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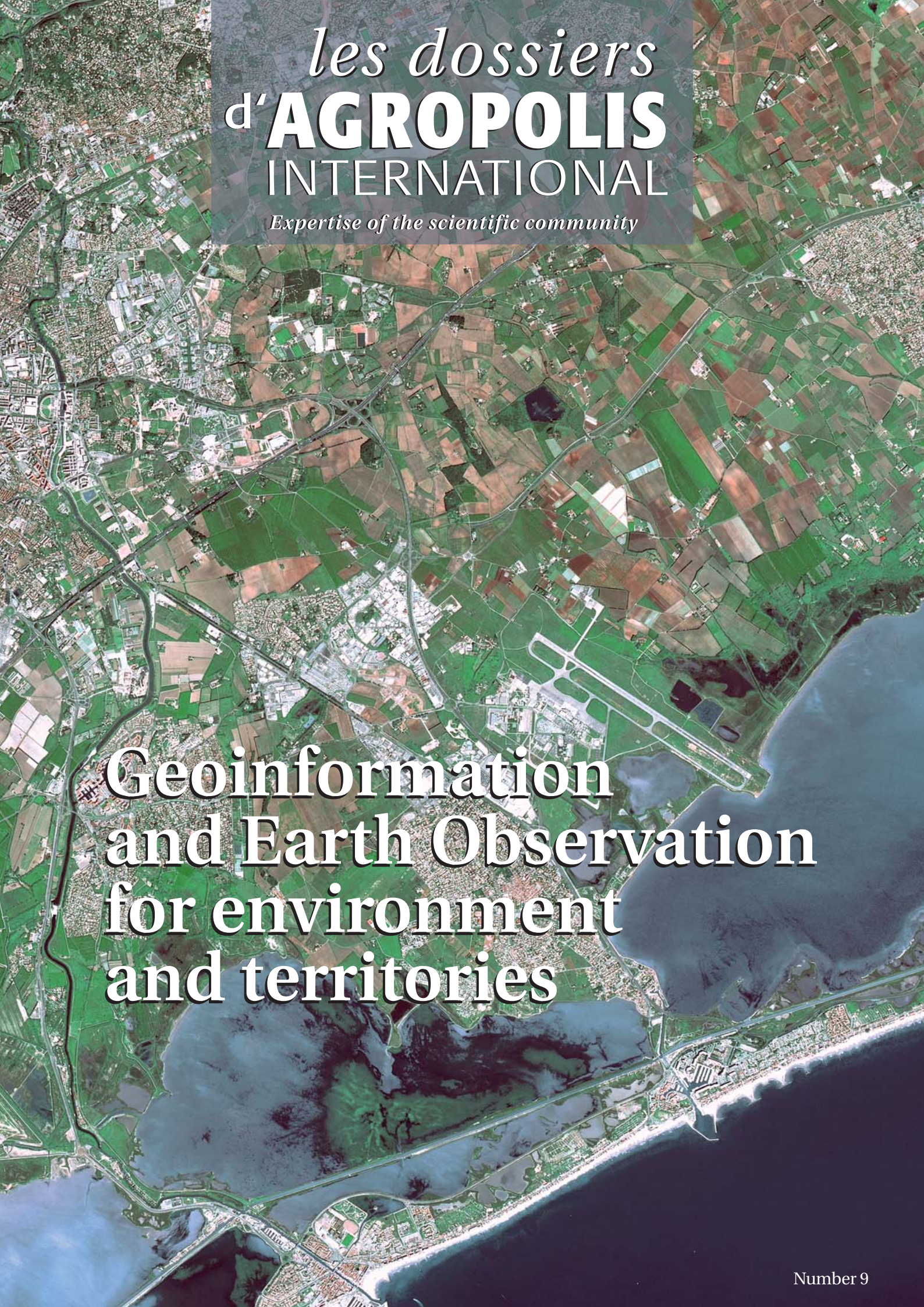
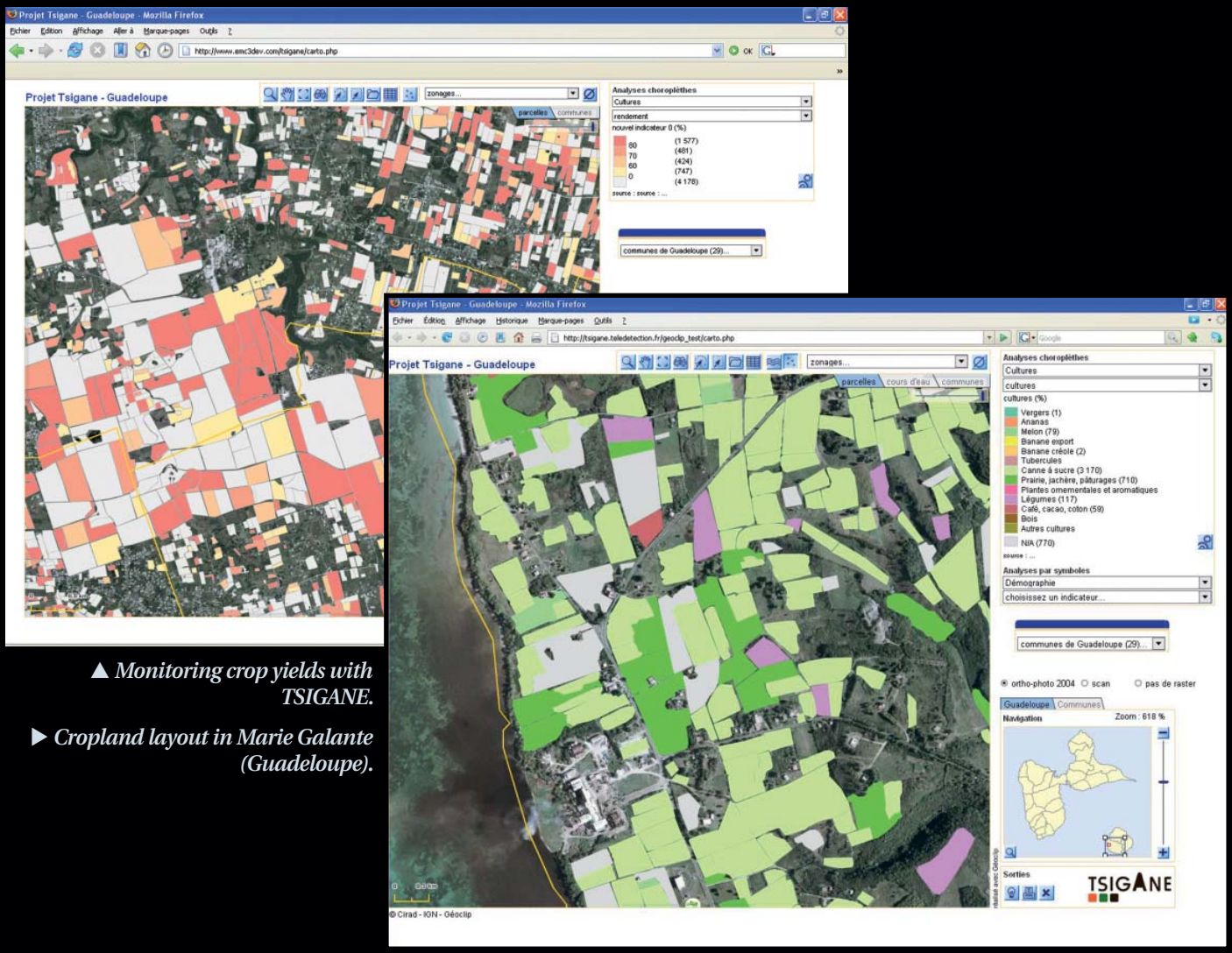


Geoinformation and Earth Observation for environment and territories

Number 9



▲ *Monitoring crop yields with TSIGANE.*

▶ *Cropland layout in Marie Galante (Guadeloupe).*

TSIGANE: a geoinformation tool for commercial crop management

Agricultural production must be managed at a larger scale than individual plots in order to be cost-effective and comply with regulations. Farmers are thus faced with the problem of overcoming many constraints to optimize their production. The internal research unit (UPR) Annual Cropping Systems (CIRAD) is striving to facilitate farmers' task by developing support tools for the management of crop production on a regional scale based on geographic information:

- an information system, connected to models developed through research, containing administrative, agronomic, climatic and production data for a broad range of agricultural plots
- an online cartographic server that enables data restoration in the form of maps containing raster data (satellite images, orthophotos, etc., as well as crop growth or harvest monitoring maps), vectorial data (plots, roads, etc.) and attributary data (yield, harvest dates, area, etc.).

These tools are designed for:

- farmers wishing to more efficiently manage the growth of their crops on a plot level
- extension services to tailor their technical advice
- industrial stakeholders to enhance production system operation (supply, volumes to process, optimal dates for technical interventions, etc.)
- institutions so that they will have a more accurate idea of the production capacities per commodity channel and be able to calculate the amount of assistance needed (price guarantees, natural disasters, etc.)
- research organizations.

These tools are now integrated into a modular system that can be implemented by a broad range of users thanks to new information and communication technologies.

TSIGANE is an online information platform that combines different components specifically designed for:

- management of climatic information
- management and dissemination of agricultural data on a per-plot basis (GIS and web mapping)
- harvest forecasting
- crop growth simulation
- satellite image based mapping for harvest monitoring.

Other research-generated components could potentially be integrated into this scalable platform.

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For further information on the TSIGANE platform (Online technology and geographic information systems for crop management): http://tsigane.teledetection.fr