# Main Tasks

| Task | Technology | Description | Details |
|---|---|---|---|
| Parsers | • Python<br>• Clowder Geostreams | • Create python script that reads the data for idph csv files and posts it to the geostreaming API<br>  ◦ The geostream data was originally used for geodashboard, but later the geostreaming data was also used by the web application. | • Parser for both preprocessed files (by Bill) and later for unprocessed files. |
| Geospatial Web Application | • Flask<br>• Openlayers<br>• Plot.ly<br>• Bootstrap<br>• Javascript | • Show MIR data in geospatial app<br>  ◦ select features in map by region or trap<br>  ▪ popup shows overview<br>  • 'show data' opens graph of data<br>  ◦ run model through interface<br>  ▪ run fortran model<br>  ▪ run python model (converted and generalized from fortran model) | • Get region geojson for regions, edit for use in application |
| arcus.sws.illinois.edu | • Ubuntu Linux<br>• nginx | • Install application on State Water Survey VM | |
| Run model (Fortran) | • Fortran<br>• Called by Python | • Run model by copying input files from idea.sws.uiuc.edu (where fortran model is running) | |
| Run model (Python) | • Python | • Emulate Fortran model<br>  ◦ Parses weather data in a general way so it can run without inputs of epi weeks, uses only one weather data file | |
| Get weather data endpoint | • Python | • get weather data from http://www.rcc-acis.org/ api<br>• parse into files | |
| Get forecast data | • Python | • get weather data from http://sats.nws.noaa.gov api<br>• parse into files | |
| Get cdc week and year by date | • Node.js<br>• Called by python | • Function to get epi week and year by calendar date<br>  ◦ https://www.npmjs.com/package/epidemiological-week | |
| Get daylight hours | • Python | • Get latitude center of region and get daylight hours for that location though https://api.sunrise-sunset.org | |
| Run biggerstaff model | • R | • Run R library to get MIR | • Not needed, the actual calculation is simple |
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