

## **Our Ground Geodetic Surveyor Brethren**

For the first 14 years of their existence, the ground geodetic surveyors were a part of the Air Force's photomapping community and were assigned to photomapping units. Because they didn't have an aerial mission, never rose above the Squadron organizational level, and were nearly always geographically separated from their parent organization, they were largely under-recognized and under-appreciated. This in spite of the fact that they once numbered over 460 people, were headed by an O-6, had Detachments spread over much of the U. S., for the most part worked on programs and projects with as high or higher priorities than our flying units, and they carried a higher Unit Precedence Rating than any other Photomapping unit.

Their history is an interesting one and much of it can be found on our website under the Geodetic Survey Squadron button. However, some of the very early years have not been covered, so I would like to briefly cover the entire 14 years mentioned above in hopes that at least some of our readers will find it informative, if not interesting.

It all began in the early 1950s when the Air Force began development of their nuclear ICBM missiles. In order to assure target destruction and yet, at the same time, limit collateral damage, they needed systems with the highest attainable accuracy. They realized that unknowns at the target end would largely monopolize the error budgets of these systems, so error sources at the launch end would have to be minimized. Key to doing this would be knowing the precise geodetic coordinates, the elevation, the gravity value, and a precise azimuth orientation for the inertial measurement unit of each missile at each launch site. In addition, enough accurate gravity information would have to be collected in the areas surrounding the launch sites to enable the development of a sufficient Launch Region Gravity Model (LRGM) with which to compensate the ballistic track of the missiles during the launch phase while they were low and slow.

At that time the Air Force did not have the organic resources to accomplish the necessary surveys. Thus, they had to assign the responsibility to someone, to develop such capabilities and accomplish the surveys. They chose the Air Photographic and Charting Service (APCS). In the following chronology I will list key dates in the development of this capability and later, those required for other, follow-on missions. At the same time I will note how organizationally the surveyors were integrated into and then phased out of the Photomapping lineage:

1 May 1954: HQ. Air Force assigns USAF Photo-Mapping and Aerial Electronic Surveying responsibilities to the Air Photographic and Charting Service (APCS).

February 1956: HQ. Air Force assigns missile site Ground Surveys to APCS. Because of the lack of Geodesists and Geodetic Surveyors in the Air Force,

APCS contracts with the U.S. Coast and Geodetic Survey to perform the site surveys.

27 March 1958: As the number of missile sites increases and the organic Air Force capabilities expand, Operating Location 1 (OL-1) of the 1370<sup>th</sup> Photo-Mapping Group is established at Orlando AFB, FL to assume day-to-day responsibility for the surveys. The Ground Surveyors enter the Photomapping lineage.

September 1958: OL-1 of the 1370<sup>th</sup> Photo-Mapping Group is inactivated and replaced by OL-1 of the 1373<sup>rd</sup> Mapping and Charting Squadron, under the Group.

Early 1959: The 1370<sup>th</sup> Photo-Mapping Group is moved from Palm Beach AFB, FL to Turner AFB, GA.

1 July 1959: The expanding workload and increasing complexity of the required ground surveys leads to the establishment of a unit dedicated solely to the geodetic, astronomic and gravity missile site surveys worldwide. This new unit is designated the 1381<sup>st</sup> Geodetic Survey Squadron (Missile), still under the 1370<sup>th</sup> Photo-Mapping Group.

1 January 1960: Due to expansion of its mission, the 1370<sup>th</sup> Photo-Mapping Group is redesignated the 1370<sup>th</sup> Photo-Mapping Wing. It takes with it the responsibilities for the missile site surveys.

1 April 1960: Detachment 1 of the 1381<sup>st</sup> GSS (Missile) is activated at Vandenberg AFB, CA.

1 October 1962: Five more Detachments of the 1381<sup>st</sup> are formed at Minuteman Bases.

January 1964: As the missions of the 1381<sup>st</sup> become more diversified, the word Missile is dropped from its name, and the Squadron becomes the 1381<sup>st</sup> Geodetic Survey Squadron.

1 October 1965: The 1370<sup>th</sup> Photo-Mapping Wing is detached from the APCS and assigned directly under MATS Headquarters. The 1381<sup>st</sup> GSS moves to F.E. Warren AFB, WY still under the 1370<sup>th</sup> PMW.

July 1967: The 1370<sup>th</sup> PMW is inactivated at Turner AFB, GA. Photomapping resources are reactivated at Forbes AFB, KS as the Aerospace Cartographic and Geodetic Service (ACGS), one of the Technical Services of the Military Airlift Command (MAC). The Ground Survey resources are assigned to the ACGS as the 1381<sup>st</sup> Geodetic Survey Squadron.

Fall 1968: The 1381<sup>st</sup> Geodetic Survey Squadron is redesignated the 1<sup>st</sup> Geodetic Survey Squadron.

1 July 1972: The Geodetic Survey assets split from the Photomapping lineage as the Defense Mapping Agency (DMA) is formed and these assets are assigned to the DMA Aerospace Center as the Geodetic Survey Squadron.

Later: From July 1972 until October 1993, the Ground Geodetic Surveyors underwent several organizational realignments and one more name change while assigned to the DMA. With the Cold War ended, in October 1993 the Geodetic Survey Squadron was deactivated and the Air Force dropped Geodetic Surveying as a career field. Responsibility for Geodetic Surveys was then initially assumed by the DMA Department of Geodesy and Geophysics, under whom the surveys were accomplished by a small cadre of civilian surveyors or through civilian contracts. When the DMA was inactivated, the National Imagery and Mapping Agency (NIMA) assumed the responsibility and now it rests with the National Geospatial-Intelligence Agency (NGA).

As you can see, the Geodetic Surveyors joined our lineage in March 1958 and left it in July 1972. These surveyors have an alumni group that holds reunions every three years. Their next one is 3-5 August 2012 in Cheyenne, WY. Any AFPMA member who served in the 1958-1972 timeframe is welcome to attend these reunions. If interested, please contact Garrett Moore at: [garrettmoore@verizon.net](mailto:garrettmoore@verizon.net) or by phone at 703-266-3293.

Likewise, any member of their alumni group who served during that period is eligible for membership in the AFPMA. We already have a few who belong to both groups but not nearly enough. Garrett has promised to issue a special invitation to join our Association to those eligible as a part of their reunion preparations.