2016 AFMS Code-a-thon

Topics

- Topic 1: Applications to collect and display environmental data (wind, waves, weather, tide, ice, current, etc.).
- Topic 2: Applications that can aid in search and rescue operations for AIS lost vessels, fishing vessels, or land-based activities (hunting, hiking, etc.).
- Topic 3: Track wildlife migrations in the Arctic region and build predictions based on hazardous areas (e.g. oil spill, ice, fires).
- Topic 4: Choose your own Arctic-based topic.

Code-a-thon

Start time: 12:00pm in the Unclassified Lab

All teams will meet in the unclassified lab. Team locations will be randomly assigned.

We will be using GitHub for source code management. Repos will be created for each of the teams prior to the start of the competition. Teams will have 1-hour to submit their chosen topic and statement of objectives (what you plan to do) to the repo. All teams need to have their code submitted at the completion of the competition.

At the end of the competition, teams will demonstrate their applications (up to 10 minutes). Judging will occur immediately following presentations.

Please remember to leave your badges at the front desk.

Application and Data Sources

The following can be found in GitHub: https://github.com/michaelpeacock/2016-Code-a-thon. **These are there to help with your applications but do not have to be used.**

Arctic Iri Application

- Subset of capabilities available under C4Framework
- Eclipse-based project
    - Has run on Linux and Windows (*should* also run on Mac)
- Uses WorldWind for map engine (https://worldwind.arc.nasa.gov/)
- Menu options allow loading of shapefiles, KML, or WMS data
- To start the application, right click on ArcticWindow under com.missionse.application and select Run As → Java Application.

Data Sources

- Excel spreadsheet in repo (AIFC Data Feed Catalog)
- http://feeder.gina.alaska.edu/
- Data Feeds folder in repo (contains shapefiles and kml files for ice, weather, etc.)
    - These can be loaded into the Arctic Iri application via the menu
    - Also can be added to just about any other geo application (i.e. Google Earth or ERMA)
    - AIS track data (CSV format)
- Plenty of free data sources (NWS, AIS)

Other Geo Applications

- ERMA - https://erma.noaa.gov/arctic/erma.html#/x=-161.91096&y=64.76126&z=4&layers=3+12864+12888+676+8480
- Cesium - https://cesiumjs.org/
- ArcGIS - https://www.arcgis.com/features/index.html
- QGIS - http://www.qgis.org/en/site/