Characterizing ecology and Monitoring ecological / human interactions from Space: the KALIDEOS Bretagne framework

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Characterizing ecology and Monitoring ecological / human interactions from Space: the KALIDEOS Bretagne framework

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Objectives and rationale
Providing high resolution spatial and temporal remotely sensed imageries to
(1) characterize ecological properties of landscapes (habitat mapping, ecological metrics...)
(2) monitor land use and land cover changes and their ecological implications at various spatial and temporal scales
(3) produce and transfer replicable products dedicated to researchers and decision makers to facilitate the understanding, management and adaptive governance of territories and natural resources.

As remote sensing provide innovations for...

The KALIDEOS Bretagne framework

END-USERS REMOTELY SENSED DATA PROVIDED
Optical / Thermal
Pléiades (0.7m – 2.4m / monthly)
SPOT 6-7 (6m / monthly)
Sentinel-2 (10m / 5 days)
Landsat (30m / 15 days)

Radar
Sentinel 1 ()
ALOS 2 ()
TerraSarX (1.5m /)

3D
Tri-stéréo Pléiades (summer / winter)
Stere-SPOT6-7 (Summer / winter)

A PROJECT-BASED INITIATIVE
Remote Sensing data is freely provided for Research and Development projects on request
Provided by CNES using a web interface

A CLOSE COUPLING WITH ZA ARMORIQUE
Applications on Rural landscapes (yellow), Rennes Urban area (green) and urban/rural gradient (red)
Over 15 years of scientific data
Collaborations of scientists in ecology, geography, hydrology, climatology, agronomy, geology...

ON GOING PROJECTS
Urban sprawl and related environmental implications
Mapping vegetation, materials, urban heat island, ecological corridors

Ecological networks in urban / rural landscape
Land cover mapping, characterizing habitats in lowlands, identifying agricultural practices, assessing functions of wetlands, Blue and green corridors

Methodological developments
Time-series, big data, fusion of multisource data, deep-learning

Innovative proposals
Nighttime corridors / light pollution mapping, monitoring air quality with RS, invasives plants detection, agricultural land uses (yields, fertilizing...)

EDUCATION AND PROSPECTS
Master degrees are implicated for educational prospects
We support new companies and startup

https://bretagne.kalideos.fr/drupal/

JOIN OR SUPPORT US!
You've got a project / an idea?
We've got the data and experienced partners!
We promote collaborative initiatives