

DRG 12/10/2010 Meeting

Regional Analysis Testing with AEDT

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Install and First Step

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- Installed the model on a Desktop machine 32-bit Windows XP Quad core Xeon 2.67 Ghz machine with 4Gb of RAM.
- Setup a remote in another room with the same specs as the main machine except the OS (64-bit Windows 7) for testing distributed processing.
- Test runs were completed with pre-installed INM and NIRS studies, remote server worked (I did not track times).
- When the remote was off, the log file indicated it was unavailable and the run continued.

Test INM Import

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- Imported an INM 7.0a study with one model point type track converted from radar data at BOS.
- Point track consists of 400 points
- Study included User defined aircraft and profiles but AEDT correctly did not import those types.
- Ran SEL contour which completed successfully
- Imported Shapefiles from INM 7.0a and results match well.
- I liked the individual control of the layers, would like to be able to add labels.

MD82 Departure from BOS

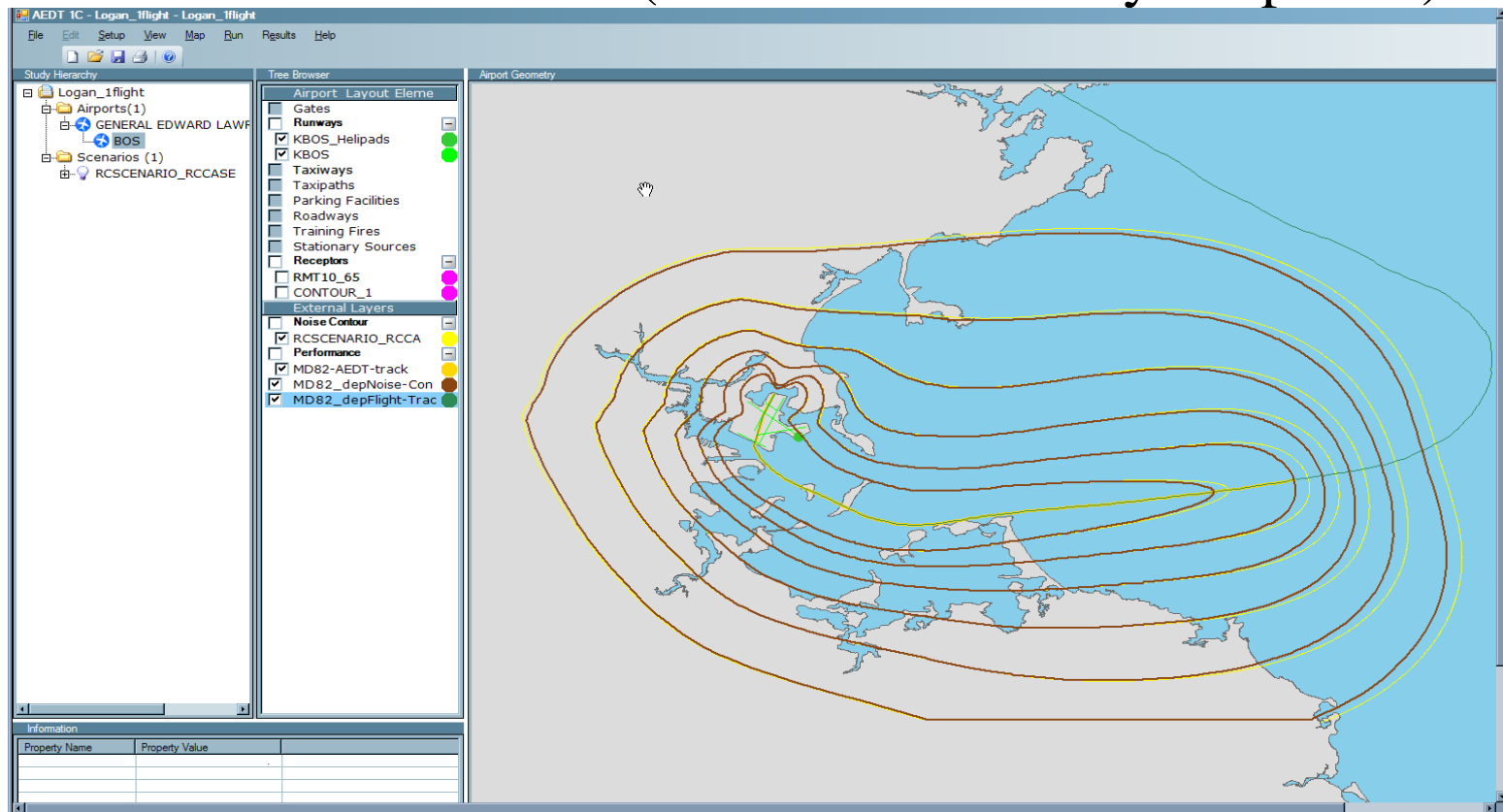
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Yellow contours AEDT (55-80 SEL)

Red contours INM 7.0a (55-80 SEL)

Gold Track – AEDT (Track ends when profile ends)

Green Track – INM 7.0a (Track continues beyond profile)



Second Step

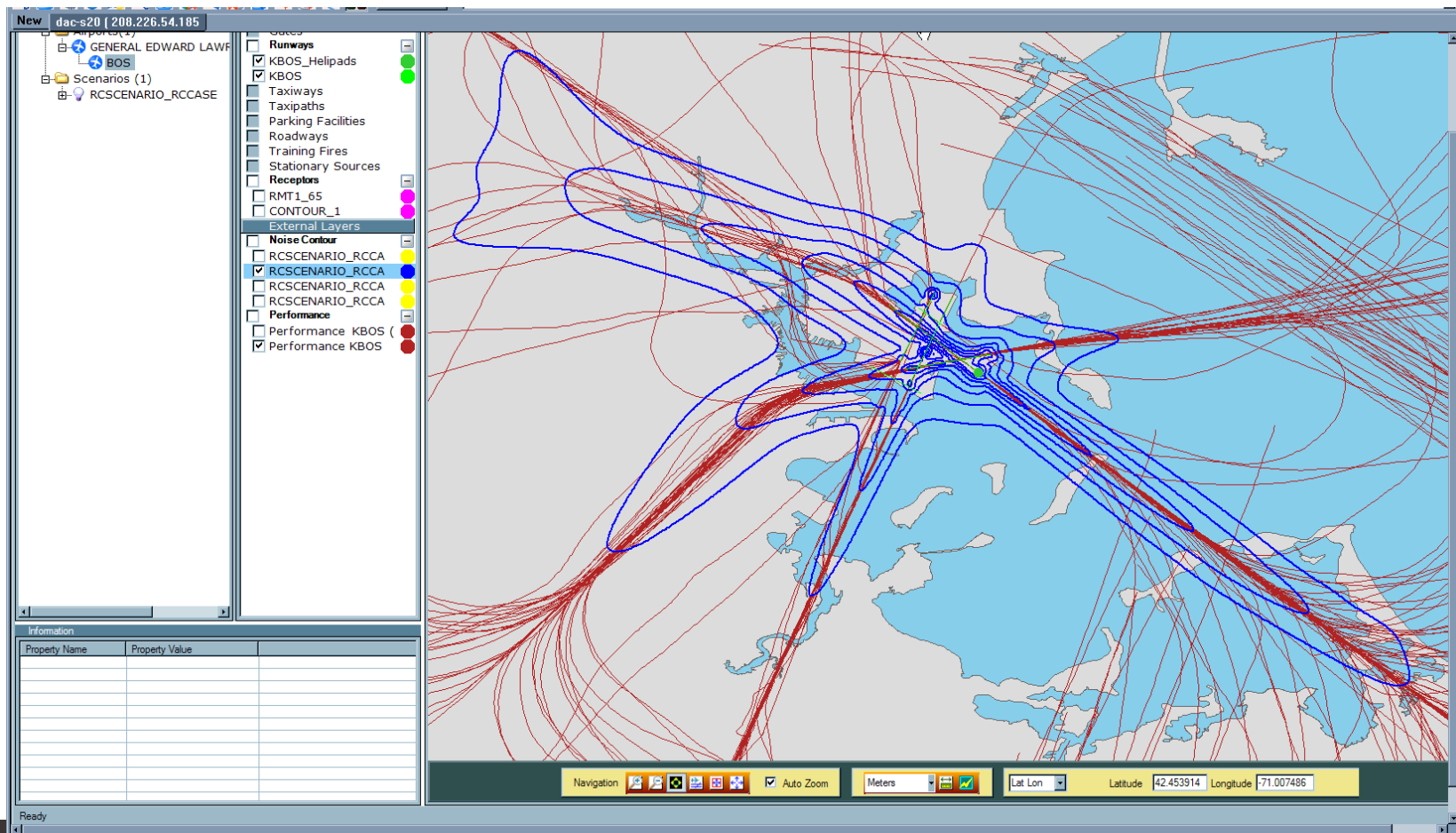
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- Import INM 7.0a study with 228 point type tracks converted from radar data. Test run had some issue but was successful.
- Terrain was “on” in INM and imported in the “on” position in AEDT. When turned “off” in AEDT GUI, the software still looked for the terrain file.
- Setup terrain file on the server and pointed AEDT to it. The remote machine failed due to a missing terrain file.
- Question – Do the terrain files need to be installed on the remote machines and if not, where would they be installed on the server?
- We disabled remote machine and the run worked.
- Imported study with terrain “off” in INM and reran AEDT with just the server alone and with the server and the remote; both worked.

INM Run results

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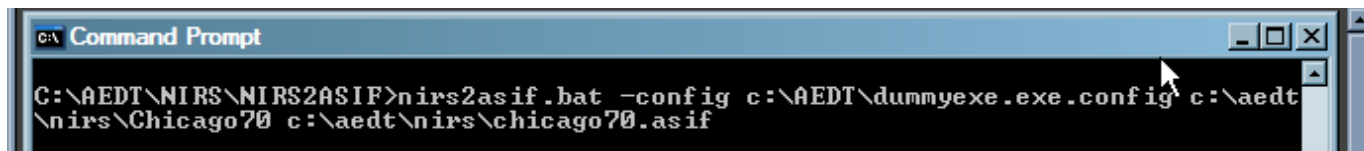
- Run with server only took 3 minutes, with server and 1 remote took 1 minute.



Converting a NIRS study

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- First imported ASIF_small supplied with AEDT to verify correct import.
- Attempted to convert Chicago70 supplied with the NIRS 7.0a release.
- Setup NIRS2AEDT - This is looking for a configuration file called Dummy.exe.config which was not supplied with the Beta1c release. (Found in the 1a release)
- Must use the `-config` option and specify the location of the config file. It did not default to `C:\aedt\`



```
C:\ Command Prompt
C:\AEDT\NIRS\NIRS2ASIF>nirs2asif.bat -config c:\AEDT\dummyexe.exe.config c:\aedt\nirs\Chicago70 c:\aedt\nirs\chicago70.asif
```

NIRS2ASIF

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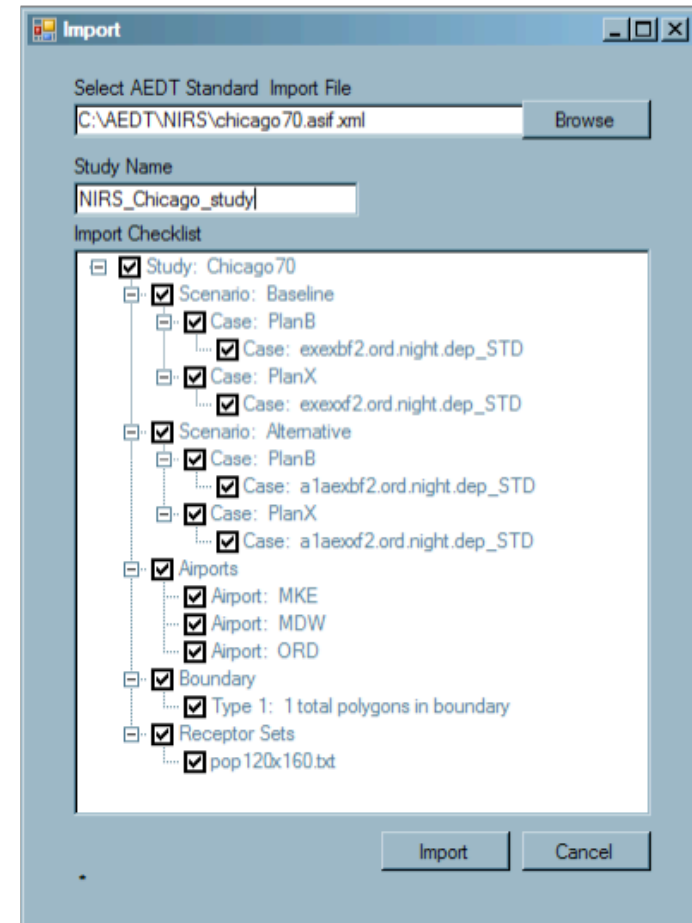
- The converter ran but generated error messages
- In the Traffic files, the track header line specified ICAO codes (KMDW, KMKE and KORD) which NIRS2ASIF could not find in the airport database.

```
creating missing runway: ORD, 14R, 32L
creating missing runway: ORD, 18, 36
writing population
writing terrain
writing scenario: Baseline
  plan PlanB
    case exexbf2.mdw.arr_STD
  Unable to find airport entry for code KMDW
  Processing of traffic file c:\aedt\nirs\Chicago70\Baseline\PlanB\Traffic\exexbf2
  .mdw.arr_STD is being discontinued
    case exexbf2.mdw.dep_STD
  Unable to find airport entry for code KMDW
  Processing of traffic file c:\aedt\nirs\Chicago70\Baseline\PlanB\Traffic\exexbf2
  .mdw.dep_STD is being discontinued
    case exexbf2.mke.arr_STD
  Unable to find airport entry for code KMKE
  Processing of traffic file c:\aedt\nirs\Chicago70\Baseline\PlanB\Traffic\exexbf2
  .mke.arr_STD is being discontinued
    case exexbf2.mke.dep_STD
  Unable to find airport entry for code KMKE
  Processing of traffic file c:\aedt\nirs\Chicago70\Baseline\PlanB\Traffic\exexbf2
  .mke.dep_STD is being discontinued
    case exexbf2.ord.day.arr_STD
  Unable to find airport entry for code KORD
```


Converting a NIRS study

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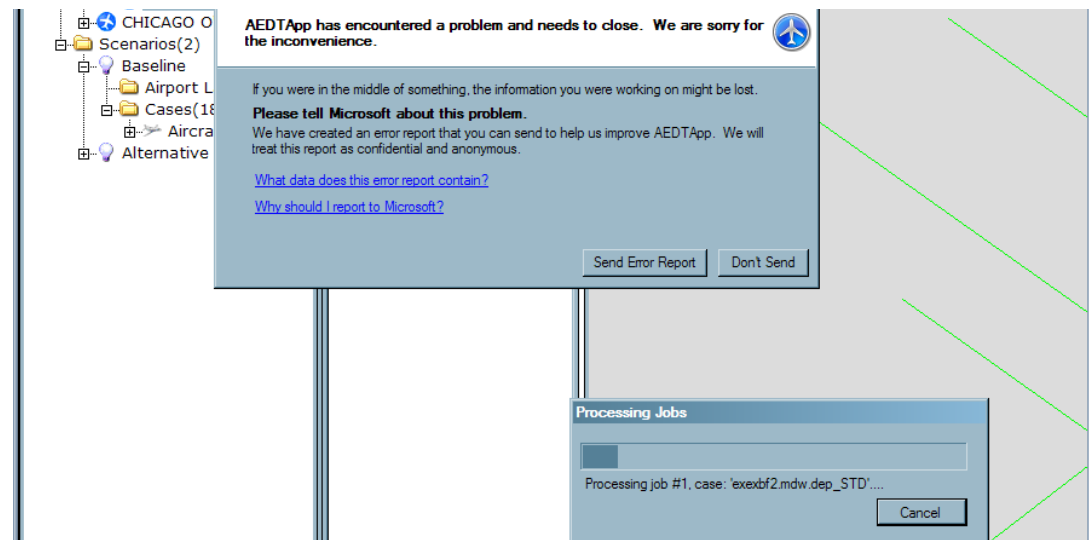
- Edited all of the files and switched 4-letter codes to 3-letter codes.
- NIRS2ASIF successfully created an ASIF file.
- Imported the Study into AEDT
- ASIF list only shows one of the imported child cases.
- Import successful



Running Chicago 70 study

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- Not successful on first attempt using Case level Noise, None for Noise Detail, Aircraft level for Emissions, and performance set to event.
- Rerunning using None for the run options to reduce data stored in the database. Run not successful.
- Ran baseline only, performance only, not successful.
- I will send the database to the development team to review the issues.



Running test study

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- **Setup and ran supplied NIRS study on laptop – Dual core – 2Gb RAM**
- **Run successful**
- **Reviewing Results**
 - **To turn on tracks was cumbersome because you can only do one at a time.**
 - **Also, I added tracks from the second alternative but did not see them on the map.**
 - **They appeared when I reloaded the study.**

AEDT Tracks & Population

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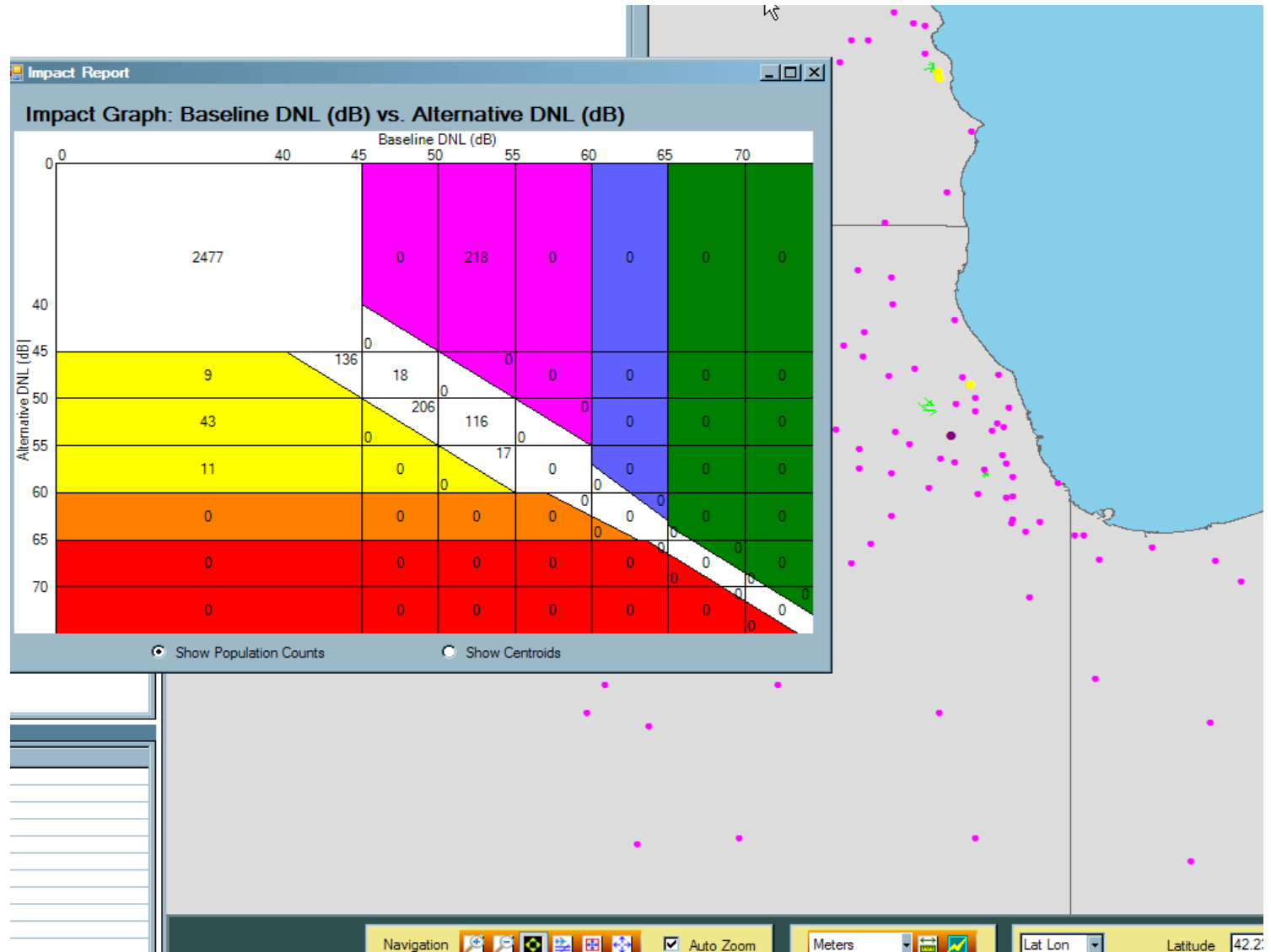
The screenshot displays the AEDT 1C software interface for a study named "Chicago 70". The interface is divided into several panels:

- Study Hierarchy:** Shows a tree view of the project structure. Under "Chicago70", there are "Airports(3)" (GENERAL MITCHELL INTL, Default MKE Layout, CHICAGO MIDWAY INTL, CHICAGO OHARE INTL) and "Scenarios(3)" (Baseline_1990, Airport Layouts(3), Cases(18), Alternative_2005, Testing_Scenario).
- Tree Browser:** Lists various elements and layers. Under "Airport Layout Elem", "Runways" are checked for ORD, MDW, and MKE. Under "Receptors", "pop5069.txt" is checked. Under "External Layers", "ORD Departures", "ORD Arrivals", "MKE Departures", "MKE Arrivals", and "MDW Departures" are all checked.
- Airport Geometry:** A map view showing the geographic layout of the airports and their associated tracks. The map includes colored lines representing tracks and pink dots representing population receptors.
- Information Table:** A table with two columns: "Property Name" and "Property Value". It is currently empty.
- Navigation:** A toolbar at the bottom right with icons for navigation and a checkbox for "Auto Zoom". The unit is set to "Meters".

The status bar at the bottom left indicates "Ready".

Impact graph works well

Would like to see the magenta color between the map point and the impact graph match



Nice Features & Wants

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- Liked the reporting in the Log files. The Log file listed items such as the run times, the remote machines, run issues etc..
- Liked the controls with the map layers both internal and external.
- If you could add a optional layer field name when you choose to display items on the map.
- Add labeling to the GIS layers.

List of Issues

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- Terrain import issue with INM
- Update Documentation to indicate terrain should be installed on Remote machines and in what directory.
- Tree Browser Issue (seems to be due to remote desktop connection issue)
- NIRS2ASIF import issue with ICAO codes
- ASIF import to look for *.asif files
- ASIF import list child files.

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Question 2