TerraFly

via Internet2, AMPATH, and the NAP of the Americas

High Performance Database Research Center
and NASA Regional Applications Center

at Florida International University

Naphtali Rishe, Director

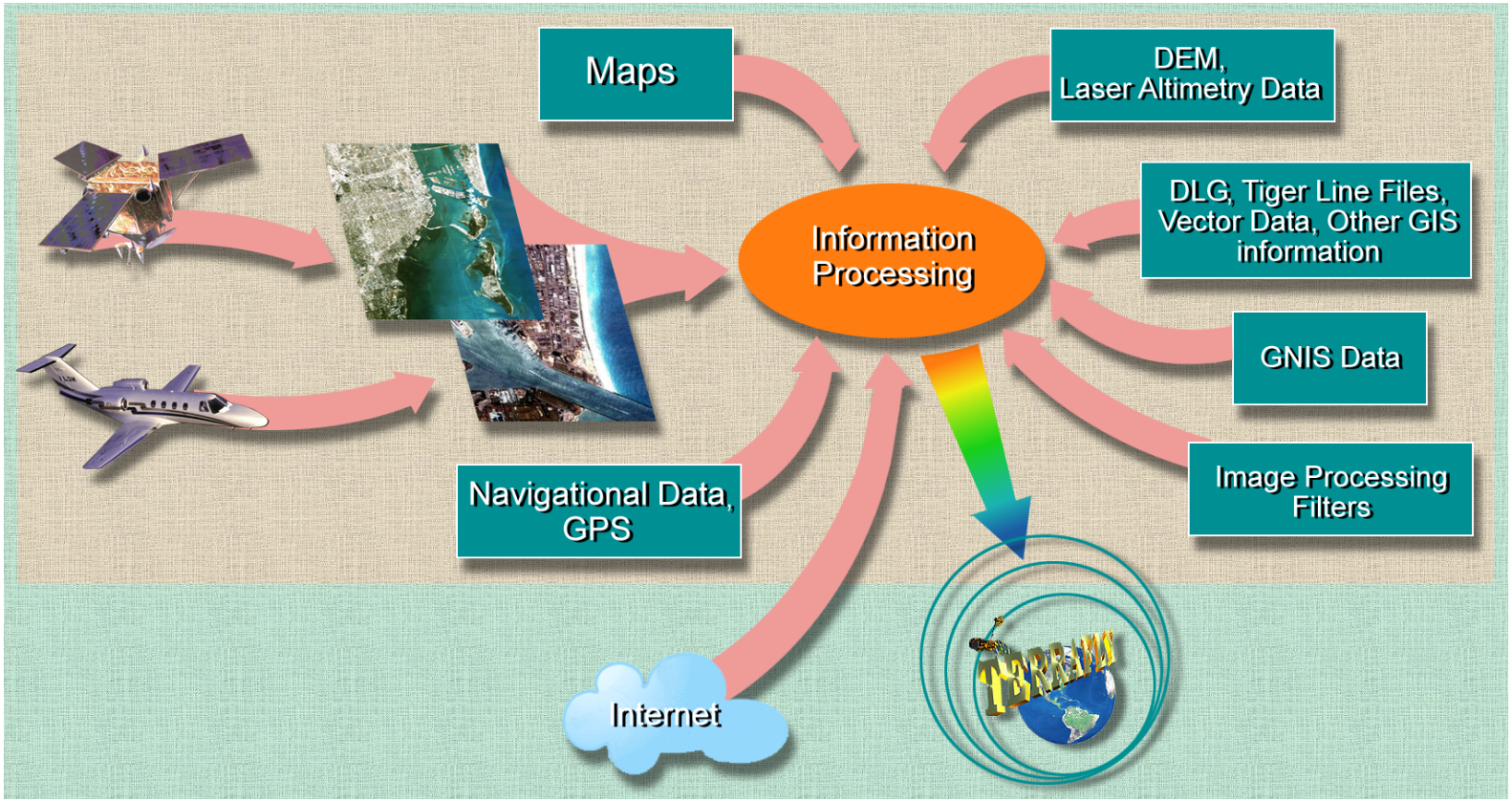
who are we?

- High Performance Database Research Center / NASA Regional Applications Center in the School of Computer Science
- Located at Florida International University in Miami, Florida
- Under direction of Dr. Naphtali Rishe
- 100 researchers and staff

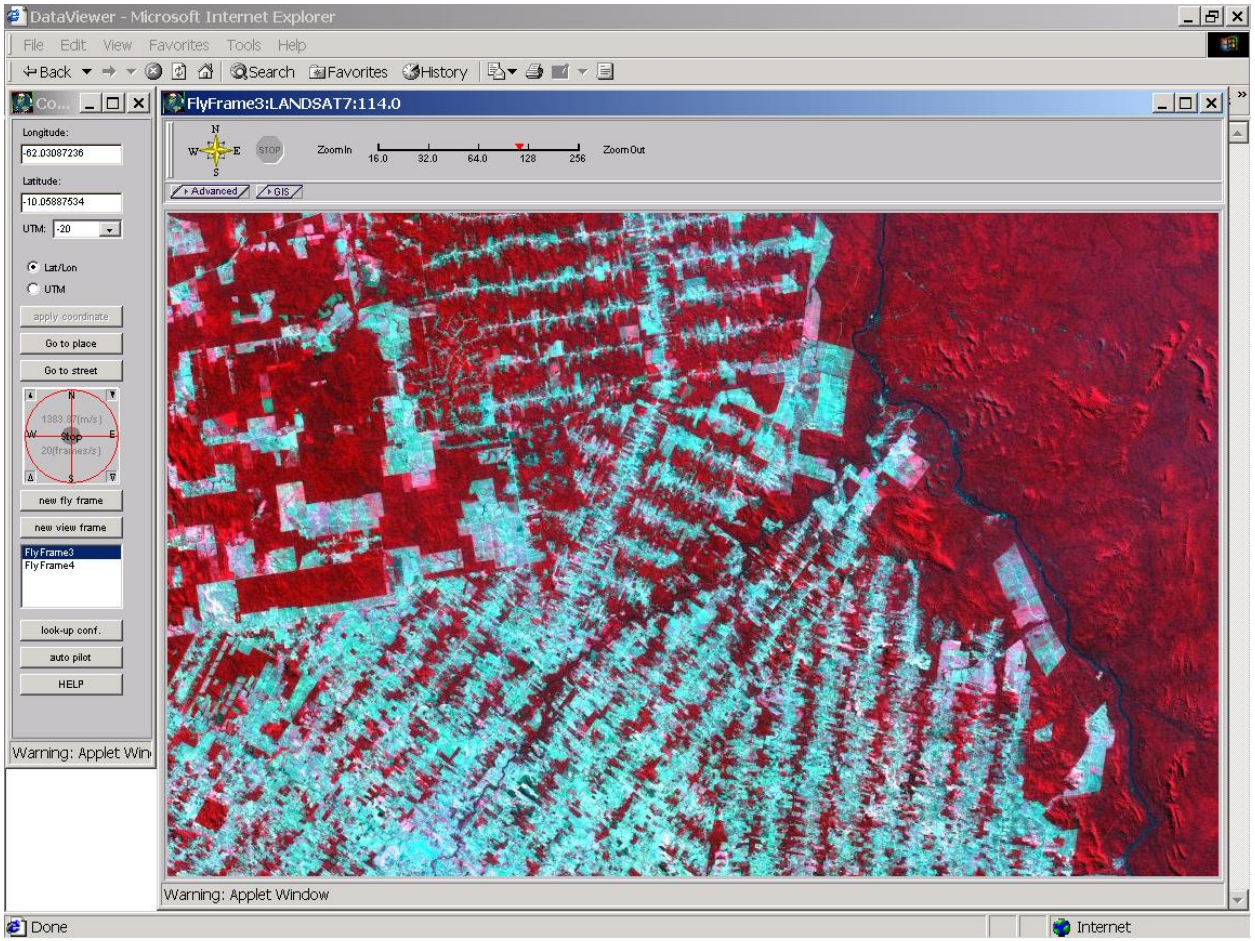
our collaborators

- $27 million in research support from our primary collaborators:
  - National Aeronautics and Space Administration (NASA)
  - National Science Foundation (NSF)
  - United States Geological Survey (USGS)
  - International Business Machines (IBM)

what's in TerraFly?



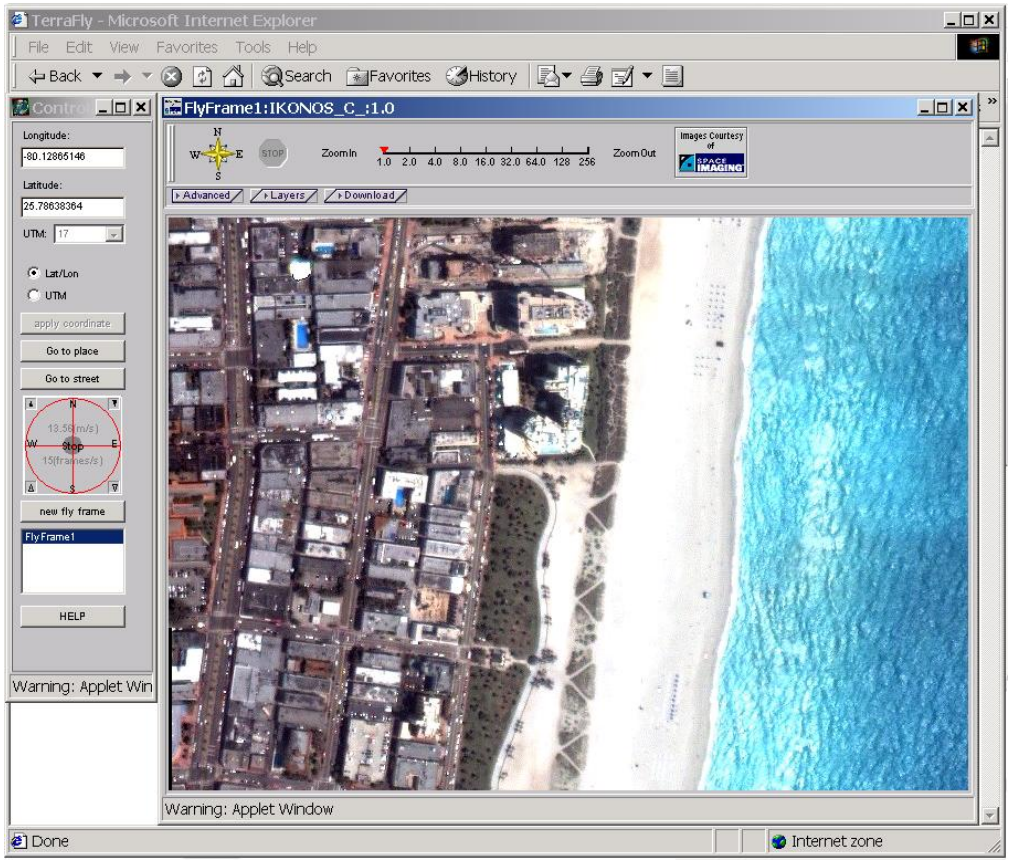
web-based



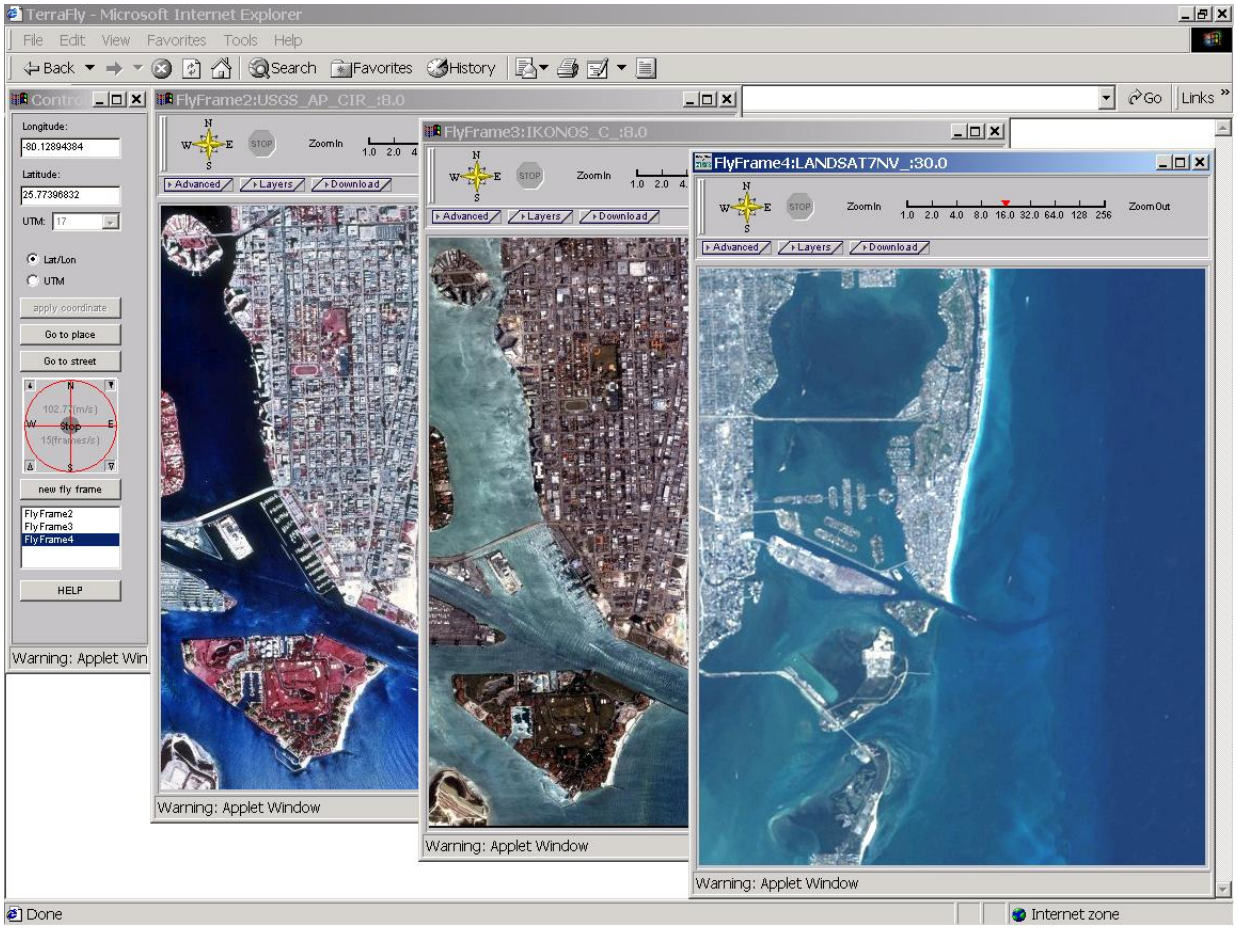
Infrared image over North-East Rondonia, Brazil

smooth flight over spatial data

- Streaming incremental tiles to a Java applet allows users to “fly” over data

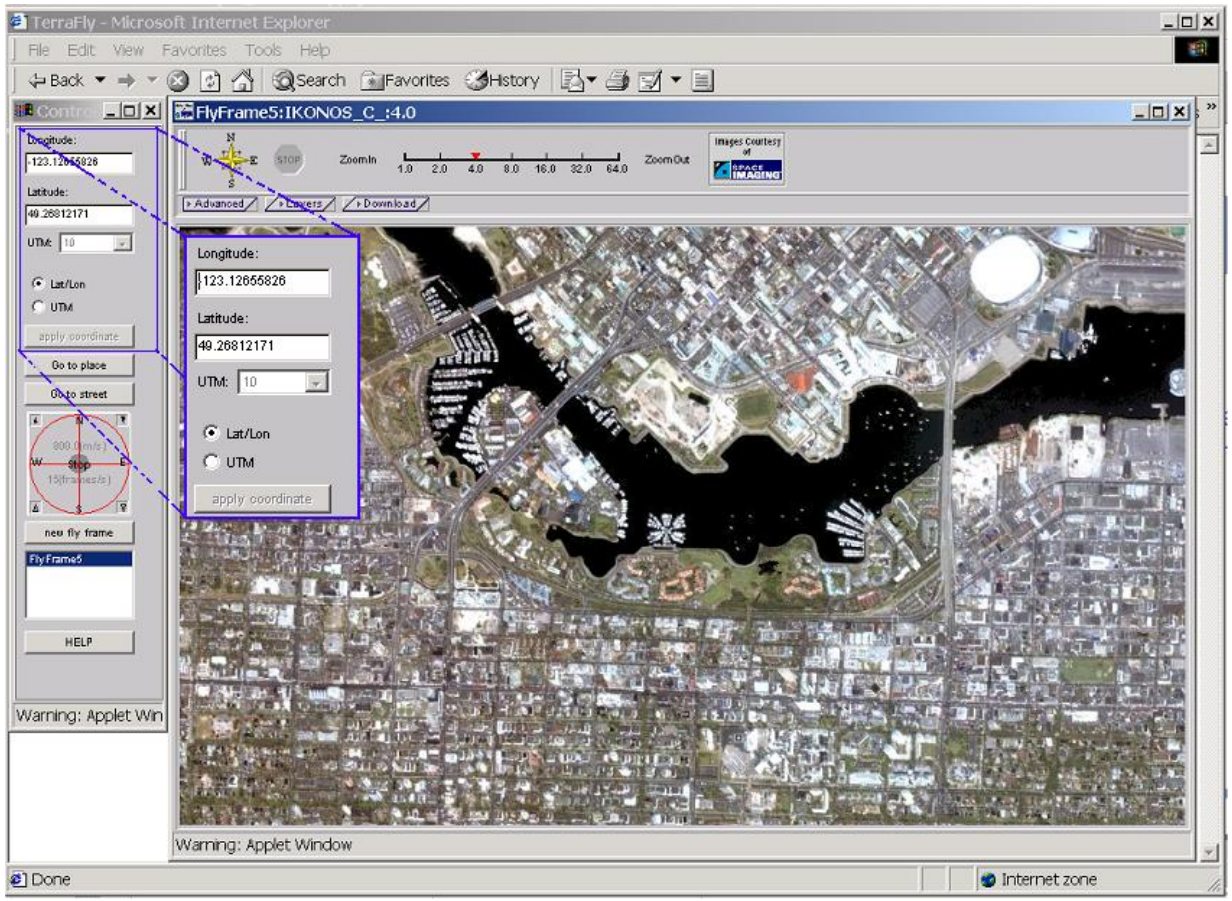


multiple windows



- Multiple data type support

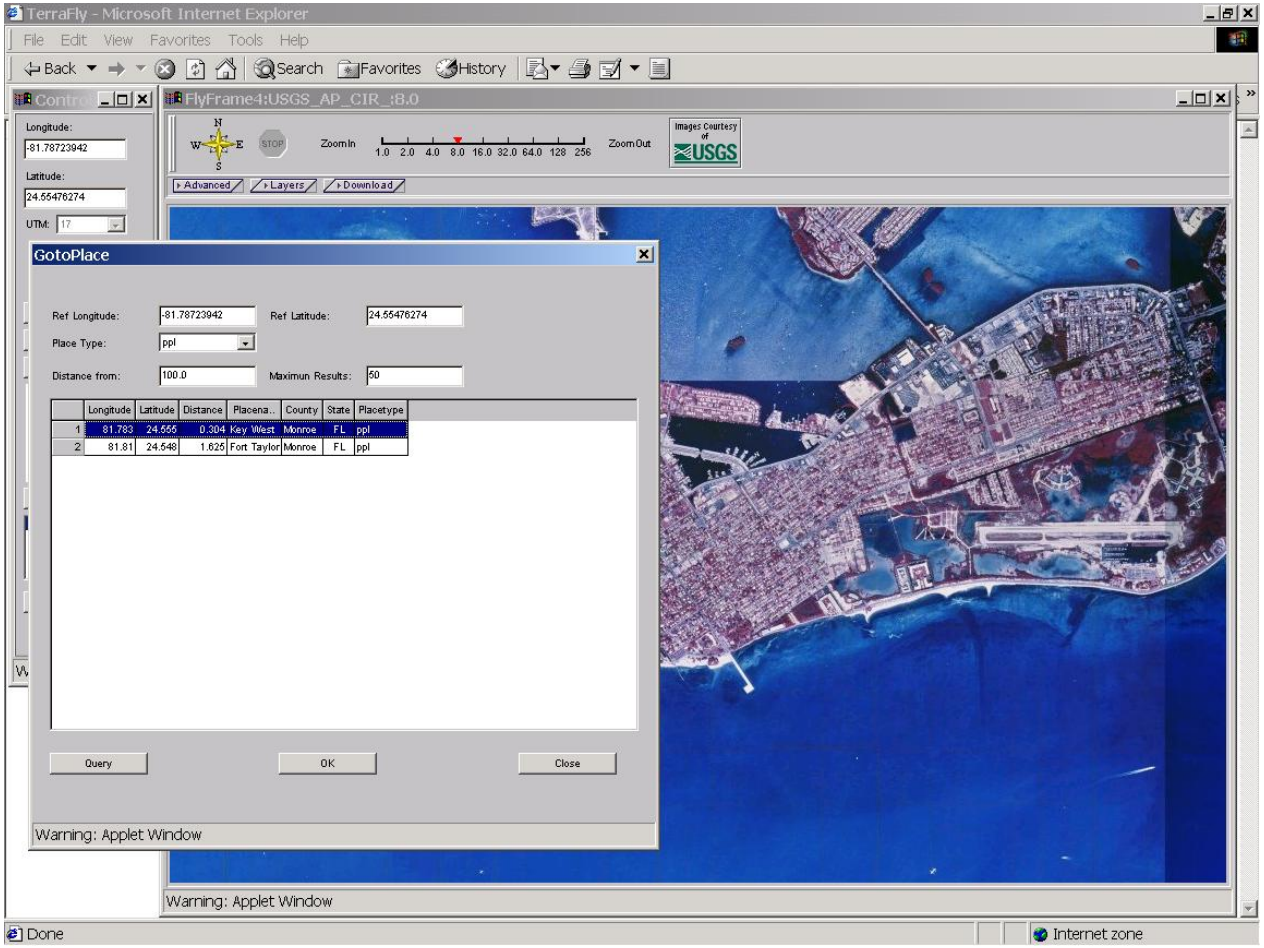
geolocation ID



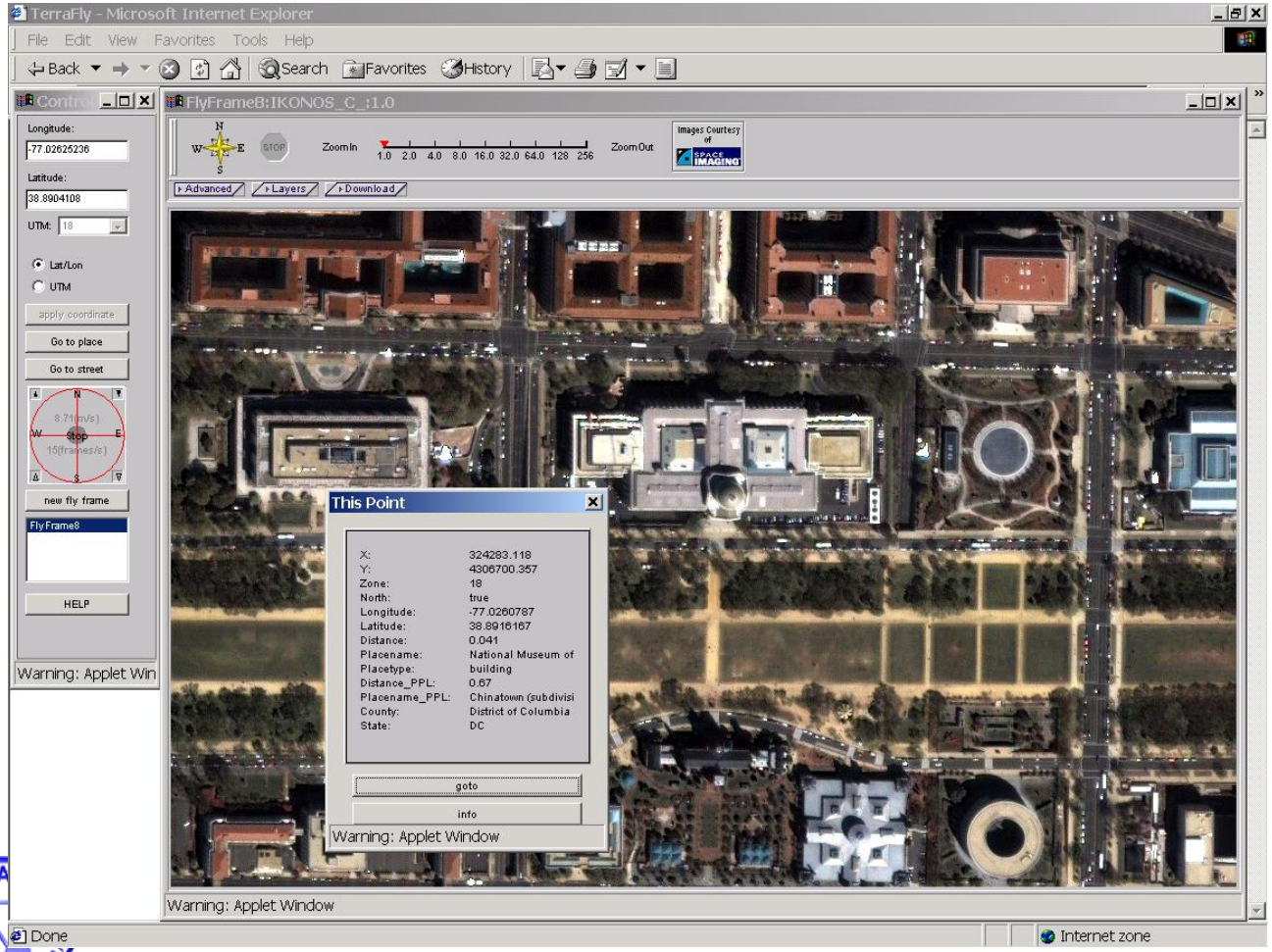
- Updates geographical coordinates as you “fly”
- Provides a Go-To coordinate feature

go to place

- Go-To a specific place of interest using its name



place identifier

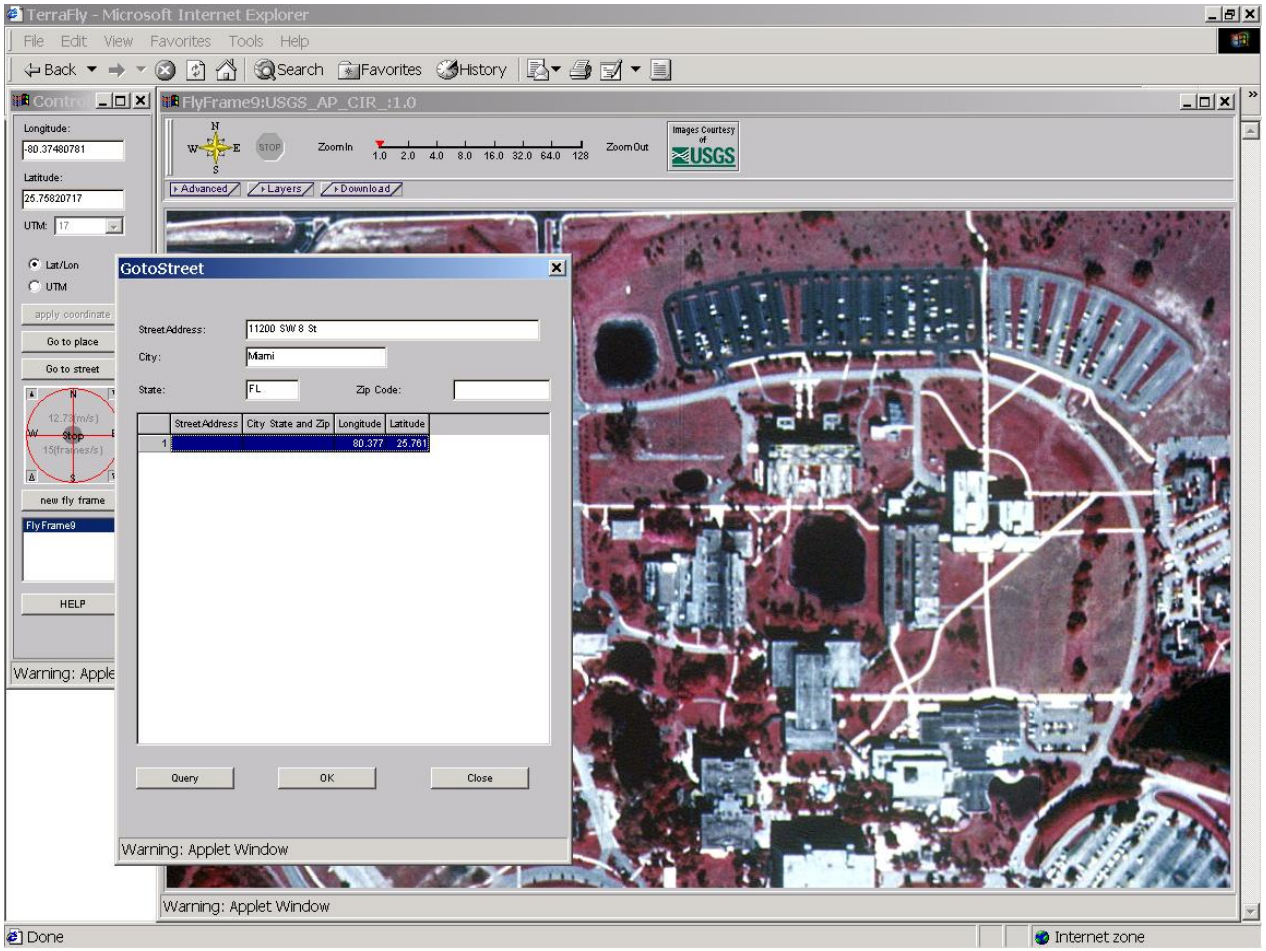


- Find the closest place of interest and populated place

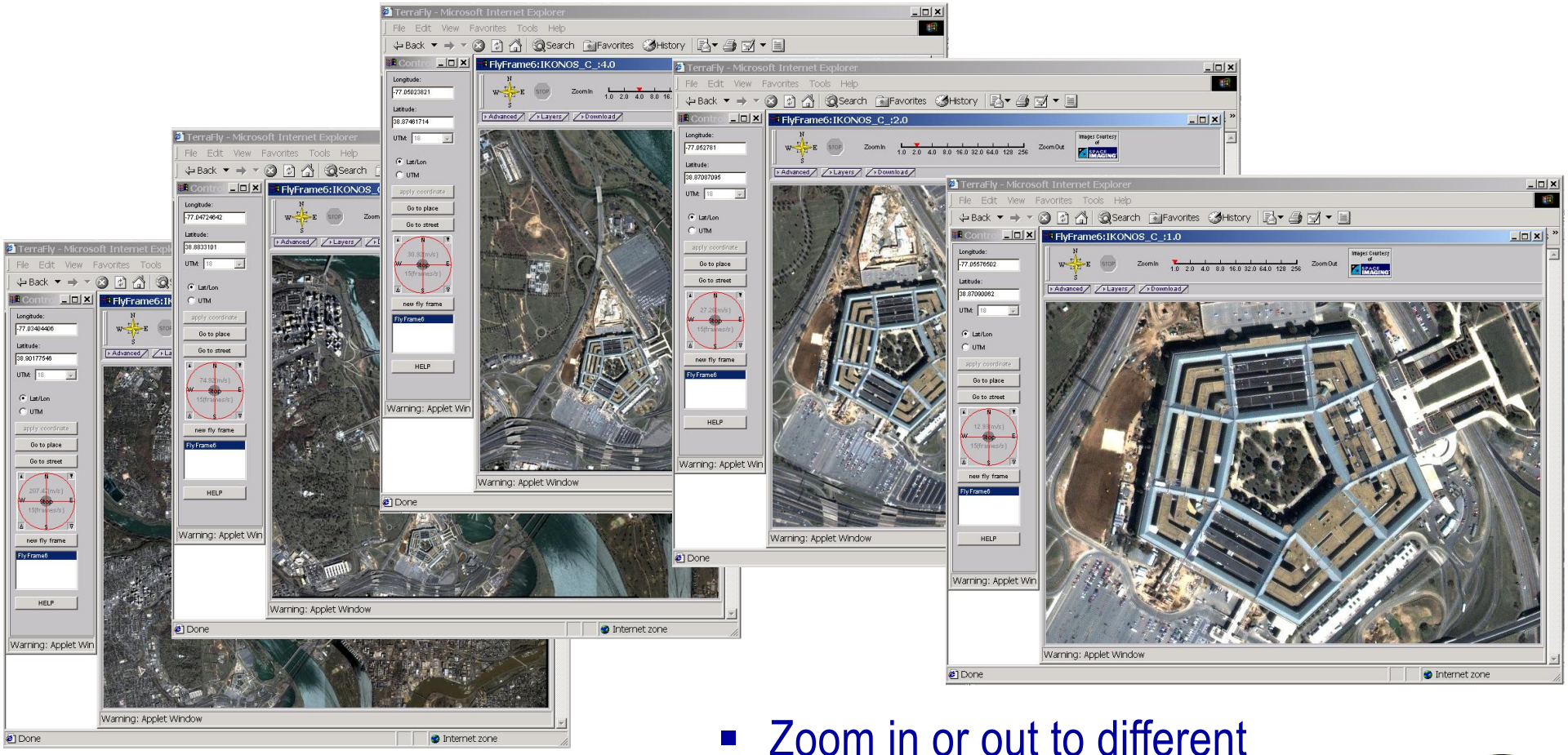
- Find the exact coordinates of any point in the image, even during flight

address lookup

- Find the coordinates and Go-To a specific street address

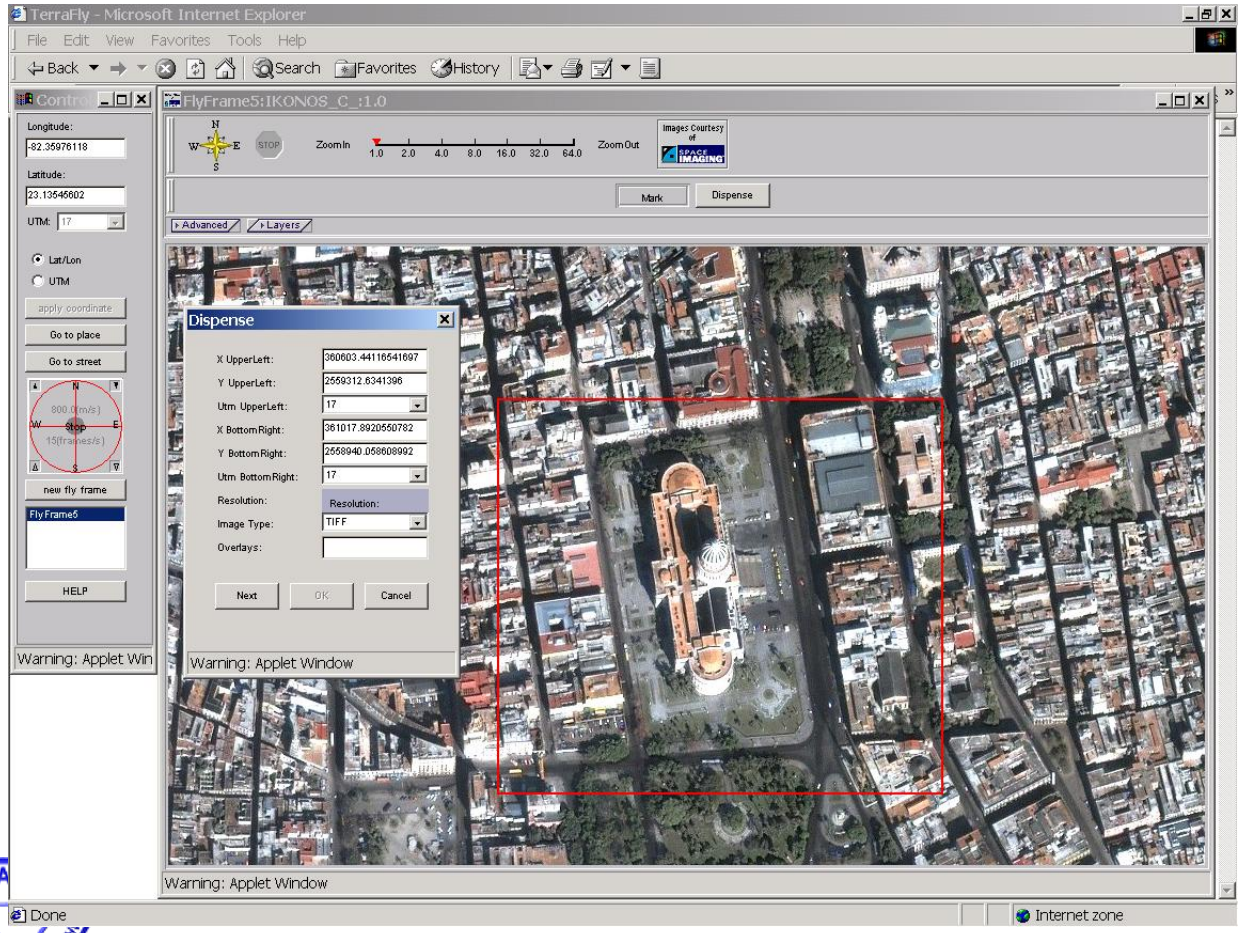


zoom in / zoom out



- Zoom in or out to different resolutions

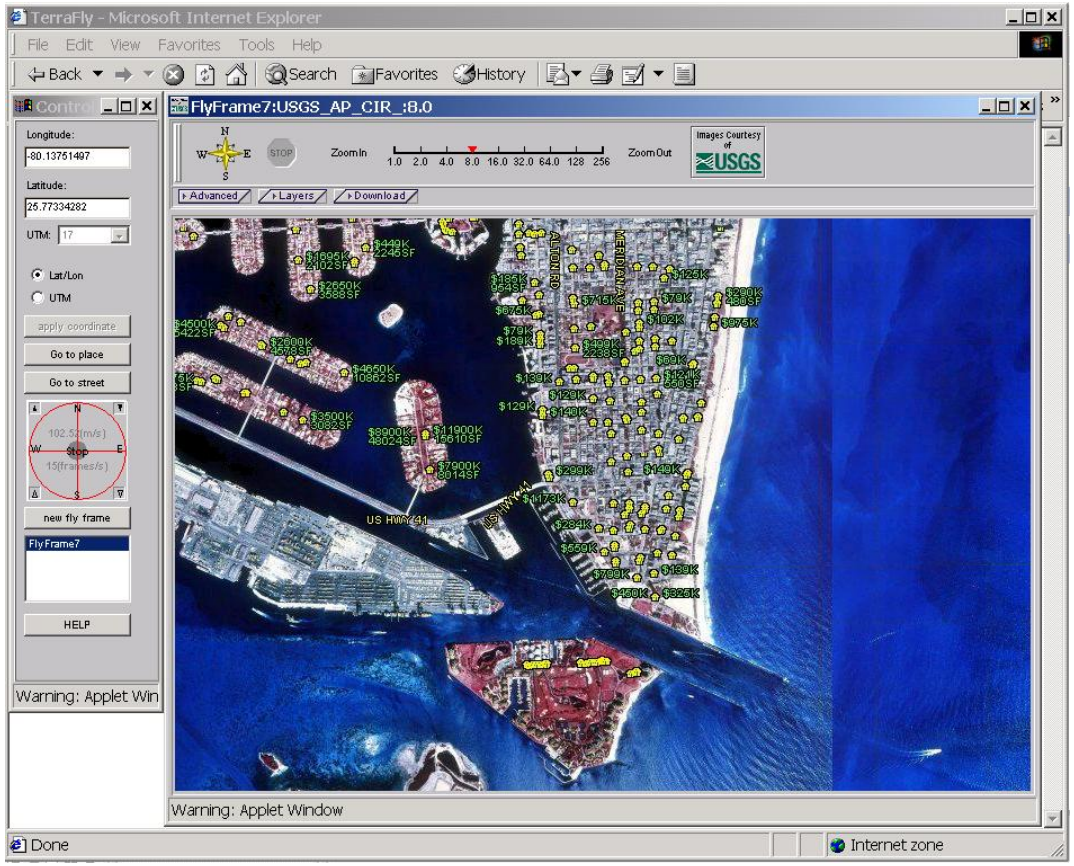
downloading data



- Select an area of interest with our easy to use GUI

- Receive the data in your choice of file format and media

information overlay



airport

hotel

beach

park

church

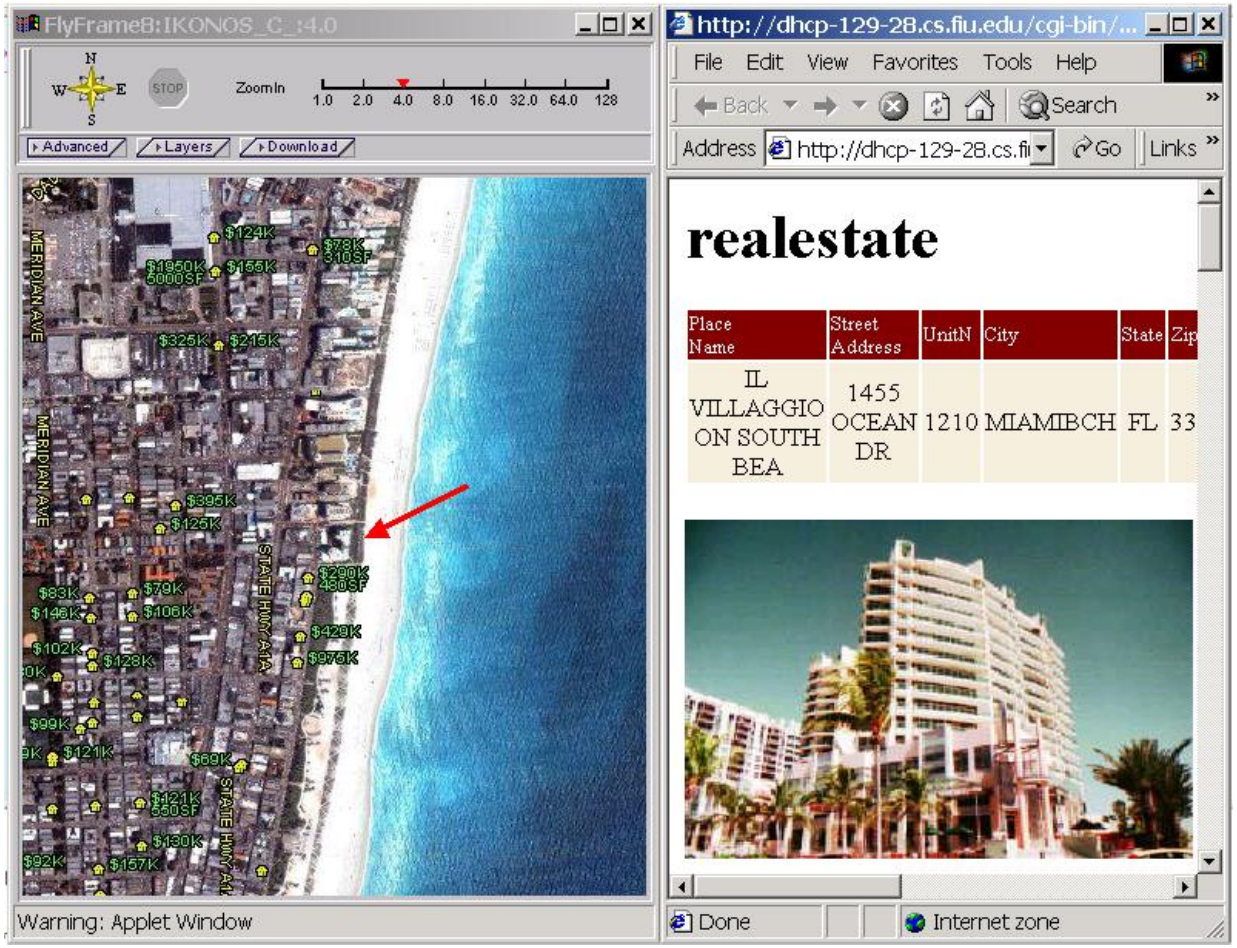
real estate

hospital

school

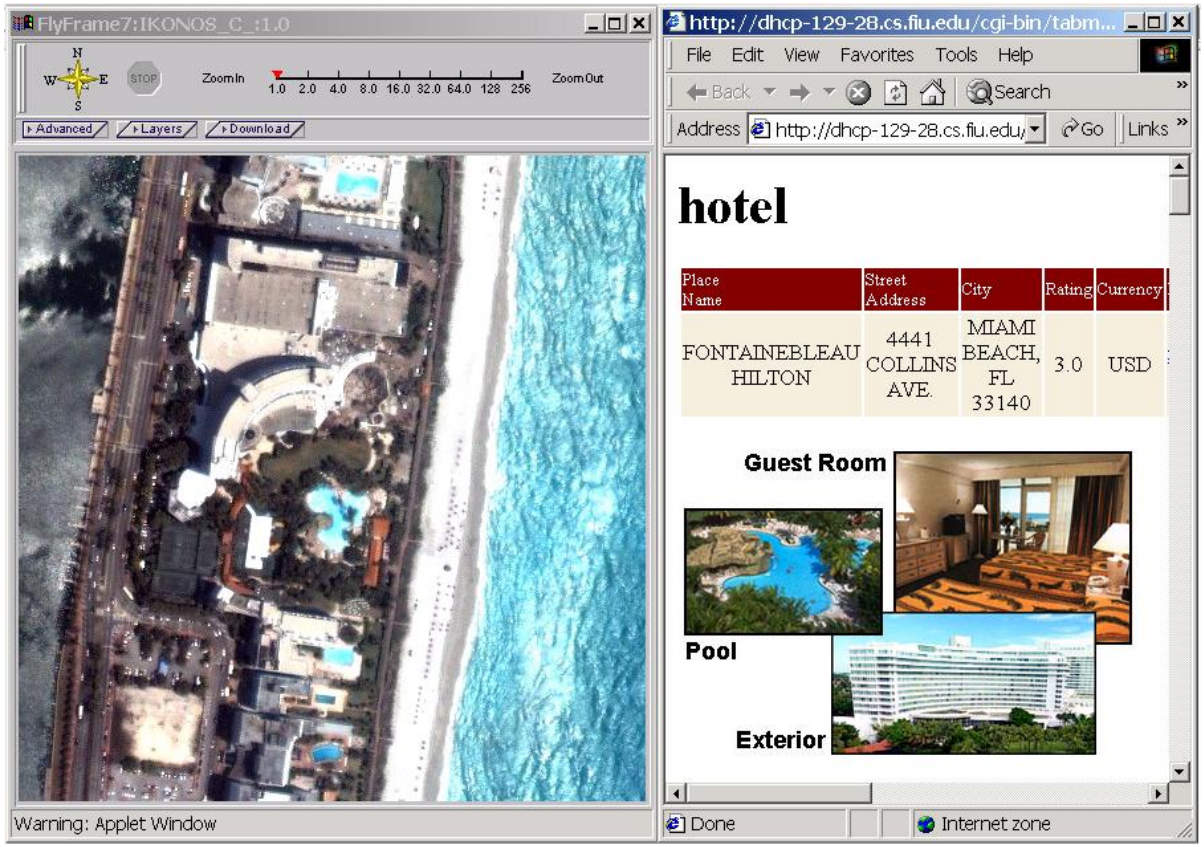
- Features from the DB can be highlighted
- Data can be overlaid with different sources

real estate



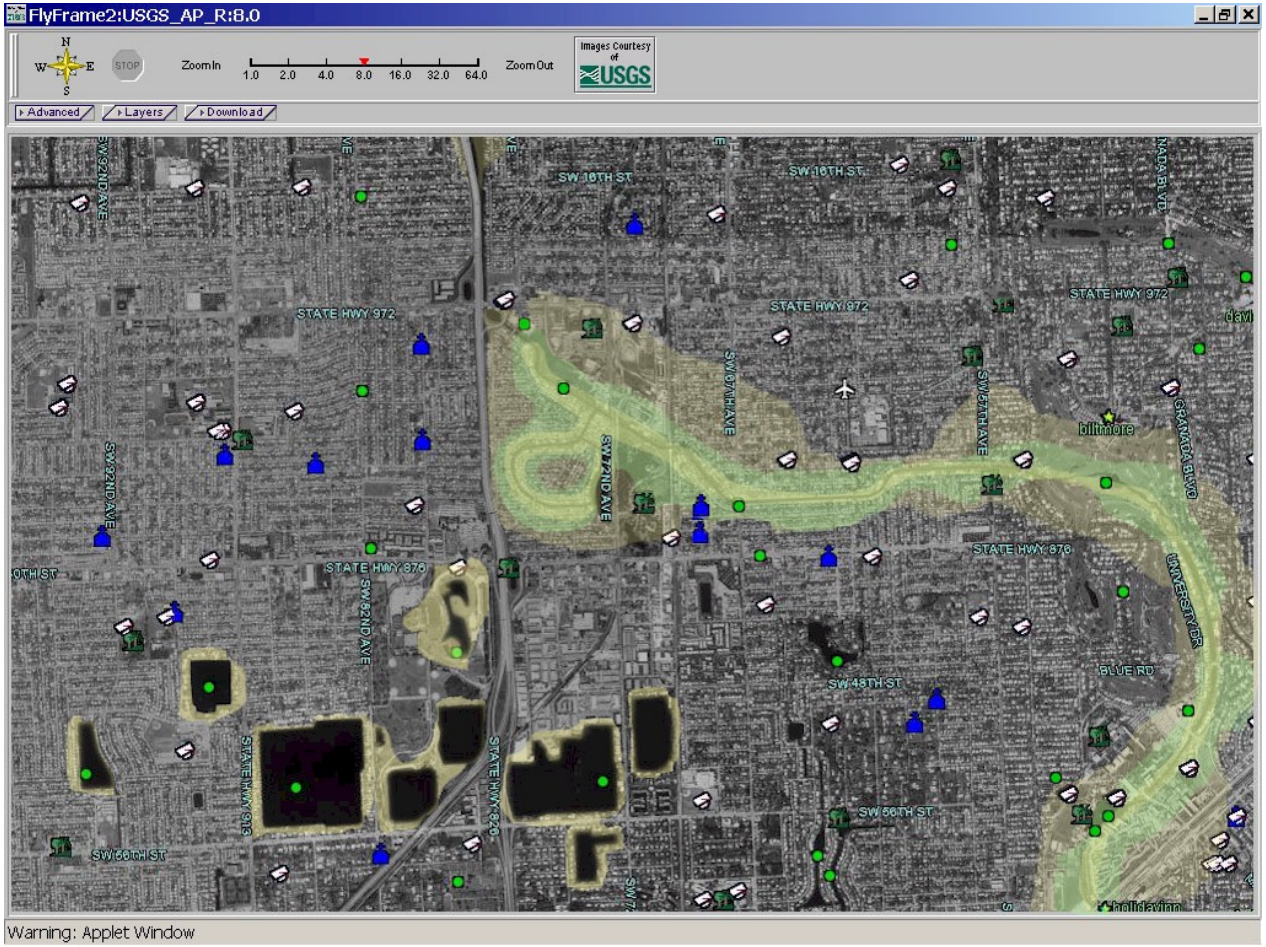
- Real Estate Listings information
- Full brochure available on line

hotels



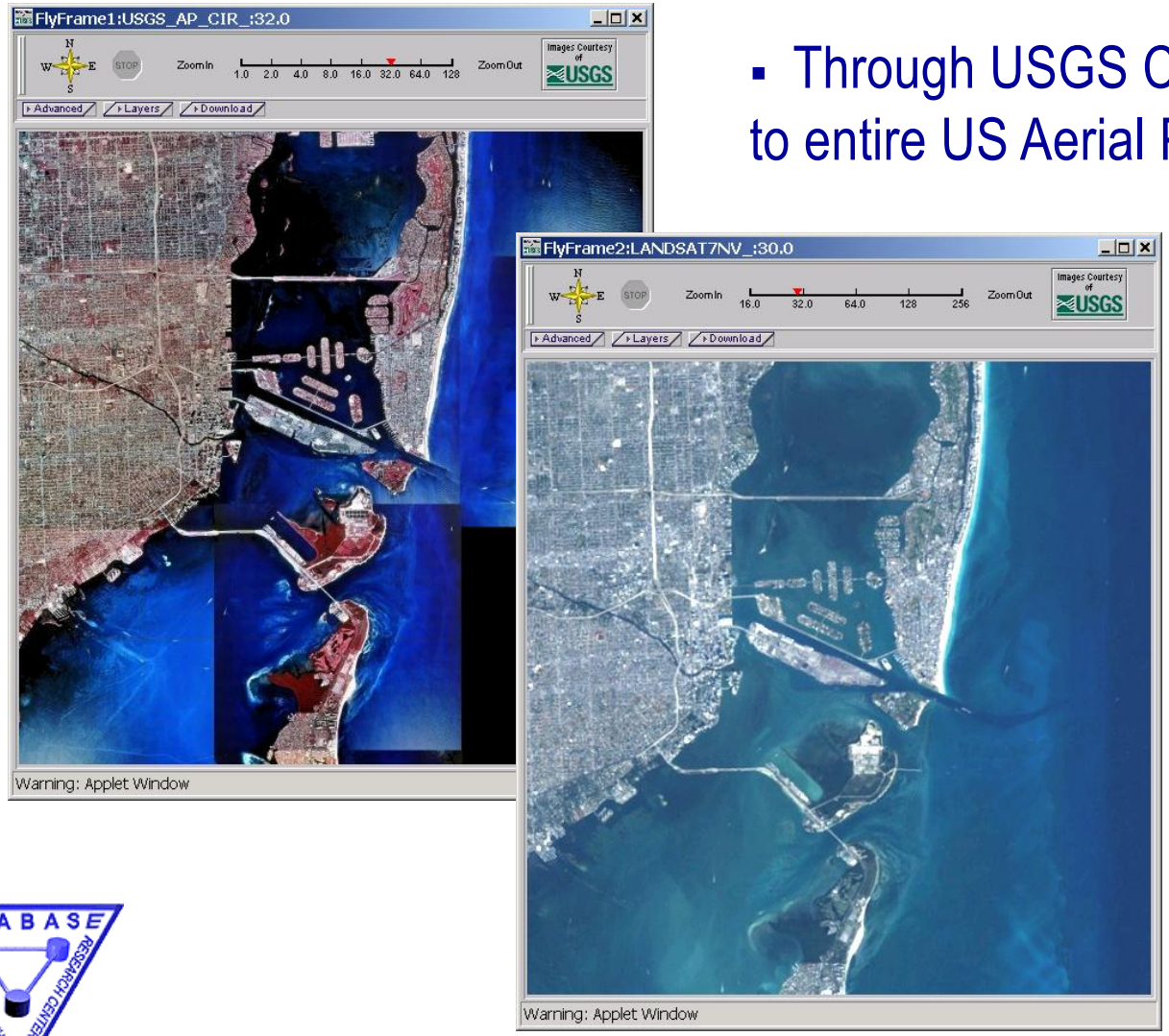
- Access to detailed hotel information and reservations link

disaster management



- TerraFly used to determine the extent of flooding in a South Florida neighborhood

fly over US



- Through USGS CRADA we have access to entire US Aerial Photography

- Landsat 7 data over Populated Global Landmass

internet connectivity

- DS3 45 Mbps to the Internet
- OC3 155 Mbps to Internet-2
- NAP 1000 Mbps to Tier 1 ISPs
- Ampath four DS3 45 Mbps to Latin America (Chile, Argentina and 2 to Brazil)
- 1 TB at NAP ——155 Mbps—— 20 TB at HPDRC

AmPath benefits

- Bandwidth Intensive Application
- High Bandwidth client = Positive TerraFly Experience
- AmPath will enhance the TerraFly experience to South and Central America clients
- Achieved 33 Mbps sustained data transfer rate between USGS EROS Data Center in Sioux Falls, North Dakota and FIU via Internet 2

project status

- USGS CRADA Agreement in Place
- Powerful IBM Servers to house terabytes of data
- Complete US coverage within 1 year
- Global landmass to follow
- Media event held at FIU in late October 2001
- 10,000 unique users per day to TerraFly web site

flagship project

- **TerraFly** has had extensive media coverage.

Geotimes Newsmagazine of the Earth Sciences

YAHOO! Picks

ktla5 WB

AERO-NEWS NETWORK

geo COMMUNITY

Science magazine

Québec PME

techtv

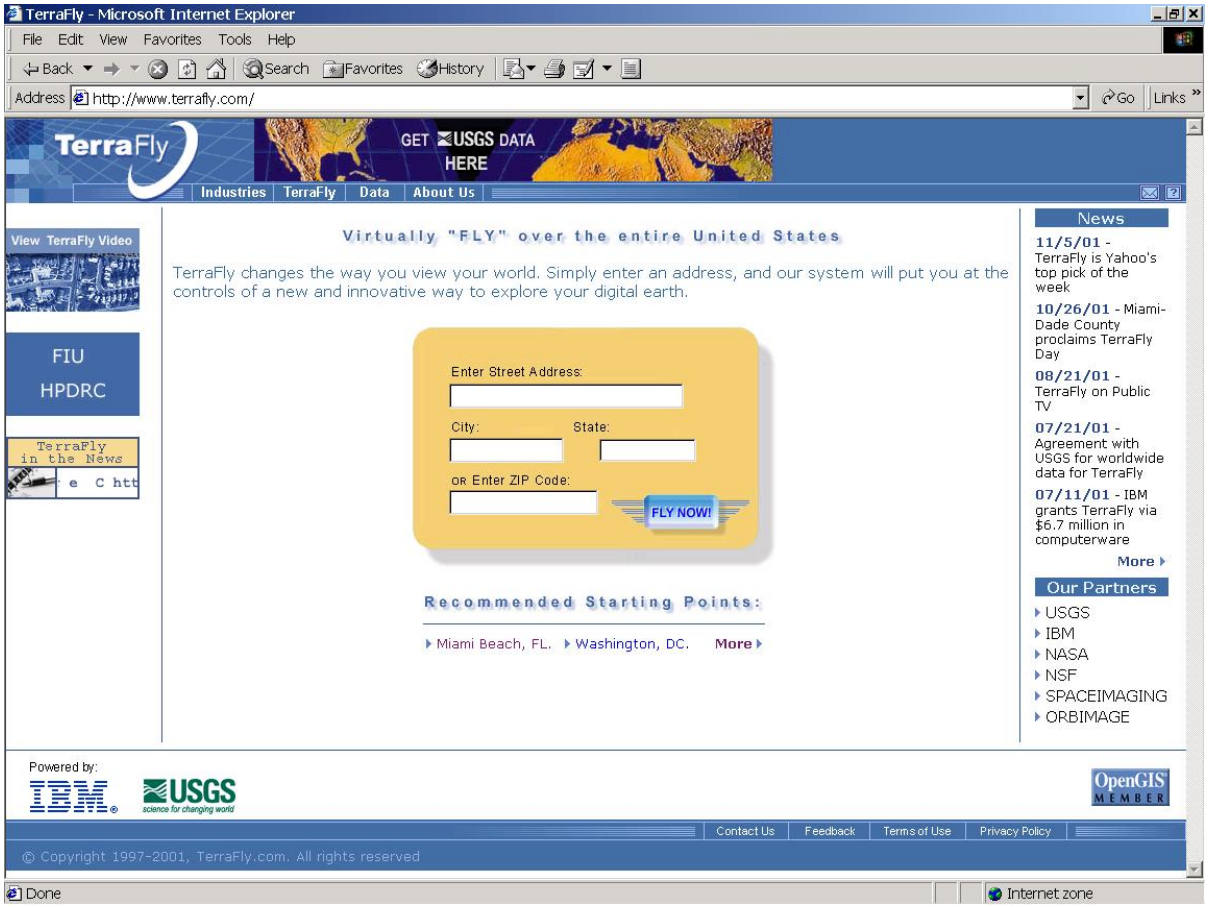
The Miami Herald

DATABASE RESEARCH CENTER HIGH PERFORMANCE

nature

scienceupdate

Regional Applications Center NASA

experience TerraFly

- at TerraFly.fiu.edu or www.TerraFly.com