

# "NCDC Input"

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NOAA's National Climatic Data Center

1<sup>st</sup> GRUAN Implementation-Coordination Meeting  
Norman, OK, March 2-4, 2009

# Background from GRUAN ICM-1

- “The lead centre has developed a strategy for data dissemination, which will be discussed at the upcoming 1st Implementation-Coordination Meeting.”
- “Data dissemination will commence according to the agreements at the workshop.”



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# NCDC Take-Away Message

- We want to assist GRUAN in whatever way we (realistically) can with data handling and dissemination.



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# NCDC Supports GRUAN Policy

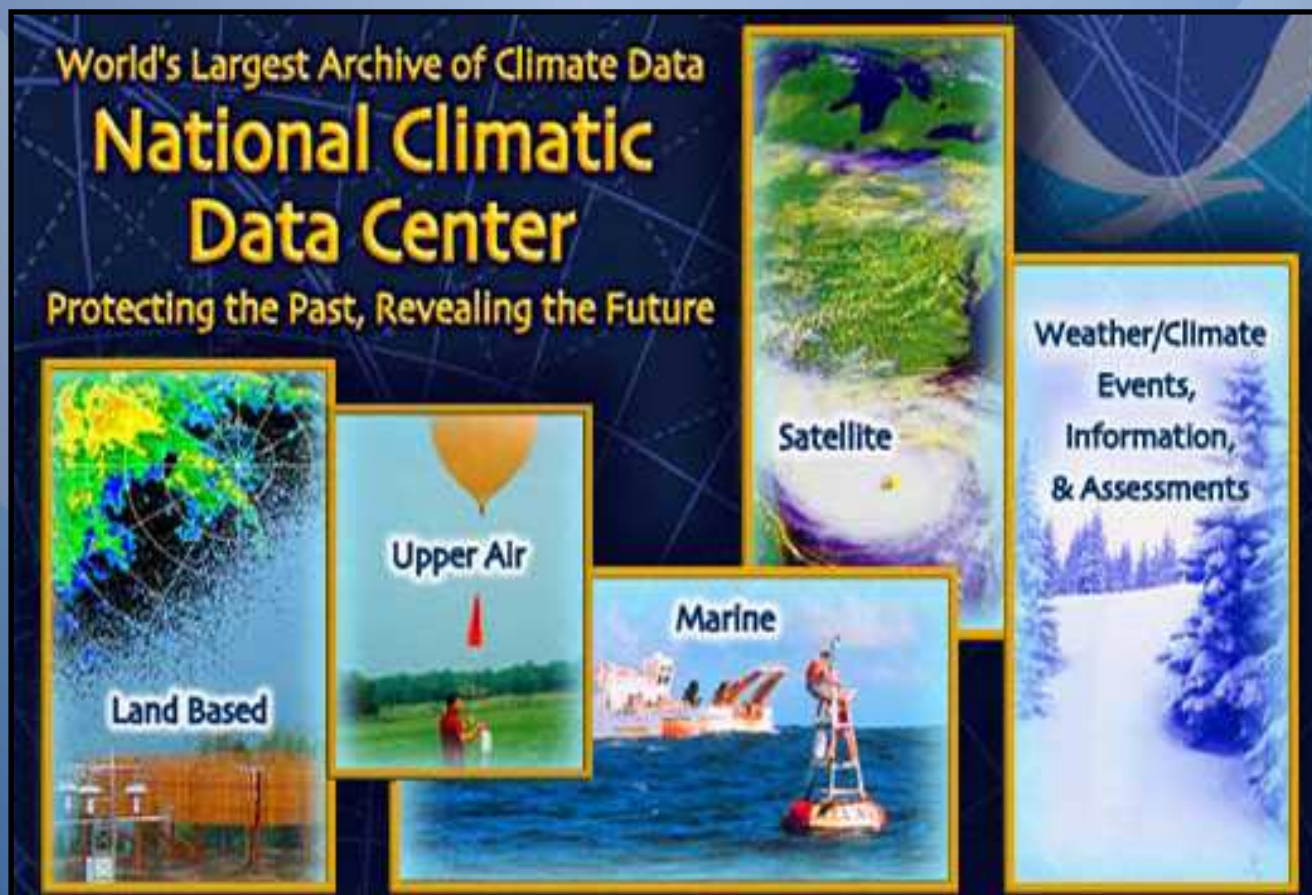
- 2.1 WMO Resolution 40
- 2.2 Time of Data Release
  - Preliminary release in near real time
  - Full release in delayed mode (six months later)



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# NCDC Can Help With Access



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# NCDC Already Services...

- Radiosonde Atmospheric Temperature Products for Assessing Climate (RATPAC)
- NWS Service Records Retention System (Upper air charts)
- Integrated Global Radiosonde Archive (IGRA)
  - Update system used as an illustration for the rest of this talk because it is the most similar NCDC upper air product to GRUAN in terms of data type and volume.

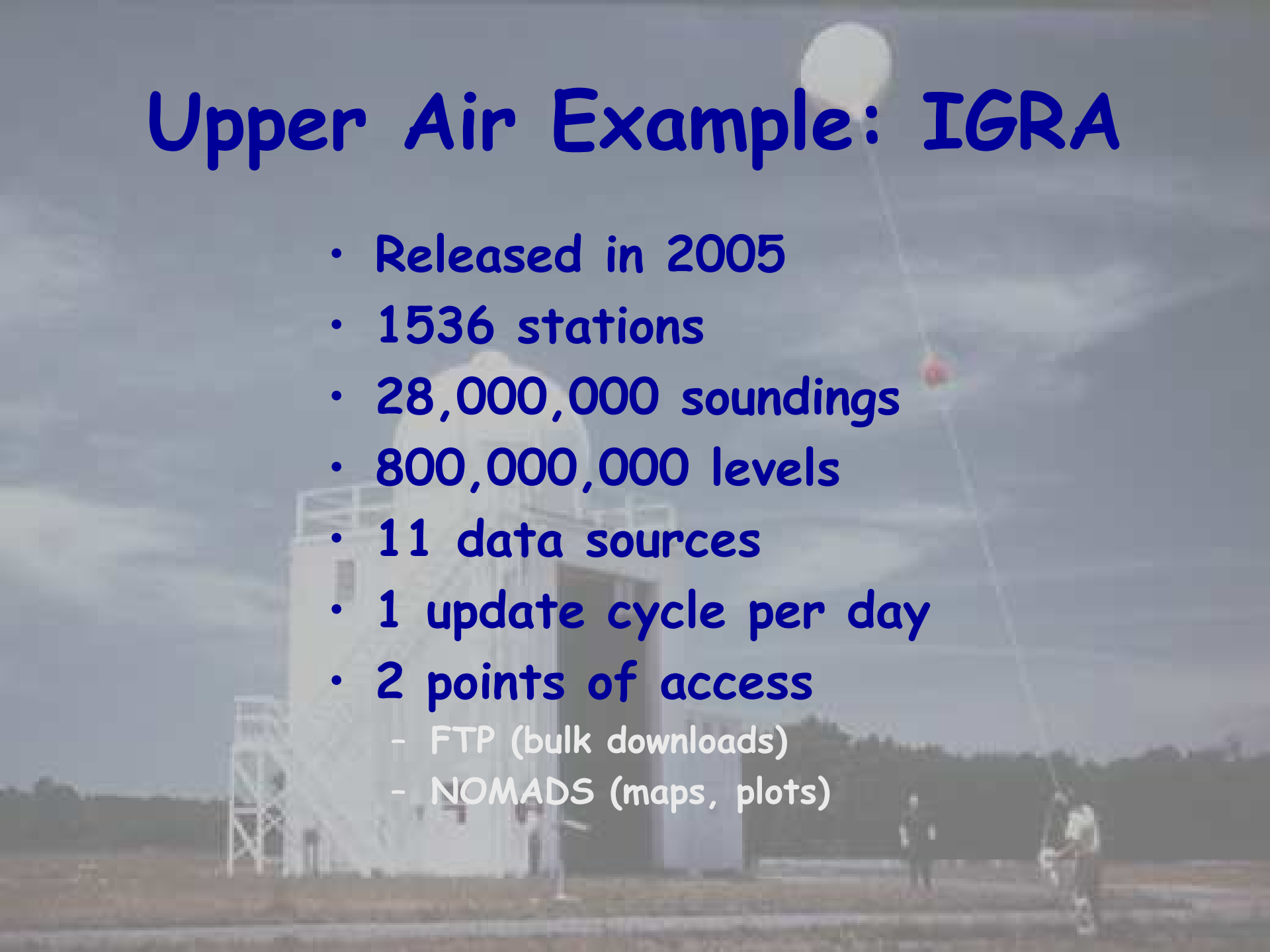


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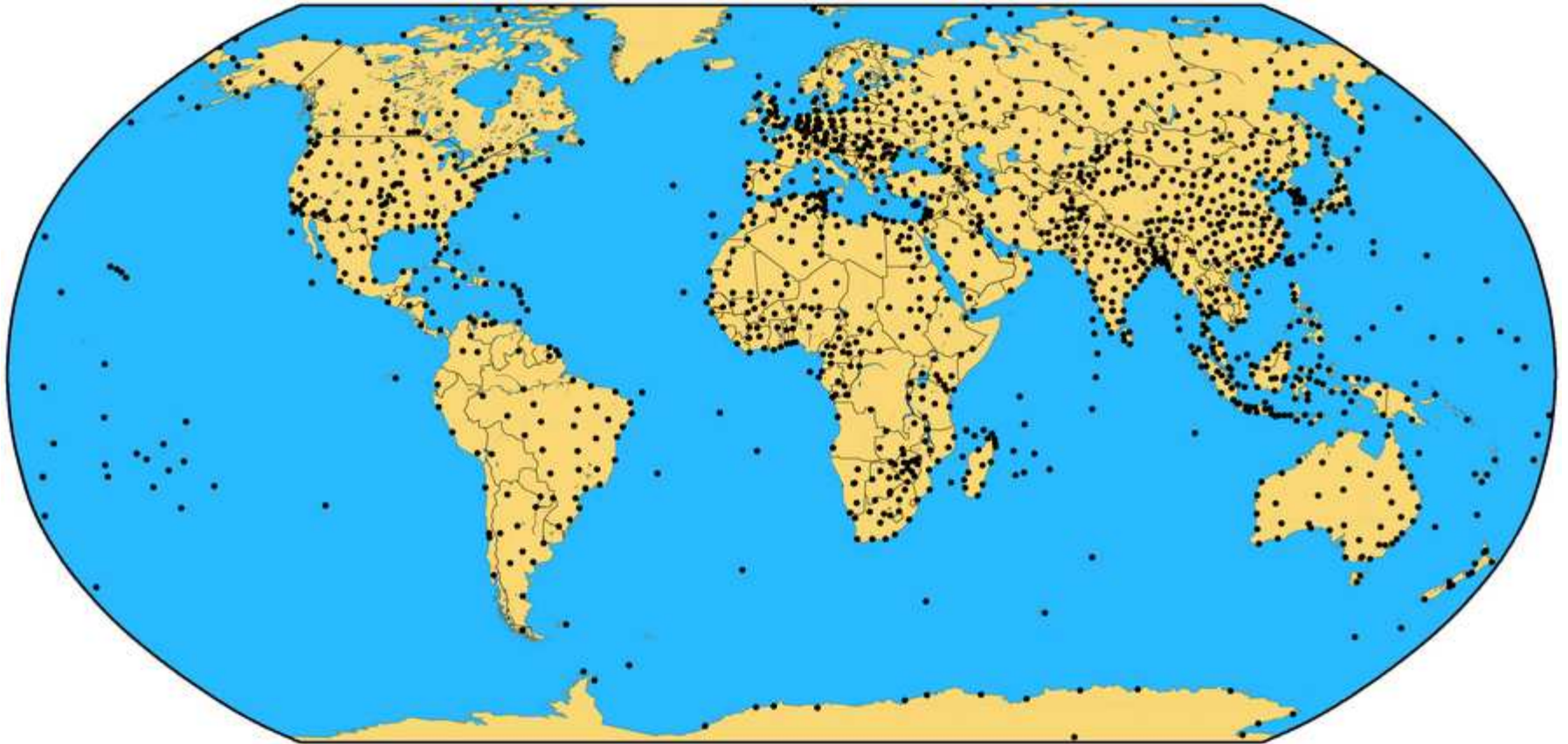
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# Upper Air Example: IGRA

- Released in 2005
- 1536 stations
- 28,000,000 soundings
- 800,000,000 levels
- 11 data sources
- 1 update cycle per day
- 2 points of access
  - FTP (bulk downloads)
  - NOMADS (maps, plots)



# 1536 Stations in IGRA





# IGRA Publications

Durre, I., R.S. Vose, and D.B. Wuertz. 2006. Overview of the Integrated Global Radiosonde Archive. *Journal of Climate*, **19**, 53-68.

Durre, I., R.S. Vose, and D.B. Wuertz. 2008. Robust automated quality assurance of radiosonde temperatures. *Journal of Applied Meteorology and Climatology*, **47**, 2081-2095.

Durre, I., and X. Yin, 2008: Enhanced radiosonde data for studies of vertical structure. *Bulletin of the American Meteorological Society*, **89**, 1257-1262.



# GRUAN Data Handling Phases

- Collecting measuring data
- Preprocessing
  - Completeness and consistency
  - Standardize data format
- Archive
- Processing
  - Level 2 products (error bars on each value)
  - Level 3 products (best possible profile)
- Dissemination



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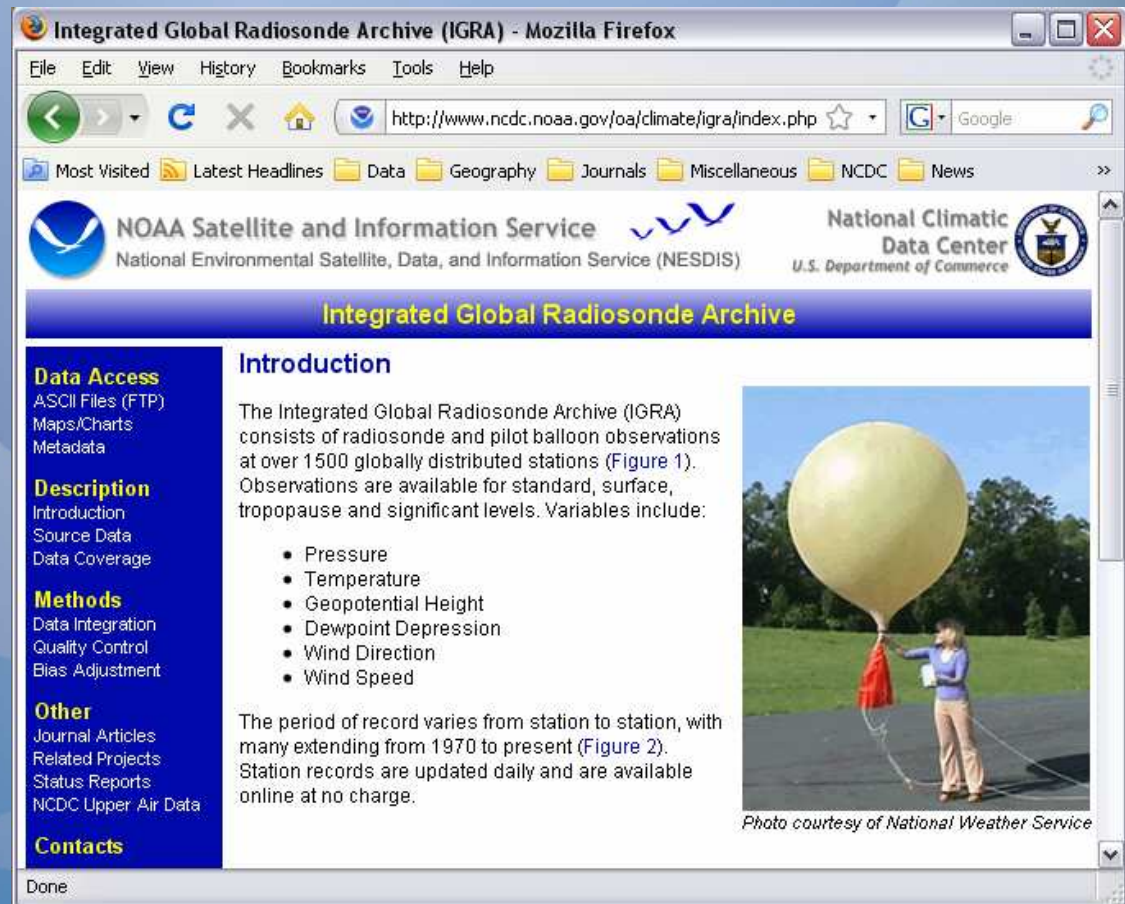
# IGRA Daily Update Phases

- **Ingest**
  - All raw GTS files go directly into NCDC archive
- **Preprocessing**
  - Completeness, consistency, and data formatting problems
- **Quality control**
  - From basic plausibility to repetition and consistency
- **Archive**
  - New fully Q/Ced period-of-record files
- **Dissemination**
  - Examples on next several slides



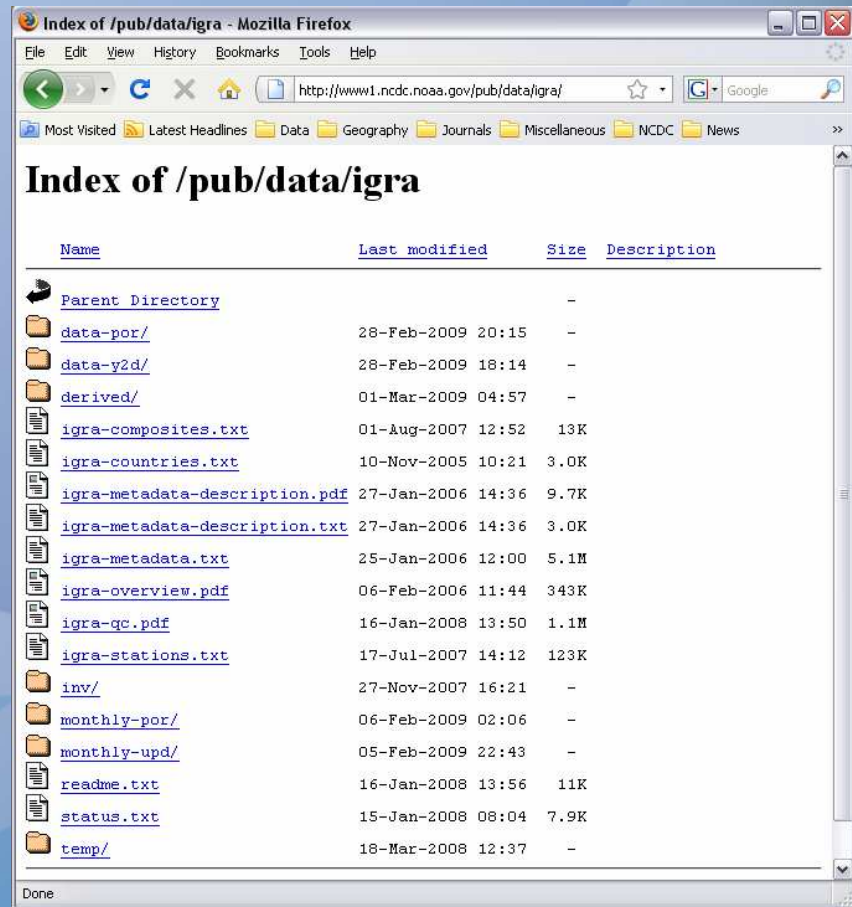
# Basic IGRA (GRUAN?) Access

- WWW



# Basic Access Cont'd

- Anonymous FTP





# NOMADS-Type Access

- NOMADS = NOAA's Operational Model Archive and Distribution System
- Subsetting and visualization capabilities based on user specifications
  - Data for individual soundings
  - Time series plots for fixed-pressure levels
  - Sounding plots
  - Maps of specified times, pressure levels, and areas



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# Sounding Table

- October 10, 2008 12Z sounding for Norman, OK

IGRA INTERFACE - Finished! - Order # - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://nomads.ncdc.noaa.gov/cgi-bin/ncdc-ui/igra/fin

Most Visited Latest Headlines Data Geography Journals Miscellaneous NCDC News

Integrated Global Radiosonde Ar... IGRA INTERFACE - Dataset Sele... IGRA INTERFACE - Finished! ...

Date/Time	press_mb	geo_hgt_m	temp_C	dptdiff_C	wind_dir	wind_spd_ms
2008-10-17 12:00	10.0000	31060	-49.1000	34.0000	180	4.6000
2008-10-17 12:00	20.0000	26500	-50.1000	34.0000	225	12.3000
2008-10-17 12:00	30.0000	23860	-54.7000	22.0000	265	4.6000
2008-10-17 12:00	50.0000	20650	-62.5000	15.0000	315	6.6000
2008-10-17 12:00	70.0000	18610	-67.3000	12.0000	270	11.3000
2008-10-17 12:00	100.0000	16490	-70.3000	11.0000	280	22.6000
2008-10-17 12:00	113.0000	-9999	-68.9000	12.0000	270	20.5000
2008-10-17 12:00	150.0000	14040	-62.3000	14.0000	275	36.5000
2008-10-17 12:00	200.0000	12230	-52.5000	20.0000	265	35.5000
2008-10-17 12:00	250.0000	10760	-43.9000	32.0000	270	33.4000
2008-10-17 12:00	300.0000	9520	-37.9000	38.0000	265	30.3000
2008-10-17 12:00	400.0000	7480	-23.5000	42.0000	265	32.4000
2008-10-17 12:00	500.0000	5820	-12.9000	27.0000	285	21.1000
2008-10-17 12:00	700.0000	3172	3.6000	18.0000	270	2.5000
2008-10-17 12:00	850.0000	1570	12.0000	20.0000	255	1.0000
2008-10-17 12:00	925.0000	860	12.6000	12.9000	285	3.0000
2008-10-17 12:00	984.0000	358	5.0000	0.4000	0	0.0000

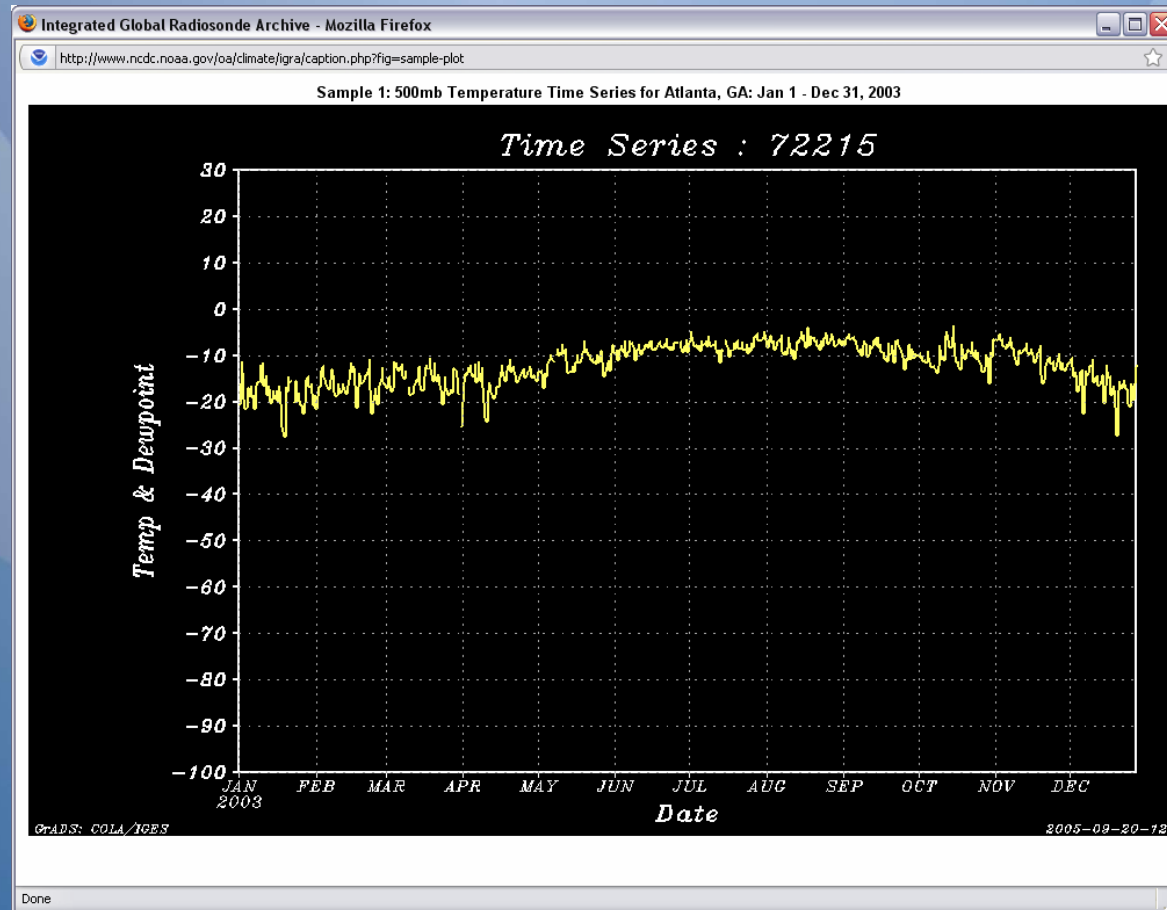
DOC > NOAA > NESDIS > NCDC

Search Field:  Search NCDC

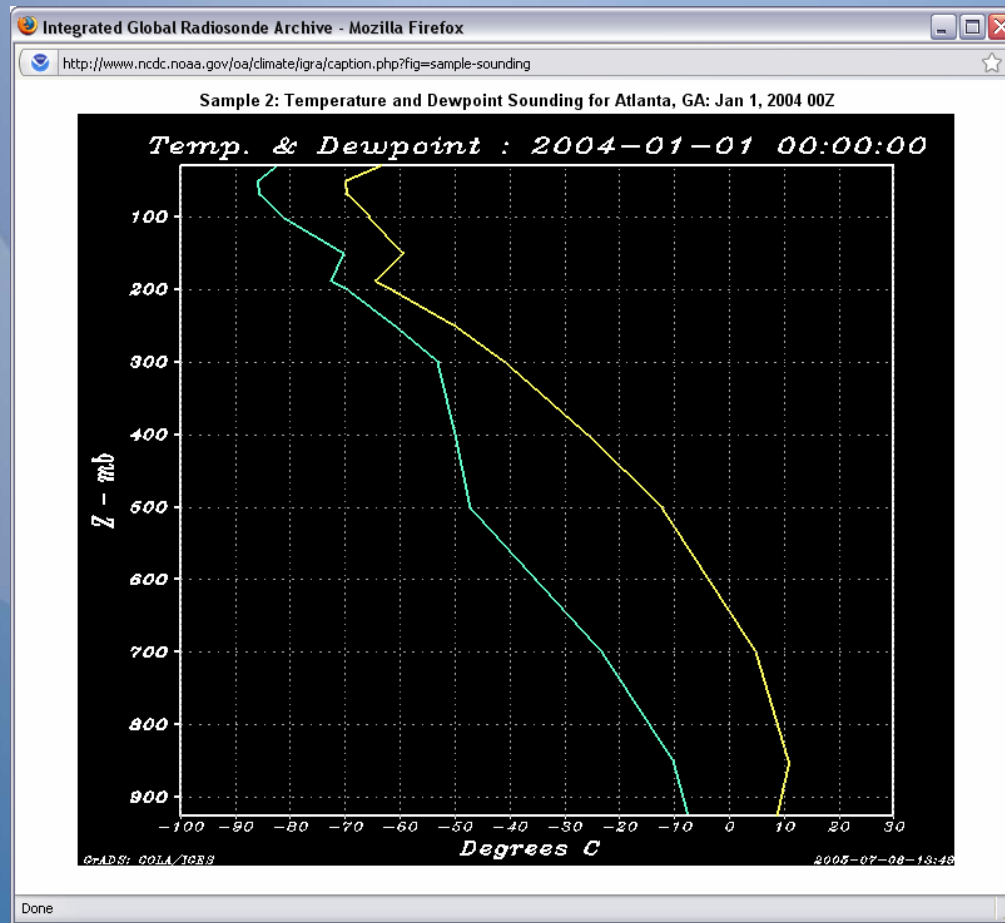
Privacy Policy HOW ARE WE DOING? A user survey USA.gov Disclaimer

Done

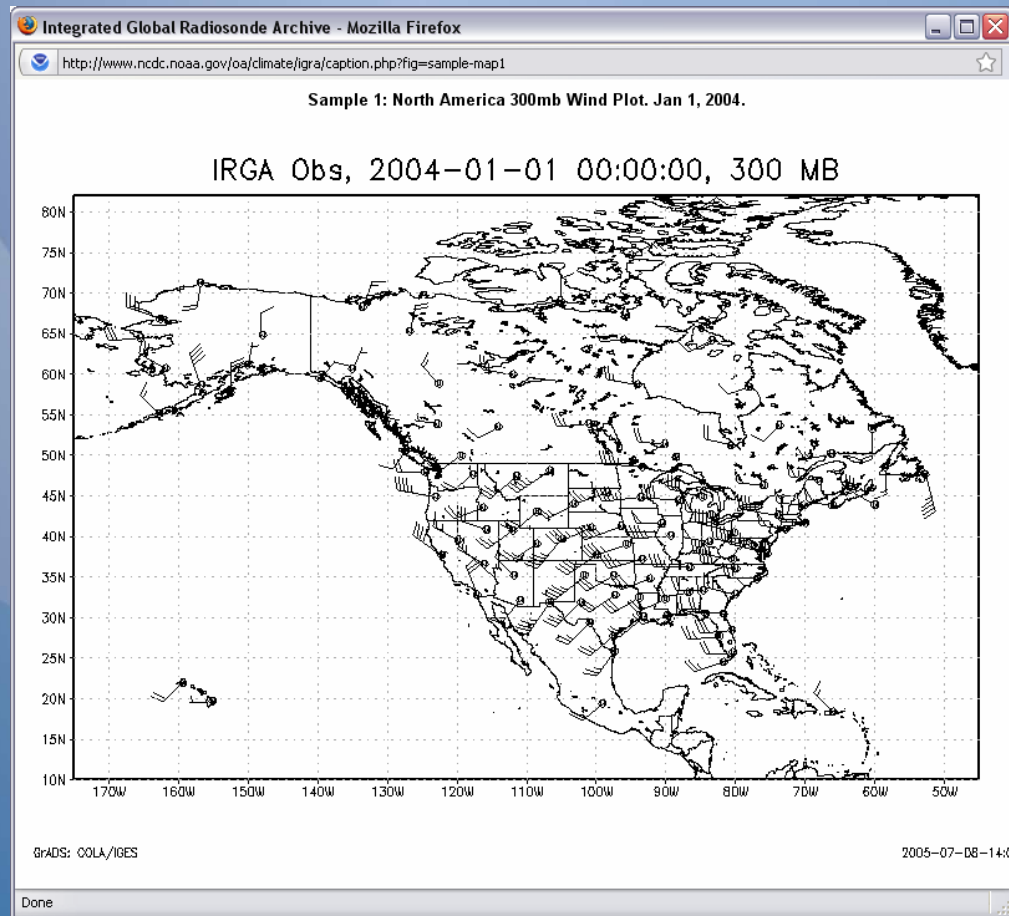
# Time Series Plot



# Sounding Plot



# Map





# Recap: Why NCDC for GRUAN?

- It's in our best interest.
- We have experience with upper air data.
- It should be fun.



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