



DigitalGlobe Atmospheric Compensation

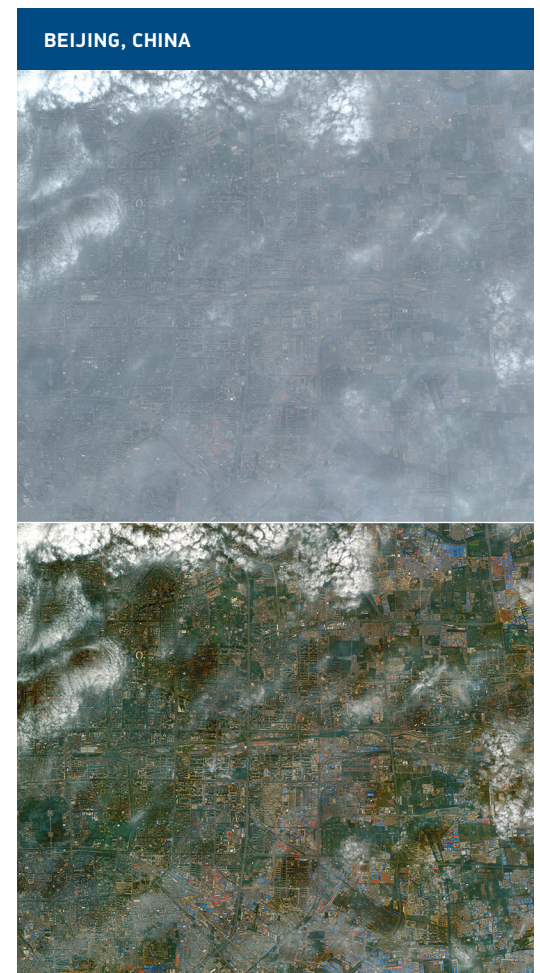
DigitalGlobe Atmospheric Compensation (AComp) is a rigorously tested proprietary algorithm that mitigates the presence of haze and atmospheric effects on satellite imagery. AComp provides enhanced image quality and significantly increased collection viability and library availability. This exciting new tool improves image clarity and usability across diverse atmospheric conditions. High-quality imagery gives you answers—and confidence—when you have critical questions.

Better Image Quality. Improved Collection. More Confidence.

With the most sophisticated commercial satellite constellation in orbit, DigitalGlobe creates the world's smartest images—giving you the confidence to make even the most difficult decisions. Adding AComp to our powerful imagery analysis toolkit will enable you to extract even more meaningful insights from our industry-leading content.

AComp 101

- AComp is based on physically normalizing digital numbers (DN) values to a surface reflectance value.
- Using surface reflectance values represents a significant improvement over arbitrary DN values by ensuring consistency and full spectral fidelity across space and time.
- AComp, a proprietary DigitalGlobe algorithm¹, mitigates the presence of haze and atmospheric effects.



Before and after AComp processing

IMAGERY

See a better world.™



Benefits

- **Image clarity**
AComp mitigates the effects of light-wave scattering from haze, water vapor and particulates in the atmosphere.
- **Collection viability**
Atmospheric conditions can degrade the usefulness of imagery—sometimes rendering it unusable. AComp significantly increases the amount of viable imagery obtained from new collection.
- **Library availability**
By applying the AComp algorithm to our vast image library, we render previously marginal or even unusable images viable for interpretation and analysis.
- **Enhanced insight**
By leaving only the surface reflectance values of the Earth’s surface, AComp empowers highly accurate analysis and expedited extraction of information. For example, pixel normalization allows for greater change detection by distinguishing between relevant and non-relevant changes over space and time in multispectral imagery.
- **Automation**
DigitalGlobe AComp is a fully automated process that allows images to be processed in bulk without manual intervention and at much higher quality and accuracy than previously available atmospheric compensation algorithms.

Features

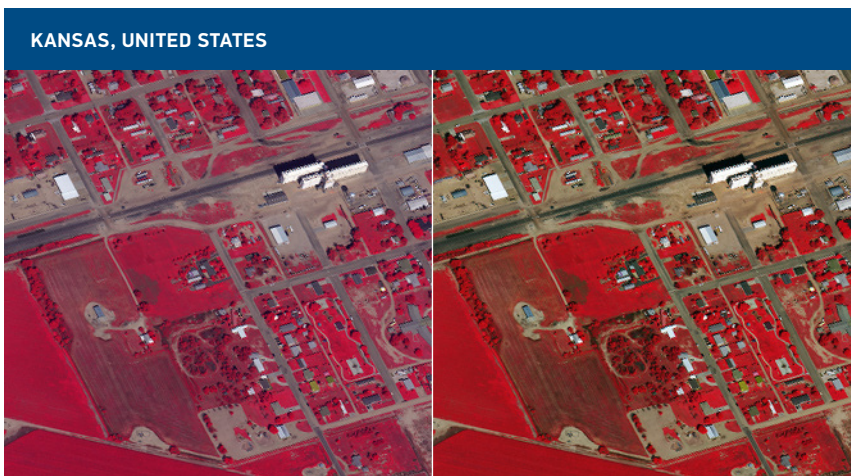
- Land use & land cover analysis
- Time series evaluation
- Feature extraction
- Spectral matching
- Tonal balancing
- Spectral accuracy
- Temporal consistency
- Facilitates cross-sensor processing
- Information extraction

Who does AComp help?

If you use satellite imagery as a foundational tool for solving problems, conserving resources and even saving lives, you need crisp, high-quality visuals for comparison and analysis over diverse atmospheric conditions.

Key verticals include:

- Oil & Gas
- Environment & Agriculture
- Defense & Intelligence
- Mining
- Disaster Relief
- Location-Based Services



Before and after AComp processing

¹ F. Pacifici, N. Longbotham and W. J. Emery, "The Importance of Physical Quantities for the Analysis of Multitemporal and Multiangular Optical Very High Spatial Resolution Images," in IEEE Transactions on Geoscience and Remote Sensing, vol. 52, no. 10, pp. 6241-6256, Oct. 2014 [open access]

<http://ieeexplore.ieee.org/document/6737293/?arnumber=6737293>