

Result replication instructions- Trade-offs and synergies in alternative pathways to achieving human development through the Sustainable Development Goals framework

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International Futures (IFs) is a tool for thinking about long-term country-specific, regional, and global futures. IFs integrates forecasts across different sub-models, including: population, economy, agriculture, education, energy, sociopolitical, international political, environment, technology, infrastructure, and health. The interconnection of these sub-models allows IFs to simulate how changes in one system lead to changes across all other systems.

These instructions will help you download and run scenarios that reflect work done in this study. If you would like additional information on specific result replication please direct requests to pardee.center@du.edu.



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General instructions

1. Download model and all supplementary files (see below)
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3. Add supplementary files to their specified locations (see below)
4. Add new display lists to IFs (see below)
5. Run the scenarios (see below)

Necessary files

IFs Model: [Link to download IFs \(version 7.32\)](#)

Scenario files: [Link to download SCE files](#)

Variable display lists: [Link to download display list transmission file](#)

Specific instruction

How to install IFs

Requirements for installing and running IFs on your computer can be found on our website [here](#). Requirements and instructions on installing IFs on a Mac can be found [here](#).

After downloading IFs (as a zipped folder), you will need to extract all the files from the zipped folder. Then double-click 'IFsSetupStarter'. This should initiate the installation. After installation, go to 'Start' and select 'IFs' from the list of programs to run IFs.

How to add scenario files

Scenario files can be manually added to IFs once they have been downloaded. To manually add scenario files (files with the .sce extension) to IFs, you will need to copy the downloaded .sce file to the Scenario folder within IFs. The scenario folder can be accessed using the following path:

C:/Users/Public/IFs/Scenario

Create a new folder and copy over all scenario files that are necessary for the reproduction of desired results. For more information on scenario analysis in IFs please [click here](#).

How to add variable lists from a transmission file

To add a new variable list you will need the proper transmission file, which should be found with all necessary replication files. From the IFs homescreen, select the 'Display' tab and the 'Flexible Display' sub-option from the dropdown. From this Flexible Display screen select the List Features tab, the Exchange List sub-option, and the Import Lists command. From here select the desired transmission file and the proper variable list and click import. The proper lists may now be found in the Flexible Display. For more information on the use of display lists, please [click here](#).

How to batch run scenarios

The batch run feature in IFs runs multiple scenarios in succession and saves each resulting run files. To do this, select the 'Run' sub-option from 'Scenario Analysis' in the main menu bar and then select the option to perform a 'Batch Run'. From this point all folders contained within the 'IFs/Scenario' folder should be visible. Navigate to the desired folder, choose a run horizon, and then press 'Select.' IFs will then run each scenario contained within the selected folder save them as a sperate run file.

Visualizing results

There are many ways to visualize Base Case and scenario results in IFs. The Flexible Displays allows a user to display a wide variety of projected variables (sometimes in combination with historical data series), create graphs and view tables of these displays. This display also allows the user to compare results across countries, groups, and scenarios. Not all of the variables available in IFs can be found in Flexible Displays; its purpose is to provide users with access to commonly used variables. If you wish to access the full range of variables and parameters, you can do so in Self-Managed Displays. For more information on using Flexible Displays, [click here](#) and for more information on self managed displays, please [click here](#).

Sample results

The following instructions will produce a table of results for the nine SDG outcome varaibles accross the five scenarios described in this study. After completeing the above steps, go to "Displays" followed by "Flex Display" in the main menu. In the subsequent window's menu bar, choose "Geography Options" and toggle "Using Groups." Navigate to "Development" under the display category menu, then select the display "SDG Outcome Varaibles." Next, under the geography menu, scroll down and select "World." Choose a horizon of 2050, and then select "IFsBase" and all four pathways from the scenario menu. Finally, click on "Table" at the bottom left of the window. IFs should now display the desired output table.

Relevant Documentation

IFs training manual: [Link to IFs Training Manual](#)

IFs scenario guide: [Link to IFs Scenario Guide](#)

Model documentation: [Link to all documentation](#)

Relevant code: [Link to all code](#)

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