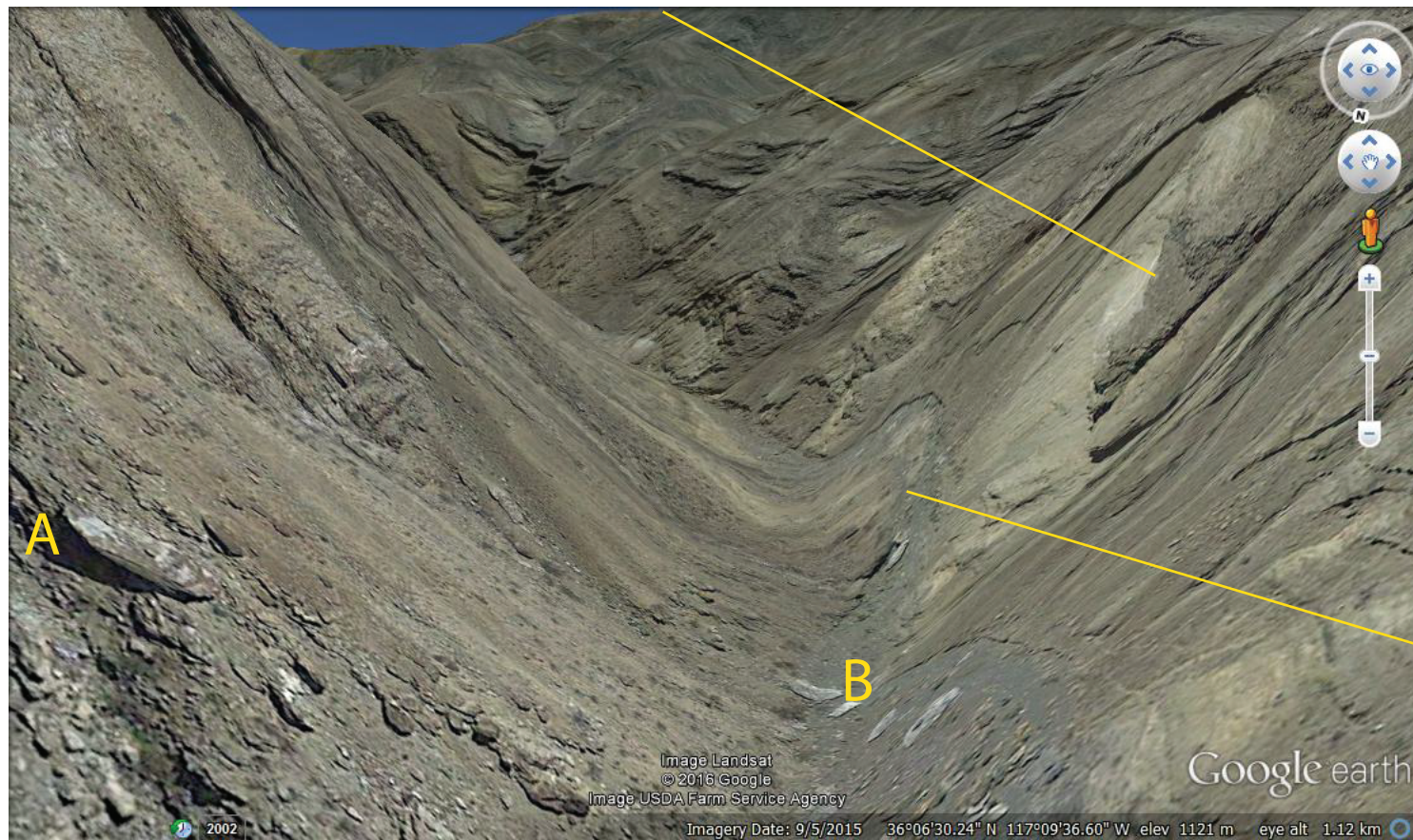


layering appears to dip left due to image smear,  
actual dip is steeply to the right

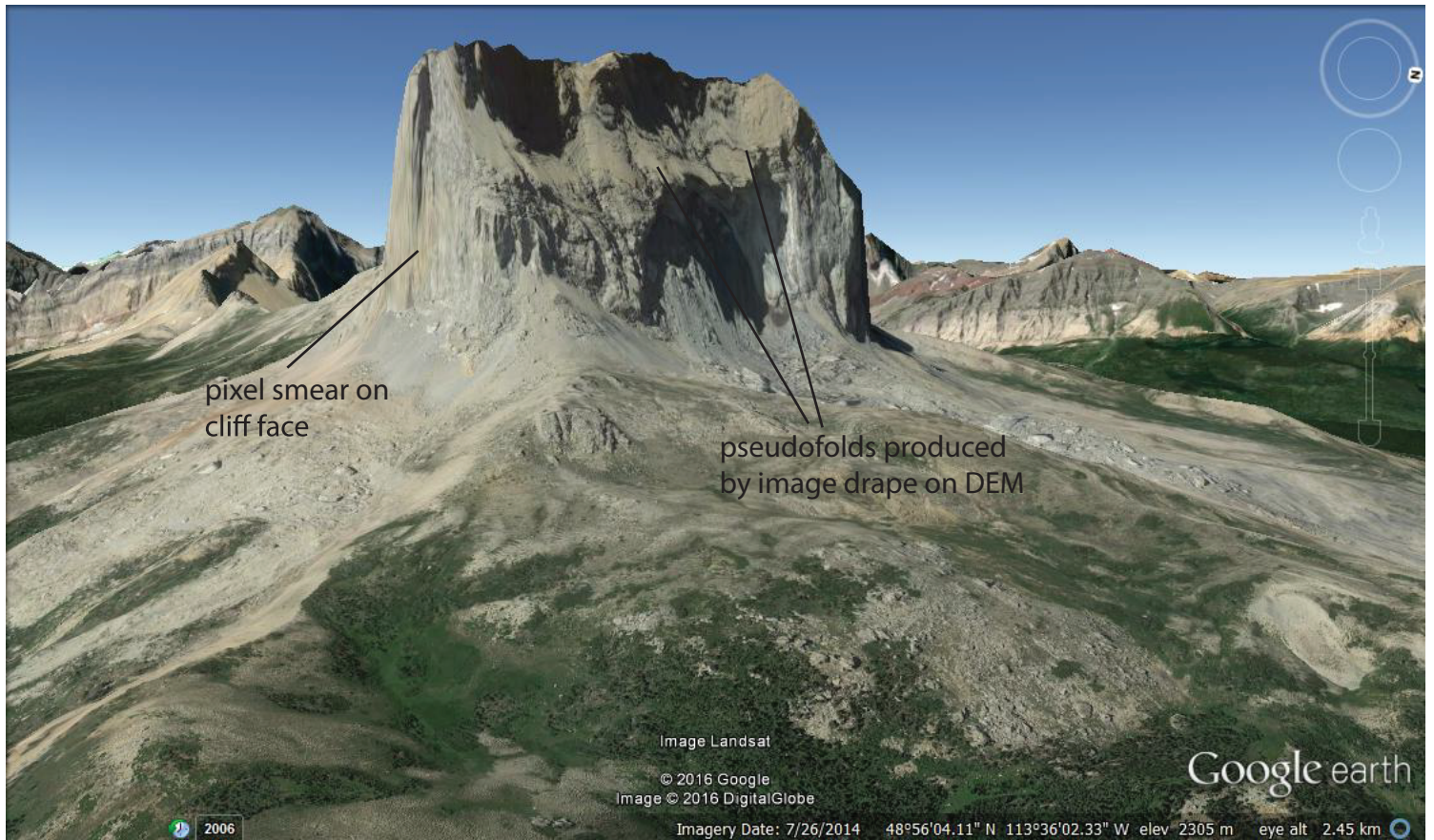


Creekbed appears to  
climb hillside due to  
low-rez DEM effect

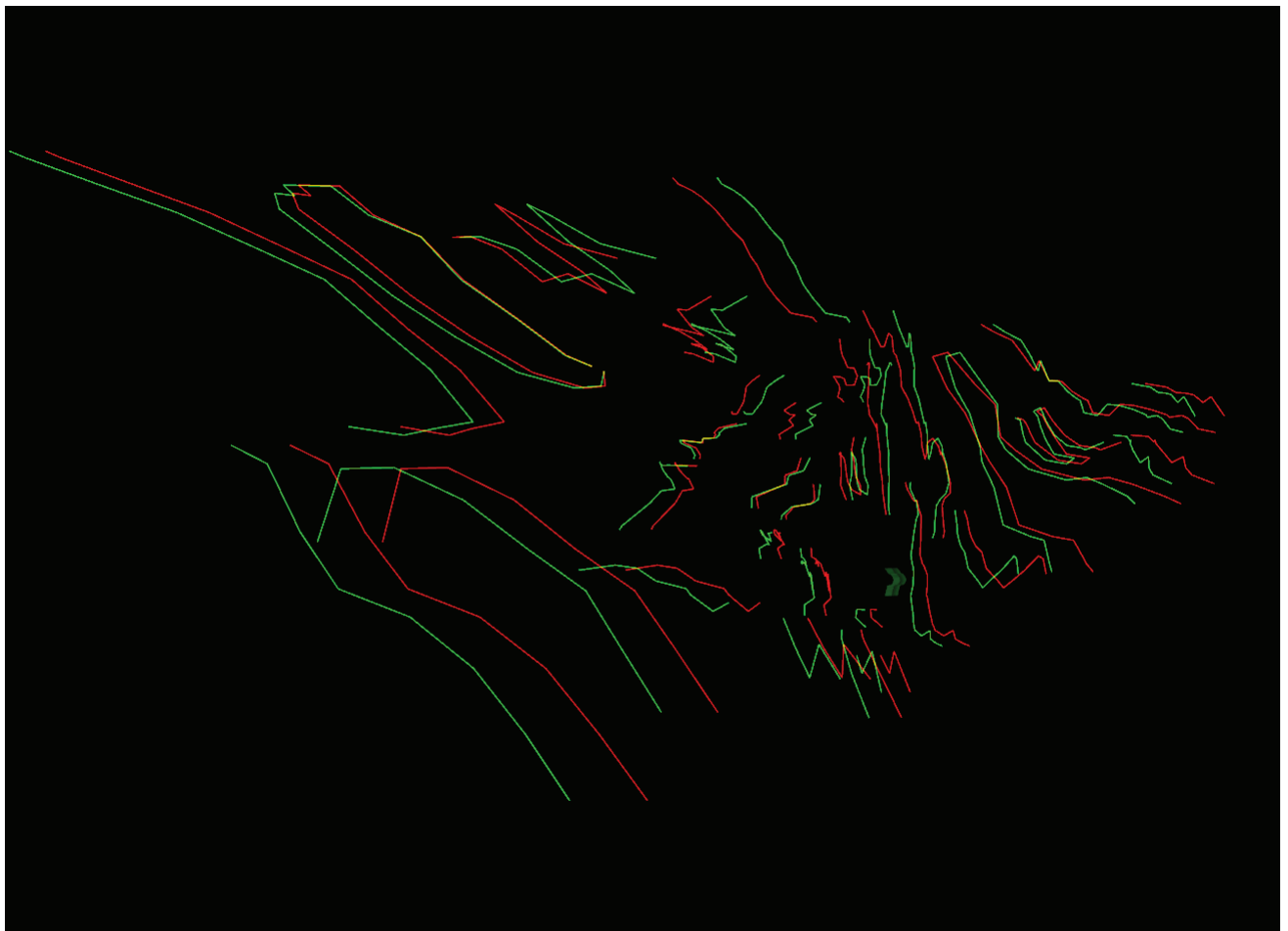
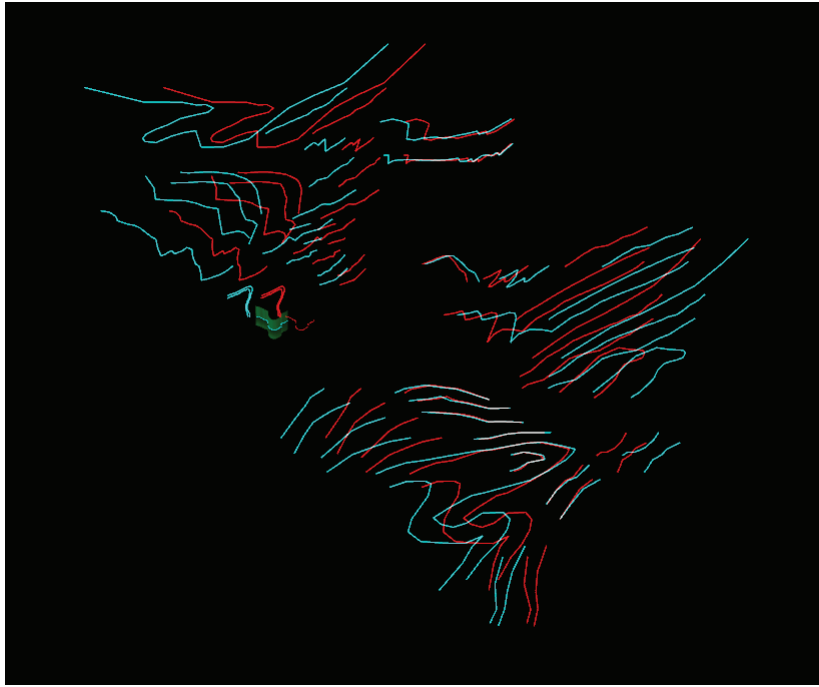


Data Supplement 1A: Example of extreme image distortions in Google Earth visualization (above) relative to even a low-resolution SfM view of the same area (below). Scenes are approximately the same look direction but different scales, with points A and B shown to reference the two scenes. Note the odd effects of image drape in the upper scene with the creek bed “climbing” the hill due to the low-resolution DEM missing the steep slope and smearing the image when the scene is smoothed for visualization. More important for geologic study, however, is the smearing of pixels on the right “downhill” to produce a false impression that layering dips left when in layering dips steeply to the right.

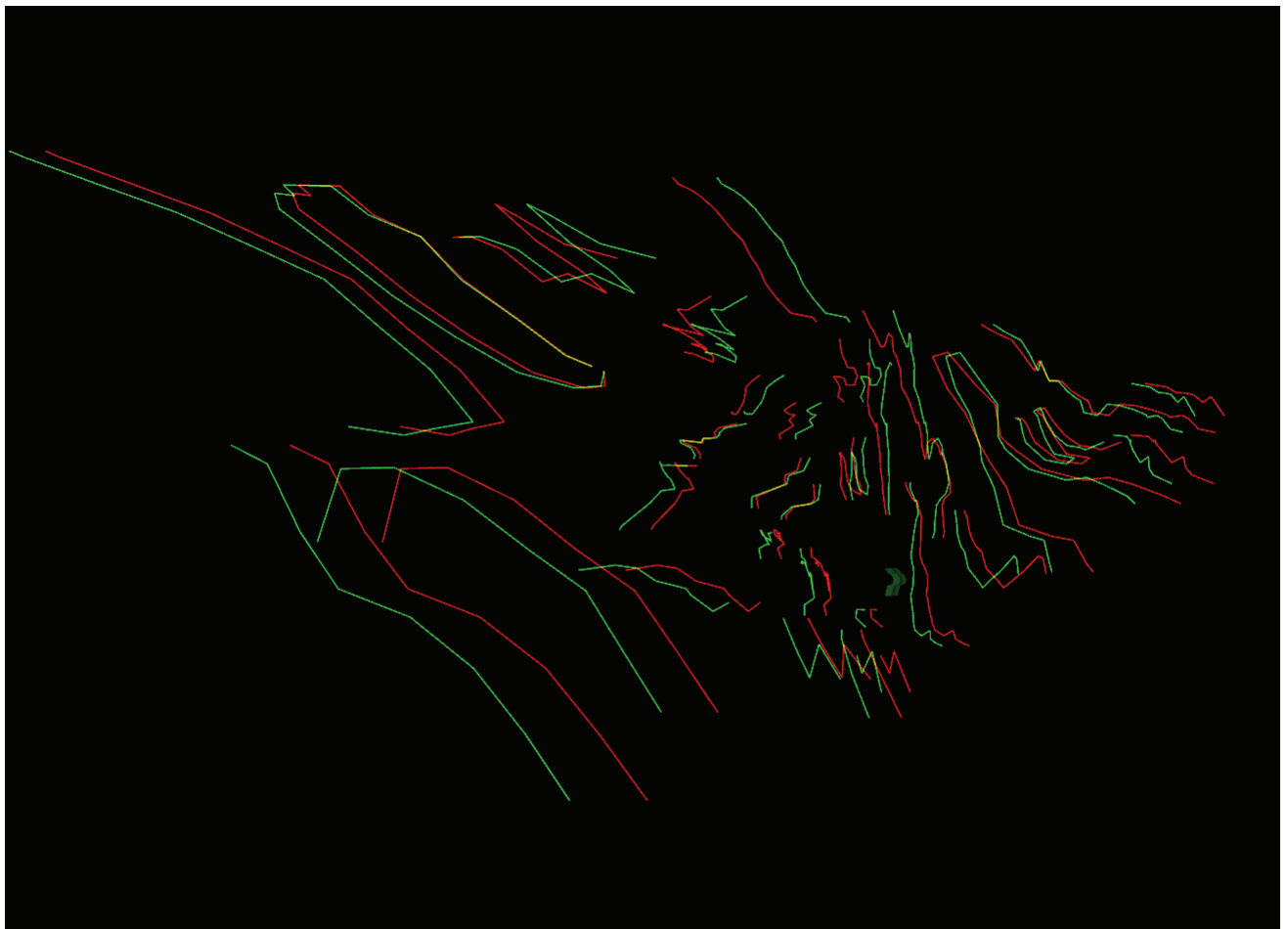
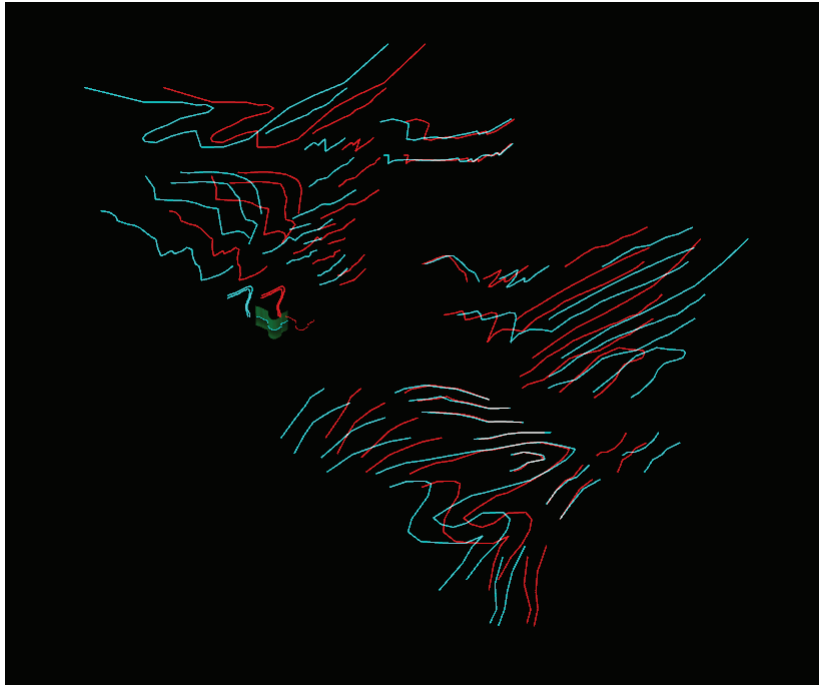




Data supplement 1B: Example illustrating that scene distortions are not limited to the Panamint Mountains study area. Upper Figure is a Google earth view of Chief Mountain east of Glacier National Park, Montana. View is looking to the west from near the international border with a photograph taken with approximately the same view (photo is from <http://www.geology.sfasu.edu/FC05Pics.html>). Note the extreme pixel smear and “pseudofolds” produced by object distortions on the cliff faces that make the Google earth scene nearly uninterpretable for geologic study, despite obvious features seen in the photograph.



Data Supplement 2A: cyan-magenta anaglyph static images of linework in the south fork of lower Surprise Canyon. Upper figure is linework drawn on the SfM model and the lower figure is 2D mapping on an orthophoto base draped onto a DEM. Note the clear resolution of the folds on the SfM model but less clear resolution on the 2D map approach. On the left, note the cleaner resolution of dipping units on this dip slope with the SfM model vs the DEM.



Data Supplement 2B: cyan-magenta anaglyph static images of linework in the south fork of lower Surprise Canyon. Upper figure is linework drawn on the SfM model and the lower figure is 2D mapping on an orthophoto base draped onto a DEM. Note the clear resolution of the folds on the SfM model but less clear resolution on the 2D map approach. On the left, note the cleaner resolution of dipping units on this dip slope with the SfM model vs the DEM.



CONVENTIONAL GEOLOGIC MAP OF A PART OF LOWER SURPRISE CANYON, PANAMINT MOUNTAINS, CA

- METAPLUTONIC ROCKS**
- Klg: Cretaceous leucogranite
- METAMORPHIC ROCKS**
- fr: fault rock
  - Limekiln Spring Assemblage*  
(former Limekiln S Member of Kingston Peak Formation)
  - s: pelitic schist
  - gw: metagreywacke
  - a: amphibolite
- Pahrump Group*
- a: amphibolite
  - cs: chloritic schist (low grade a)
  - kpcd: Kingston Peak carb diamict
  - kpd: Kingston Peak diamictite
  - m: marble (Beck Springs Fm?)
  - qs: quartzite and schist (Crystal Spring Fm?)
- SYMBOLS**
- fault
  - S0 (layering) trace
  - S2 foliation trace
  - Axial trace of F1 fold
  - Axial trace of F2 fold

