SCIENCE DU SOL n° 1986/1 - pp. 111-112 - PLAISIR-FRANCE

WATER BEHAVIOUR IN SANDY SOILS VISIBLE AND THERMAL REMOTE SENSING

B. NAERT [1]

(Science du Sol n° 1985-2)

Remote sensing possibilities were assessed on a reference area for the drainage of sandy soils in dune formations of French South-Western coastlands. This study consists of three complementary parts :

— a previous evaluation of the conditions allowing the perception of identification elements, which is summarized in Figure 2 ;

— an analysis of experimental flights aiming at checking the effectiveness of the theoretical model decribed Figures 3 and 4, the results of aerial shots and the main processing types used ;

— a critical analysis of the results concerning the study of reference transects (Fig. 7), which shows that the type of water economy and the depth of ground water

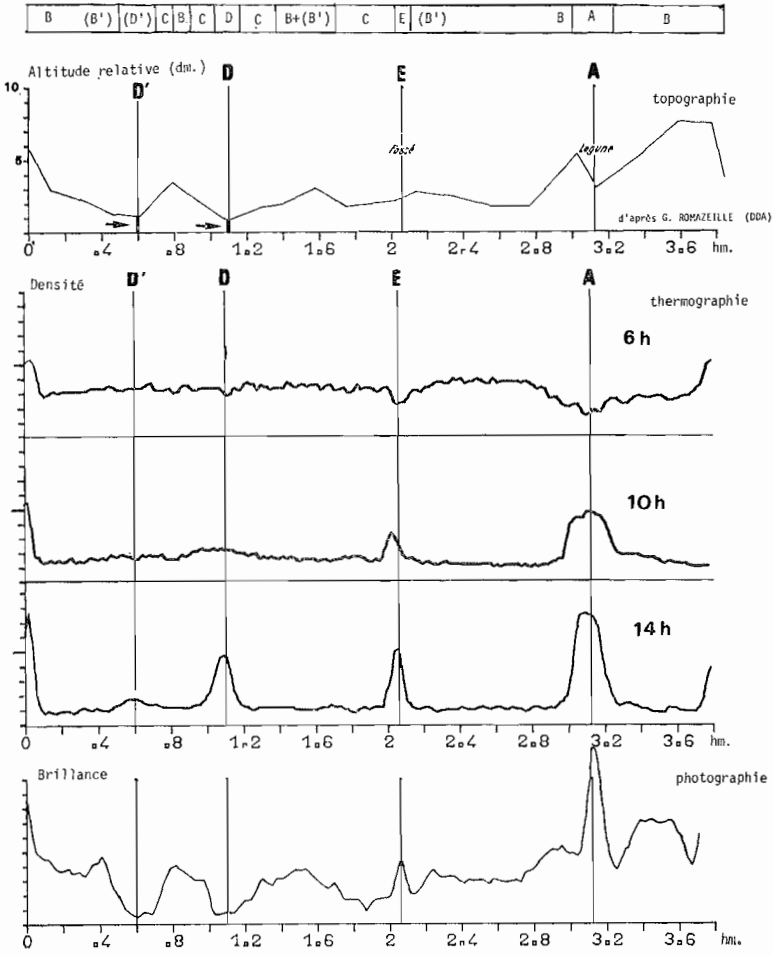


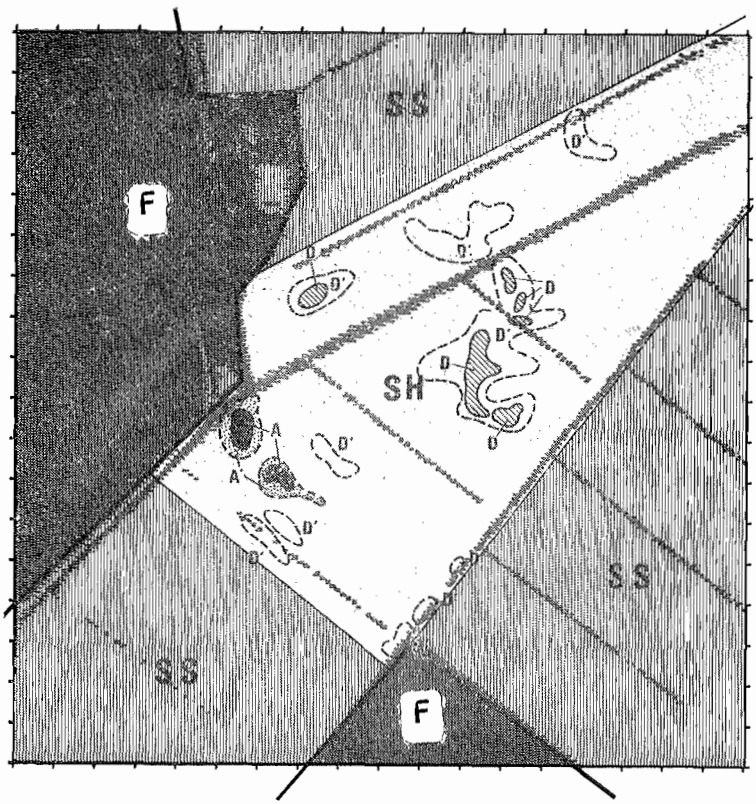
Figure 7 : Detailed analysis of a sequence.

(1) INRA - Laboratoire de Science du Sol, place Viala, 34060 Montpellier Cédex.

may be mapped using thermography, provided that the method is applied under definite conditions such as on bare soil, before sewing and so on...

The present study also highlights the basic role of the resolving capacity (Fig. 8c and 9d, 1°), of the data collection time, of the roughness of the soil (Fig. 8a, 8b, 11) and of a number of limits related to experimental conditions.

This analysis allows to put forward a cartography method combining aerial photograph as a topographical basis and as a mean to define stable landscape elements (plant cover, soil colour...), with repeated thermography in order to identify and classify the various types of water economy and the ground water depth (Fig. 12).



		mode d'interprétation:
PROVINCES D'INTERPRÉTATION:		
SS SH	états de surface des sols cultivés	visuelle aidée par thermographie
F	forêts et haies	numérique sur photographie
SOLS/		
gris (B)	organiques	numérique sur photographie
blanc (C)	non organique	numérique sur photographie
RÉGIMES HYDRIQUES DE LA PROVINCE SH		
A A' D D'	voir profils fig 2	vidéo sur thermographies

Figure 12 : Cartographical sketch before terrain data collection.