated from a single Inventory or BAU/MITI scenario for one or more source categories across all Land Use or Livestock categories.

A feature was added in the main ALU Interface to provide the ability to calculate Mineral Soil Carbon Stock Change at the region level across all Land Use Categories and view the regional Stock Difference and save a Stock Difference Report. In this case the user needs to set the Time Dependency factor for stock change at the regional level, or accept the default of 20 years.

ALU SOFTWARE DEVELOPMENT NOTES & Future Release:

The ALU Development Team is working on additional features, including Summary Reports and a utility to view or edit emission factor data. Potentially, new data export routines may be added. The ALU Team continues to correct any bugs found by testers or users and to improve overall software efficiency and user experience.

The ALU Development Team will periodically update the release version of the software to the ALU Website (https://www.nrel.colostate.edu/projects/alusoftware/home/) to ensure that users have the best version of the software available. A user's data created in any version 5.0 or greater will always be preserved so that it can be used in newer software releases.

If you should encounter any problems with the software or have questions please use the following email address to assist us in improving the ALU Software: alu@nrel.colostate.edu