IDEAS

GEOSPATIAL SOLUTIONS MADE EASY

A Geospatial Solution Powered by

Intelligent Data Exploration and Analytics System (IDEAS™)

Patent Pending

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Agenda

- Geospatial Industry Challenges
- Technology Solution
- IDEAS Demonstration- Geospatial User Solutions

GEOSPATIAL INDUSTRY CHALLENGES

Geospatial Industry Challenges

The Challenges:

- **Harnessing the power of geospatial analytics to make sense of:**
  - High-velocity imagery
  - High-variety imagery
  - High-volume imagery

Which Present Operational Utility Issues:

- Interoperability
- Too many choices
- Too many models
- Access which is quick and simple

Geospatial Industry Challenges

- **Too …**

  much data, hard to know what data you need, and hard to find it

- **Difficult for some (impossible for others) to access and use models which utilize imagery and data**

- **Difficulty delivering quick and simple answers using geospatial data and models**

Technology Solution

Intelligent Data Exploration and Analytics System (IDEAS™)

Connects users who have geospatial problems with the providers of the geospatial data and models needed to solve those problems

-- Without necessarily needing to know the existence of, or how to use these data and models

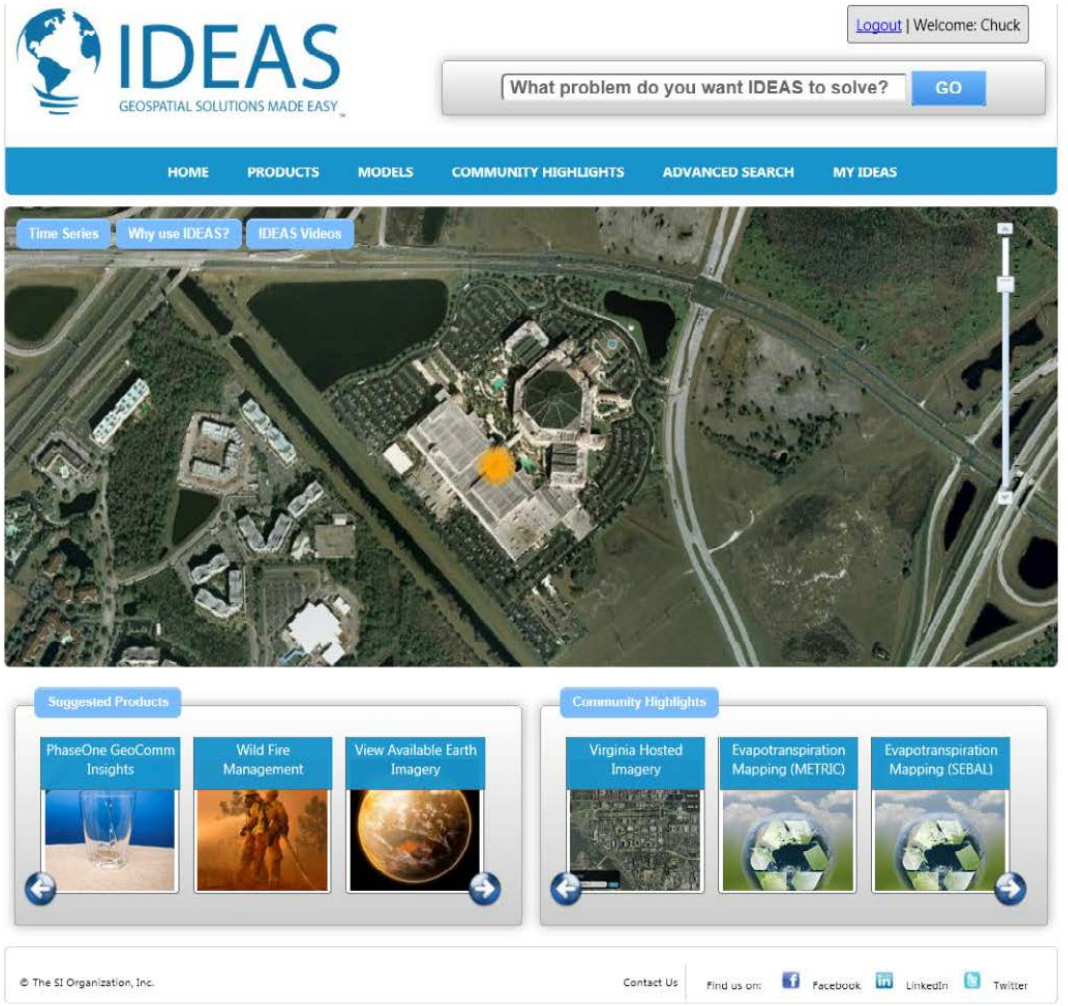
Integrates data, imagery and models to create products

Assists users to **search** for existing products, create customized versions, or request new ones

Offers **Content Providers** a environment to host their data and products

Allows users to **utilize models** to generate new **products on-demand**

Enables **sharing**, **collaboration** and **crowd sourcing** to solve unfulfilled needs



IDEAS is an Infrastructure which Breaks Down Barriers & Makes Connections

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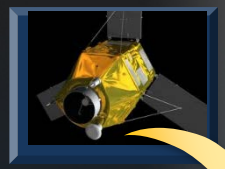
Strides in technology/cost enable a new approach

Government Clearinghouse Data

Satellite



Aerial Imagery

NASA

Models

Applications

Objective

- ***Custom "One-Stop Shop" for geospatial data***
- ***Unify the market (content with solutioneers)***
- ***Portal for collaboration and intuitive data discovery***

GeoMarketPlace

Innovation Apps/Models

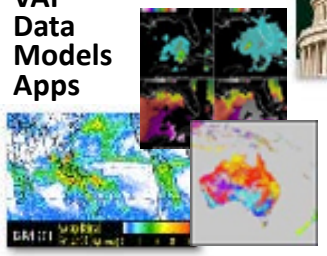
Fresh Global Content
Massive Scalability
High Speed

Quick/Easy Access
Rapid Solutions
Easy Content Access
Commerce Engine

Innovation

Collaboration

VAP
Data
Models
Apps



Stakeholders

Agriculture
Non-Govt Organizations
Regional Authorities
Energy
Commodities
Land Surveyors
Disaster Relief
Universities
State & Local Govt

Customer Value

- ✓ **Quick/Easy Geo Solutions**
- ✓ **Powerful Analytics**
- ✓ **Direct Access to Innovation**
- ✓ **Fresh Hosted Content**
- ✓ **Effective Collaboration**
- ✓ **Easy Mobile Content Access**

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Technology Capability

- **INTELLIGENT DATA EXPLORATION AND ANALYTICS SYSTEM (IDEAS)**
  A SMART ENGINE that…
  - **Utilizes open source and commercial technology within a High-Performance Cloud Computing (HPCC) environment**
  - **Makes Remote Sensing and Geospatial Information Systems data imagery and models readily discoverable, accessible, visualized and useable**
  - **Provides Model as a Service (MaaS)**
  - **Provides scalability for a wide, varied and growing user base**
    - **Informed and uninformed users**
    - **Technical and non-technical users**

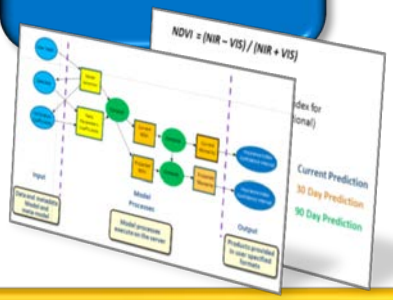
IDEAS discovers the data and models users need to solve their problems as part of integrated work flow

Envisioning the Future - GIS Solutions in Minutes

Imagery/Data	Multiple Models	Products & Reports	Effort
Quality data available but not always located in one place, or properly validated	Long hours spent trying to discover, access and utilize the correct models	Production is resource intensive and may not be most useful output	Hindered by options available and by time involved in process
Correct data located automatically for user specific problem	Model selected automatically from multiple available to solve user specific request	User selects delivery mechanism, format and visualization	Solution provided in minutes

Past

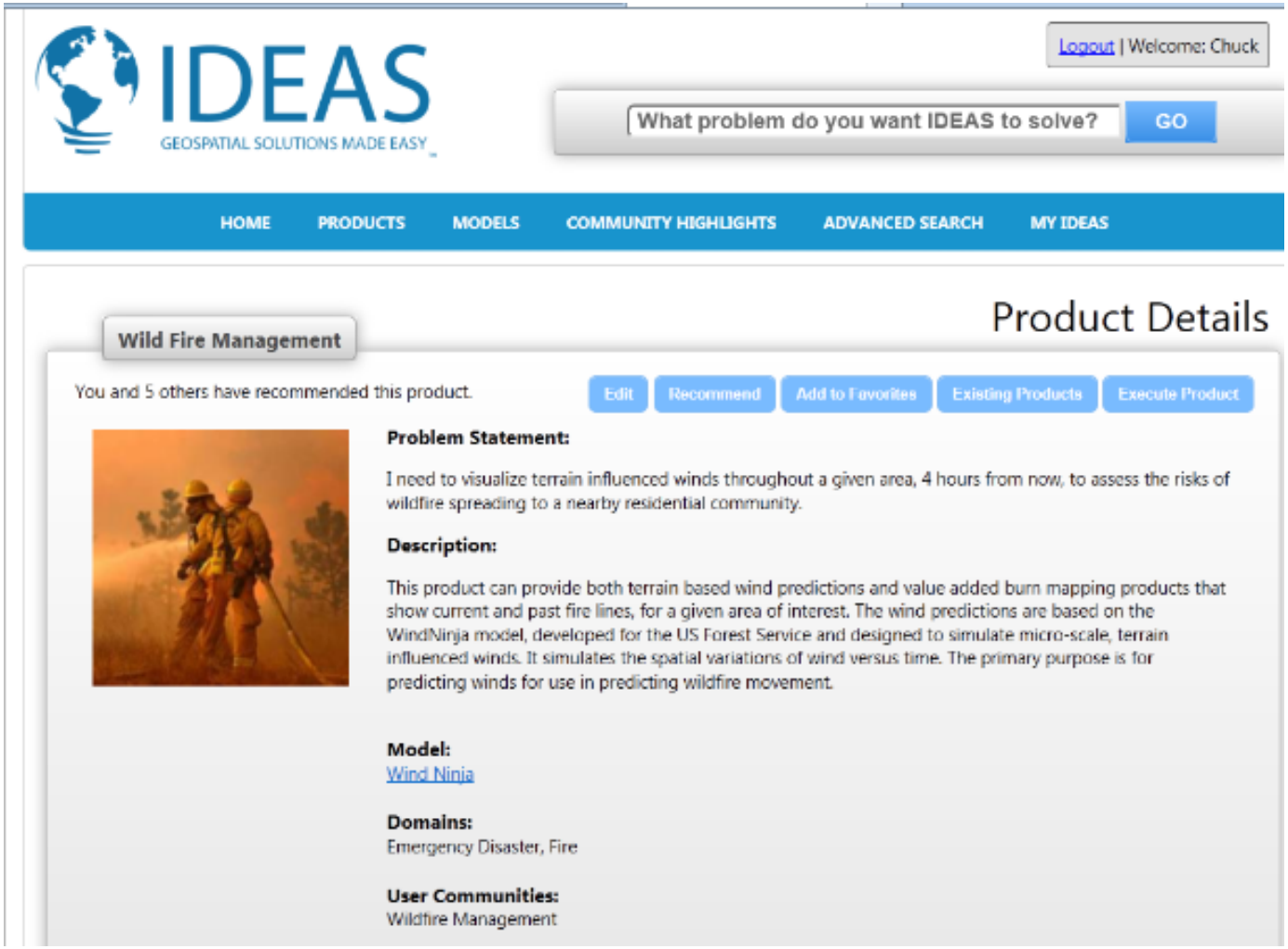
Future



Input → **Models/Execute** → **Output** → **User**

IDEAS Demonstration

- Wildfire Management and Prediction



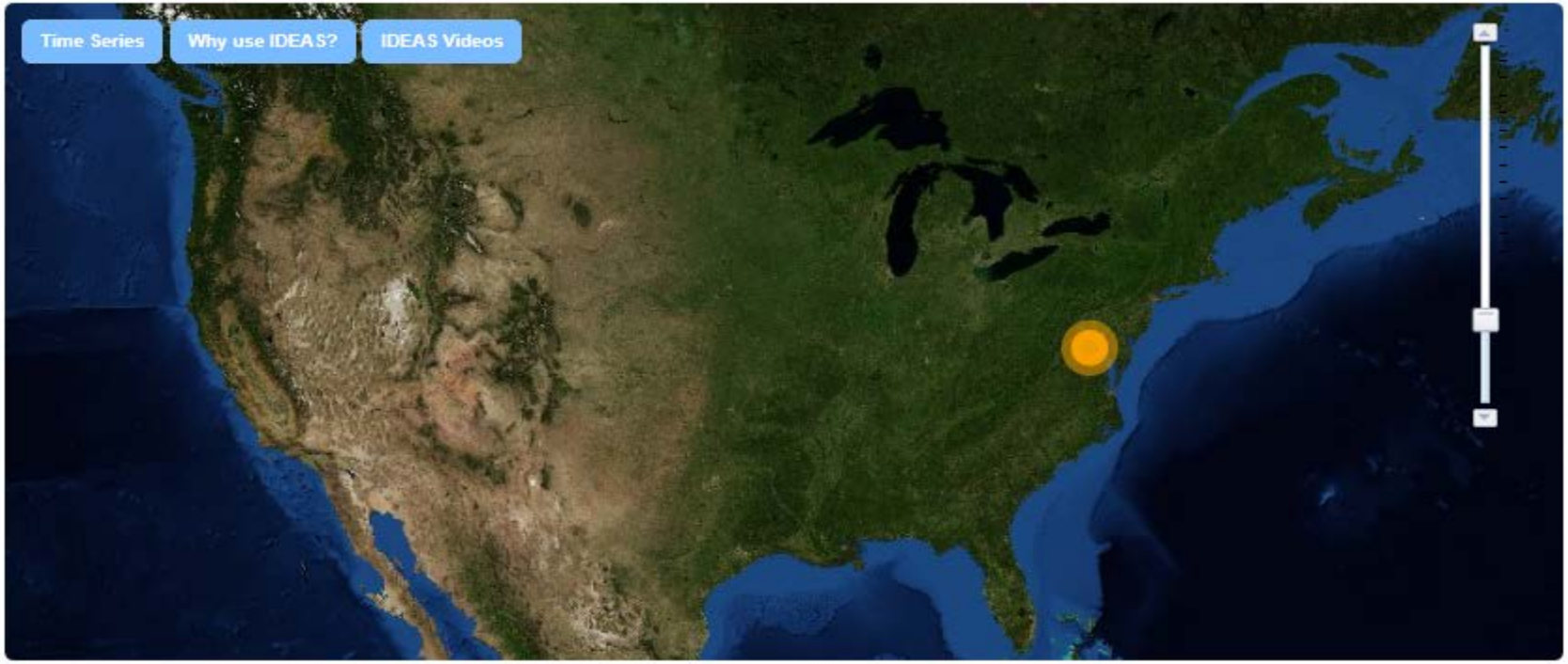
Screen Shots

IDEAS
GEOSPATIAL SOLUTIONS MADE EASY™

Logout | Welcome: Chuck

What problem do you want IDEAS to solve? GO

HOME PRODUCTS MODELS COMMUNITY HIGHLIGHTS ADVANCED SEARCH MY IDEAS



Suggested Products

PhaseOne GeoComm Insights™

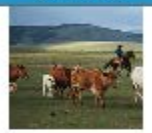
Wildfire Management

View Available Earth Imagery

Community Highlights

Livestock Mortality Insurance

Livestock Commodities Price Estimates



Flood Prediction

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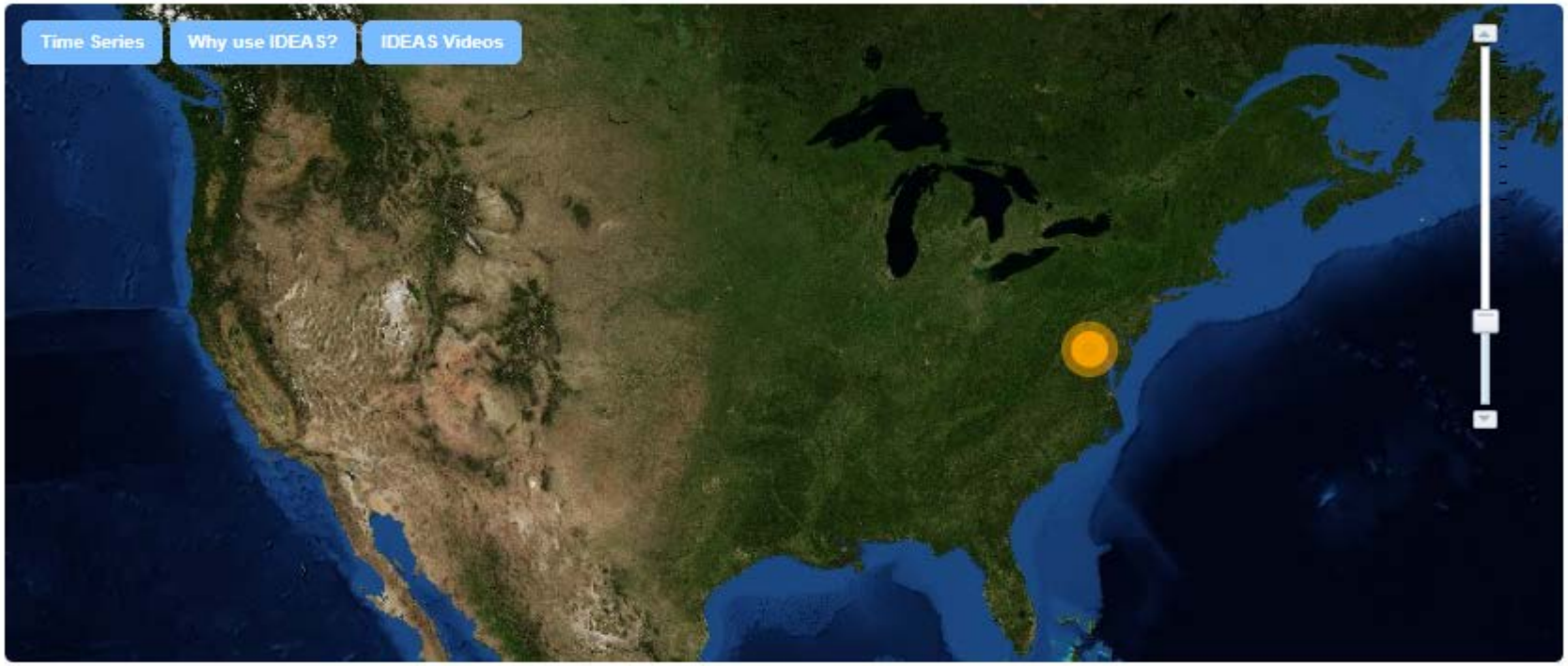
Wild Fires GO

HOME PRODUCTS MODELS COMMUNITY HIGHLIGHTS ADVANCED SEARCH MY IDEAS



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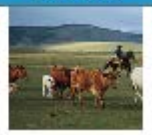
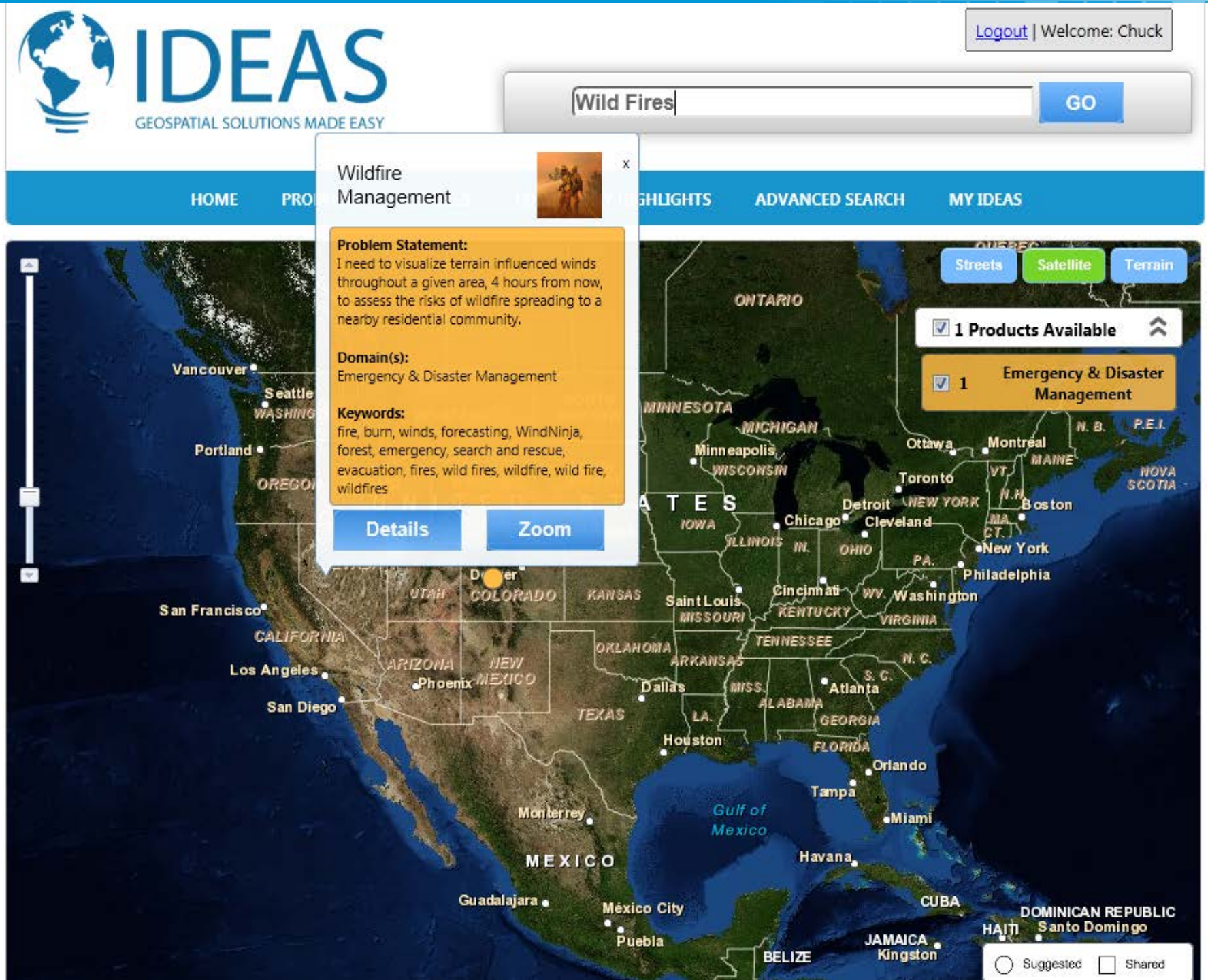


Flood Prediction

Slid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Wild Fires
GO
HOME
ADVANCED SEARCH
MY IDEAS
Wildfire Management
Problem Statement:
I need to visualize terrain influenced winds throughout a given area, 4 hours from now, to assess the risks of wildfire spreading to a nearby residential community.
Domain(s):
Emergency & Disaster Management
Keywords:
fire, burn, winds, forecasting, WindNinja, forest, emergency, search and rescue, evacuation, fires, wild fires, wildfire, wild fire, wildfires
Details
Zoom
Streets
Satellite
Terrain
1 Products Available
1 Emergency & Disaster Management
Suggested
Shared
Vancouver
Seattle
Portland
San Francisco
Los Angeles
San Diego
Phoenix
Dallas
Houston
Minneapolis
Chicago
Detroit
Cleveland
Toronto
Ottawa
Montreal
Boston
New York
Philadelphia
Washington
Cincinnati
Saint Louis
Atlanta
Orlando
Tampa
Miami
Havana
Monterrey
Guadalajara
México City
Puebla
Gulf of Mexico
MEXICO
CUBA
DOMINICAN REPUBLIC
Santo Domingo
HAITI
JAMAICA
Kingston
BELIZE
ONTARIO
MINNESOTA
MICHIGAN
WISCONSIN
IOWA
ILLINOIS
IN.
OHIO
NEW YORK
PA.
WV.
VIRGINIA
KENTUCKY
TENNESSEE
MISSOURI
KANSAS
COLORADO
UTAH
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TEXAS
LA.
MISS.
ALABAMA
GEORGIA
FLORIDA
S. C.
N. C.
CALIFORNIA
OREGON
WASHING
MAINE
VT.
N.H.
MA.
CT.
N. B.
P.E.I.
NOVA SCOTIA

Product Details

Wildfire Management

You and 3 others have recommended this product.

Edit | Recommend | Add to Favorites | Existing Products | Execute Product

Problem Statement:

I need to visualize terrain influenced winds throughout a given area, 4 hours from now, to assess the risks of wildfire spreading to a nearby residential community.

Description:

This product can provide both terrain based wind predictions and value added burn mapping products that show current and past fire lines, for a given area of interest. The wind predictions are based on the WindNinja model, developed for the US Forest Service and designed to simulate micro-scale, terrain influenced winds. It simulates the spatial variations of wind versus time. The primary purpose is for predicting winds for use in predicting wildfire movement.

Model:
Wind Ninja

Domains:
Emergency & Disaster Management

User Communities:
Wild Fire Management

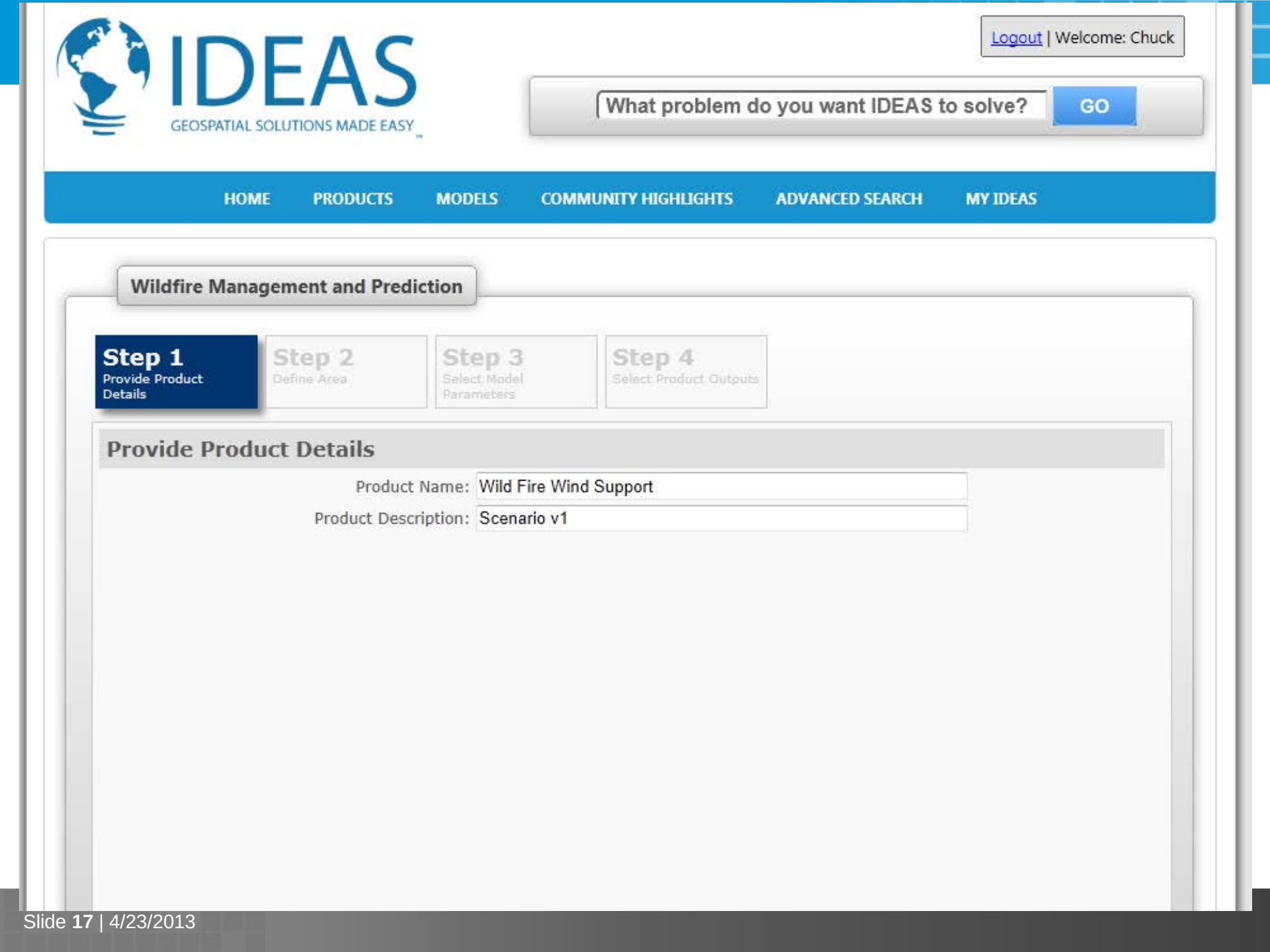
Inputs:

Parameters: Location(user specified), Average Wind Velocity(user specified or NOAA), Height of Wind Velocity, Time from Present, Vegetation Type, Resolution Data Source(s): USGS Elevation Data, NOAA Weather Data, MODIS Fire Products

Outputs:

IDEAS Interactive Map

Google Maps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What problem do you want IDEAS to solve?
GO
HOME
PRODUCTS
MODELS
COMMUNITY HIGHLIGHTS
ADVANCED SEARCH
MY IDEAS
Wildfire Management and Prediction
Step 1
Provide Product Details
Step 2
Define Area
Step 3
Select Model Parameters
Step 4
Select Product Outputs
Provide Product Details
Product Name: Wild Fire Wind Support
Product Description: Scenario v1

Wildfire Management and Prediction

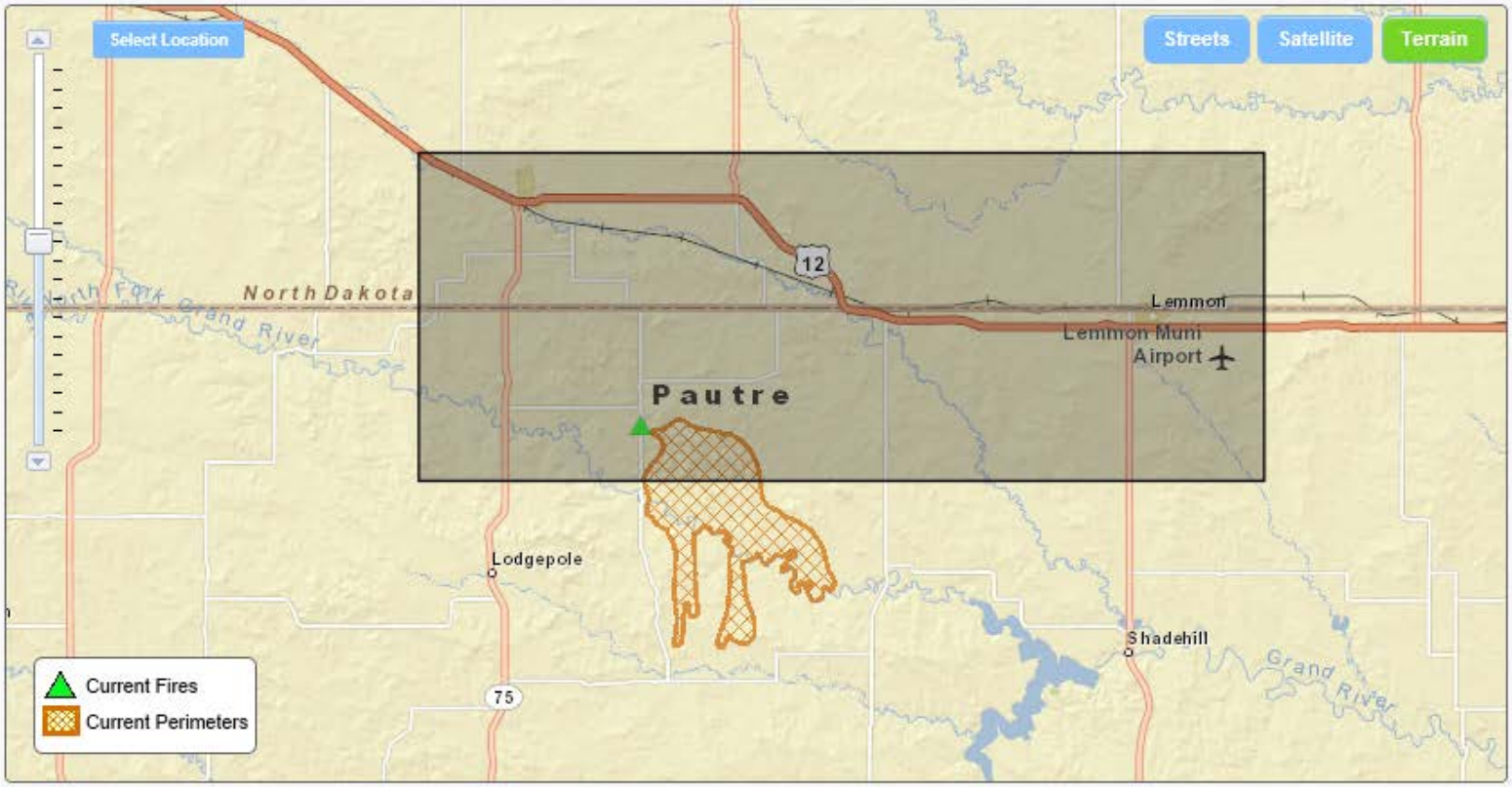
Step 1 Provide Product Details

Step 2 Define Area

Step 3 Select Model Parameters

Step 4 Select Product Outputs

Define Area



Previous | Next | Finish

HOME PRODUCTS MODELS COMMUNITY HIGHLIGHTS ADVANCED SEARCH MY IDEAS

Product Status

Current Products

Wild Fire Wind Support

Model as a Service with

IDEAS

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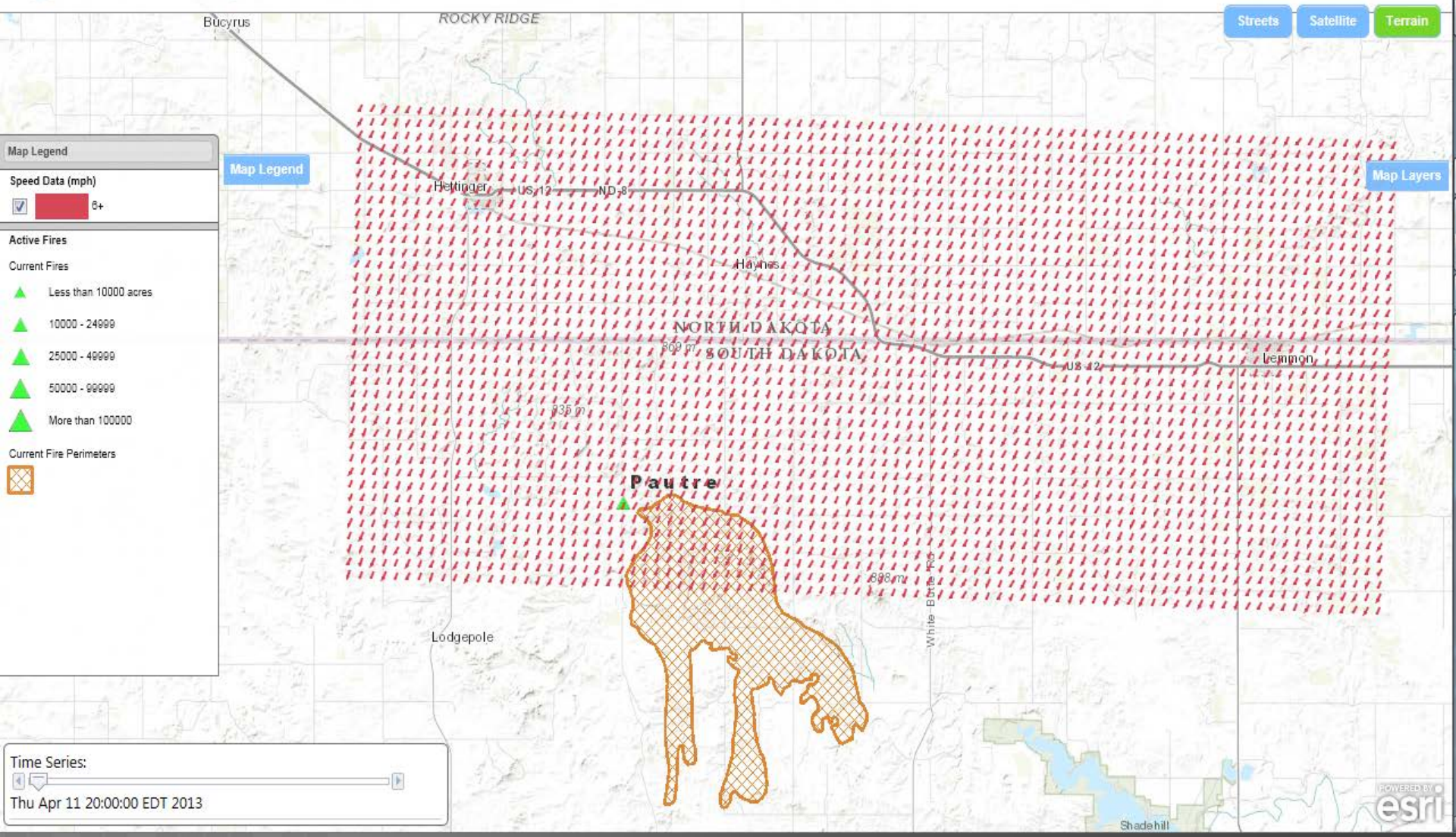
Intelligent Data Exploration and Analytics System

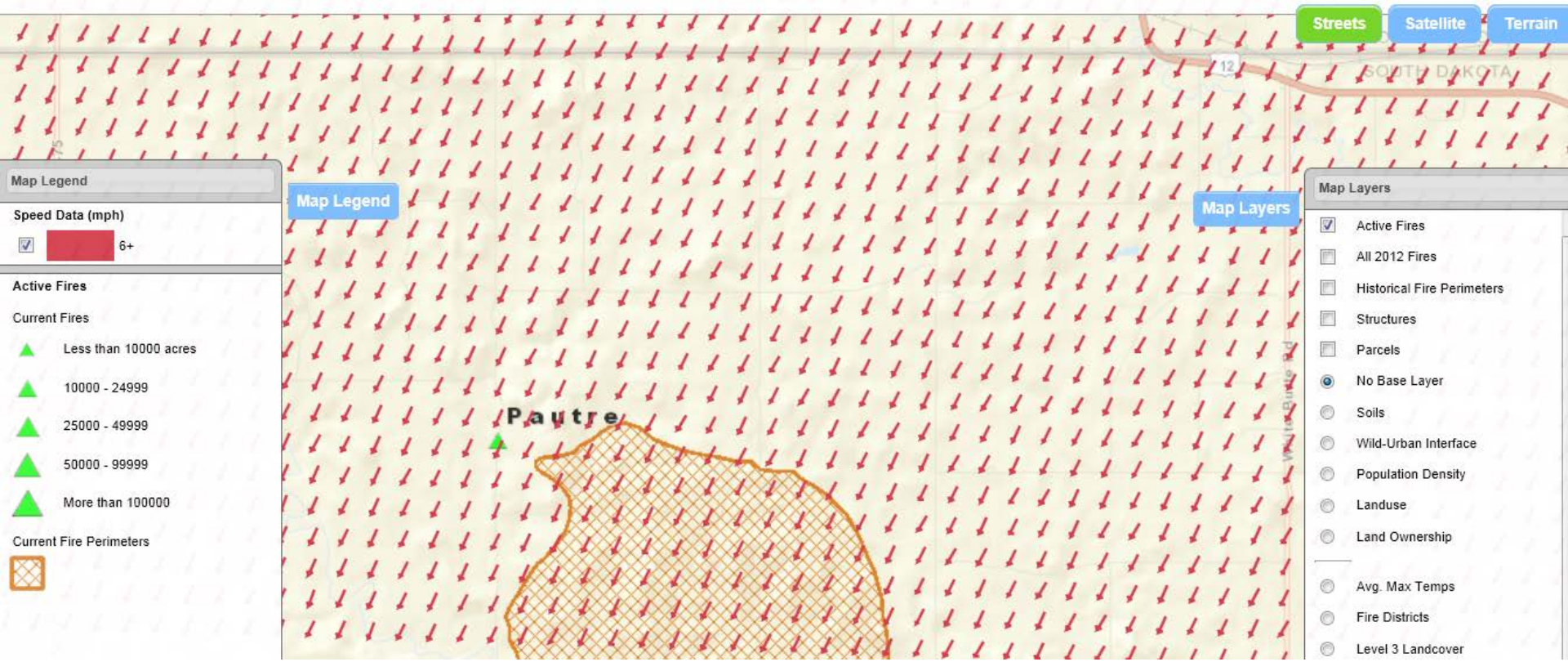
Wild Fire Wind Support

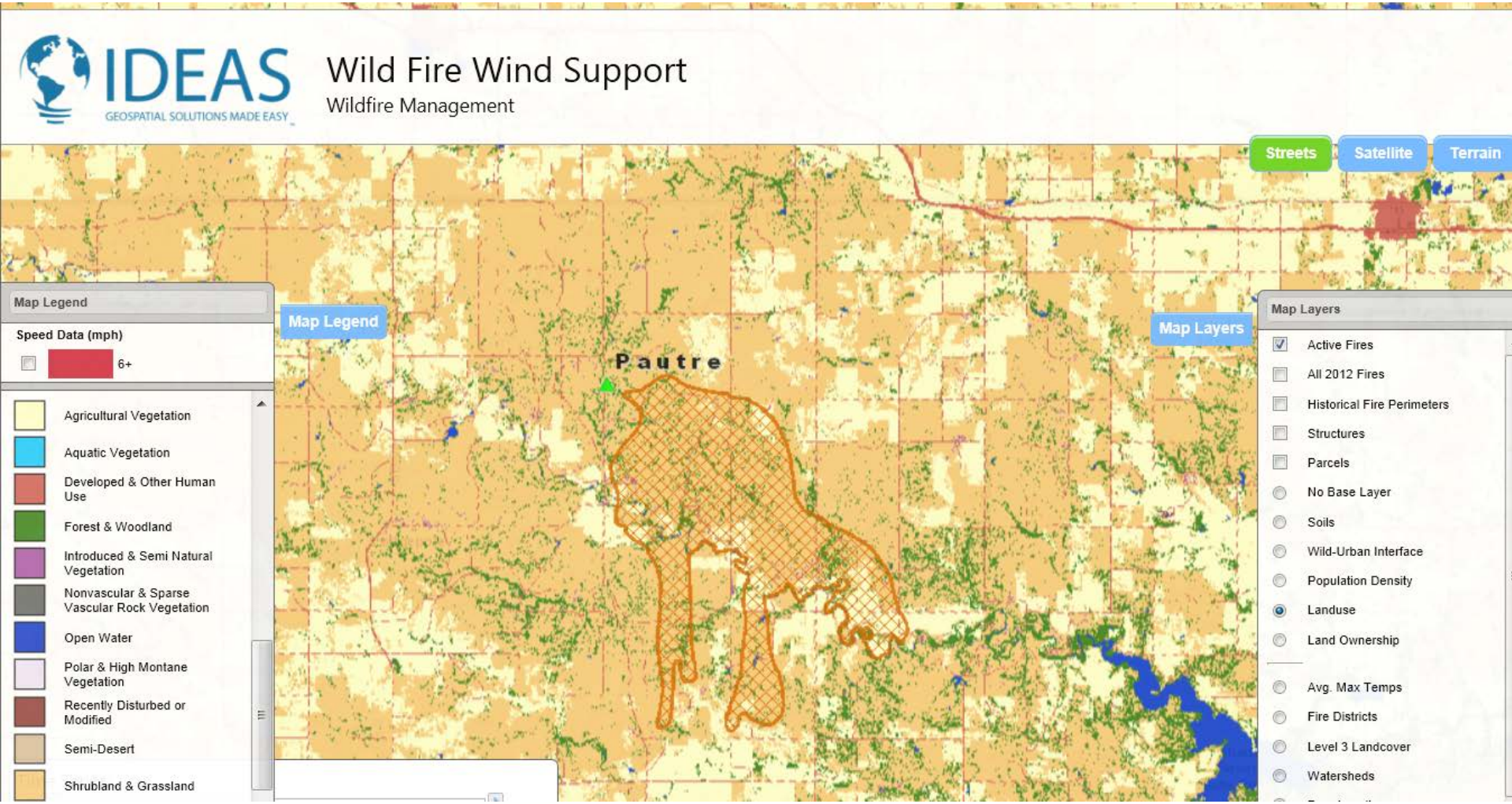
Wildfire Management



Wild Fire Wind Support

Wildfire Management




IDEAS
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Wild Fire Wind Support
Wildfire Management
Streets
Satellite
Terrain
Map Legend
Map Layers
Pautre
Map Legend
Speed Data (mph)
6+
Agricultural Vegetation
Aquatic Vegetation
Developed & Other Human Use
Forest & Woodland
Introduced & Semi Natural Vegetation
Nonvascular & Sparse Vascular Rock Vegetation
Open Water
Polar & High Montane Vegetation
Recently Disturbed or Modified
Semi-Desert
Shrubland & Grassland
Map Layers
Active Fires
All 2012 Fires
Historical Fire Perimeters
Structures
Parcels
No Base Layer
Soils
Wild-Urban Interface
Population Density
Landuse
Land Ownership
Avg. Max Temps
Fire Districts
Level 3 Landcover
Watersheds

IDEAS
GEOSPATIAL SOLUTIONS MADE EASY
Wild Fire Wind Support
Wildfire Management
Streets
Satellite
Terrain
Map Legend
Map Legend
Speed Data (mph)
6+
Wild-Urban Interface
WUI
High Density (Interface)
High Density (Intermix)
High Density (NoVeg)
Medium Density (Interface)
Medium Density (Intermix)
Medium Density (NoVeg)
Low Density (Interface)
Low Density (Intermix)
Low Density (NoVeg)
Very Low Density (Veg)
Very Low Density (NoVeg)
Pautre
Lodgepole
Map Layers
Map Layers
Active Fires
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Population Density
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Land Ownership
Avg. Max Temps
Fire Districts
Level 3 Landcover

Wild Fire Wind Support

Wildfire Management

THANK YOU!

For More Information Contact:

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