

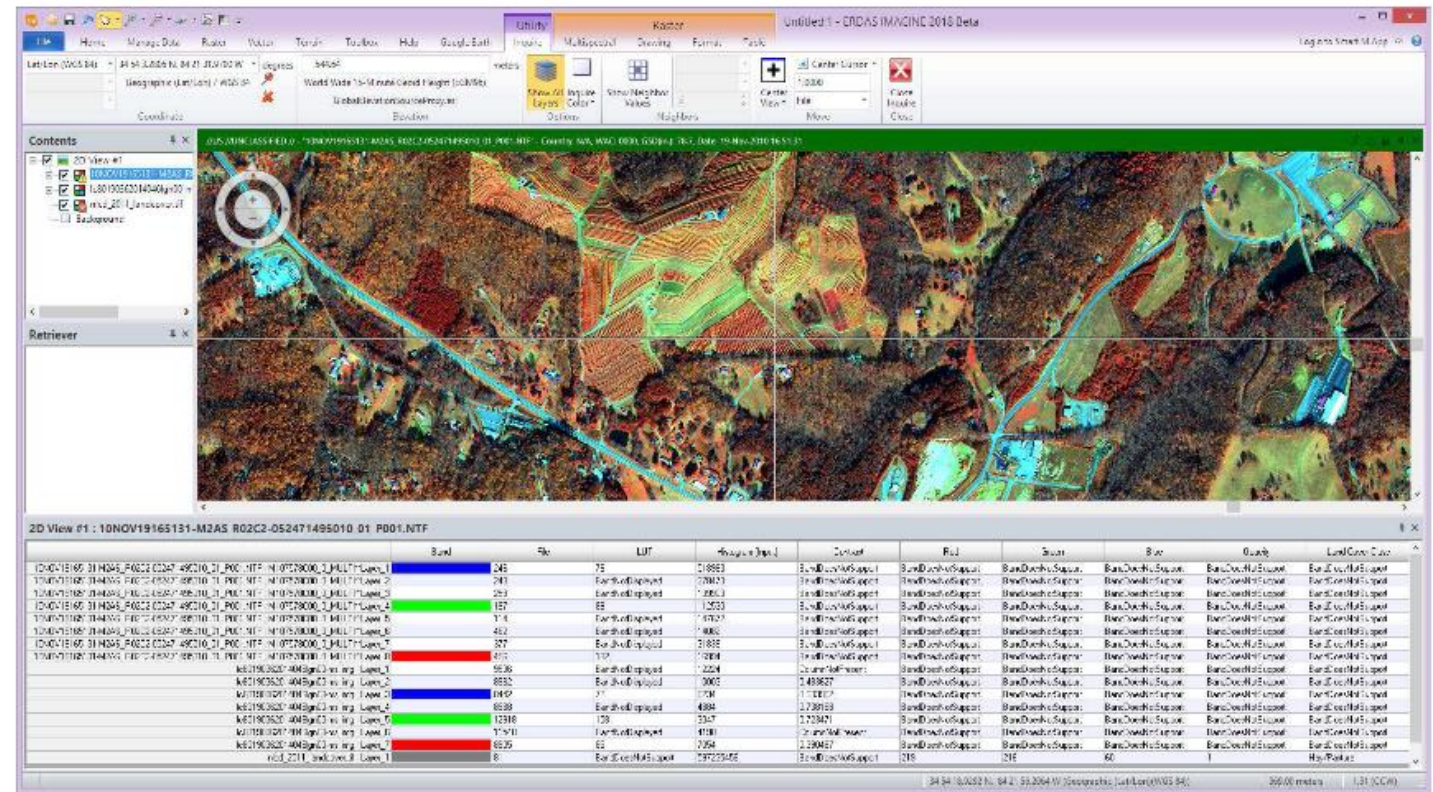
# Geoprocessing automatizzato con ERDAS IMAGINE 2018

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# Discover the Potential of Your Imagery

**ERDAS IMAGINE** is a powerful data authoring system that consolidates multiple functionalities into a single product

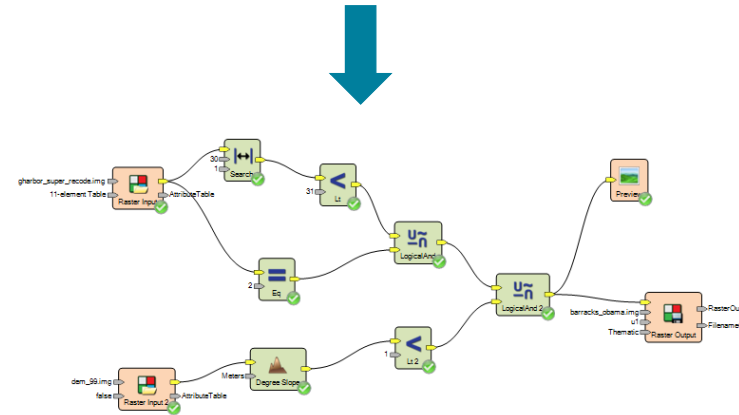
- Remote sensing
- Photogrammetry
- LiDAR analysis
- Basic vector analysis
- Radar processing



# Processing Automatizzato con ERDAS IMAGINE 2018



Download automatico dei Dati



**Processing Automatico**  
**Spatial Modeler**

Estrazione di mappe e dati a valore aggiunto

Gis, WebGis, Report, ecc



# What's New in ERDAS 2018?

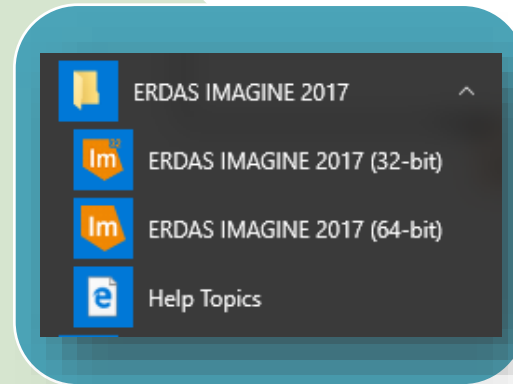
- 64-bit Support
- Machine Learning
- Zonal Change (custom algorithm support)
- New Sensors Support & RADAR Enhancements
- New Spatial Operators
- Interoperability (ArcPy)
- Batch Process Enhancements
- Bug Fixes & More...



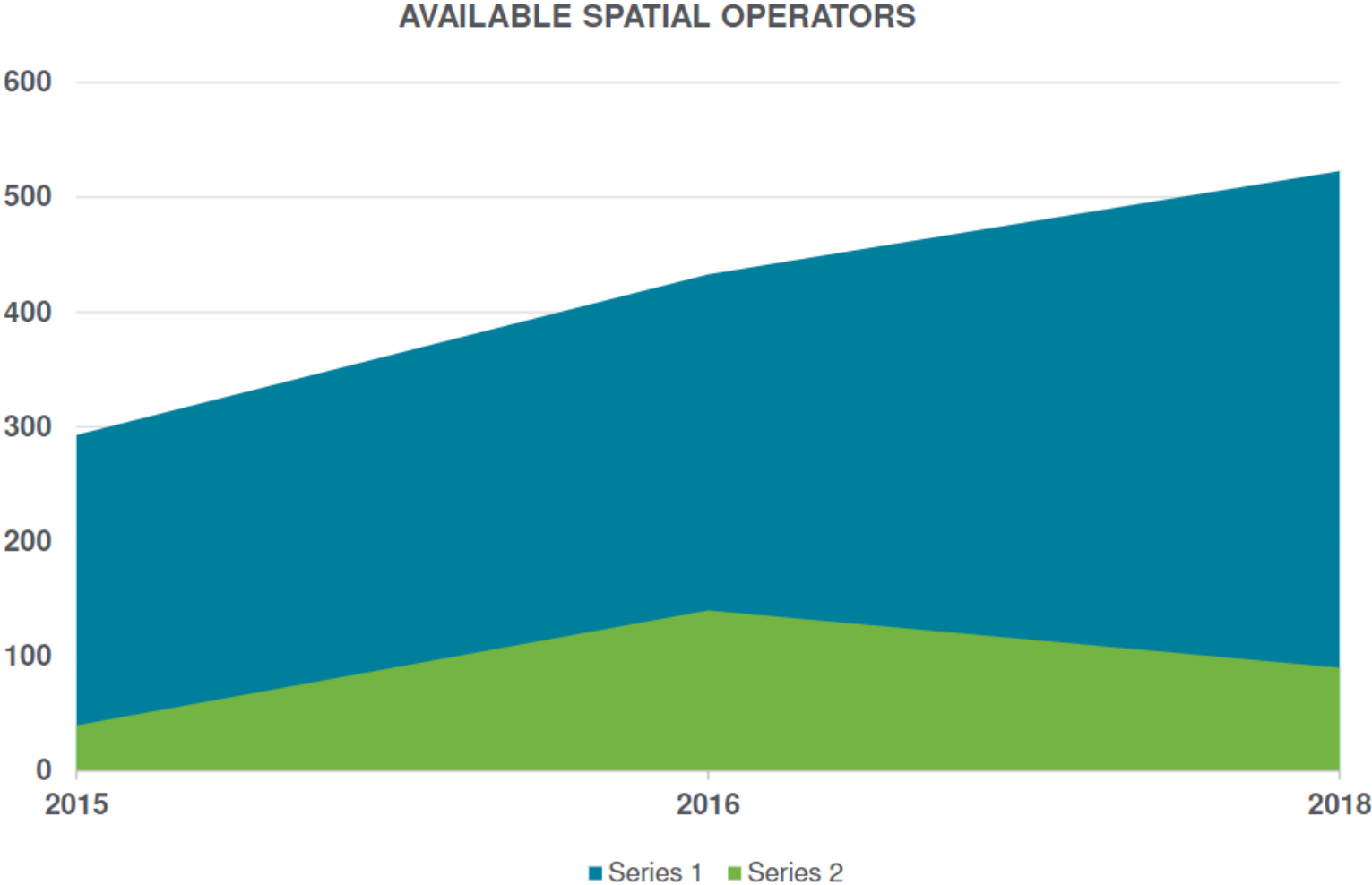
## Utilize More Of Your Hardware

User interface  
now runs  
natively in 64-bit

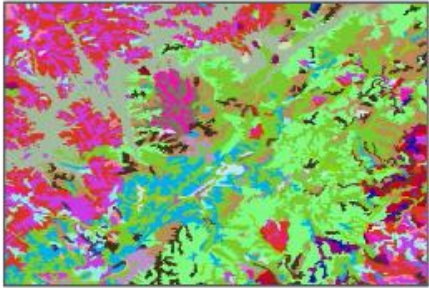
Efficient &  
Stable execution



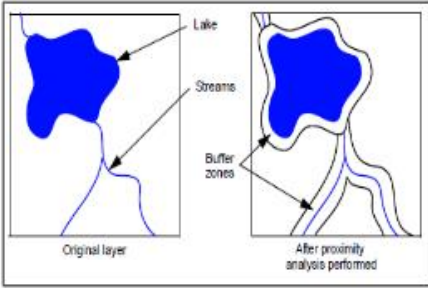
# New Spatial Operators



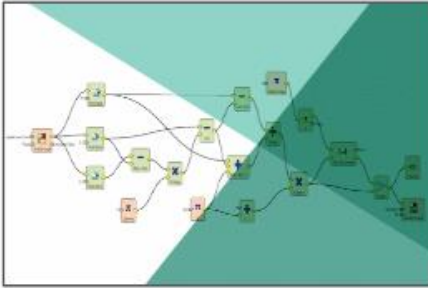
# Categories of New Operators



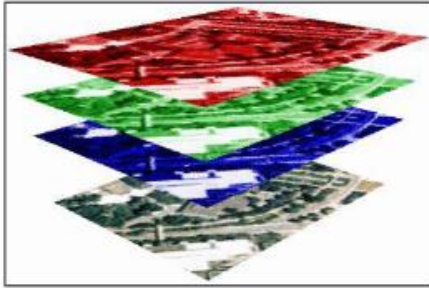
Classification



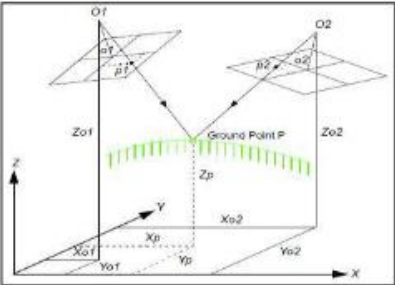
Feature



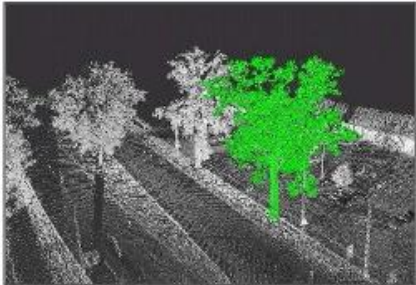
Spatial Models



Raster



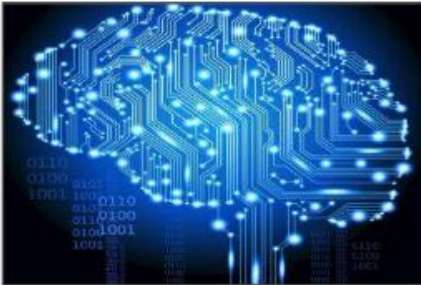
Sensor



Point Cloud



Atmospheric



Machine Learning



# NN-Diffuse Pan-Sharpening

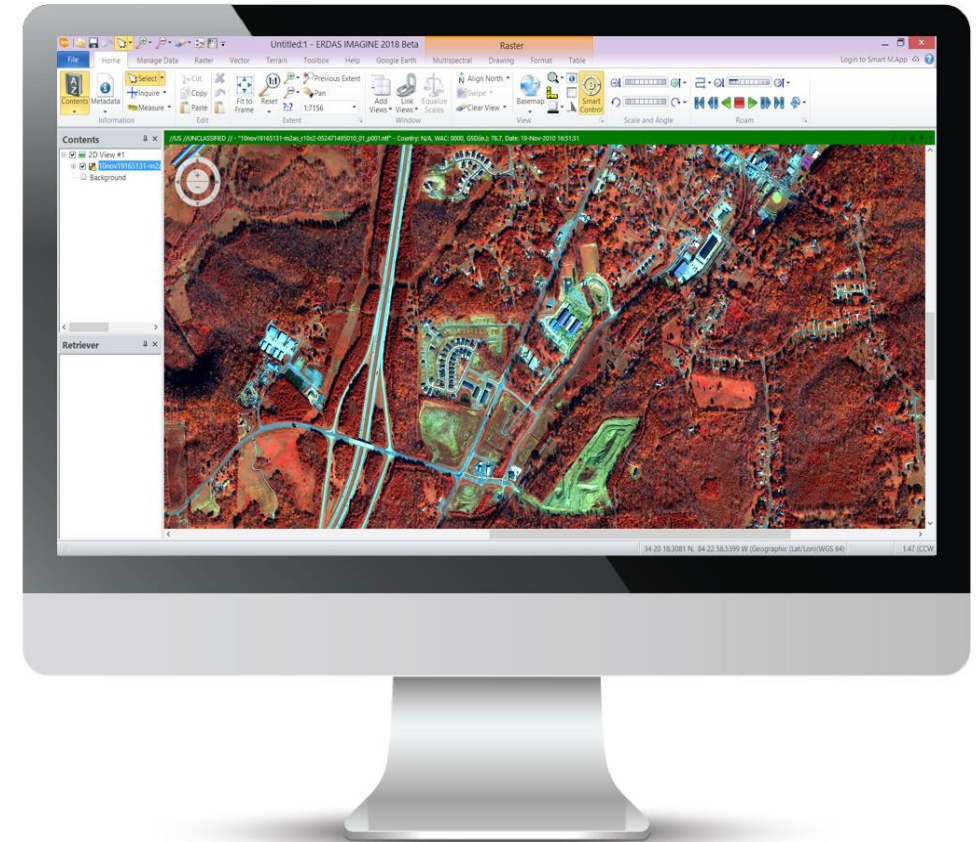
Panchromatic

Multispectral

0.62



SharpenedMultispectral



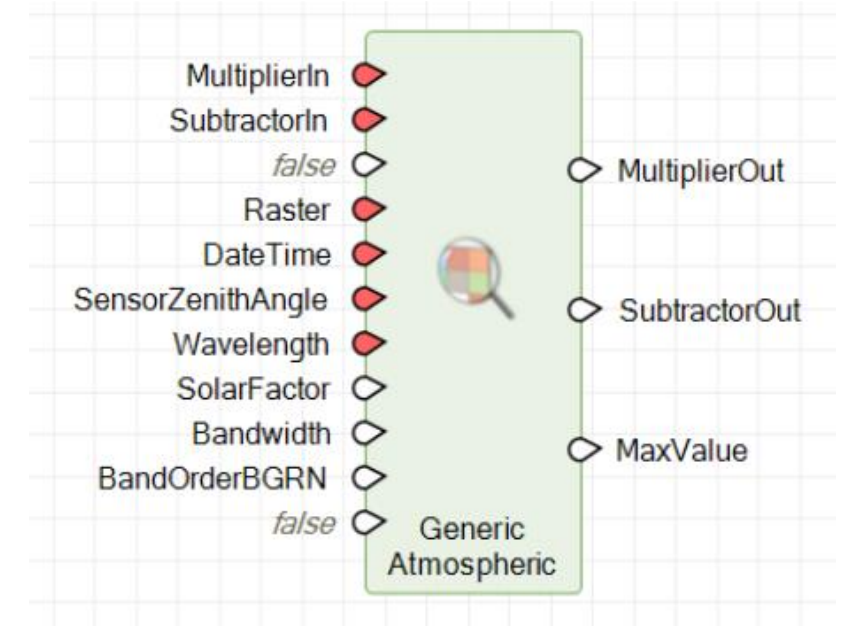
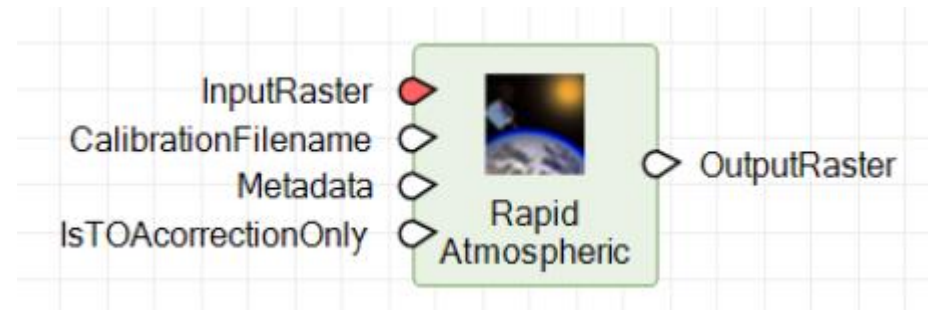


# Atmospheric Correction Operators

## Atmospheric Correction

16-bit imagery

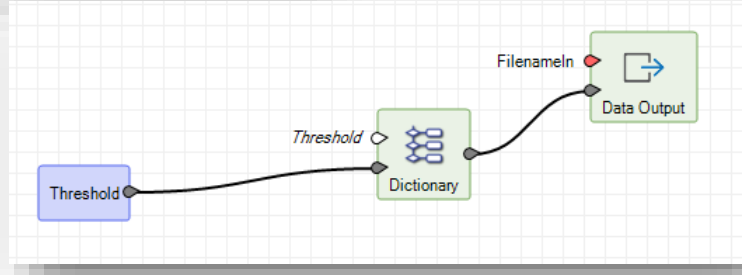
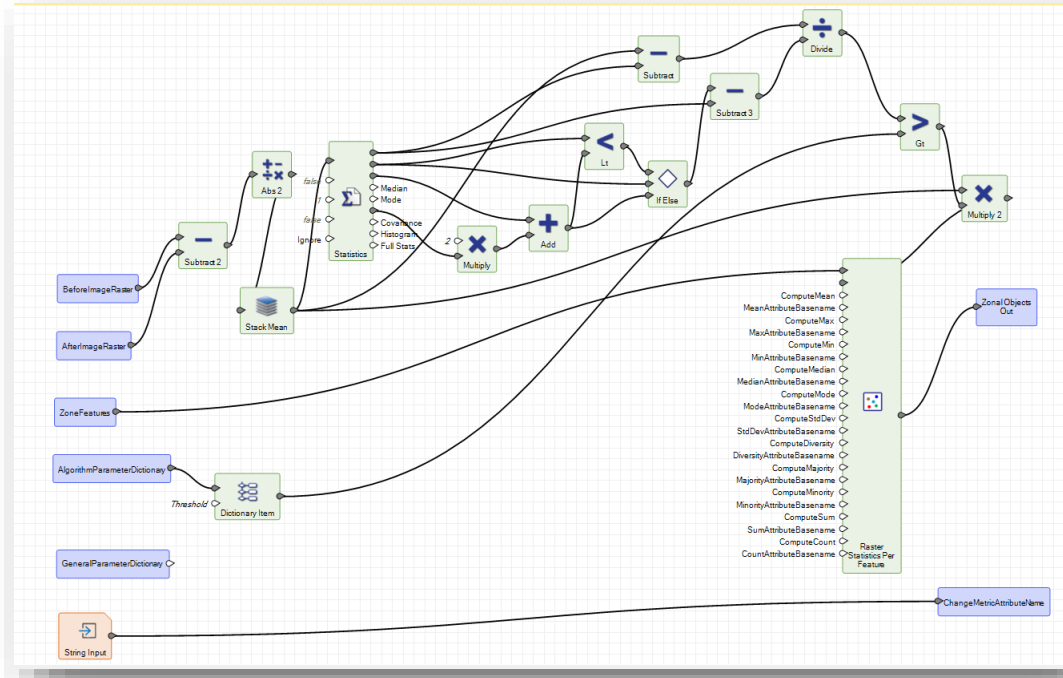
4-band



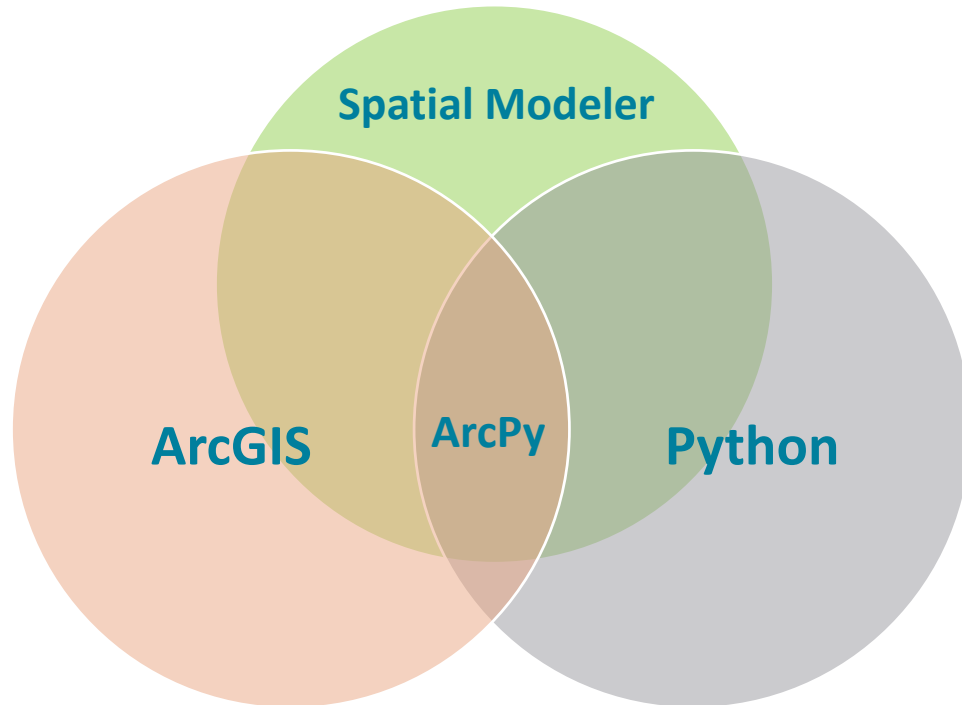
# Zonal Change Detection

Custom Change Detection Algorithm

Optional Algorithms



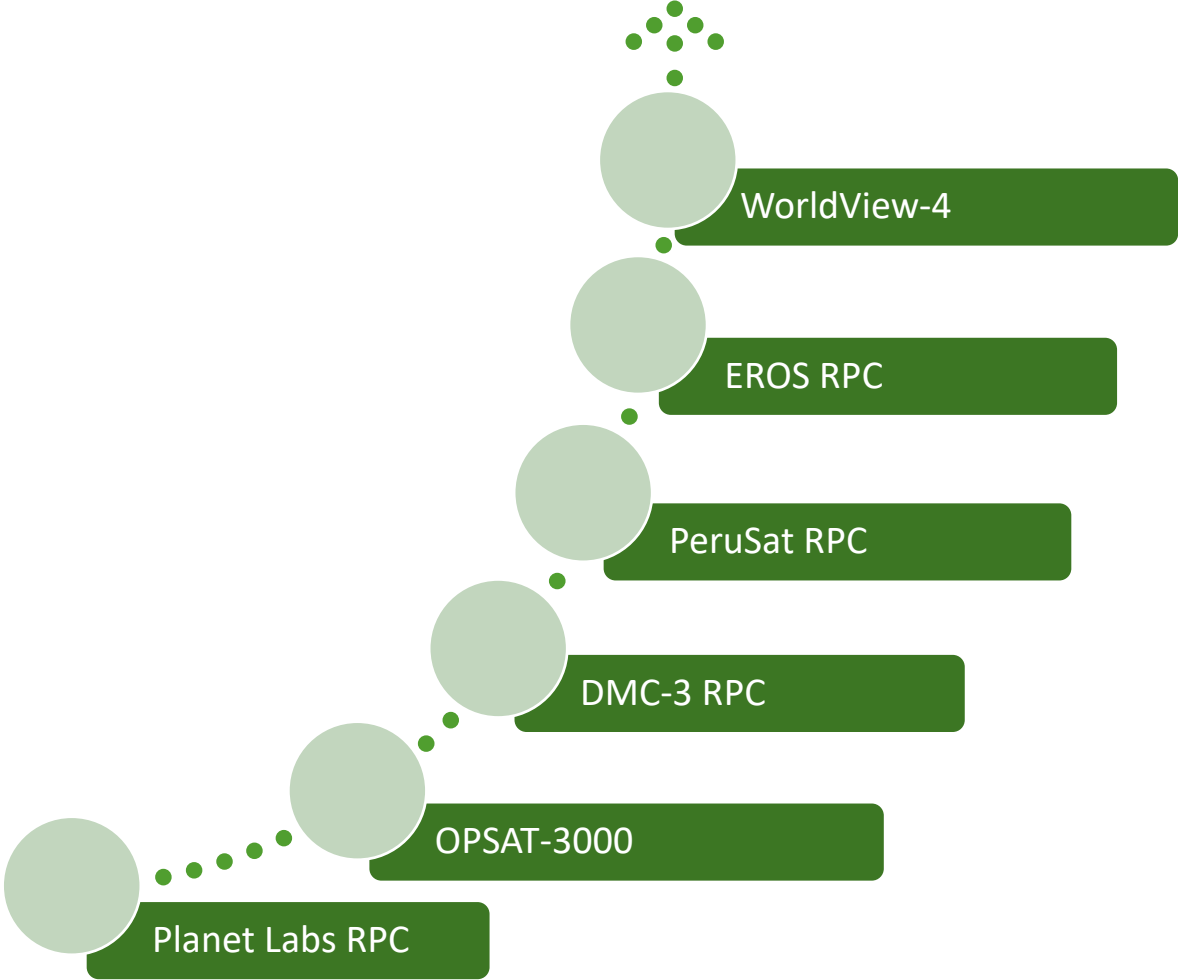
# Interoperability



Support to ArcPy scripts

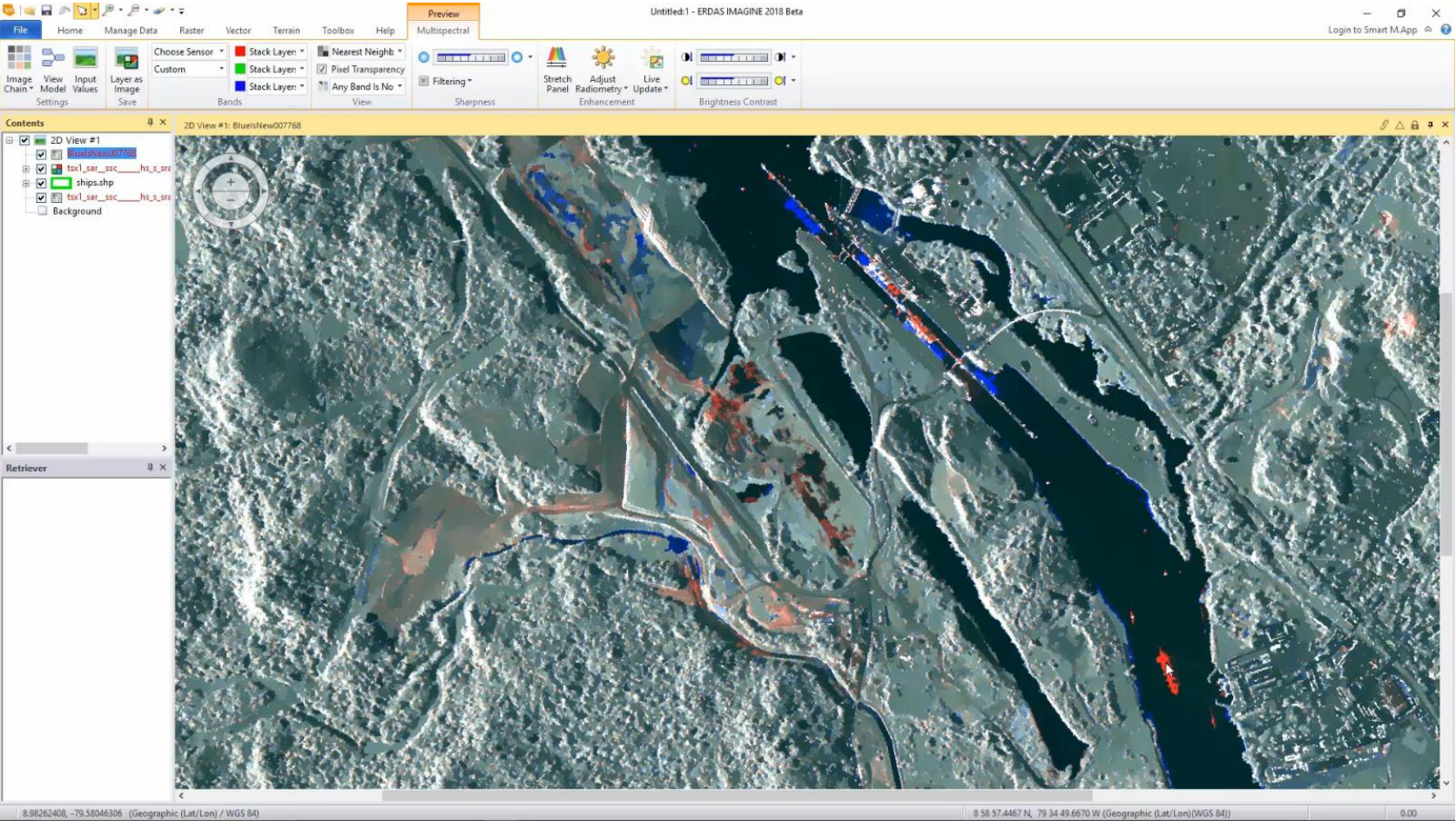
Can be used in combination with other operators

# New Sensor Support





# IMAGINE SAR Feature



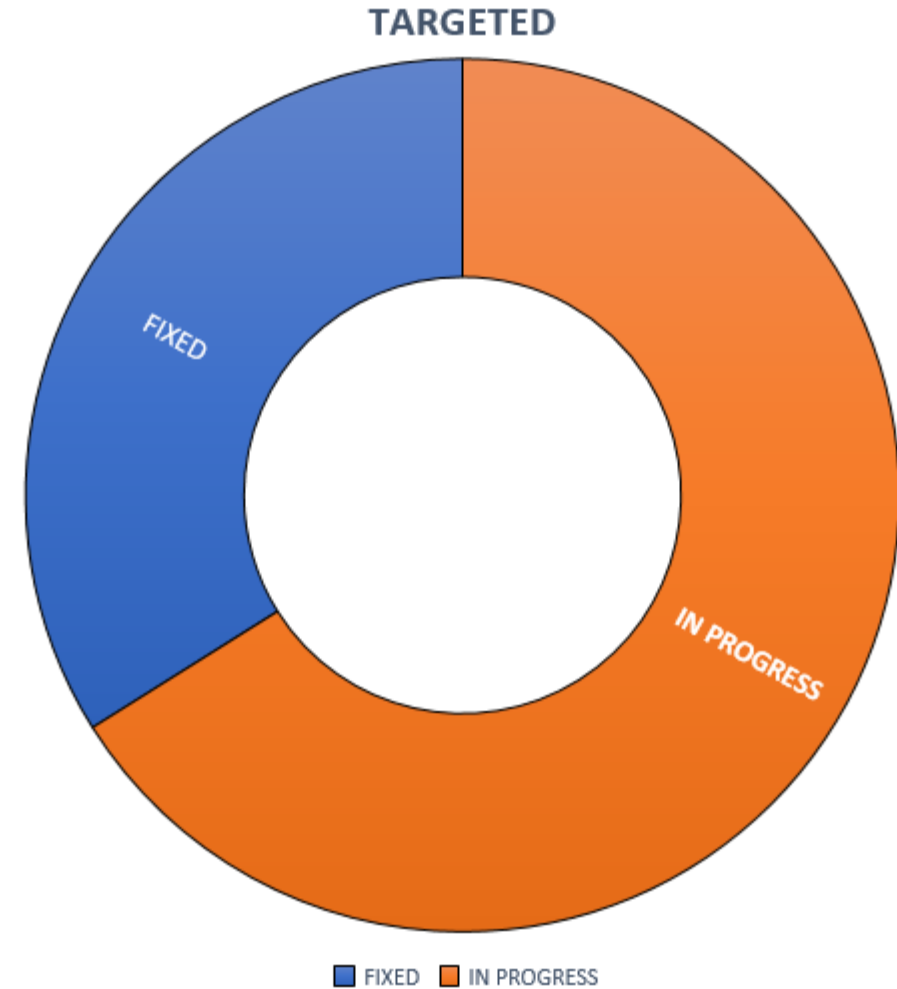
## More stability

•~200 issues **RESOLVED** (to date)

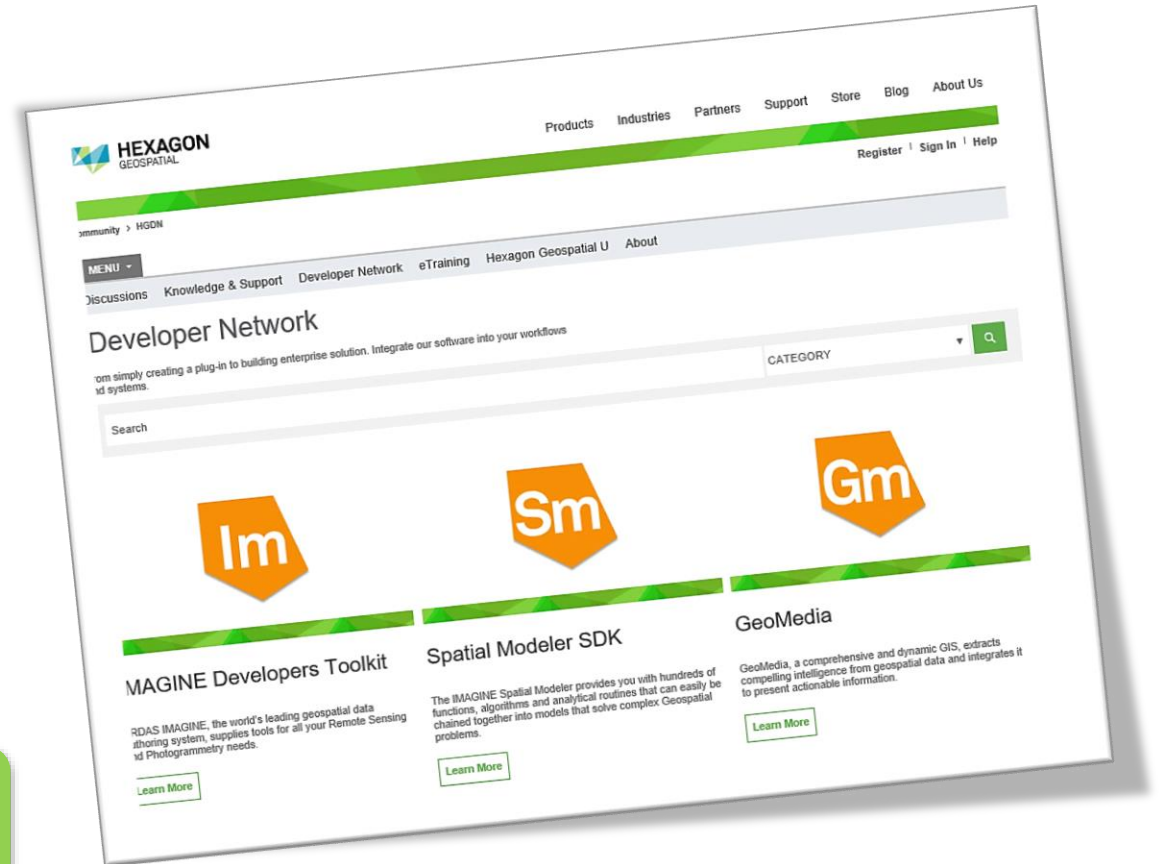
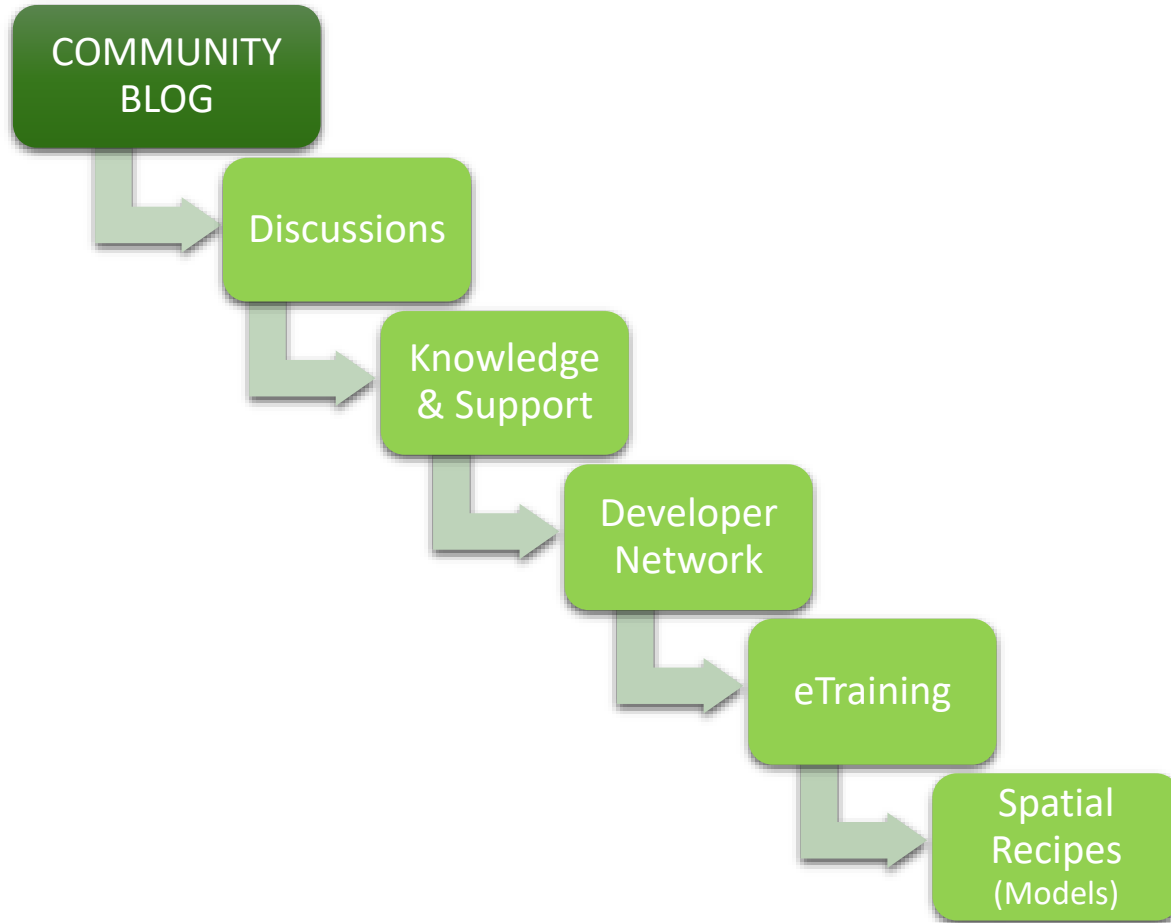
•**TARGETED** ~370 issues by **RELEASE**

•**Majority fixes:**

- Spatial Modeler, Raster Analysis, Projections &
- OLH



# Hexagon Geospatial Community



# Demo Session

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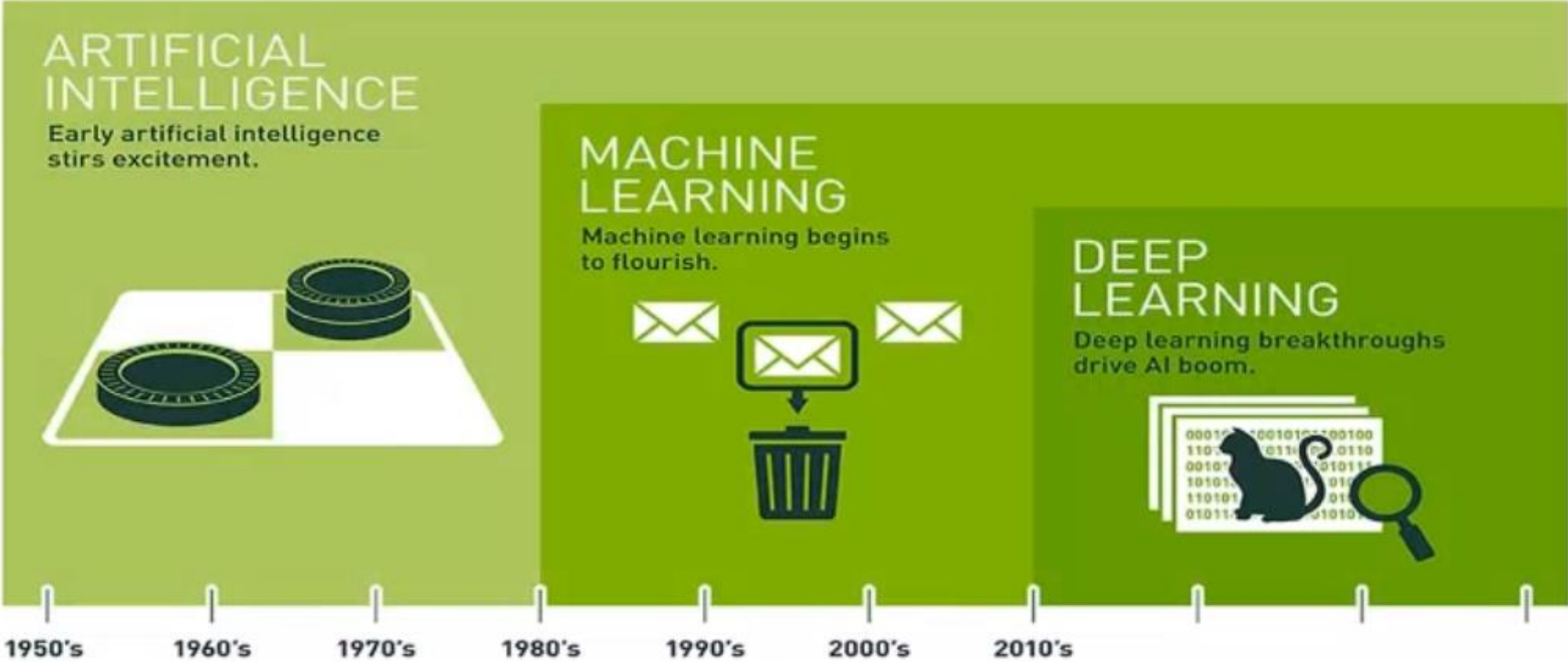
## Demo Session

1. Sentinel 2: NDVI di una serie temporale;
2. Download automatico di dati Landsat8;
3. Correzione Atmosferica automatizzata;
4. Segmentazione e Classificazione;
5. Machine Learning;
6. Deep Learning;
7. Operatori di IMAGINE Objective nello Spatial Modeler;
8. Analisi Vettoriale Avanzata;

# Machine Learning in ERDAS IMAGINE 2018

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# Machine Learning

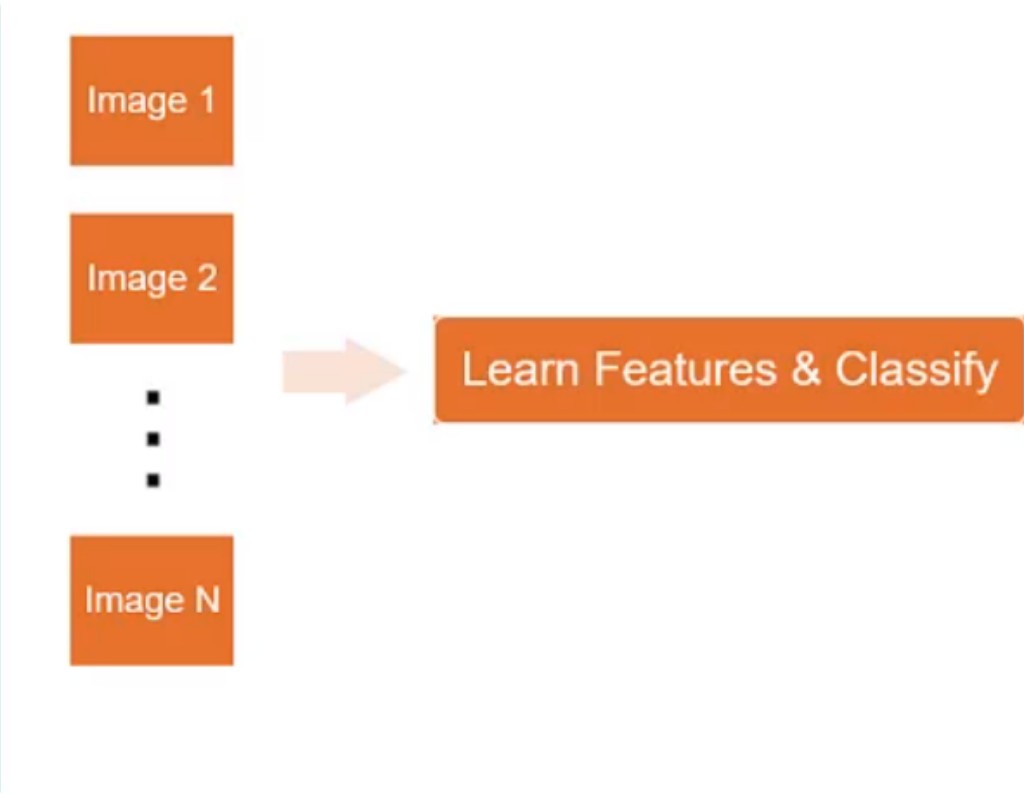
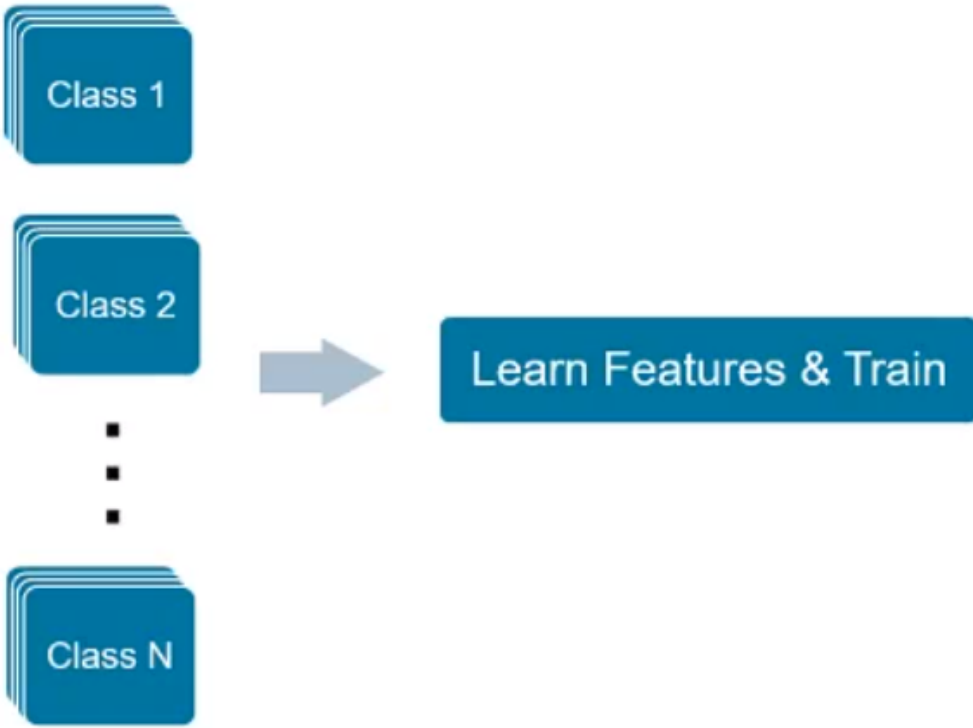


# Machine Learning





# Deep Learning



# Machine Learning/Deep Learning

	Machine Learning	Deep Learning
Training Dataset	Small	Large
Choose your own training attributes	Yes	No
Training time	Short	Long
CPU/ GPU/ Mem	Standard	High performance

# Machine Learning Operators

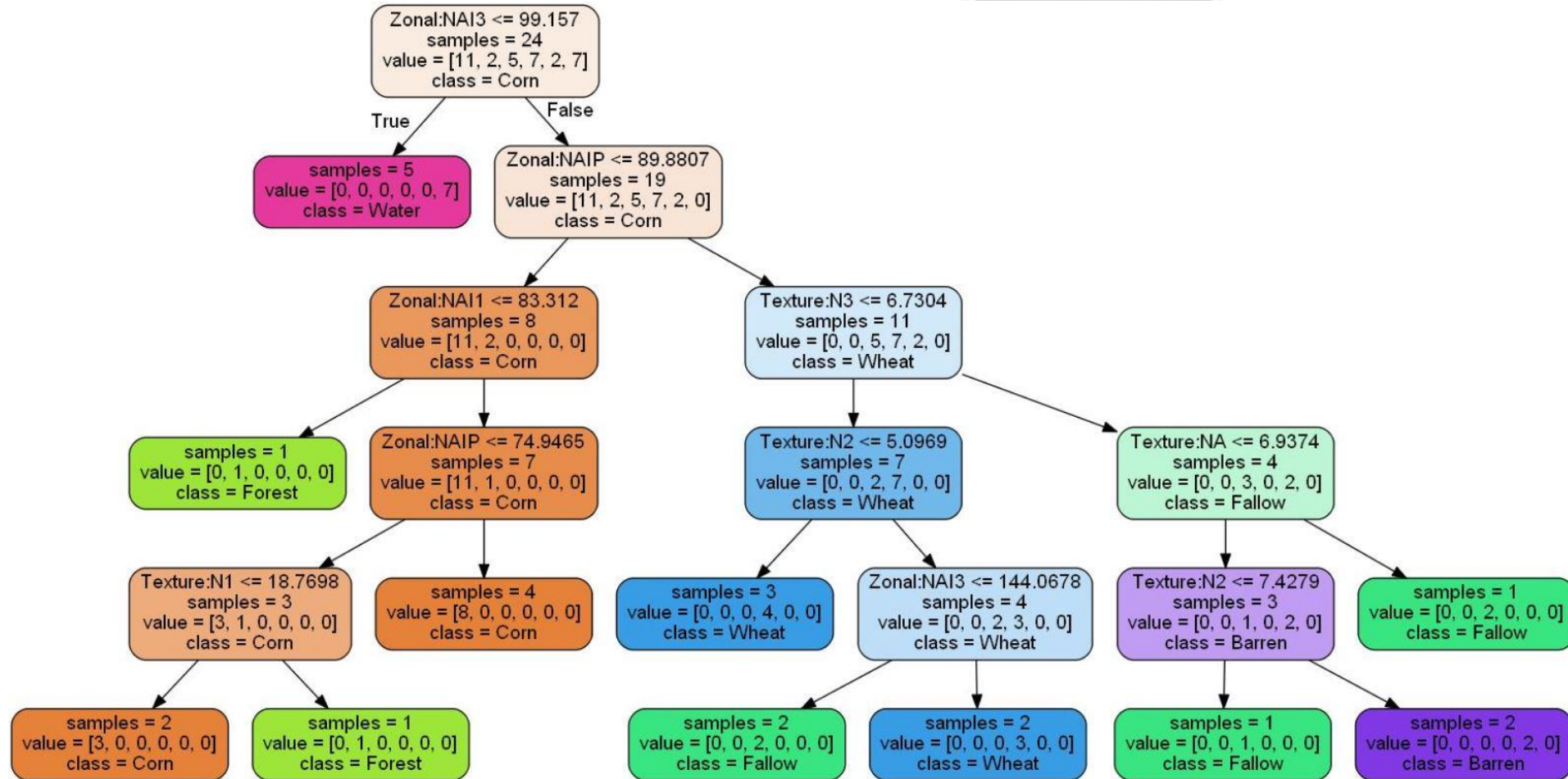
- Supervised – several

Input	Initialize	Classify	Output	Information
	Initialize CART			
Machine Intellect Input	Initialize K-Nearest Neighbors	Classify Using Machine Learning	Machine Intellect Output	Machine Intellect Information
	Initialize Naïve Bayes			
	Initialize Random Forest			
	Initialize SVM			

- Unsupervised

Classify
Classify Using K-Means

# Different Decision Trees In Random Forest



# Machine Learning Operators

Input	Initialize	Classify	Output	Information
Machine Intellect Input	Initialize Deep Intellect*	Classify Using Deep Learning	Machine Intellect Output	Machine Intellect Information
	Initialize Inception			

## Building blocks (for Initialize Deep Intellect)

Define Deep Learning 2D Convolution Layer

Define Deep Learning 2D Pooling Layer

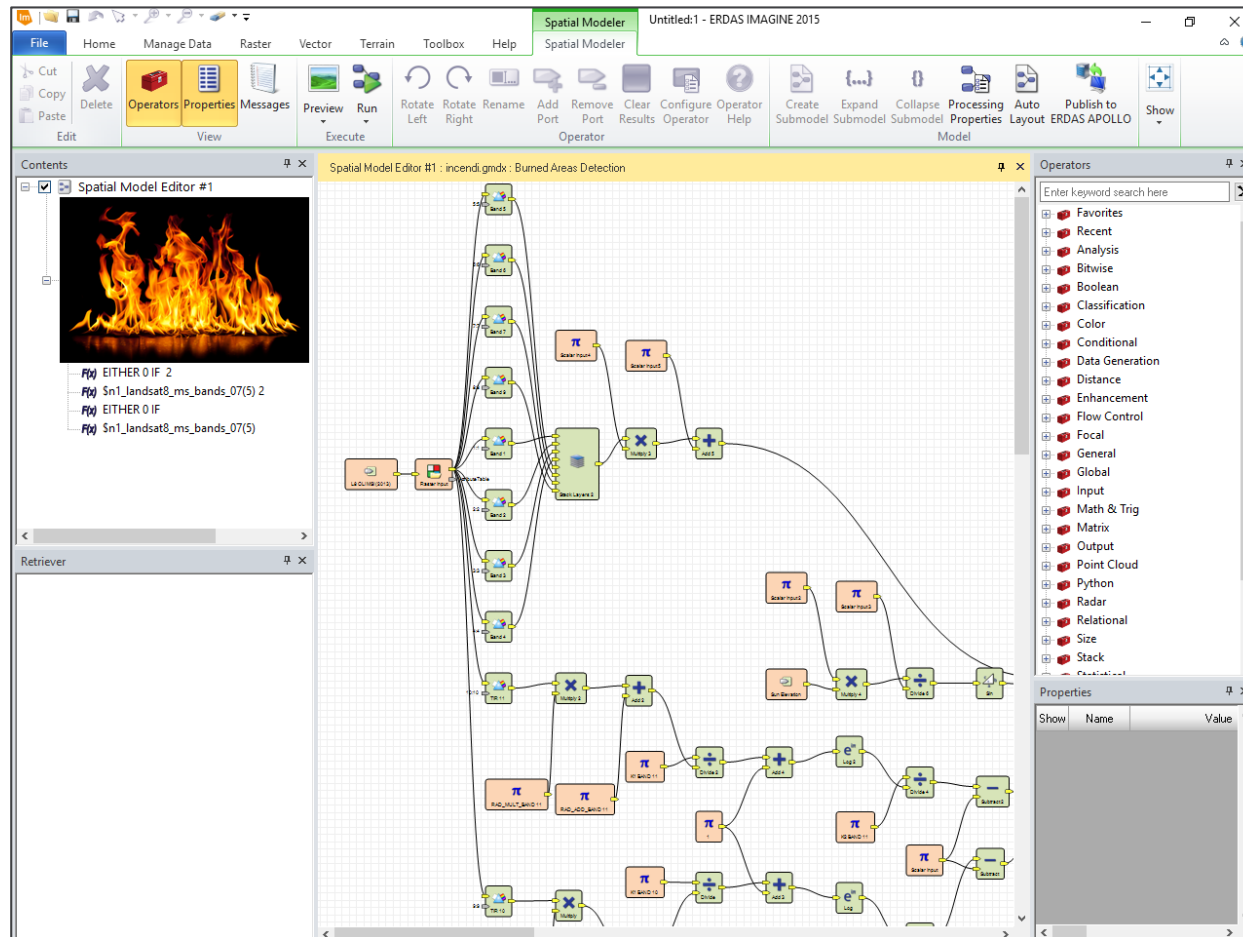
Define Deep Learning 2D Activation Layer

Define Deep Learning 2D Dense Layer

Define Deep Learning 2D Flatten Layer



# Costruisci con noi i tuoi Spatial Models



**THANK YOU**  
**sales@planetek.it**