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EDUCATION AND PROFESSIONAL DEVELOPMENT IN THE GEOSPATIAL INFORMATION SCIENCE AND TECHNOLOGY COMMUNITY





By David Ruiz, Data Archivist / Imagery Analyst with Quantum Spatial Inc.

Data Preservation and Archiving Committee—Saving the World One Image at a Time

he Geospatial world is getting bigger. We as a society have created and collected data to include paper maps, film based aerial, multi-spectral images, lidar, GPS and a tremendous amount of metadata. The Data Preservation and Archiving Committee (DPAC) is a working group chartered by ASPRS and is made up of professionals within the geospatial community. The scope of the committee's attention includes all forms of remotely sensed Earth-oriented photography, digital camera, videography, and sensor data collected in the visible, ultraviolet, VNIR, SWIR, LWIR, and microwave spectral regions to include maps, GIS, and GPS datasets. Identifying and preserving aerial photography and its supporting data, making it available to the larger geospatial community and recommending best practices for archiving geospatial data are central tenants of the committee. The members of DPAC focus on identifying collections, such as historical aerial photos, recommending industry standards for preservation, and providing a tool so that others can locate data.

There are a variety of collections from a variety of sources. Federal governments, especially the USGS, have a vast collection of data, especially aerial imagery available for public use. However, these collections are widely known or can be easily located through web portals currently available. DPAC, through a network of members, tries to identify collections, such as historical aerials, that are generally concentrated in regional areas, cataloged, and collected at scales that make them invaluable. These collections come from different types of sources such as local government, universities and small or local aerial mapping firms. The data can be extensive, properly cataloged for easy reference. and contain extensive supporting metadata or it can be limited, sometimes just aerial film. These collections play an important role in researching our future by looking at our past, so such collections should be identified and preserved. Additionally, it is equally important to retain knowledge on how this type of data was used and manipulated. In today's digital world and automated processing, subject matter such as the "No. 1" fiducial, interior orientation, and camera calibration reports are lost to technology, and traditional photogrammetry or stereo compilation can be considered a dying science.

DPAC has also recommended standards for preservation of archives and data, specifically film-based aerial imagery where temperature, humidity, and storage play an important role. Standards to preserve collections are often costly to control environments and have equipment to protect it from fire, water or non-natural incidents. Often, government agencies, and sometimes universities are able to afford buildings and equipment for preservation, but private firms often struggle not only to preserve at an affordable price, but also balance that with the ability to make the collection profitable, which is a factor government and institutions do not always have to consider. DPAC does not in any way enforce a standard of care on any of its members but does make recommendations based on industry standards and practices, especially those used by the government. These standards are often in practice so they are vetted to some degree and in most cases have some industry policy approved by an organization such as the International Standards Organization (ISO). These standards can play an important role for those involved in government contracts where the raw data, ancillary data, and finished products to include metadata will be turned over to an agency that has standards in place.

DPAC would like to invite you to help us with identifying collections and see what is available to the community at large. DPAC has developed a web site that allows anyone to search for aerial imagery. The web site: http://dpac.asprs.org/ is simple in nature, designed to make available a listing of providers and their data. It is not designed to search based on geolocation, perhaps that will come in the future, but it allows a keyword search and delivers the contact info of those collections that may be of interest. This database, managed by David Day of Keystone Aerial, has evolved with the help and input of members of the geospatial community and John Faundeen of the USGS as a leader in this effort. DPAC is constantly looking for public and private collections to add

> Photogrammetric Engineering & Remote Sensing Vol. 83, No. 11, November 2017, pp. 729–730. 0099-1112/17/729–730 © 2017 American Society for Photogrammetry

> > and Remote Sensing

doi: 10.14358/PERS.83.10.729

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their information to our database no matter how small, large, or complete they may be. Some collections are often just a single city and scale, but as long as the point of contact is listed and they are wanting to make the collection available, then participation is encouraged. Another important note is that in today's world of mergers and acquisitions, collections are often lost in name. For example, I manage one of the largest privately owned aerial collection in the United States. Pacific Aerial Surveys and the Clyde Sunderland Collection were part of HJW Geospatial that later became Photo Science and then Quantum Spatial Inc. (QSI). QSI also acquired Aerometric, and Walker Aerial, then recently Air Flight Services with Air Photo Inc. These collections were known under their original business names and clients often lose track. With the DPAC web site, a researcher can locate these collections by their business names, by region names and format of the data.

DPAC hopes to continue to identify collections, help preserve them by using standards recommended based on industry practice, and make them available to researchers. We encourage everyone to contact us with questions and suggestions to help achieve this and help preserve these valuable collections that are sometimes lost.

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