The UCF research data management survey: A report of faculty practices and needs

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Research Data Computing Day at IST
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The Research Lifecycle at Univ of Central FL

A library-led institutional collaboration to develop a mental model of research support and services

Planning Cycle
- Impact Measures & Prestige
- Ideas
- Research Planning
- Grants Search
- Grant Planning
- Research Concept
- Research Conclusions
- Grants
- Experiment/Project
- Data/Output

Project Cycle
- Grant Management
- Compliance
- Funding

21st Century Digital Scholarship Cycle
- Global Scholarly Community
- Disseminate
- Final Reports
- Communication
- Publication/Presentation
- Peer Review
- Comments
- Revisions
- Draft Work

Legend
- Research Data Management
- Facutly Center for Teaching and Learning
- Libarrians
- Office of Research and Commercialization
- Institute for Simulation & Training
- Not yet supported
- Institutional Repository
- High Performance Computing
- Research Data Management Infrastructure

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Survey sections

• Demographics
• Data collection
• Data storage and preservation
• Data recording and analysis
• Data sharing
• Needs
Sample and response rate

- ARGIS database plus workshop attendees
- 549 invitations sent
- 15 inactive for a total of 534 researchers
- 110 (20.6%) opened, but 13 did not select responses and were removed
- 97 people participated; 18.2% response rate
I. Demographics

- 84% faculty, 10% administrators, 6% other
- All colleges represented except Business Administration
- 118 affiliations noted across 21 campus units
- 50 unique departments
Demographics cont’d

- 90% collaborate with external researchers
- 57% work with teams of 1 to 5 people
- 84 people identified 120 different funding agencies
- 61% indicated that the funding agency requires them to manage, store, or share data
What type(s) of data do you generate? Please indicate an approximate percentage.

- Numerical data, e.g. ocean temperatures (%)
- Text, e.g. historical records and literature (%)
- Still images (%)
- Audio files (%)
- Video files (%)
- Medical data, e.g. patient health information (%)
- Biochemical data, e.g. raw and processed “omic” data (%)
- Tabulated data (%)
- Other (%)
II. Data Collection

- Wide variety of data collected, but heavily numerical, medical and tabulated
- Wide variety of formats/file extensions, but heavily spreadsheets, statistical analysis software and text
- Volume of data generated tends to be under 50 GB
III. Data Storage and Preservation

- High use of personal computer and/or the college computer network to store data; most back up using external storage
- 68% of respondents said they take measure to preserve their data; most by backing it up. Only two mentioned they migrate file formats. Only one noted an attempt to deposit in a preservation-type facility.
IV. Data Description and Sharing

• Most researchers do not add metadata to their datasets; of the 34% who do most do not use any specific standards

• Of the 69% who do or may share data, most make the data available to peers upon request, immediate collaborators and dept’l colleagues
The “typical” researcher profile

• Collaboration
  • 90% collaborate with external researchers
  • Size of teams

• Sharing
  • 61% have funding agency requirements
  • 69% share or are willing to share; need control

• Volume and types of data
  • Volume, at under 50 GBs, manageable
  • Most data are numerical and stored in spreadsheets

• Data hygiene
  • Backed up; local PCs and networks and cloud based
  • Very few preservation-type measures undertaken
... and considerations

- **Volume**, 65% of respondents under 50 GBs
  - 35% have data that range from 50GB to 100TB
- **Types**, 87% of respondents have 62% of their data as numerical, followed by medical and tabulated
  - Text, images/audio/video files, transcription, simulation
- **Formats**, typically stored in spreadsheets
  - .jpg, .tif, .pdf, .doc, .mpg, .mp3, .mov, LiDAR, .gis, etc.
Some takeaways...

- **Infrastructure**
  - Networked storage
  - Ability to store a variety of data types and formats
  - Allows for sharing of data, but able to limit access
  - Backs up, migrates, preserves data for the long term

- **Services, training, and support**
  - Metadata and data management training
  - Easier access and more variety of analysis software
  - Data analysis support
  - Assistance with network issues, software and hardware
And now, those of you who didn’t respond to the survey??