



Mapping Efforts in Support of Sudden Oak Death Management

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Sudden Oak Death & COMTF



- New forest disease
- California and Southern Oregon
- Began in mid-1990s
- A large interdisciplinary group quickly began working on the problem:
 - » Representatives from government, research community, industry, and the public
 - » Formed COMTF in 2000
 - » www.suddenoakdeath.org
- Our role in cooperation with COMTF is to provide mapping support to this diverse and growing community.

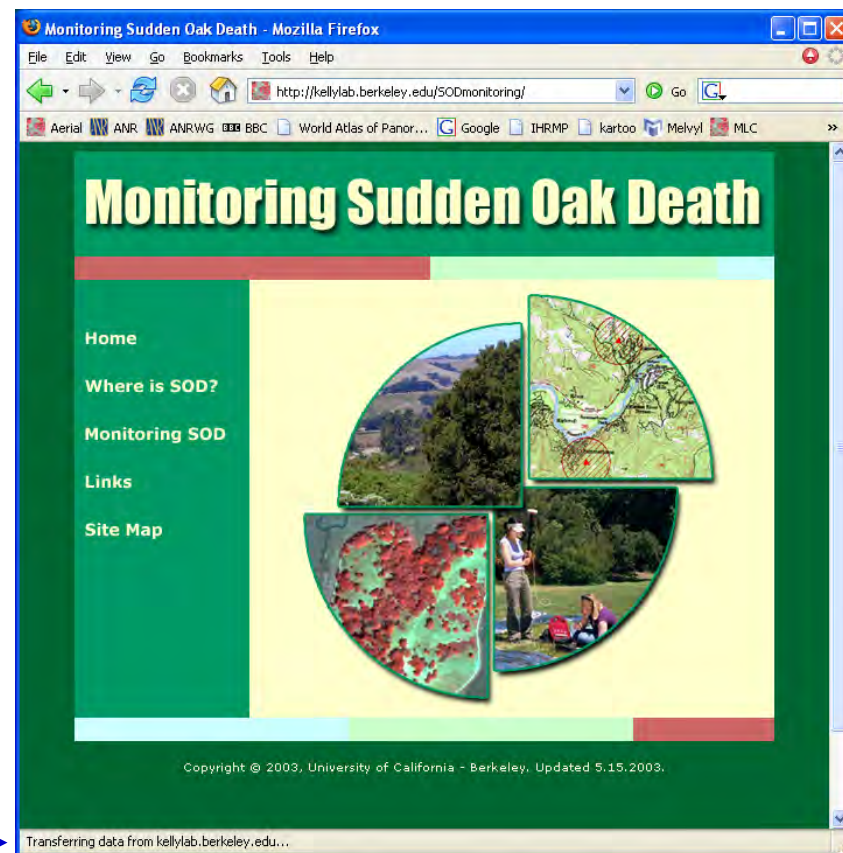


Map produced on 4/4/06 by UCCE GIFF: <http://kellylab.berkeley.edu/SODmonitoring/>
For more information about Sudden Oak Death, please visit the California Oak Mortality Task Force website at <http://www.suddenoakdeath.org/>

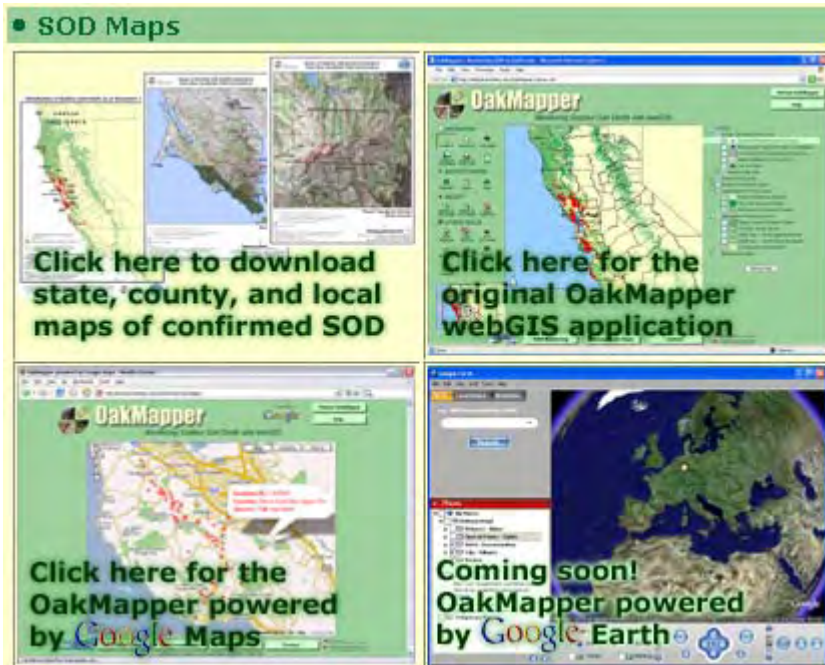


Mapping in Support of SOD

- We do this through a range of tools:
 - » **Public Access:**
 - Static downloadable maps
 - webGIS
 - Animations
 - » **Research:**
 - Remote sensing and spatial modeling
- All publicly available maps are available through our website:



Web-based Mapping



1. Static Maps

- » State, county, local; made available in PDF, TIF, JPG.

2. OakMapper application

- » ArcIMS site, data upload/download

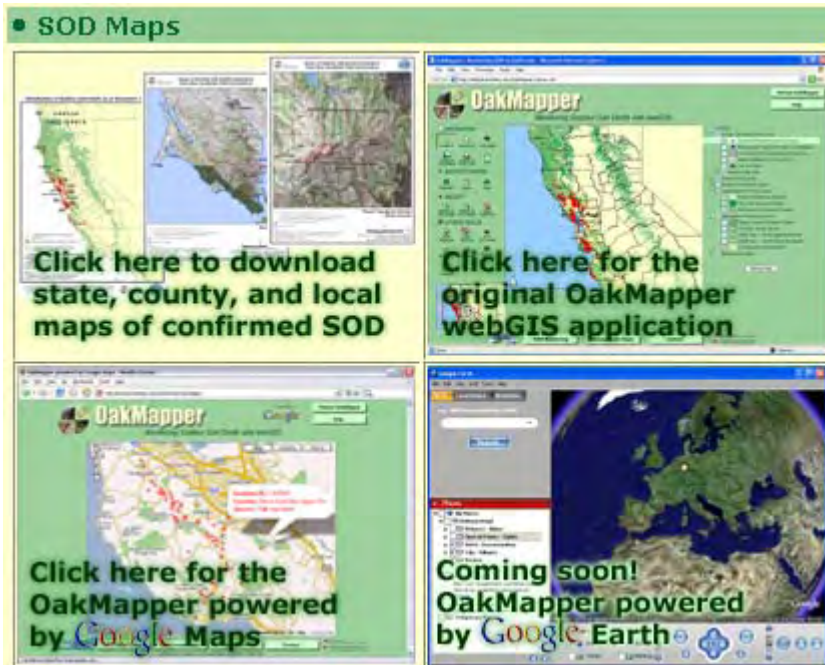
3. Google Maps API application

- » Useful for viewing background imagery, Open Source

4. Google Earth application

- » Coming soon.

Web-based Mapping



Some usage information:

- » As of 12-2005, we have had a total of 100,400 visitors to OakMapper;
- » Nearly 500 of those visitors have submitted information on trees with SOD symptoms;
- » Static maps are routinely downloaded; used in agency reporting and K-12 education for example.

OakMapper

Monitoring Sudden Oak Death with webGIS

Reload OakMapper

Help

NAVIGATION

Zoom in Zoom Out Zoom Back

Zoom to Full Extent Zoom to Active Layer Pan

IDENTIFY/QUERY

Identify Query Find

SELECT

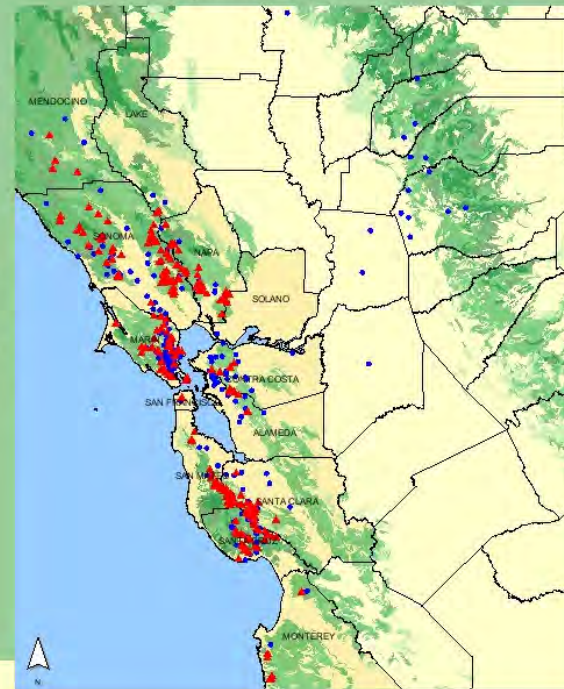
Select by Rectangle Select by LinePolygon Clear Selection

OTHER TOOLS

Find Address Clear Address Link to Photos

Measure Print Map Submit Trees

Link to Climate User Survey



LAYERS

- Sudden Oak Death Data Layers
 - Current SOD confirmations (official)
 - Symptomatic Trees Submitted Via OakMapper
 - 1/4 mile buffer around SOD confirmations
 - Areas suspected of having SOD
 - Link to Photos
 - Aerial Survey Data
- Infrastructure Layers
- Physical Environment Layers
- Vegetation/Land Cover Layers
 - Foliar Host Species Affected
 - Tree Host Species Affected
 - Redwood and Douglas-fir Species
- Administrative Boundary Layers
 - Federal, State and Regional Parks
 - Township, Range, Section
 - USGS Topo 1:24,000 Quad Boundaries
 - USGS Topo 1:100,000 Quad Boundaries
 - Counties with confirmed SOD
- Background Images

Refresh Map

The University of Task Force (COM Oak Death (SOD)

It is part of a large submitted to this be laboratory cor

In addition to su and/or Agricultu please see the C

For a printer-frie the OakMapper T

Tree Identificat

Enter informatio single specimen tree that most resembles the a tree.

Notes: Click on photo California ID Key. For other than those s right, enter in the t below.

Other Species:

Personal Informatio

Please select the below which bes your background arboricultural, fo pest managem

Environme



NAVIGATION

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IDENTIFY/QUERY

Identify Query Find

SELECT

Select by Rectangle Select by LinePolygon Clear Selection

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Geospatial Imaging Informatics Facility SOD M



Geospatial Imaging Informatics Facility

SOD Monitoring

Ready-made Maps

Metadata

Contact



Done

Done

Done

Done

Research: Remote Sensing & Risk Models

Disease has major overstory mortality component, making remote sensing a useful tool.



Multi-Temporal Remote Sensing

ADAR (Airborne Data Acquisition and Registration) digitally captures reflected light from remote targets in 4 bands: blue, green, red and NIR. Sensor is mounted on airplane, 1-m spatial resolution.



Marin County ADAR flights:

2000

- Positive Systems, Inc.
- March 30, 2000

2001

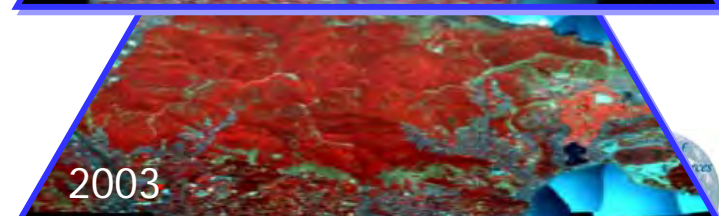
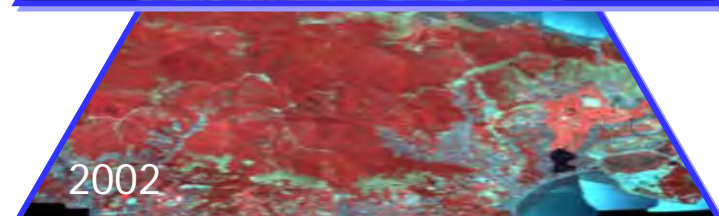
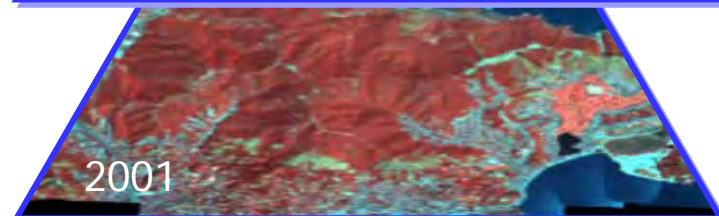
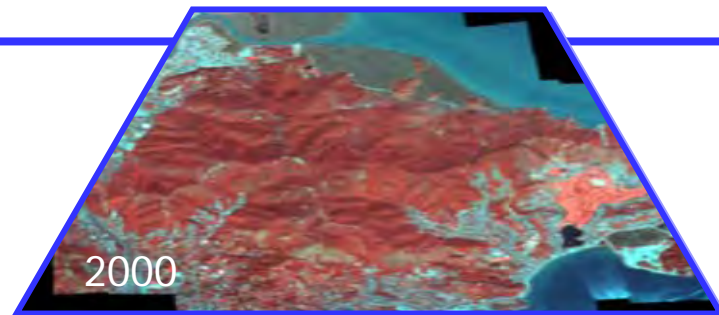
- Positive Systems, Inc.
- May 4, 2001

2002

- CDF/ARINC, Inc.
- May 28, 2002

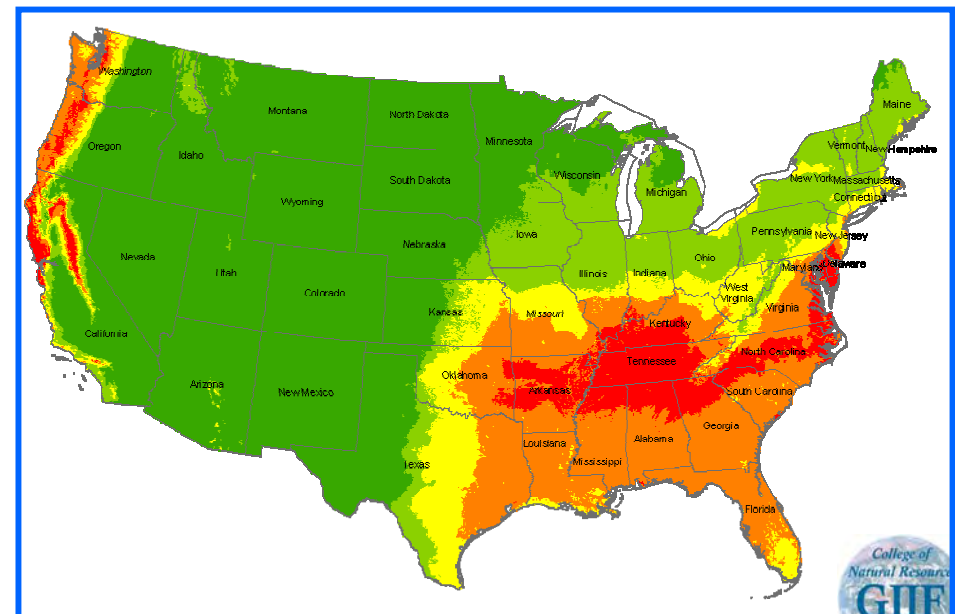
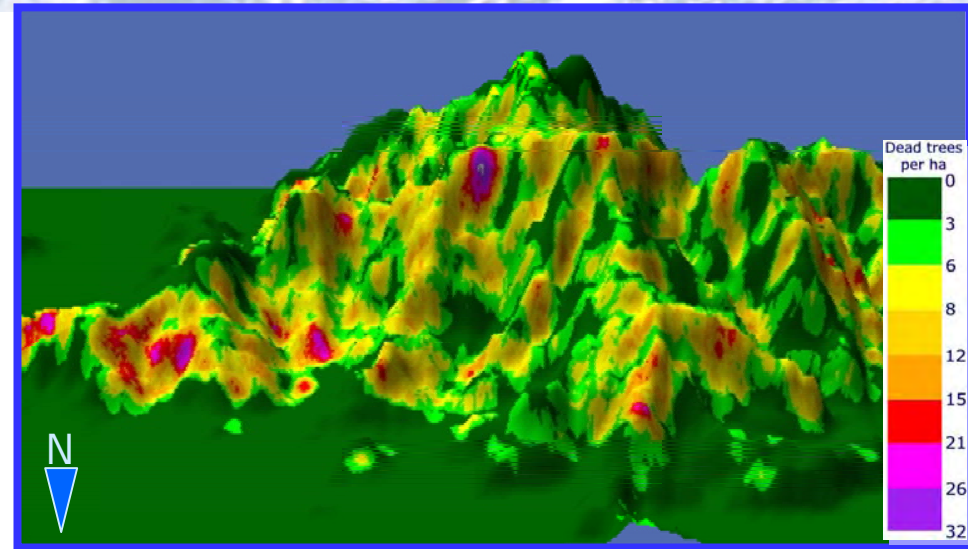
2003

- ARINC, Inc.
- July 1, 2003



Research: Remote Sensing & Risk Models

- Research Avenues:
 - » We have used high spatial resolution imagery to map mortality through time.
 - » Results have been used to quantify pattern and infer establishment and spread through time;
 - » With field data to access changes to forest structure (e.g. gaps); and
 - » As an input to a range of risk models.



More Information

- <http://www.suddenoakdeath.org>
- <http://kellylab.berkeley.edu/SODMonitoring>
- <http://giif.cnr.berkeley.edu>
- Papers can be found at:
<http://kellylab.berkeley.edu/publications.htm>