iMapInvasives: A New Tool for Geotracking Invasive Species
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iMapInvasives is an online mapping tool that aggregates and displays invasive species location data from multiple sources.
Participating States
Arizona, Florida, New York, Maine, Oregon, Pennsylvania, Saskatchewan, Vermont, Virginia, West Virginia (10)
Built on Partnerships

- Florida Natural Areas Inventory
- Arizona Game and Fish Department
- New York Natural Heritage Program
- NatureServe
- FREAC (Florida Resources and Environmental Analysis Center)
How is iMapInvasives Useful?

- Visualize the geography of infestations
- Early detection potential
- Track infestation status over time
- Collaborate data across the state
How are AGFD and others Using iMap?

- Providing bulk sets of data to be stored in the database.

- Viewing data to help write EAs, HACCP Plans, and to fill other data requests as they are received by HDMS.

- Using the advanced functions as their main database.
Advanced Uses of *iMapInvasives*

- Observations
- Assessment
- Survey
- Treatment
- Projects
- Infestation Management
- Early Detection Alerts
  - Suspicious distance reports
  - Approaching region reports
**Observation Data:** a point on the map representing the report of a specific species, at a specific place, on a specific date. As observation can represent an infestation or an individual sighting.
Data Collection/Entry Methods

Online Data Entry

Smart Phone

Bulk Upload
**Assessment Data:** polygons showing localized distribution of a species rather than just simple observation data.

- Capturing the scope and intensity of an infestation for further follow-up
Survey Data: The planned search of an area to determine presence or absence of specific species.
Barrier
Bioagent
Chemical
Fire
Flame Weeding
Grazing
Mechanical/Manual
Shooting
Trapping
Advanced Uses: Creating Projects

*Serves two basic functions:*

1. A way to organize data into a group that can be easily searched or downloaded
2. A way for multiple agencies to submit and share data for the same project

*Examples:*

- Tracking data collected for a specific season of field work
- Tracking data collected for a specific grant
**IMR:** A polygon grouping together all of the associated data records for a population of a particular species.

**Basic Functions:**
1. A way to track the status of a population of a particular species over time
2. A way to easily view all work that has been done over time to manage an infestation

**Example:**
- The management of one species populated at a defined geographic location of interest
Approaching Region
Reported next door but not in the area of interest.

Early Detection
Reported in the area 1 to 3 times.

Presence Established
Reported four or more times. Has probably established presence in the area.
**Suspicious Distance** alerts for state administrators

- A new report appears suspiciously far from other known occurrences
  - Could be a candidate for EDRR, or a misidentification

- The new report is forwarded to appropriate regional contact

Distance set varies by species

- 100 miles
Different User Levels for Controlled Functionality

- Public Page
- Level 1: View Only
- Level 2: Enter Observation Data
- Level 3: Enter Assessment Data
- Level 4: Enter Survey Data
- Level 5: Project Manager
- Level 6: Enter Treatment Data
- Level 10: State Administrator
Different User Levels for Controlled Functionality

- **Public Page**
- **Level 1**: View Only
- **Level 2**: Enter Observation Data
- **Level 3**: Enter Assessment Data
- **Level 4**: Enter Survey Data
- **Level 5**: Project Manager
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Other Invasive Species Databases

**EDDMapS: Early Detection and Distribution Mapping System**
Publicly available data to upload and download. Point observation unless you have a paid set-up and customized page.

**GISIN: Global Invasive Species Information Network**
Can view lists (and download) data with coordinates by species, country, kingdom, and provider. No maps displayed on the site. Only invasives. Data is downloadable.

**NAISN: North American Invasive Species Network**
Target to be a North American scale vision of invasive species information. Shows species list and you can click on the species to bring up info and photos and locations on a map. Uses GISIN and EDDMapS for locations. Data is viewable.

**USGS NAS: Nonindigenous Aquatic Species**
Collection of aquatic species information. We have a current data share agreement with them. They get all of our public data, and we get all of theirs.

**Regional Databases:**
Great Lakes Early Detection Network
Midwest Invasive Species Information Network
How Does iMap Compare?

- Online, Publicly Accessible
- Plants, Animals, Insects
- Points and Polygons
- Multiple User Levels
- Geared Towards Managers
How Does iMap Compare?

- Data is protected
  - Login needed to view points
  - General users cannot view lat/long
  - Higher level users gain access to polygon records
- Users can only download their own data by default
- Partners can allow iMap to share data with
  - Researchers and universities
  - Other agencies, weed managers
  - National datasets such as USGS NAS
Data sharing and collaboration with Cal-IPC

- Incorporated iMap data for pilot modeling project
- Current distribution
- Future predicted distribution under different climate scenarios
- Habitat suitability
Data sharing and collaboration between states
Why did we choose iMapInvasives?

- Track Weed Information Mapping System (WIMS) Data
- A place to maintain SouthWest Exotic Mapping Program (SWEMP) Data
- Ability to use as main database or simply displaying data
- Cost and maintenance

Ideas for the Future

- Standalone app for Android/Apple
- Field Collector App
- Include tracking pathogens
- iMapInvasives National View
For general information visit

www.imapinvasives.org

Questions?
Contact

Jami Kuzek
jkuzek@azgfd.gov