# comprehensive Data delivery README FILE

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| **Study Section** | Study 6.6: Fluvial Geomorphology (FGM) |
| **Study Component** | (1) Bed Evolution Model Development, Coordination, and Calibration |
| **Prepared By** | Tetra Tech, Inc. |
| **Data Collection and Processing By** | Tetra Tech, Inc. |
| **Field Date Range** | July 2013 – September 2014 |

**Introduction:** The overall goal of the Fluvial Geomorphology Modeling below Watana Dam Study is to model the effects of the proposed Susitna-Watana Hydroelectric Project (the Project) on the fluvial geomorphology of the Susitna River and to assist in predicting the trend and magnitude of geomorphic response. More specifically, the purpose of the modeling study, along with the Geomorphology Study (Study 6.5), is to assess the potential impact of the Project on the behavior of the river downstream of the proposed dam, with particular focus on potential changes in instream and riparian habitat.

Photographs have been collected as part of the overall field data collection effort (ISR Study 6.6 Section 4.1.2.9).

**Data Summary:** Field photographs have been collected during the 2013 and 2014 field seasons with GPS enabled cameras. When the camera was able to secure a position, WGS84 coordinates (latitude and longitude) are embedded in the photograph properties. Access the coordinates by right clicking the photograph, selecting the “Details” tab, and scrolling down to the “GPS” properties. Alternatively coordinates can be extracted from a batch of photographs using free downloadable software or by importing directly into ArcGIS.

Photographs were collected as part of the Study 6.6 field data collection effort which includes:

tributary cross-section surveys, mainstem Susitna cross-section observations, bed and bank sediment sampling, discharge measurements in Focus Areas, geomorphic surface mapping, Upper Susitna River reconnaissance, aerial reconnaissance and other relevant, opportunistic photographs.

Photographs are named as follows: 6\_6\_FieldPhoto\_[Date of Collection]*\_*Photo\_[Photo Number]

[Date of Collection] is in the YYYYMMDD format

[Photo Number] is referenced with 3-4 integers, e.g. 1234

If the photograph is not directly categorized under a folder indicating the sampling effort it was collected as part of, the sampling effort may be included within the filing name prior to the date of collection: this includes:

Surface Sediment Sampling – [Sur]

Subsurface Sediment Sampling – [SubS]

Surface and Subsurface Sediment Sampling – [Sur Subs]

Bank Sampling – [Bank]

Cross-section observation – [XSObs]

Geomorphic surface mapping – [GeomMapping]

Aerial Reconnaissance – [AerialRecon]

Tributary cross-section surveys – [TribSurvey]

Data spreadsheets located under the Study 6.6 cumulative data location may reference relevant field photographs. In the spreadsheets, photographs are listed by photo number and include a description of the photo. To find the photograph that is listed in a spreadsheet use the Date of Collection and Photo Number with the 2013 and 2014 folders of photographs.

**Data Organization:** Photographs are subdivided into year of data collection. Each year has its own organization. Field photos in 2013 are organized by geographic location and as such are categorized by Focus Areas, Geomorphic Reaches, or Tributaries. Field photographs are organized by sampling effort. The detailed organization of folders and subfolders is as follows:

* 2013\_Field\_Photos
  + AerialRecon\_LowerSusitnaRiver
  + AerialRecon\_MiddleUpperSusitnaRiver
  + Chulitna\_River
  + Deshka\_River
  + FA-104\_Whiskers
  + FA-113\_Oxbow\_I
  + FA-115\_Slough6A
  + FA-128\_Slough8A
  + FA-138\_Gold\_Creek
  + FA-141\_Indian\_River
  + FA-144\_Slough21
  + Gold\_Creek
  + Indian\_River
  + Lane\_Creek
  + LR-1
  + LR-2
  + LR-3
  + LR-4
  + LR-5
  + MR-6
  + MR-7
  + MR-8
  + Skull\_Ck
  + Slash\_and\_Gash\_Creeks
  + Talkeetna\_River
  + Trappears\_Creek
  + Unnamed\_Trib\_UNT113.7
  + Unnamed\_Trib\_UNT144.6
  + Whiskers\_Creek
  + Yentna\_River
  + 6\_6\_2013\_FieldPhotos\_Log\_Master.xlsx
* 2014\_Field Photographs
  + Other\_Field\_Photos
    - 2014\_Field\_Photo
    - FA-173\_Geomoprhic\_Mapping
    - FA-184\_Geomorphic\_Mapping
    - Lower\_River\_Recon
    - Middle\_River\_Bank\_Photo
    - Middle\_River\_Banks\_above\_Devils\_Canyon
  + Q\_meas\_Focus\_Areas\_Photos
  + Sediment\_Sampling\_Photos
  + Tributary\_Photos
    - 4th\_of\_July
    - 5th\_of\_July
    - Caswell\_Creek
    - Chinook
    - Deadhorse\_Creek
    - Fog\_Creek
    - Little\_Tsusena\_Creek
    - Portage\_Creek
    - Sheep\_Creek
    - Sherman\_Creek
    - Tsusena\_Creek
    - UNT\_173.8
    - UNT\_174.3

**Software or Hardware Considerations:** None.

**Online Data Link:** Folder “2013\_Field\_Photos” and “2014\_Field\_Photos” at <http://gis.suhydro.org/suwareports/SuWa/06-GEO/6.06-GEOMOD/Photos>

**Online Report Link: “**6.6 Fluvial Geomorphology Modeling below Watana Dam Study” under “June 3, 2014; Initial Study Report – Part A, B, and C” at <http://www.susitna-watanahydro.org/type/documents/> . *There are a total of 3 links associated with this report. There is one link for the following: (1) Main body text and tables [Part A 1 of 3], (2) Figures [Part A 2 of 3], and (3) Appendices and Attachment [Part A 3 of 3].*

“06.06 Fluvial Geomorphology Modeling below Watana Dam – 2014-2015 Study Implementation Report (Part 1 of 4)” under November 2015; Study Completion and 2014/2015 Implementation Reports at <http://www.susitna-watanahydro.org/type/documents/> . *There are multiple links associated with this report filing, however the link noted as “Part 1 of 4” includes the main body text, tables, and figures.*

**[[1]](#endnote-1)**

1. **Data Distributor Contact Information:**

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