



## QUESTIONS ET RÉPONSES / QUESTIONS AND ANSWERS

DAMA # NRCan-5000045352 / RFSA # NRCan-5000045352

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### Question # 1 (Français)

Dans le critère d'évaluation côté CA2 (page 41), il est écrit « Exactitude planimétrique 10 cm (90 %) » pour une résolution d'image de 10 cm. Est-ce qu'il s'agit de l'exactitude planimétrique de l'aérotriangulation ou de l'orthomosaïque finale?

À titre d'information, il est généralement reconnu que la précision planimétrique de l'aérotriangulation doit être à l'intérieur de 1 pixel. Et puisque l'orthorectification ajoute une erreur, l'exactitude planimétrique des orthomosaïques peut aller jusqu'à 2 pixels. En soutien de cet énoncé, les normes de l'ASPRS stipulent que la précision planimétrique pour l'aérotriangulation de classe 1 doit être de 1 pixel ou mieux à 95 % de niveau de confiance et de 2 pixels ou mieux pour une orthomosaïque de classe 1.

### Question # 1 (English)

In the evaluation criterion CA2 (page 40), it is written "Planimetric accuracy 10 cm (90%)" for an image resolution of 10 cm. Is this the planimetric accuracy of aerotriangulation or final orthomosaic?

For information, it is generally accepted that the planimetric accuracy of aerotriangulation must be within 1 pixel. And since orthorectification adds an error, the planimetric accuracy of orthomosaics can be up to 2 pixels. In support of this statement, the ASPRS standards state that planimetric accuracy for Class 1 aerotriangulation should be 1 pixel or better at 95% confidence level and 2 pixels or better for Class 1 orthomosaic.

### Réponse # 1 (Français)

L'exactitude planimétrique demandée est de 10 cm (RMSE), soit 1 pixel dans le cas présent, et s'applique aux orthophotos. Le niveau de confiance de '90%' inscrit à la page 41 de la DAMA est erroné et doit être remplacé par 'RMSE'. Cette valeur est basée sur le niveau 'Highest accuracy work' du document ASPRS 2014\*. Plus précisément, en annexe B du document de l'ASPRS, il est inscrit:

*"Given current sensor and processing technologies for large and medium format metric cameras, an orthoimagery accuracy of 1-pixel RMSE<sub>x</sub> and RMSE<sub>y</sub> is considered achievable, assuming proper project design and best practices implementation. This level of accuracy is more stringent by a factor of two than orthoimagery accuracies typically associated with the ASPRS 1990 Class 1 accuracies presented in Table B.4.*

*Table B.5 provides a general guideline to determine the appropriate orthoimagery accuracy class for three different levels of geospatial accuracy. Values listed as "Highest accuracy work" specify an RMSE<sub>x</sub> and RMSE<sub>y</sub> accuracy class of 1-pixel (or better) and are considered to reflect the highest tier accuracy for the specified resolution given current technologies. This accuracy class is appropriate when geospatial accuracies are of higher importance and when the higher accuracies are supported by sufficient sensor, ground control and digital terrain model accuracies."*

\*[http://www.asprs.org/a/society/committees/standards/Positional\\_Accuracy\\_Standards.pdf](http://www.asprs.org/a/society/committees/standards/Positional_Accuracy_Standards.pdf)



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### Answer # 1 (English)

The requested planimetric accuracy is 10 cm (RMSE), 1 pixel in this case, and applies to orthophotos. The '90%' confidence level on page 40 of the RFSA is incorrect and must be replaced by 'RMSE'. This value is based on the 'Highest accuracy work' level of the ASPRS 2014\* document. More specifically, Appendix B of the ASPRS document states:

*"Given current sensor and processing technologies for large and medium format metric cameras, an orthoimagery accuracy of 1-pixel RMSE<sub>x</sub> and RMSE<sub>y</sub> is considered achievable, assuming proper project design and best practices implementation. This level of accuracy is more stringent by a factor of two than orthoimagery accuracies typically associated with the ASPRS 1990 Class 1 accuracies presented in Table B.4.*

*Table B.5 provides a general guideline to determine the appropriate orthoimagery accuracy class for three different levels of geospatial accuracy. Values listed as "Highest accuracy work" specify an RMSE<sub>x</sub> and RMSE<sub>y</sub> accuracy class of 1-pixel (or better) and are considered to reflect the highest tier accuracy for the specified resolution given current technologies. This accuracy class is appropriate when geospatial accuracies are of higher importance and when the higher accuracies are supported by sufficient sensor, ground control and digital terrain model accuracies."*

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