

| | |
|-------------------|--|
| Application n° 19 | LAND USE AND LAND CAPABILITY. PRESSURE AND STATE INDICATORS OF THE EVOLUTION OF ECOSYSTEMS |
|-------------------|--|

| | |
|---------|------------------|
| DOMAIN: | Land Degradation |
|---------|------------------|

| | | | | | | | | | |
|---------------|--|----------|--|-------|---|--------|---|----------|--|
| Driving force | | Pressure | | State | x | Impact | x | Response | |
|---------------|--|----------|--|-------|---|--------|---|----------|--|

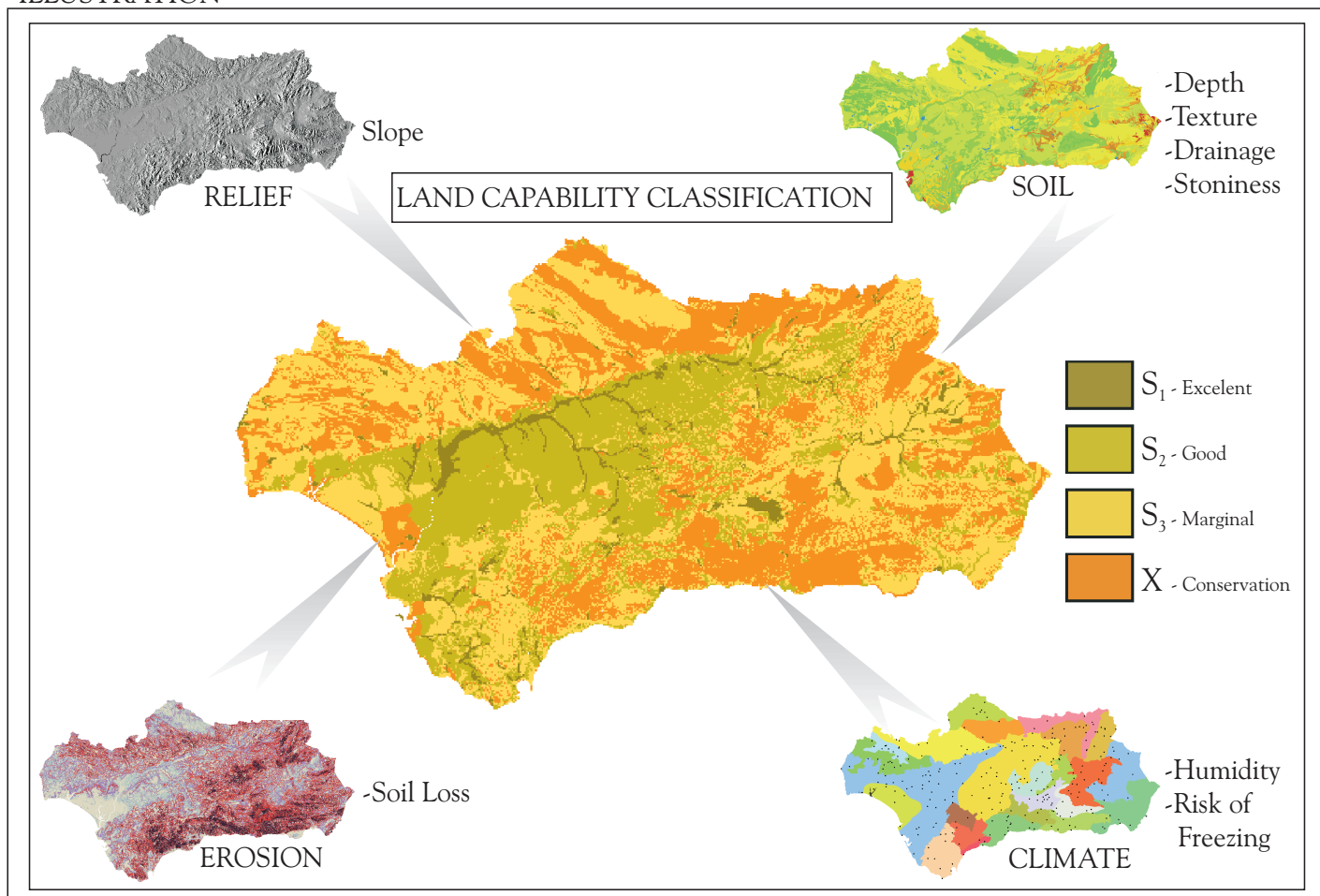
TARGET/POLICY RELEVANCE: Ecosystems Monitoring and Evaluation. Elaboration of indicators showing current land use adaptation to potential land capability.

METHODOLOGY: Assessment of land capability, considering erosion as one of the limiting factors. Corine Land-Cover aggregation into 4 main ecosystems types. Through the integration of both outputs, three different indexes are defined: - Conservation Index, relates the surface covered by natural ecosystems to that of areas of non productive capability. - Restoration Potential Index, indicates the regeneration capacity of Modified Ecosystems in order to convert them in Natural Ecosystems. It relates the addition of areas covered by natural or modified ecosystems to areas of non productive capability. - Agrological Adaptation Index, indicates current land use accommodation respect to potential land capability. Addition surfaces with excellent or good land capability are related to that of Agricultural Ecosystems.

DATA REQUIREMENTS: Land Cover, Land Use, DTM (slope degree, length of slope), Soil Database (depth texture, drainage, stoniness, erodibility), Climate database (humidity, risk of freezing, erosivity).

| | | | | | | |
|-------------|------------|---|-------------|--|-----------|--|
| FEASIBILITY | Short term | x | Medium term | | Long term | |
|-------------|------------|---|-------------|--|-----------|--|

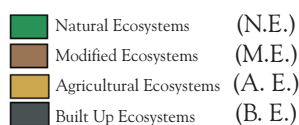
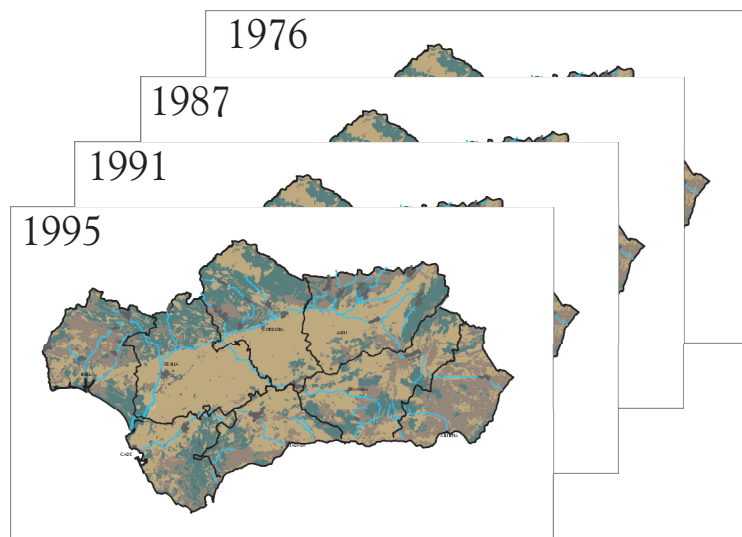
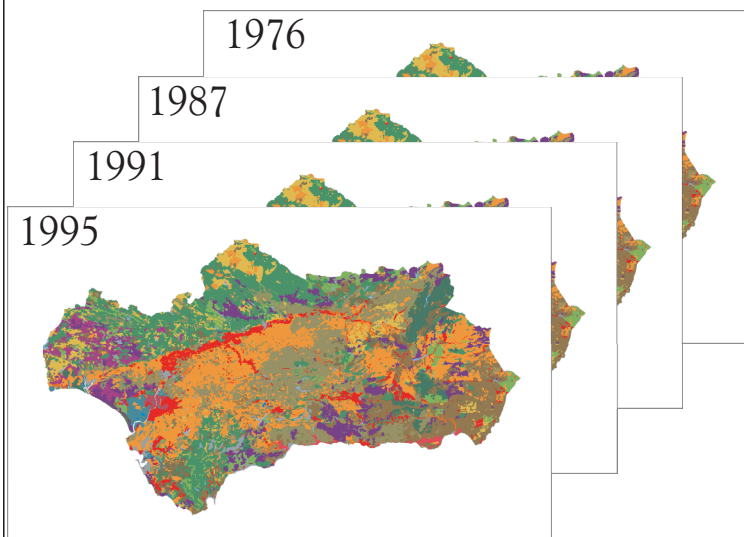
ILLUSTRATION



EVALUATION OF THE DYNAMIC OF ECOSYSTEMS

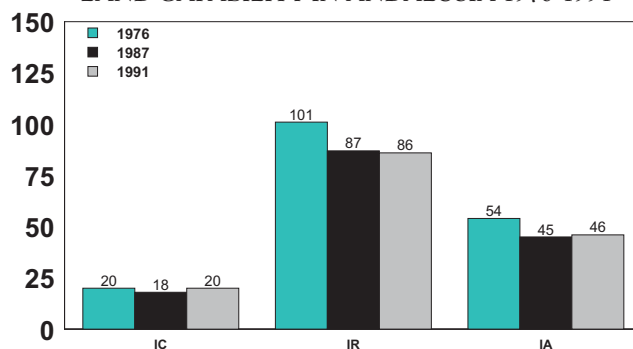
Land Cover Multitemporal Analysis

Main Ecosystems Classification

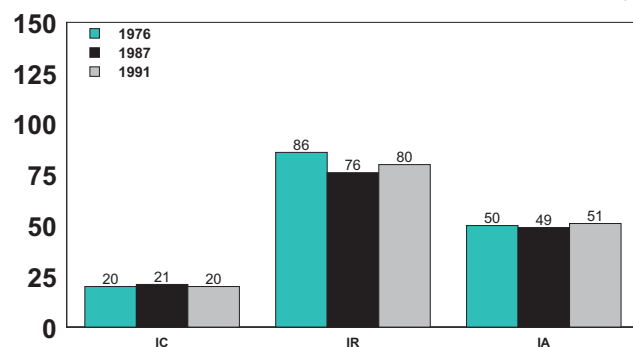


MULTITEMPORAL INDICATORS OF ECOSYSTEMS ADAPTATION TO LAND CAPABILITY

EVOLUTION OF INDEXES OF ECOLOGICAL ADAPTATION TO LAND CAPABILITY IN ANDALUSIA 1976-1991



EVOLUTION OF INDEXES OF ECOLOGICAL ADAPTATION TO LAND CAPABILITY IN THE PROVINCE OF MALAGA 1976-1991



$$I_C \text{ Conservation Index} = \frac{NE}{X}$$

$$I_R \text{ Restoration Potential Index} = \frac{NE + ME}{X}$$

$$I_A \text{ Agrological Adaptation Index} = \frac{S_1 + S_2}{AE}$$

NE = Natural Ecosystems AE = Agricultural Ecosystems ME = Modified Ecosystems
 S₁ = Excelent Land Capability S₂ = Good Land Capability X = Conservation Land Capability