Composite Processor

# Weight Calculation

## Weight Aot Module

### Module Name

Name: WeightAOT

Library : otbapp\_WeightAOT.so

### Module Parameters

-in <string> Input image (mandatory)

-band <int32> Expression (mandatory)

-out <string> [pixel] Output Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

-qaot <float> AOTQuantificationValue (mandatory)

-waotmin <float> WeightAOTMin (mandatory)

-waotmax <float> WeightAOTMax (mandatory)

-aotmax <int32> AOTMax (mandatory)

Examples:

otbcli\_WeightAOT -in verySmallFSATSW\_r.tif -band 2 -qaot 0.005 -waotmin 0.33 -waotmax 1 -aotmax 50 -out apAOTWeightOutput.tif

### Module Output

The output is a one band raster containing the AOT weights as float.

-out <string> [pixel] Output Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

### Execution Notes

This module should be executed twice, for the 10m and 20m resolution.

## Cloud Weight Module

### Module Name

Name: WeightOnClouds

Library: otbapp\_WeightOnClouds.so

### Module Parameters

Parameters:

-incldmsk <string> Input cloud mask image (mandatory)

-incldmskres <int32> Input cloud mask resolution (mandatory)

-coarseres <int32> Coarse resolution (mandatory, default value is 240)

-sigmasmallcld <float> Small cloud sigma (mandatory)

-sigmalargecld <float> Large cloud sigma (mandatory)

-outres <int32> Resolution of the output image (mandatory)

-outcldweight <string> [pixel] Output Cloud Weight Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

Examples:

otbcli\_WeightOnClouds -incldmsk verySmallFSATSW\_r.tif -incldmskres 20 -coarseres 240 -sigmasmallcld 10.0 -sigmalargecld 50.0 -outres 10 -outcldweight apAOTWeightOutput.tif

### Module Output

The output consists of a one band raster containing the Cloud weights as float.

-outcldweight <string> [pixel] Output Cloud Weight Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

### Execution Notes

This module should be executed twice, for the 10m and 20m resolution.

## Compute Total Weight Module

### Module Name

Name: TotalWeight

Library: otbapp\_TotalWeight.so

### Module Parameters

Parameters:

-in <string> Input product file name (mandatory)

-wsensor <float> Weight for the given sensor type (mandatory)

-l2adate <int32> L2A date, expressed in days (mandatory)

-l3adate <int32> L3A date, expressed in days (mandatory)

-halfsynthesis <int32> Delta max (mandatory)

-wdatemin <float> Minimum date weight (mandatory, default value is 0.5)

-waotfile <string> Input AOT weight file name (mandatory)

-wcldfile <string> Input cloud weight file name (mandatory)

-outtotalweight <string> [pixel] Output Total Weight Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

Examples:

otbcli\_TotalWeight -in example1.tif -waotfile example2.tif -wcldfile example3.tif -wsensor 0.33 -l2adate 10 -l3adate 20 -halfsynthesis 50 -wdatemin 0.10 -outtotalweight apTotalWeightOutput.tif

### Module Output

-outtotalweight <string> [pixel] Output Total Weight Image [pixel=uint8/uint16/int16/uint32/int32/float/double] (default value is float) (mandatory)

### Execution Notes

This module should be executed twice, for the 10m and 20m resolution.

# TODO

1. Some code refactor
2. Rescaling from 240m to 10m lead to a number of 10968 pixels instead of 10980 pixels. This leads to exception in TotalWeight module. Correction in CloudsInterpolation and TotalWeightComputation.

# Update Synthesis

TODO

# Composite Processor Execution

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