

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

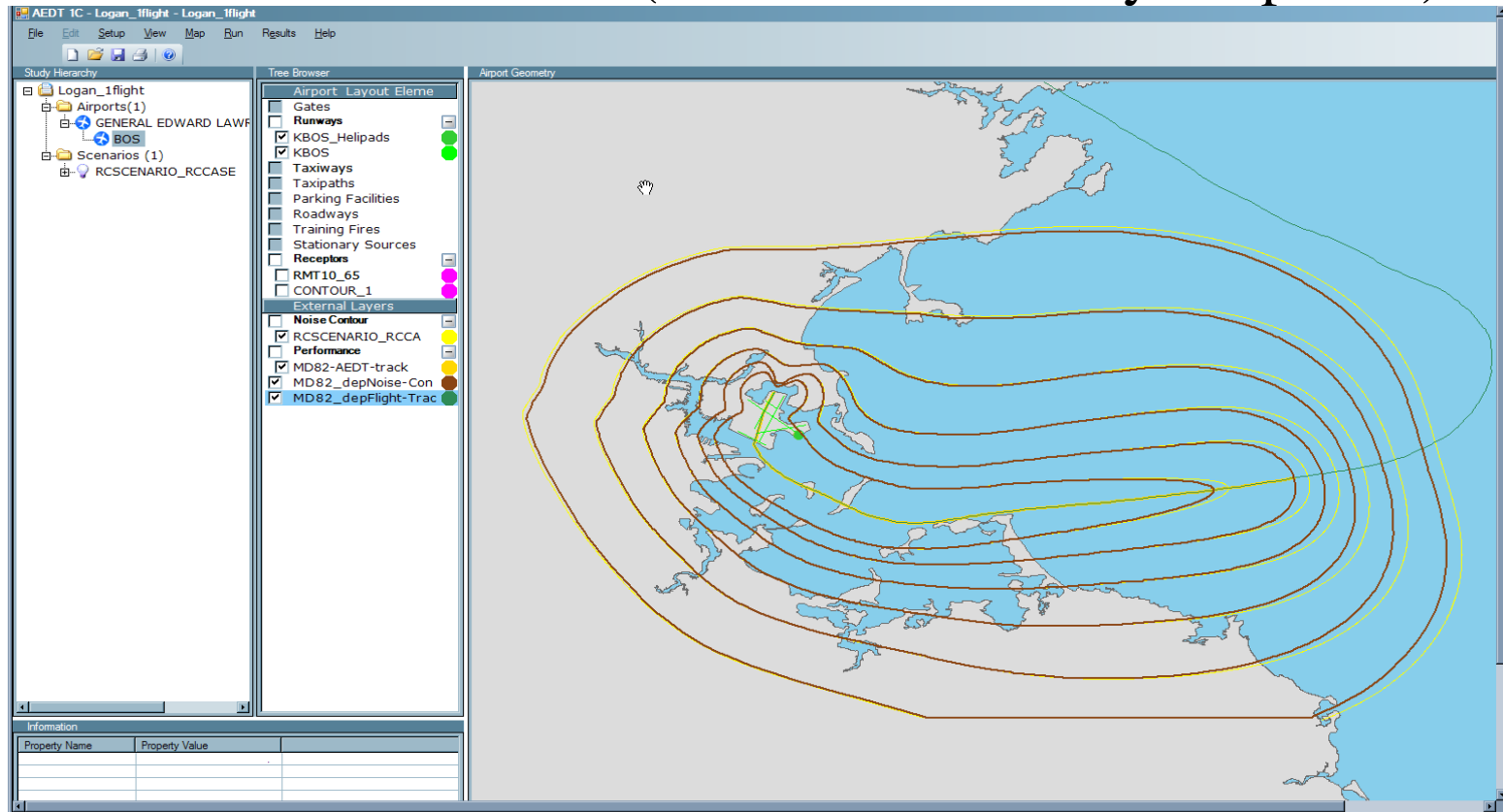
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Yellow contours AEDT (55-80 SEL)

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

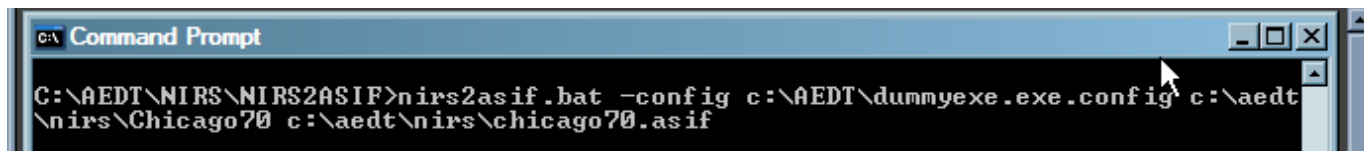
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- Import INM 7.0a study with 228 point type tracks converted from radar data. Test run had some issue but was successful.
- Terrain was “on” in INM and imported in the “on” position in AEDT. When turned “off” in AEDT GUI, the software still looked 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.

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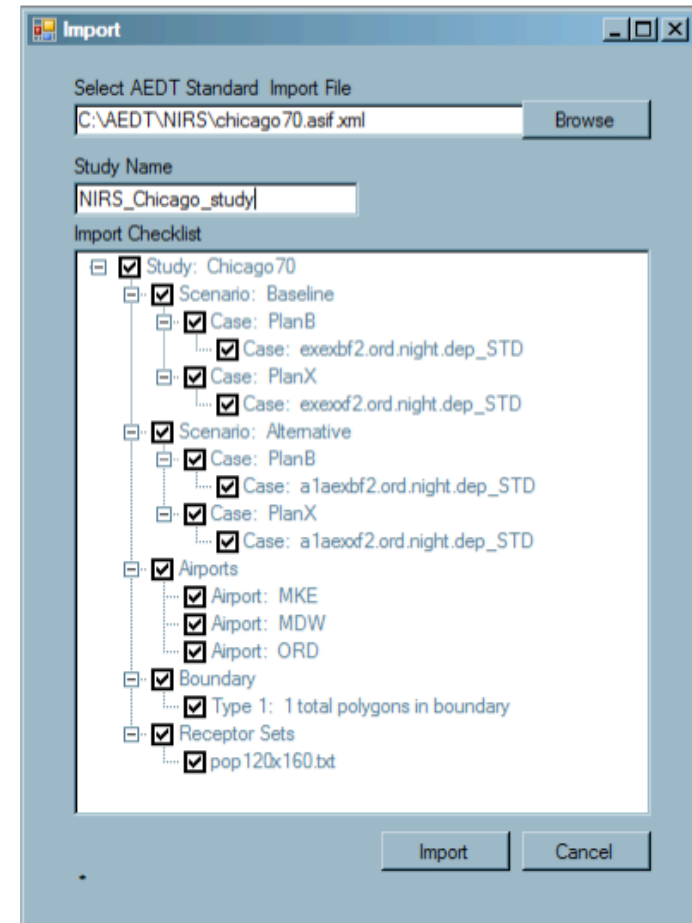
- The converter ran but generated error messages
- In the Traffic files, the track header line specified ICAO codes (KMDW, KMKE and KORD) which NIRS2ASIF could not find in the airport database.

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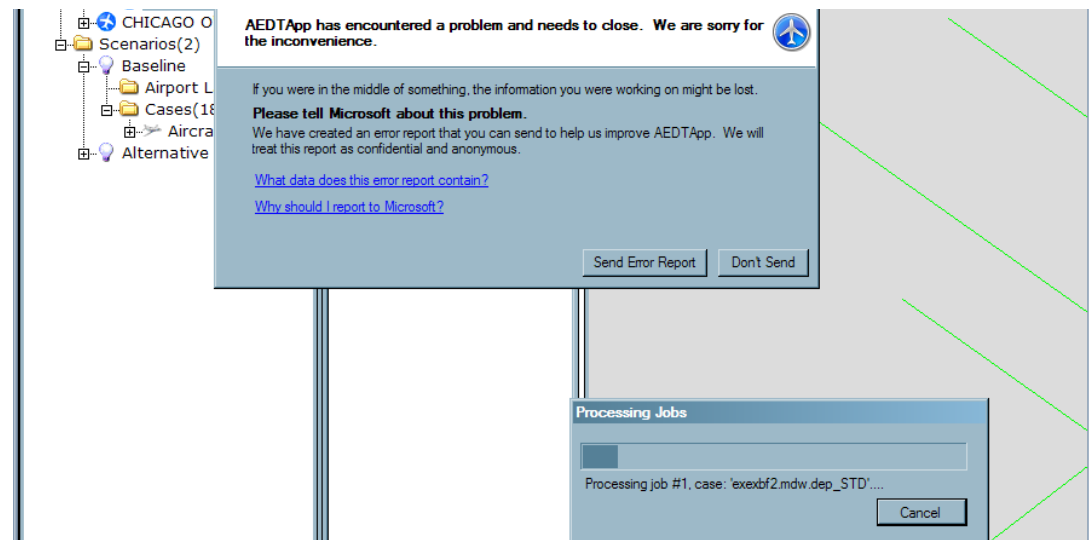
- Edited all of the files and switched 4-letter codes to 3-letter codes.
- NIRS2ASIF successfully created an ASIF file.
- Imported the Study into AEDT
- ASIF list only shows one of the imported child cases.
- Import successful



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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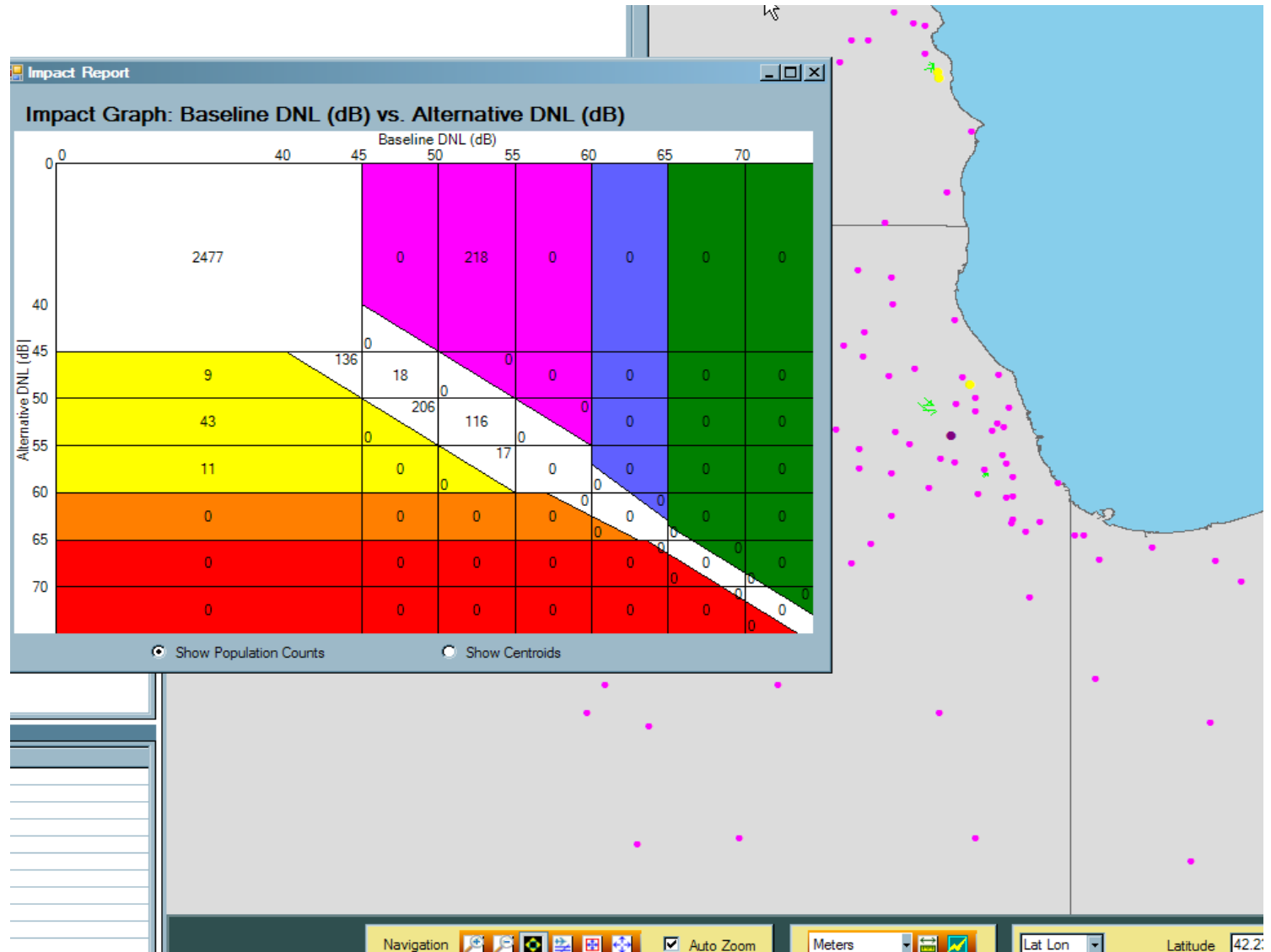
The screenshot displays the AEDT 1C - STUDY_NIRS - Chicago 70 software interface. The main window is divided into several panels:

- Study Hierarchy:** Shows a tree view of the project structure, including Chicago70, Airports(3) (GENERAL MITCHELL INTL, Default MKE Layout, CHICAGO MIDWAY INTL, CHICAGO OHARE INTL), Scenarios(3) (Baseline_1990, Airport Layouts(3), Cases(18)), Alternative_2005, and Testing_Scenario.
- Tree Browser:** Lists various layers and their visibility status:
 - Airport Layout Elem:** Gates, Runways, ORD, MDW, MKE, Taxiways, Taxipaths, Parking Facilities, Roadways, Training Fires, Stationary Sources.
 - Receptors:** gridfile_50x50, gridfile_100x100, pop5069.txt.
 - External Layers:** ORD Departures, ORD Arrivals, MKE Departures, MKE Arrivals, MDW Departures.
- Information Table:** A table with columns for Property Name and Property Value, currently empty.
- Map (Airport Geometry):** A map showing flight tracks (colored lines) and population points (pink dots) around the Chicago area. The map includes navigation tools and a scale bar set to Meters.

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