NATIONAL REPORT OF PORTUGAL

Prepared for the IDNDR mid-term Review and the 1994 World Conference on Natural Disaster Reduction

I. OVERVIEW AND EXECUTIVE SUMMARY

1. Portuguese Government decision upon National Committee for IDNDR nomination remains to be taken. The Serviço Nacional de Protecção Civil (SNPC) - National Service for Civil Protection - has been the Focal Point for activities related to the International Decade' s objectives.

2. Despite its own limitations the SNPC has been programming and developing some actions towards the fulfillment of the three main IDNDR's objectives.

II. RISK ASSESSMENT

3. Earthquakes, Tsunamis and Volcanic Eruption. PORTUGAL is located in a world area of medium seismic activity. The maximum seismic intensity has been recorded in AÇORES Islands, western continental coast down to south of LISBOA, TEJO river valley, and ALGARVE (IX and X degrees in the modified Mercalli scale).
The most vulnerable area in the continental part of PORTUGAL is the TEJO river valley, because of the high demographic density, the big deal of infrastructures and buildings, and the high concentration of economic activities located on the river banks.
It is estimated a 200 years' period of recurrence for the continent, and around 20 years for AÇORES.
When the earthquake' s epicenter comes about Gorringe Fault (Atlantic Ocean), the coastal areas of LISBOA down to south, and ALGARVE, are mostly affected by tsunamis.
There are several historical records of such disasters, namely associated to the 1775 Nov. 1 earthquake.
At present, the only region with volcanic activity is AÇORES. The last eruption took place in 1957.

Annex A - Seismic Activity Map

4. Floods and Storms. The type of floods is linked to the prevailing weather and geomorphologic features of water basins.

In the rivers DOURO, TEJO, and SADO major basins, inundation causes serious damage and people's dislocation during several days' periods.
In minor hydrological basins of LEIRIA, LISBOA, SETÚBAL, and ALGARVE, the basic cause for river flooding is the incidence of heavy rainfall over big urban areas containing many man-made obstructions in the flood path. Local inhabitants are seriously affected either in terms of casualties or economic damage.
Scientific and technical knowledge on this field does allow the forecasting of disasters and the management and control of their effects and evolution.
Strong storms against mountainous features in the northern and central coast are associated to weather fronts crossing from Atlantic Ocean to Central Europe that cause heavy rainfall and high winds.

Annex B - Flood - prone Land Map

5. Landslides. Landslides don't happen very often in PORTUGAL, though, this type of hazard is not very well investigated. Normally landslides are related to heavy rainfall, seismic activity or ecological disruption caused by man-made engineering infrastructures.
Areas located north of LISBOA, and DOURO river valley are particularly vulnerable to such hazard.

Annex C - Landslide - prone Land Map

6. Forest Fires. PORTUGAL does have a large forest area. The Mediterranean weather prevailing conditions do favor forest fire's propagation, mainly from July to September.
Northern and central interior tier of PORTUGAL, TEJO river valley, and ALGARVE are particularly damaged by this hazard.
Every year there are around 20, 000 forest fires that cause severe economic damage (around 2, 0 billion Portuguese Escudos), and some casualties.

Annex D - Forest Fire Hazard Map

7. Drought. Central and southern interior tier of PORTUGAL is periodically under drought conditions that damages agriculture crops and disrupts public supply of water and other staples.
Unbalanced rainfall and deficient water management are the main background for such event.
1992/93 was the last drought's period in PORTUGAL. In 1993, the cultivated area with selected crops was less 25, 704 acre than in a normal agriculture year.

Annex E - 1993 Drought Map

III. MITIGATION ACTIVITIES

8. Disaster Mitigation Plans, Projects and Studies. The following activities were accomplished, or are underway, conducted by various scientific and research organizations, and/or by governmental departments:

* Centers for prevention and detection of forest fires, linked to a national net of observation posts covering the whole country (100% accomplished);

* Centers for prediction and prevention of floods - DOURO, TEJO, and SADO rivers - (100% accomplished);

* Study on major flooding basins (90% accomplished);

* Laboratory for collection and processing seismic information (25% accomplished);

* Engineering project to regulate the TEJO flood plain, and other minor basins in LISBOA, SETÚBAL, and ALGARVE (25% accomplished);

* Municipal directory plans for urbanization (10% accomplished);

* Geologic study on seismic-tectonic soils, and types of engineering construction in TEJO river valley, SETÚBAL, and ALGARVE (initial status);

* Study on anti-seismic behavior of vial accesses to LISBOA (initial status);

* Study on drought/desertification of ALENTEJO, and its effects on agriculture performance (initial status).

9. Population Awareness Campaign and Public Education and Information. Through the distribution to the population of around 20. 0 million (from 1992 Jan. till now) leaflets containing security procedures and self-protective measures upon earthquakes, floods, home and forest fires, saving water resources, using domestic gas, etc., as well as other educational publications (e.g., "The Hearth is an Alive Planet" - 1. 0 million -, "Urgent Evacuation Plan for Schools" - 10, 000 -, "Booklets on Earthquake, and Home Fire Protective Measures", to be colored by youngsters - 700, 000 -), and technical publications (e.g., "Mitigation Measures for Seismic Hazard on Old Urban Buildings" - 500 -).

10. Training. Every year since the IDNDR's beginning, several exercises were planned and organized to drill emergency plans, either at national, or regional and local levels.

These exercises have been based on flood, earthquake, and fire natural hazards' scenarios. For instance, last year took place an emergency training exercise, based on a seismic scenery. Around 920 schools, and 265, 000 pupils and teachers, prepared and activated their own plans for urgent evacuation from their schools, under the coordination of regional and local civil protection agents and crisis managers, complemented with an "ad hoc" public information campaign supported by national, regional and local mass media.

11. Emergency Planning. National Emergency Plan was worked out through 1992, and approved by Portuguese Cabinet's decision on 1993 Apr. 8. This was the first step to push forward the emergency planning at regional (district), and local (municipality) levels, that are increasing now.

IV. WARNING

12. Weather Forecast and Control System. Managed by Meteorological Institute (MI), that is direct and permanently linked to SNPC; 3 (three) days in advance upon the detection of a weather' situation able to generate heavy rainfall and/or strong winds, the MI tracks down the situation's evolution and disseminates special weather reports to inform the population.

13. Seismic Control System. An automated seismic sensor's net covers the more vulnerable areas.

14. Flood Plain Management System. In accordance with the new Dam Safety Regulations, an electronic warning and alert system for floods and dam failures, covering all major water basins, will be settled and activated in the near future.

15. Warning Dissemination System. National system is based on national, regional and local radio and TV broadcasting stations, complemented with acoustic and direct warnings through civil protection agents (Police, National Guards, Firemen).

V. INTERNATIONAL COOPERATION

16. Despite some constraints on scientific and technological fields, and limited resources, PORTUGAL is capable to provide assistance to other countries in all types of natural disasters. Relief units can be organized for assistance, however, without casualties' detection cells. Preparedness - 2 to 3 days.

17. Bilateral agreements for cooperation and mutual aid with SPAIN and MOROCCO are already in force.

18. PORTUGAL is a member state of EUR OPA (Open Partial Agreement).

19. Also in the field of humanitarian assistance to other countries, PORTUGAL is cooperating with international "fora", namely, UN/DHA and EU/ECHO, either through governmental agencies or NGOs. Special aid programs were established in support to Portuguese expression African countries' development, education and technical achievements (namely ANGOLA and MOZAMBIQUE). All of them are developed and implemented under the aegis of Secretary of State for Cooperation/Foreign Affairs Ministry.

VI. OVERALL EVALUATION AND FUTURE PROGRAM OF IDNDR ACTIVITIES

20. Goals and Achievements. Portuguese Government decision on National Committee for IDNDR remains to be taken, though, disaster mitigation plans and other activities have been met only through SNPC current activities, that seems unsatisfactory to accomplish IDNDR's objectives.
Anyway a comprehensive national assessment of risks from natural hazards was established and taken into account in the National Emergency Plan.
Mitigation plans at national, regional and local levels, involving long-term prevention and preparedness and community awareness, were also upgraded.
Ready accesses to European, national, regional and local warning systems and broad dissemination of warnings, although being considered reasonable, require future effective improvements.

21. Expectations and Plans for the Second Half of the Decade. It is expected that Portuguese Government takes the decision to nominate the National Committee to IDNDR as a way to improve the research program and close the gaps in knowledge in disaster related research areas as described previously. Coordination and cooperation are intended with other ongoing national activities, such as the disaster research at universities and other technical and scientific institutions.
It is desirable that chains from causes to consequences, inherent to all types of disasters should be investigated through interdisciplinary research.
It is required a better control on research projects, which scientists conduct within their current research activities, and which are sponsored by regular grants of PORTUGAL or by the European Community.

It is expected the reinforcement of emergency planning at regional and local levels. The population awareness campaign and public education and information will be carried on forthcoming years.

ANNEXES:

A - Seismic Activity Map

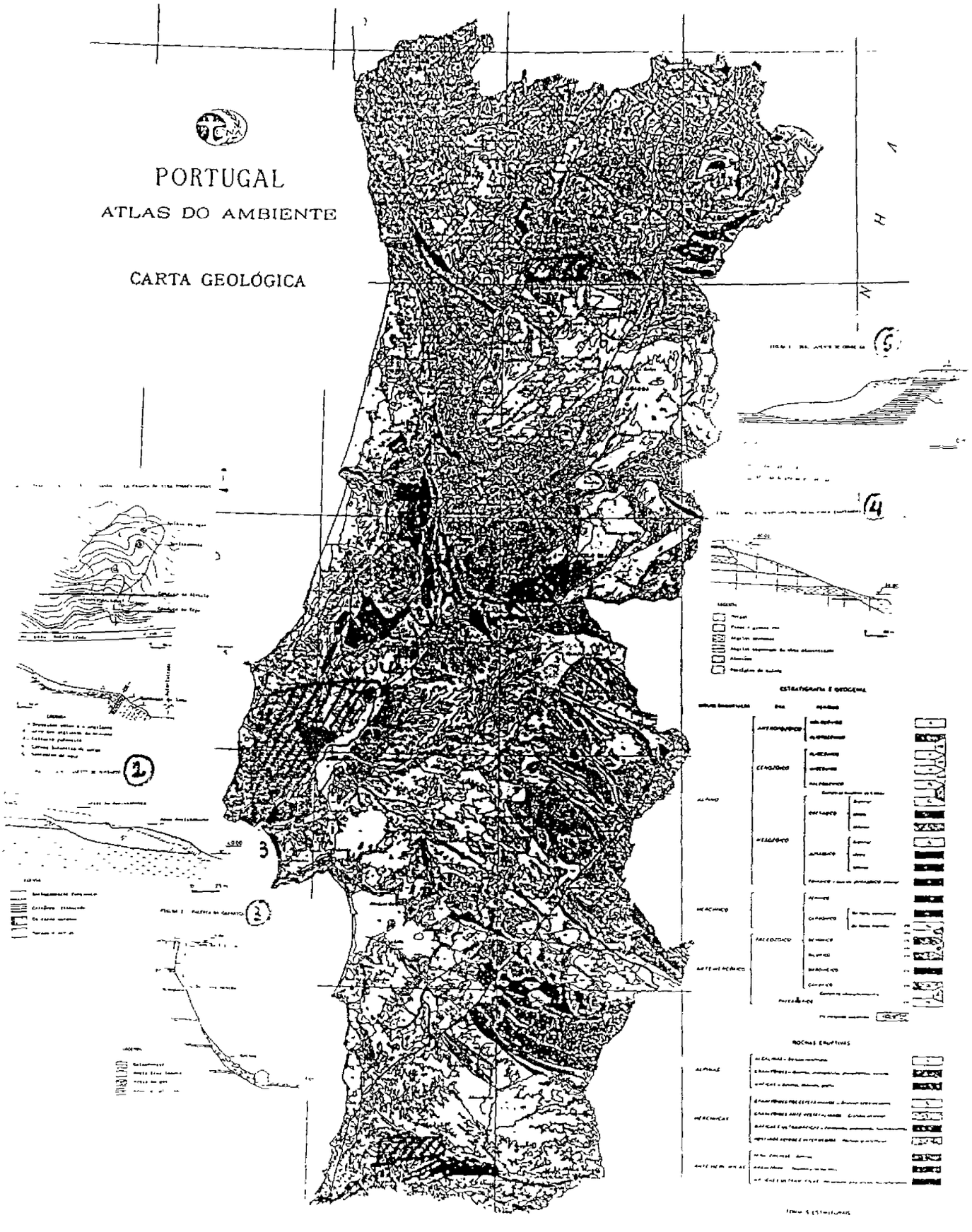
B - Flood-prone Land Map

C - Landslide-prone Land Map

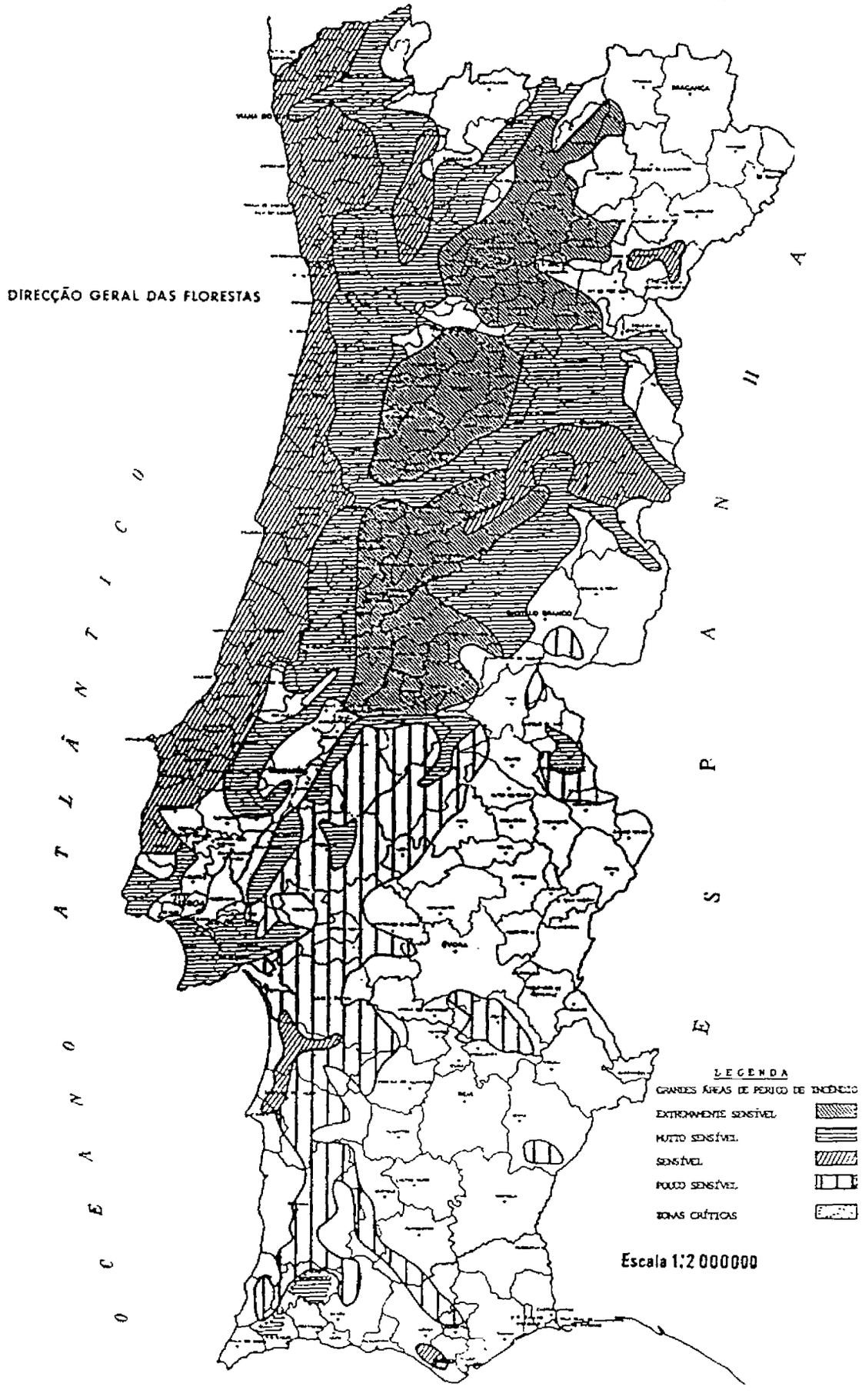
D - Forest Fire Hazard Map

E - 1993 Drought Map

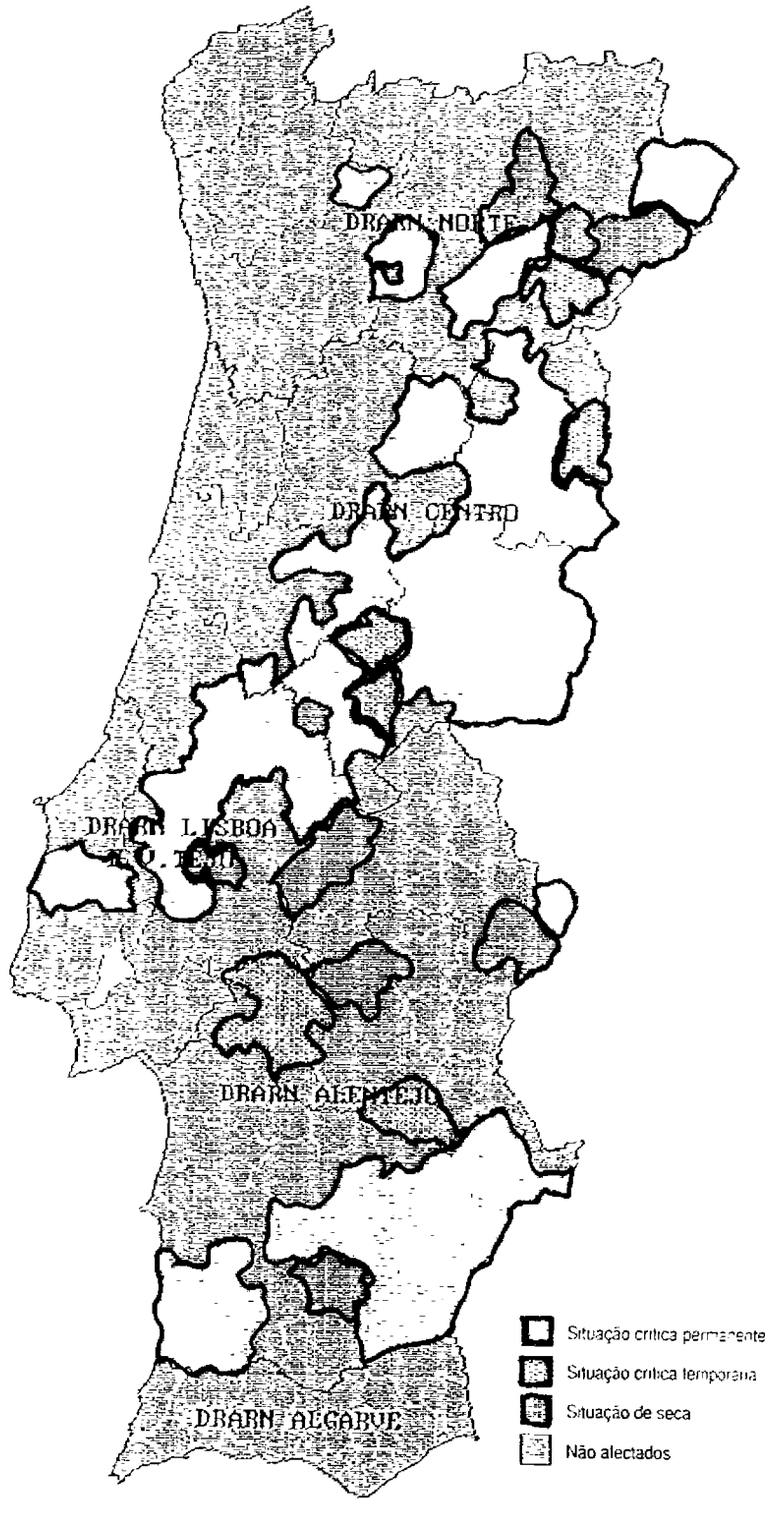
ANNEX C (to NR PO) - Landslide - prone Land Map



ANNEX D (to NR PO) - Forest Fire Hazard Map



ANNEX E (to NR PO) - 1993 Drought Map



Situação crítica correspondente a interrupções, no abastecimento, superiores a 12 horas diárias ou abastecimento assegurado por autotanques.

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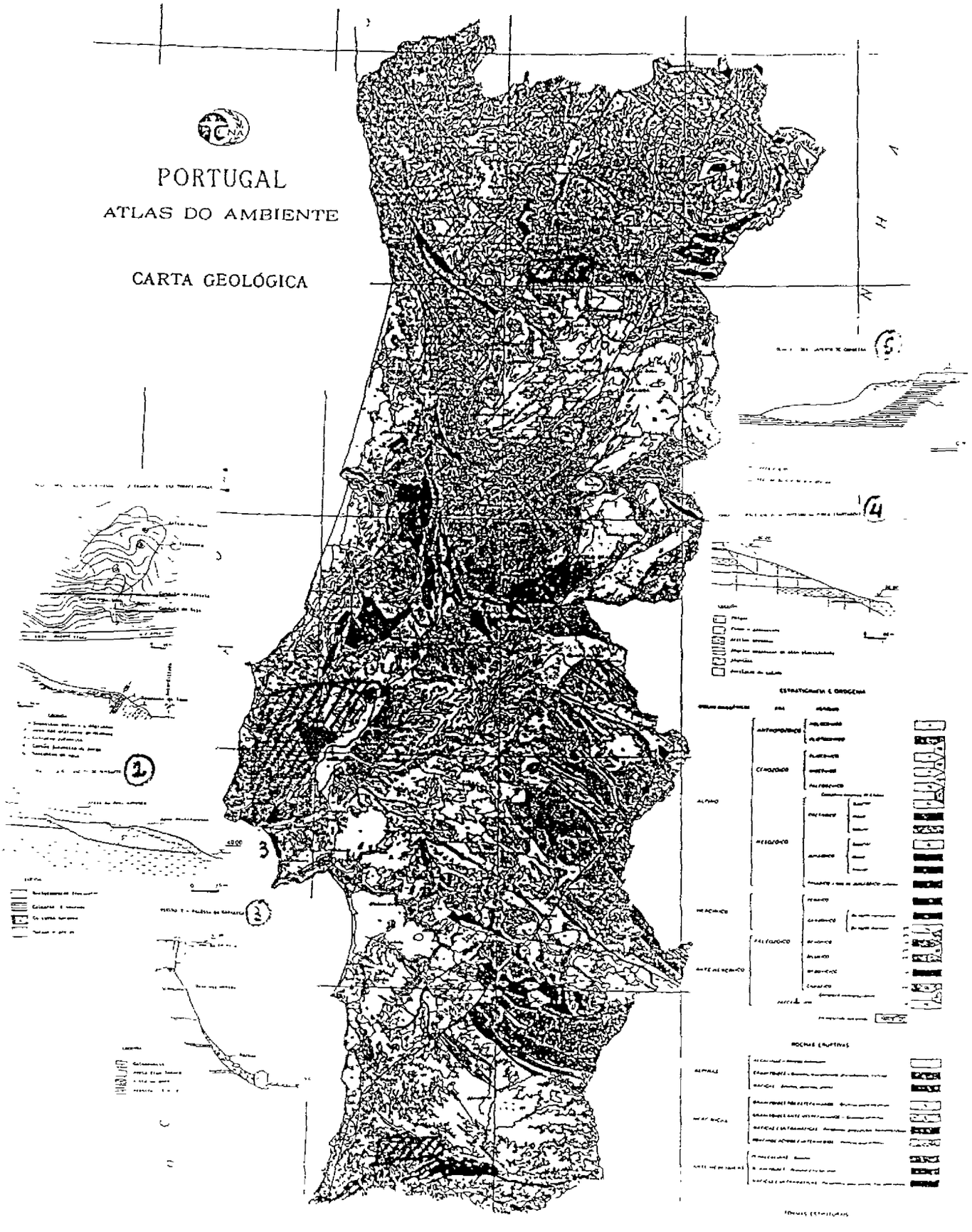
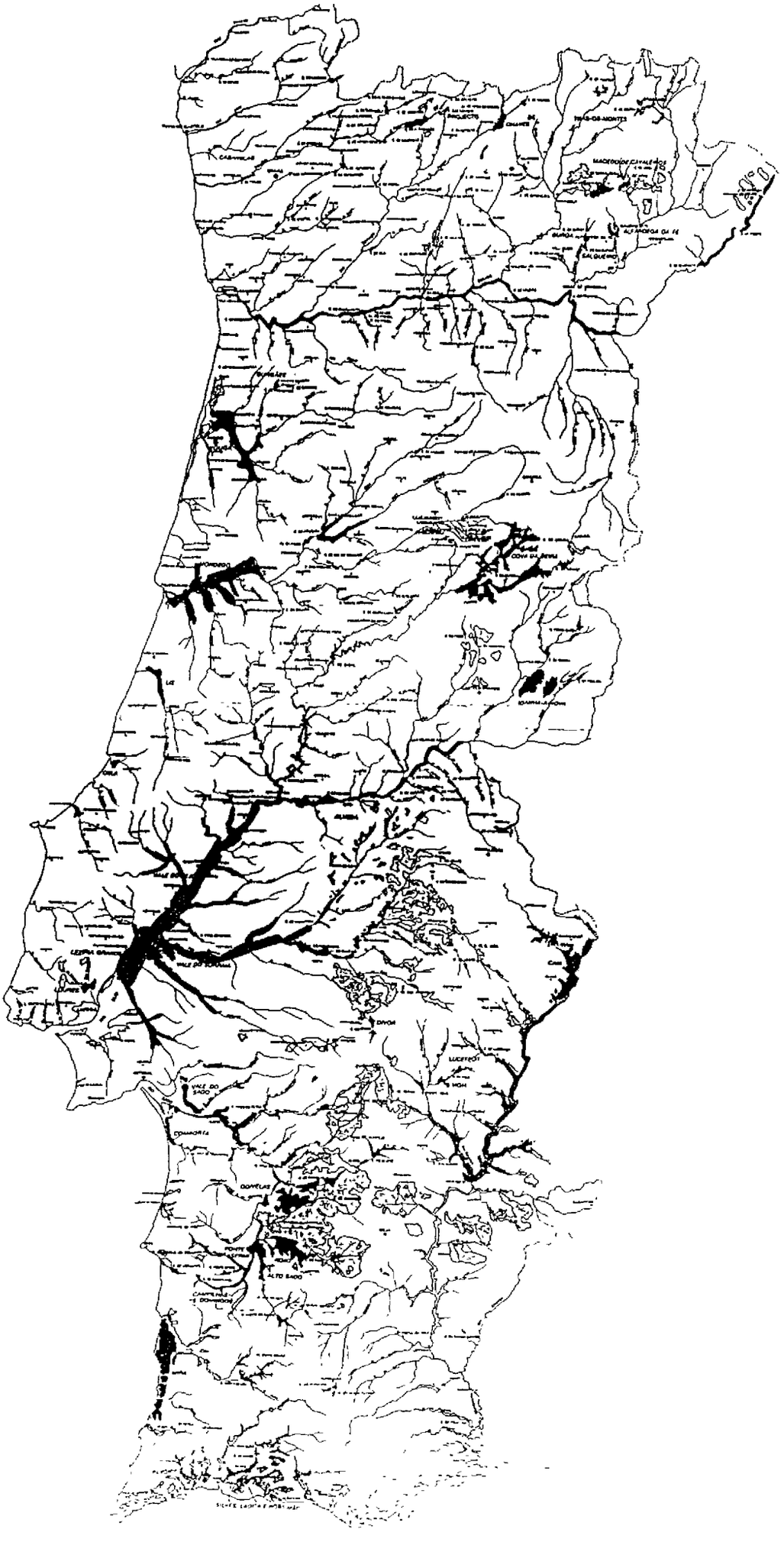


ANNEX B (to NR PO) - Flood-prone Land Map



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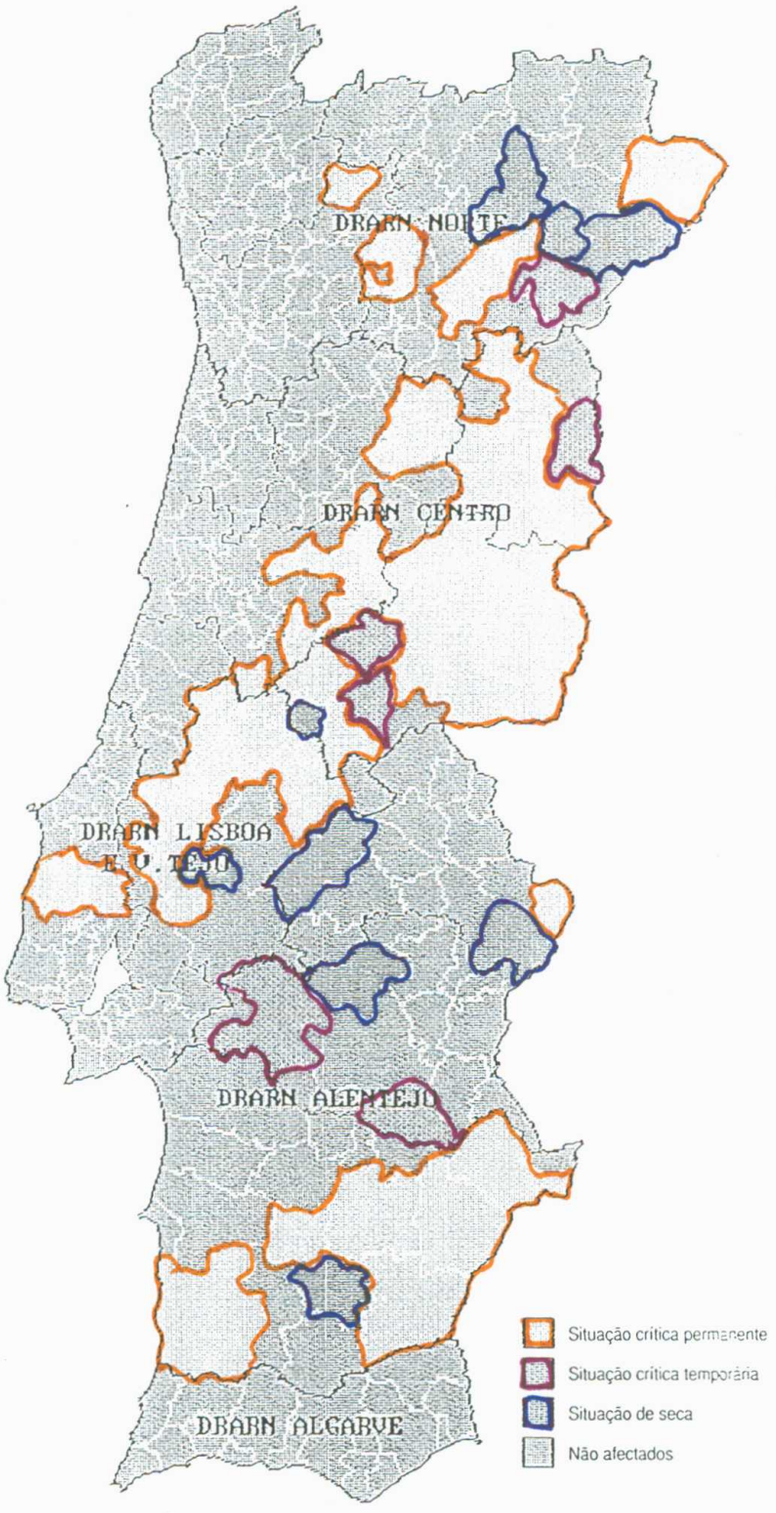

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