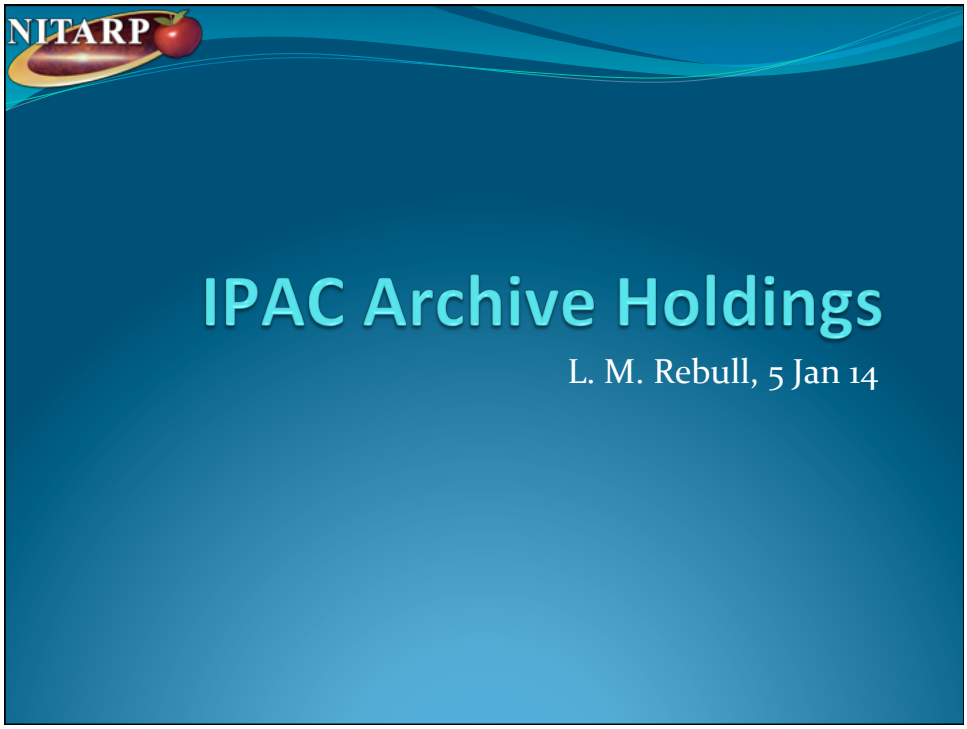
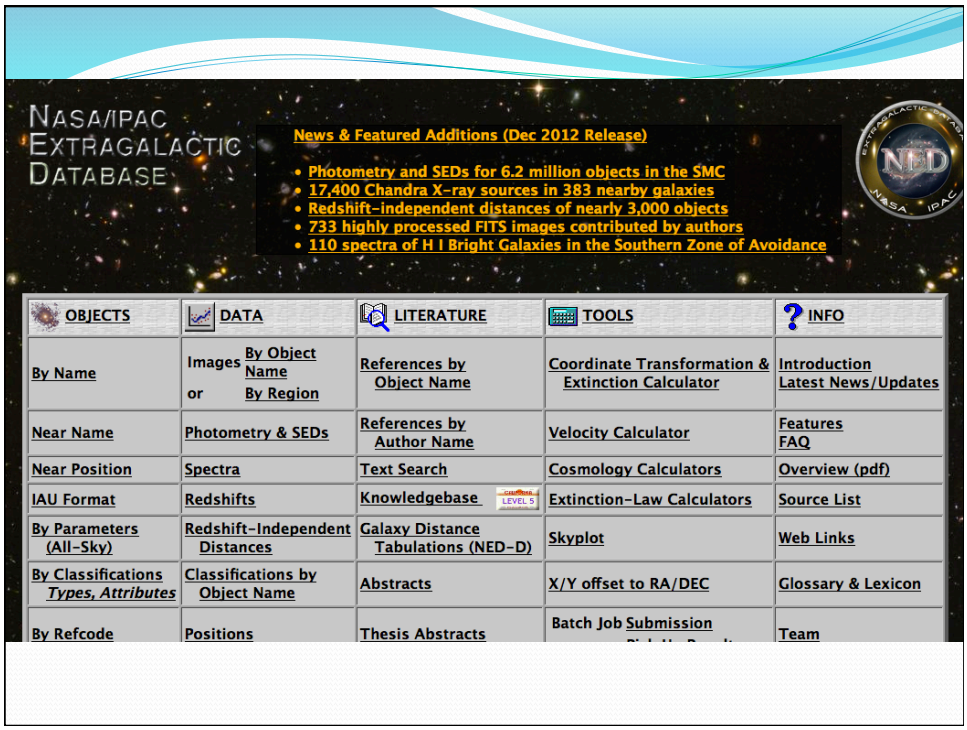


Why?

- The "I" in NITARP stands for "IPAC", the Infrared Processing and Analysis Center, based at Caltech.
- IPAC is not the Astronomy Department!
- IPAC houses several different archives, each with their own goals, methodology, tools, staff, (and sometimes science goals).
- As NITARP educators, you will learn about at least one of our data sets in great detail, but the rest of IPAC's holdings may also prove useful to you in your NITARP project, or your future (post-NITARP) work!
- Essentially all of IPAC has recently been consolidated into one booth (for better branding in the community). Typically we have a large booth. Sequestration means we are FAR smaller.
- (There are archives based at other places that have other booths here too…)

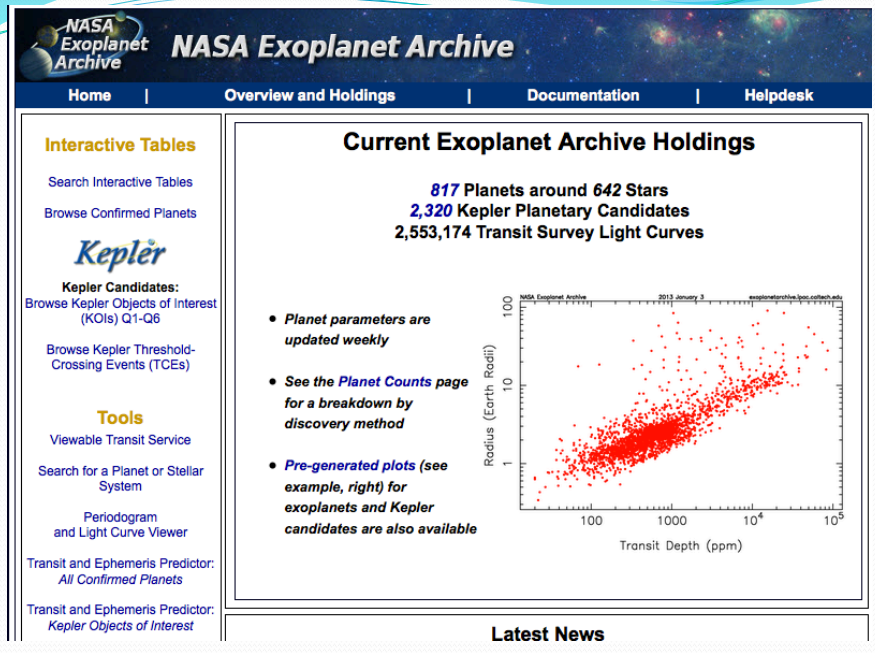
NED

- NED = NASA/IPAC Extragalactic Database
- Focused on extragalactic science.
- Ingests catalogs and literature tables.
- 177 million unique objects!
- Myriad cross-links, notes, etc.
- Updates every few months.
- http://ned.ipac.caltech.edu/



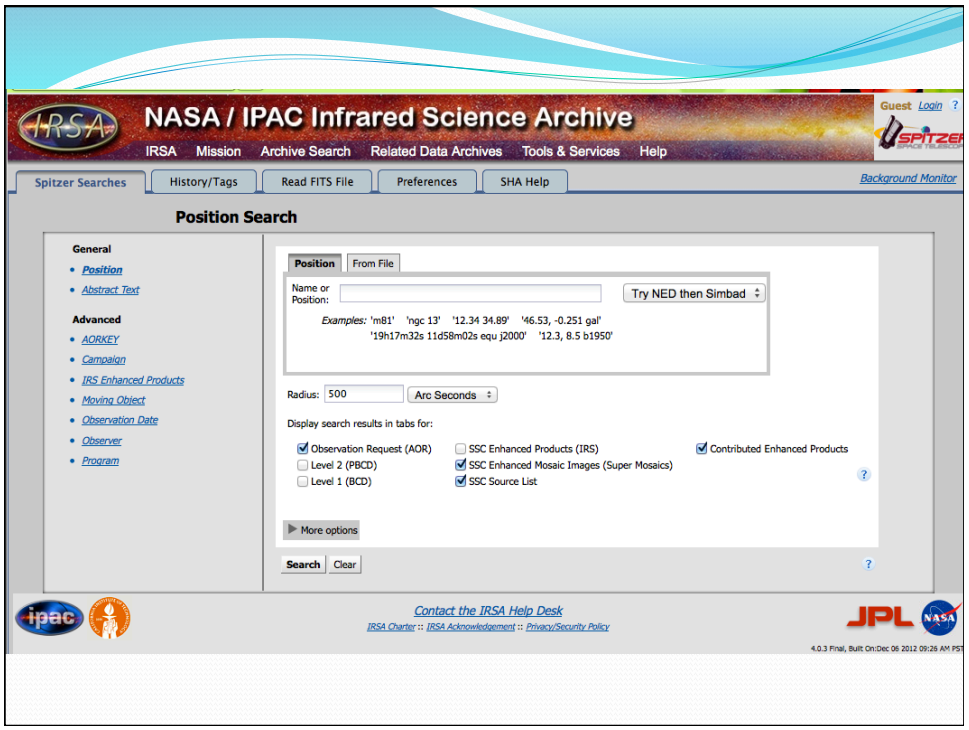
NASA Exoplanet Archive

- Focused on stars harboring exoplanets, or thought to harbor exoplanets.
- Includes Kepler data, and US portal to CoRoT data.
- Anyone using Kepler data (none of you this year?) will get more of an introduction to this as part of your work.
- Online tools to work with these data, like the periodogram service.
- http://exoplanetarchive.ipac.caltech.edu/



Spitzer

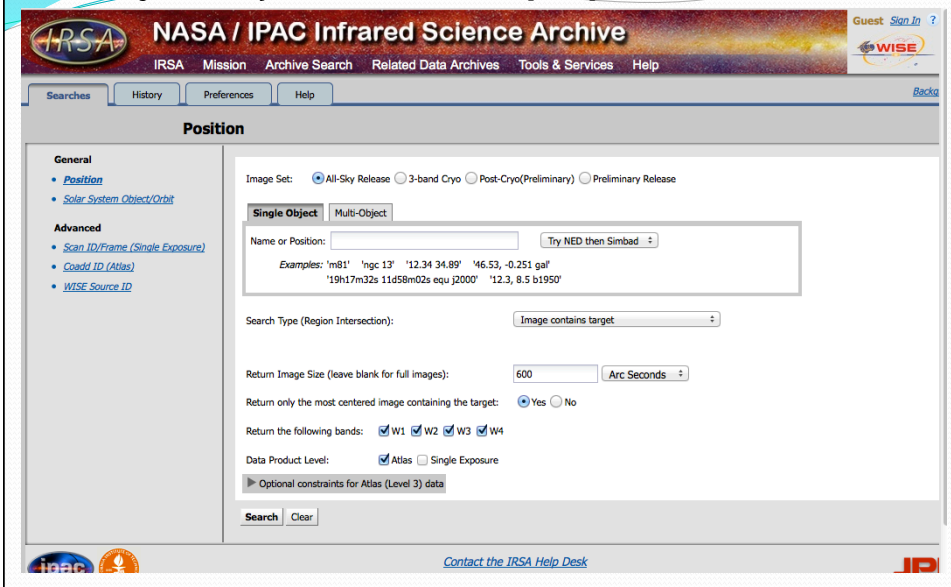
- Spitzer is both an active mission and no longer an active mission. Its entire archive is available through IRSA (coming up).
- Those of you using Spitzer data will get more of an introduction to Spitzer in the context of your work.
- Spitzer's data are available from the Spitzer Heritage Archive (SHA).
- It was the testbed for a new "look and feel" for all of IRSA's holdings, and the same underlying software is now used to serve several of the rest of IPAC's holdings – like Planck!



WISE

- Widefield Infrared Survey Explorer (WISE) is also both active and no longer an active mission. Its entire archive is available through IRSA (coming up).
- WISE was on for ~13 months, then turned off, and recently reawakened.
- Those of you using WISE data will get more of an introduction to WISE in the context of your work.
- WISE data (images and data tables) are available most transparently from the WISE Image Server.

Does this look familiar? Once you've mastered one of these archives through this interface, the rest are easier to pick up.

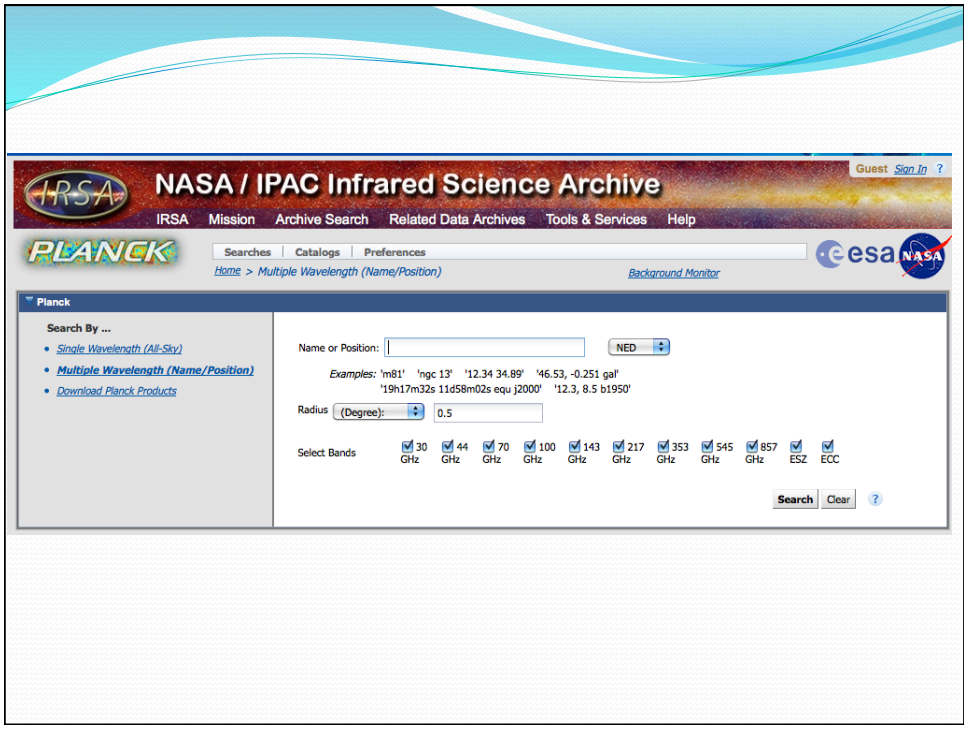


IRSA

- IRSA = NASA/IPAC Infrared Science Archive
- Charter is to provide interface to all NASA infrared and sub-mm data sets. Has a few others in there too.
- Some are small (e.g., Spitzer Legacy programs), and some are VERY large (all-sky surveys like WISE).
- IRSA datasets are cited in about 10% of astronomical refereed journal articles.
- Several of the newest data sets are served via Hydra; the rest are accessible via ATLAS or Gator.
- Total holdings in images: 88.1 TB, 17,684,845 images
- Total in catalogs: 20,668,829,117 sources
- Total in spectra: 16.62 GB, 157,712 spectra

Some IRSA holdings

- Infrared Astronomy Satellite (IRAS) – the first all-sky mid- and far-IR survey.
- Two Micron All-Sky Survey (2MASS) – a deep, uniform all-sky survey at J, H, and Ks.
- Spitzer Space Telescope – 3-160 microns (see earlier slide).
- WISE = Widefield Infrared Survey Explorer – all-sky survey at 3-23 um
- Planck = ESA mission, all-sky survey at 30 to 857 GHz (1 cm to 350 microns)
- Balloon-borne Large Aperture Submillimeter Telescope (BLAST) – a prototype of Herschel's SPIRE camera flown on a balloon in 2005-2006.
- Cosmic Evolution Survey (COSMOS) - a multiwavelength survey of a 2 sq. degree field involving every Great Observatory as well as ground-based data.
- BOLOCAM – a millimeter wavelength bolometer array at the Caltech Submillimeter Observatory.
- AKARI – a Japanese IR telescope that surveyed the whole sky at 9-160 microns.
- Midcourse Science Experiment (MSX) – a mid-IR telescope that mapped the Galactic plane and the gaps in the IRAS all-sky coverage.
- Infrared Space Observatory (ISO) – US interface to the ESA archive for ISO.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NED
Examples: 'm81' 'ngc 13' '12.34 34.89' '46.53, -0.251 gal'
'19h17m32s 11d58m02s equ j2000' '12.3, 8.5 b1950'
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30 GHz 44 GHz 70 GHz 100 GHz 143 GHz 217 GHz 353 GHz 545 GHz 857 GHz ESZ ECC
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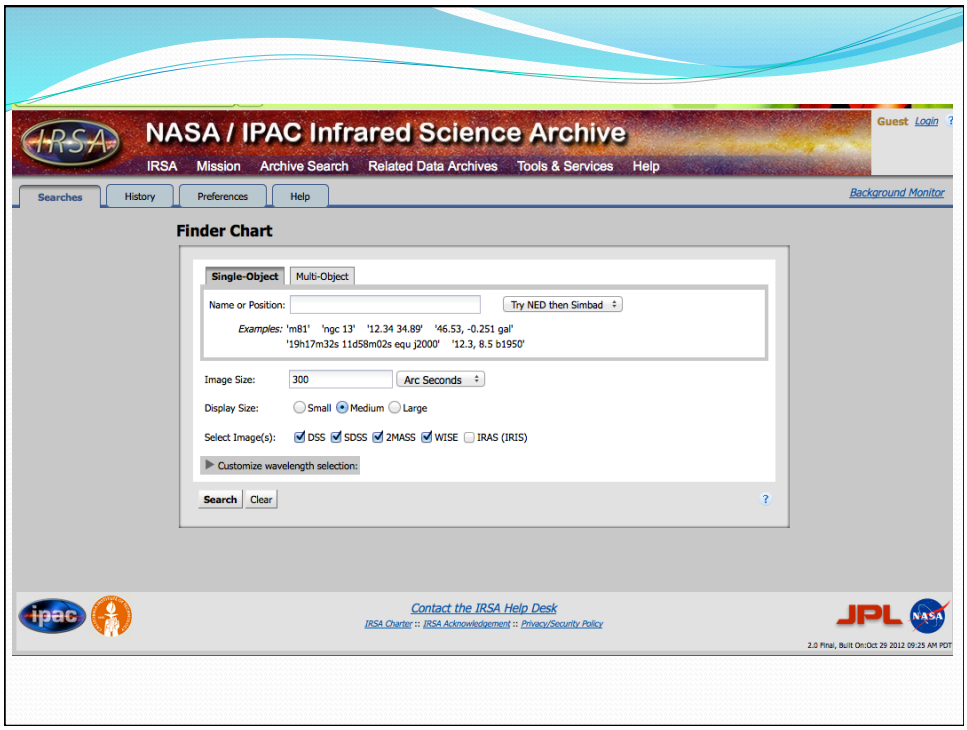
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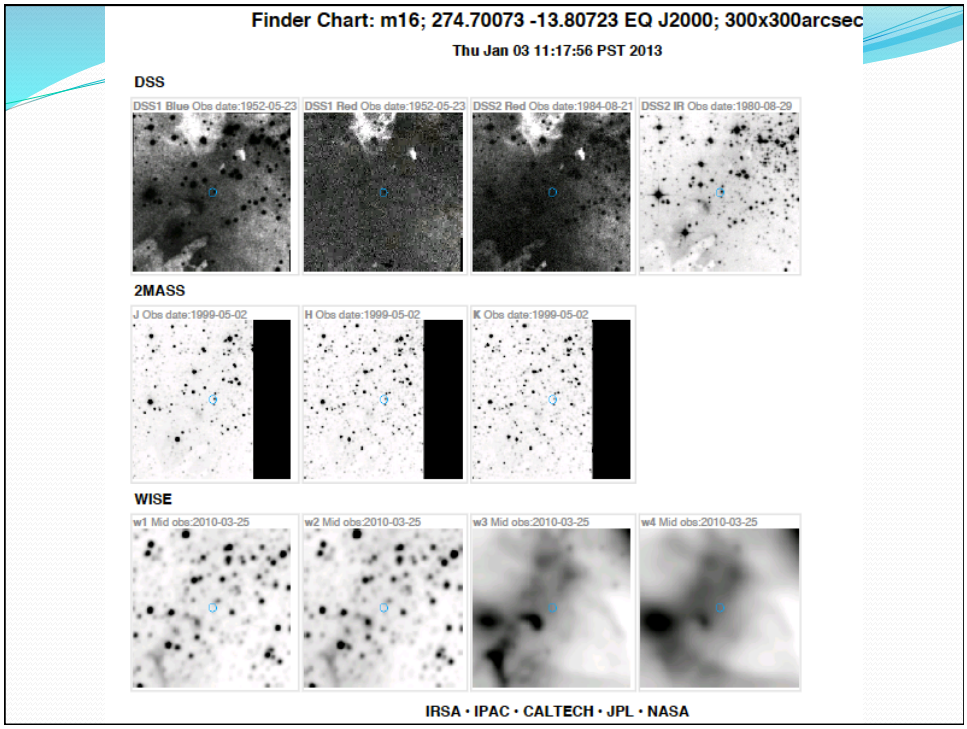

Summary

- LOTS of data available to you RIGHT NOW.
- Everything is web-based. Most are intuitive (I hope). Most have on-line help. They are getting more integrated all the time.
- Many have some related material on the NITARP wiki, and/or in NITARP Tutorials.
- All of these archives have representation here at the AAS.
- You will learn more about archives specific to you as you work on your project, but don't be afraid to branch out and go exploring!