

NEXRAD Severe Weather Applications

Steve Ansari (NOAA / NCDC)



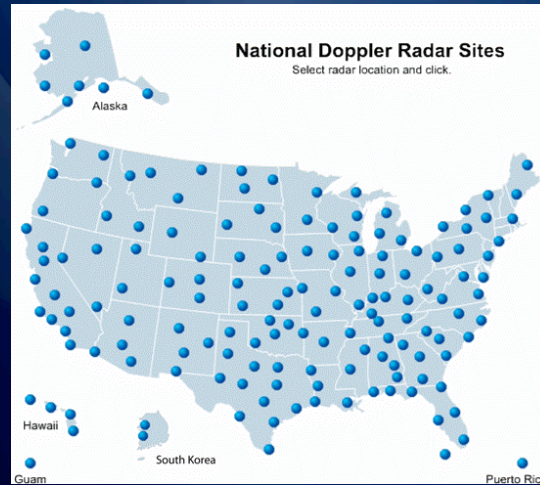
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NOAA's National Climatic Data Center



NEXRAD

- 160 NEXRAD Sites in U.S. and beyond



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NOAA's National Climatic Data Center



NEXRAD

- 160 NEXRAD Sites in U.S. and beyond
- Data from 1995 to present
- Raw data (Level-II base data)
- Derived products (Level-III data)
- Free Access from NCDC
- Small and large orders supported
- Unique binary format... but free visualization and data export/conversion tool are provided
 - Weather and Climate Toolkit



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Weather and Climate Toolkit

- Free, cross-platform desktop tool
- Ver. 1: 2004, Ver. 2: 2007, Ver. 3: 2010
- Simple visualization of many NCDC and general meteorological products
- Export to common formats
 - To support GIS, research, engineering, Excel
- Export to KMZ for Google Earth



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NEXRAD

- Great learning site at NWS:
 - <http://www.wdtb.noaa.gov/>
- NEXRAD archive and products at NCDC:
 - <http://www.ncdc.noaa.gov/radar-data>



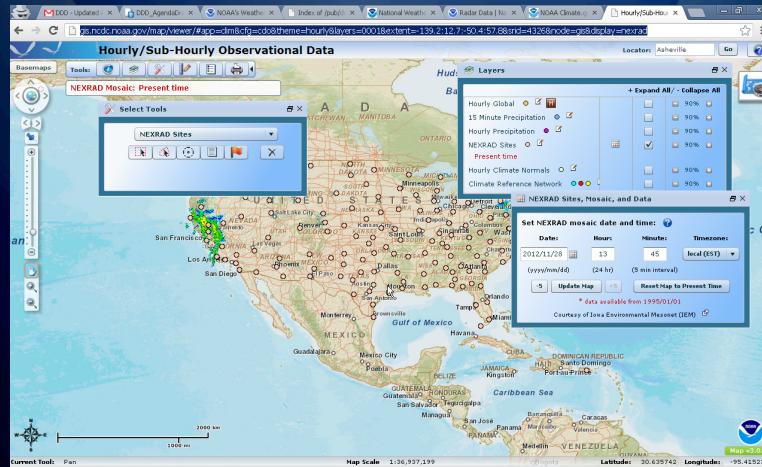
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NEXRAD

- [Online GIS map](#) for browsing historical national reflectivity.



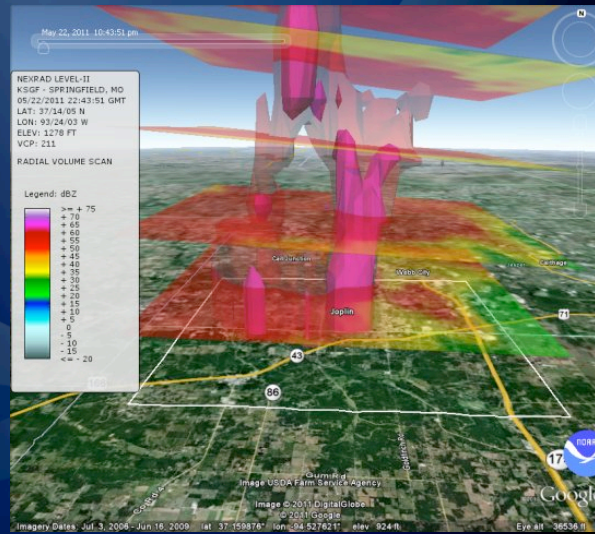
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NEXRAD

- Level-II Raw (Base Data)
 - Reflectivity
 - Velocity
 - Spectrum Width



[Joplin tornado visualization](#)



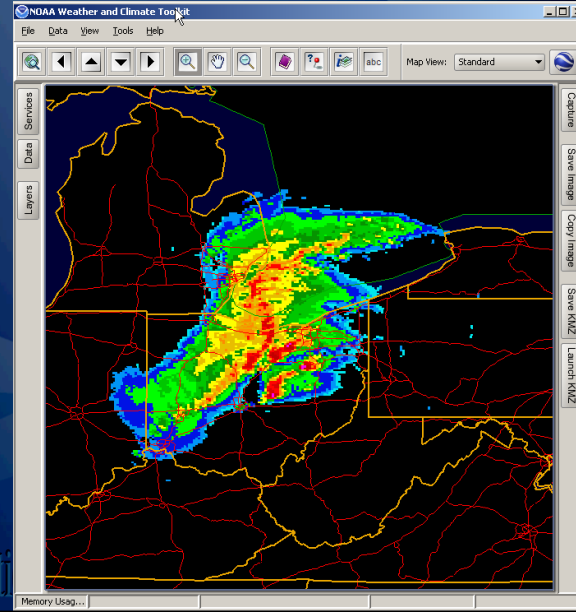
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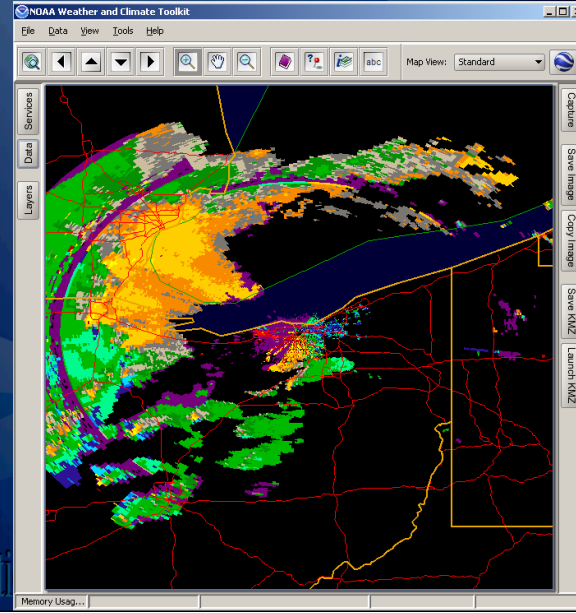
NEXRAD

- Level-III Products
 - **Composite Ref.**
 - Storm Rel. Vel.
 - VIL
 - Precip Accum.
 - Hydrometeor Type
 - Severe Weather Algorithms



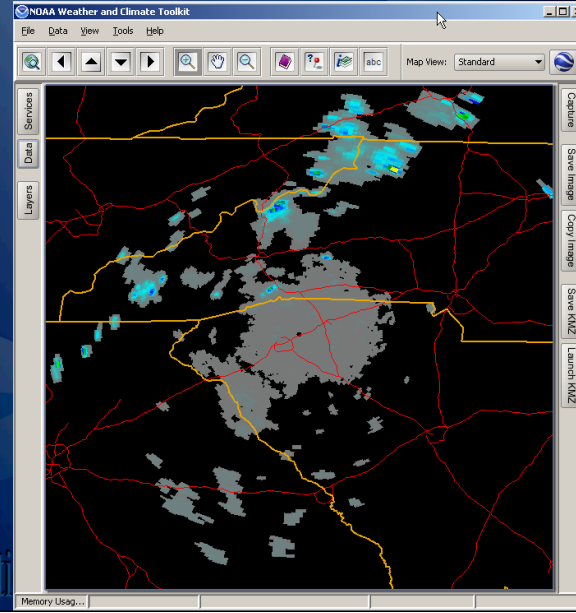
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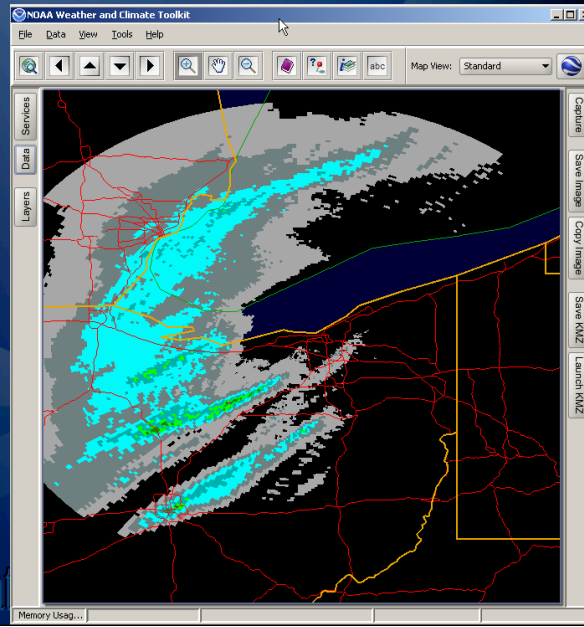
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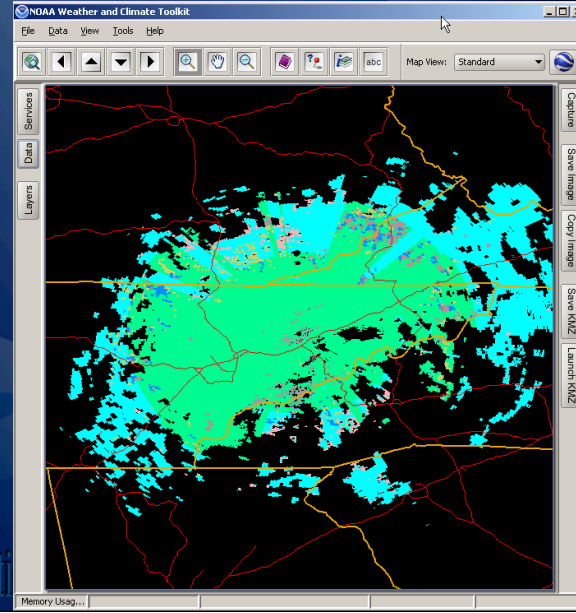
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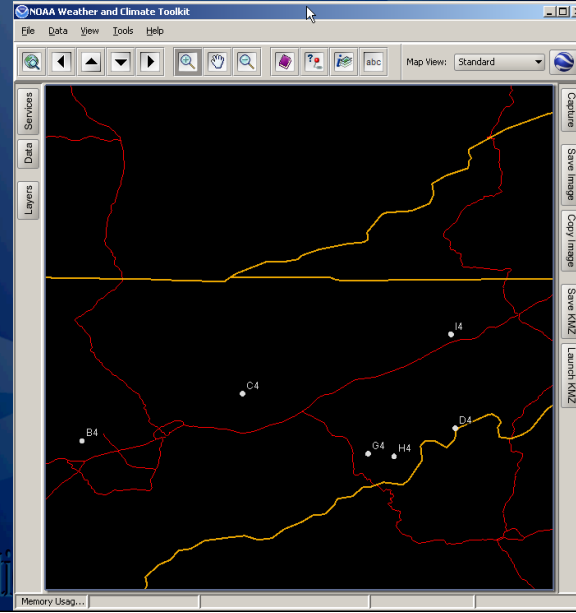
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NEXRAD

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 - **Severe Weather Algorithms**



Severe Weather Data Inventory

- Includes NEXRAD Level-III Severe Weather Products

NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

NOAA's Severe Weather Data Inventory

Search By Location:
Enter address, city, zip or 'lat,lon' coordinates: (ex: 34.5,-90.5)
35.343,-97.643

Select Year and Dataset
1999 Tornado Signatures from NEXRAD (Level-III TVS Product)

Data Table and Map | Timeline Graph

- Right-click on map to select new tile -

DATE (UTC)	NUM
May 4, 1999	3

Event Data/Time:
May 04, 1999 | 00:17:21
KTLX | Type: TVS | Max Shear: 186
See table below for more info...

DATE (UTC)	NUM
Sep 25, 2009	3
Sep 24, 2009	20
Sep 8, 2009	20
Aug 31, 2009	2
Aug 29, 2009	18
Aug 28, 2009	9
Aug 24, 2009	20
Aug 22, 2009	1
Aug 21, 2009	2
Aug 13, 2009	7
Aug 12, 2009	6
Aug 6, 2009	7
Aug 2, 2009	5
Aug 1, 2009	1
Jul 31, 2009	1
Jul 29, 2009	25

Event Data/Time:
Sep 24, 2009 | 23:49:24
KAKQ | dBZ: 59 | VIL: 28
See table below for more info...

DATE TIME(UTC)	RADAR ID	CELL ID	RAN (mm)	AZ (nmi)	VIL	DBZ	LATITUDE
Sep 24, 2009 23:49:24	KAKQ	Q1	26	39	28	59	
Sep 24, 2009 23:54:13	KAKQ	Q1	26	40	28	58	
Sep 24, 2009 23:30:07	KAKQ	Q1	26	35	26	57	
Sep 24, 2009 23:44:35	KAKQ	Q1	26	38	25	56	
Sep 24, 2009 23:34:57	KAKQ	Q1	26	36	24	58	
Sep 24, 2009 23:15:40	KAKQ	Q1	25	31	23	57	
Sep 24, 2009 23:25:18	KAKQ	Q1	26	33	22	57	
Sep 24, 2009 23:51:53	KLWX	I0	106	159	22	53	



Contact

Thank you! Questions?

<http://www.ncdc.noaa.gov>

'Radar' and 'Severe Weather' on left side.

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