Adaptation of Tourism to Climate Change in Italy: *policy, indicators and data gaps*

Giovanni Finocchiaro – ISPRA – Italian Institute for Environmental Protection and Research

Workshop for “Strengthening the resilience of tourism to climate change"

7° December 2022

Zagreb - Croatia

ISPRA

Italian Institute for Environmental Protection and Research

Public research body enjoying technical-scientific and regulatory independence

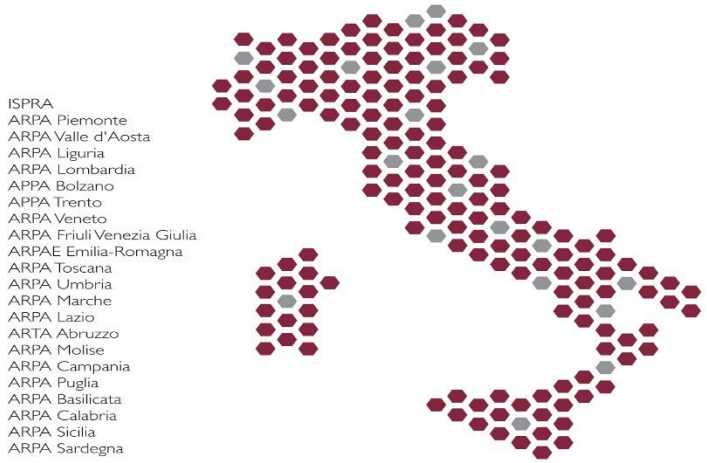
Receives general guidance from the Minister of the Ecological Transition

Italian reference institution for technical-scientific and monitoring and control activities for environmental protection and sustainability

ISPRA and SNPA

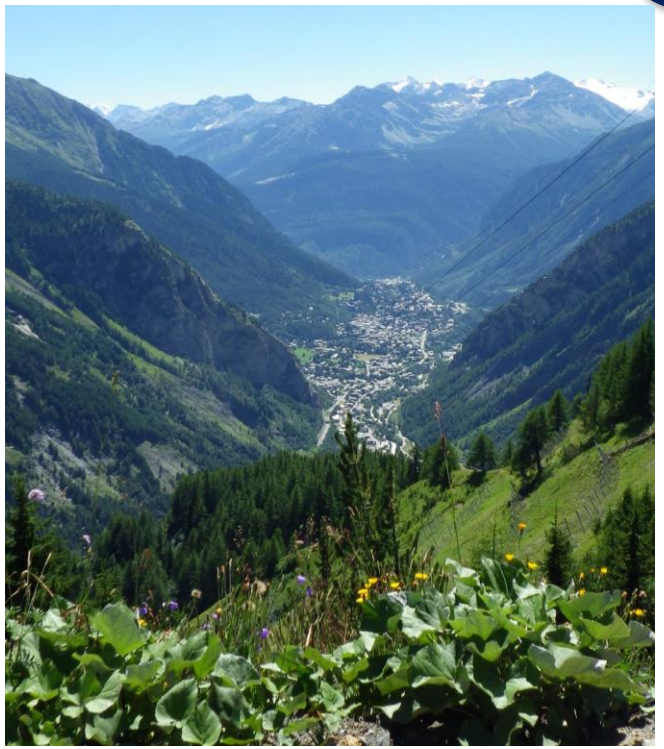
National System for Environmental Protection (SNPA)

- Established in 2016 by law n. 132
- Composed of 19 Regional and 2 Province's Environmental Protection Agencies, under the chairmanship of ISPRA



- Human resources of over 10,000
- Ensures a detailed and wide environmental monitoring
- Duty to provide coordinated nation-wide essential levels of technical environmental performance, also through the harmonisation of the national environmental laboratories network methodologies

The competences of the institute



- Conservation of biodiversity
- Monitoring of the marine, terrestrial and coastal environment
- Coordination of the SNPA laboratory network
- Climate change
- Coordination of activities for emergencies and environmental inspections
- Management of the National Environmental Information System
- Creation and dissemination of the environmental information
- Circular Economy
- Environmental education, training, communication and dissemination
- Geological Survey of Italy

The key activities of ISPRA about Climate Change

- Support to the Italian Government
- Climate indicators in Italy
- Impacts, vulnerability and adaptation to climate change
- Emission scenarios
- Emissions inventory

Climate policies in Italy

- Climate policies in Italy are implemented under the responsibility of the Ministry of Ecological Transition both in the field of mitigation and adaptation to climate change;

- In the 2007 was held the first National Conference on Climate Change;

- In 2012, the Ministry launched a process aimed at preparing the National Strategy for Adaptation to Climate Change (SNAC);

- In implementation of the National Strategy for Adaptation to Climate Change, **the National Plan for Adaptation to Climate Change** (PNACC) *is on going*.

Climate Change & Tourism

With its close connections to the environment and climate itself, tourism is considered to be a highly climate-sensitive economic sector.

Climate change is not a remote future event for tourism, as the varied impacts of a changing climate are even now becoming evident at destinations around the world and climate change is already influencing decision-making in the tourism sector.

What are the main current and projected climate variables that affect/will affect the tourist sector?

- Temperature
- Sea level rise
- Extreme weather events

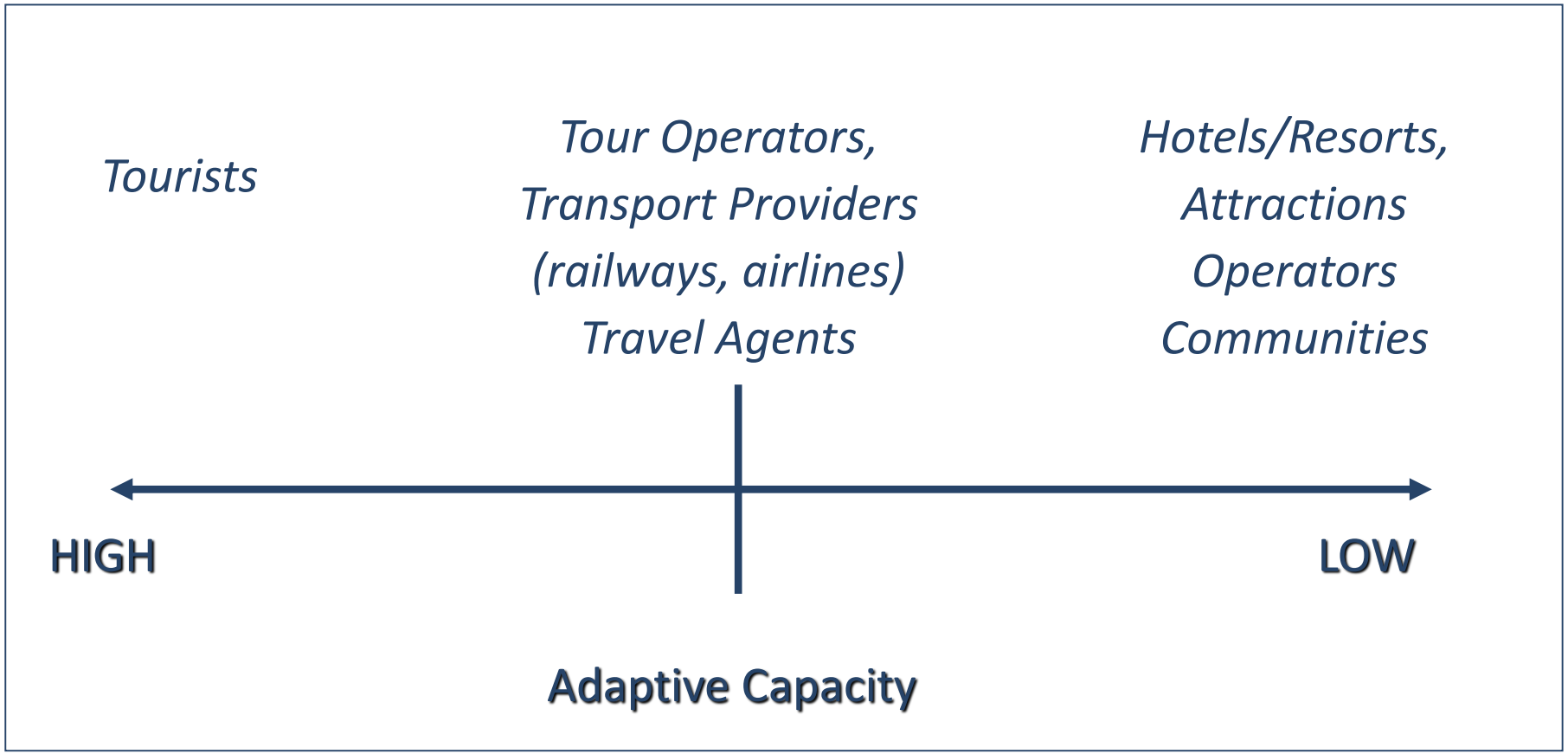
EXPOSURE

Potential indicators

Mechanisms/climate variable projections	Indicators
Mean temperature increase	*Share of tourist arrivals in the summer season*
Extreme weather events	*Number of tourist facilities and infrastructure that might be affected by extreme weather events*
Sea Level Rise	*Number/area of tourist facilities and infrastructure located on low lying coastal zone;*
Transverse	•*Number/area of tourist protected areas and/or touristic natural sites* •*Number of employees in the coastal/summer tourism sector*

ADAPTIVE CAPACITY

Relative Adaptive Capacity of Major Tourism Sub-sectors



Source: UNWTO-UNEP-WMO 2008

ADAPTIVE CAPACITY

The criteria to choose adaptation actions

Within the tourism sector, the key principle for implementing adaptation actions is to favor those with low social cost and greater effectiveness, in a perspective of social efficiency.

This criterion should reconcile both strictly economic efficiency and the impact of the proposed actions in terms of environmental sustainability.

In terms of types of adaptation actions we could divide them into:

- non-technical actions;
- management or programming actions;
- technical or infrastructural actions.

ADAPTIVE CAPACITY

A Portfolio of Climate Change Adaptations Utilized by World Tourism Stakeholders

Type of Adaptation	Tourism Operators/ Businesses	Tourism Industry Associations	Governments and Communities	Financial Sector (investors/ insurance)
Technical	-Snowmaking -Slope contouring -Rainwater collection and water recycling systems -Cyclone-proof building design and structure	-Enable access to early warning equipment (e.g. radios) to tourism operators - Develop websites with practical information on adaptation measures	-Reservoirs, and desalination plants - Fee structures for water consumption -Weather forecasting and early warning systems	-Require advanced building design or material(fire resistant) standards for insurance - Provide information material to customers
Managerial	-Water conservation plans -Low season closures -Product and market diversification -Regional diversification in business operations -Redirect clients away from impacted destinations	-Snow condition reports through the media - Use of short-term seasonal forecasts for the planning of marketing activities - Training programmes on climate change adaptation - Encourage environmental management with firms (e.g. via certification)	-Impact management plans (e.g., 'Coral Bleaching Response Plan') -Convention/ event interruption insurance -Business subsidies (e.g., insurance or energy costs)	-Adjust insurance premiums or not renew insurance policies -Restrict lending to high risk business operations
Policy	-Hurricane interruption guarantees - Comply with regulation (e.g. building code)	-Coordinated political lobbying for GHG emission reductions and adaptation mainstreaming - Seek funding to implement adaptation projects	-Coastal management plans and set back requirements -Building design standards (e.g., for hurricane force winds)	-Consideration of climate change in credit risk and project finance assessments
Research	-Site Location (e.g., north facing slopes, higher elevations for ski areas, high snow fall areas)	- Assess awareness of businesses and tourists and knowledge gaps	-Monitoring programs (e.g., predict bleaching or avalanche risk, beach water quality)	-Extreme event risk exposure
Education	-Water conservation education for employees and guests	-Public education campaign (e.g., 'Keep Winter Cool')	-Water conservation campaigns -Campaigns on the dangers of UV radiation	- Educate/inform potential and existing customers
Behavioural	-Real-time webcams of snow conditions -GHG emission offset programs	-GHG emission offset programs - Water conservation initiatives	-Extreme event recovery marketing	- Good practice in-house

ADAPTIVE CAPACITY

Potential indicators for all climate variable projections

- Number of resorts that are part of an early warning system (n.)
- Money invested into adaptation measures and technology (€)
- Diversification touristic activities (%)
- Plans or programs including climatic variable in its programming (n.)

CONCLUSIONS

Framework

- Tourism is of great importance for European economies, and environmental protection is a key factor for its future. Indeed, environment is one of the main attractions of tourism;

- The environmental impact of tourism is receiving a growing global attention;

- Tourism is generally seen as a productive sector dedicated to creating income and the official statistics available on tourism are essentially designed to measure its economic role, whereas the effects on the environment are not truly systematically measured.

CONCLUSIONS

Needs

Research

Knowledge

Data

Awareness

ISPRA
Istituto Superiore per la Protezione e la Ricerca Ambientale

Sistema Nazionale per la Protezione dell'Ambiente

Thanks!

giovanni.finocchiaro@isprambiente.it

www.isprambiente.gov.it/it