**Competitor Analysis: CRISI (Climate Resilience Investment Scoring Intelligence)**

**Introduction**

**CRISI** is a proposed tool to support macroeconomic *tourism* investment policy by providing **AI-based climate risk scoring** with integrated spatial and economic dimensions. To understand CRISI’s positioning, it’s crucial to examine existing tools that assess climate risks and incorporate spatial or economic scoring. These competitors span **public sector platforms**, **private/commercial analytics**, and **academic/research prototypes**. Below we review key examples in each category – focusing on their target users, methodologies (AI, indices, GIS mapping, Delphi expert input, etc.), use in tourism or infrastructure contexts, and notable strengths and limitations – and then critically compare them to CRISI to identify CRISI’s unique value in the current landscape.

**Public Sector Tools for Climate Risk Assessment**

Public agencies and international organizations have developed several tools to evaluate climate risks, often to guide policy and investment decisions. These typically emphasize broad coverage and policy relevance:

* **EIB Climate Risk Country Scores (EU)** – The European Investment Bank created a scoring model that **rates climate change risk for 180+ countries**, producing separate composite scores for physical risk and transition risk. This index aggregates hazard exposures (e.g. floods, heat, sea-level rise) and socioeconomic resilience factors, effectively measuring each country’s vulnerability and adaptive capacity. Targeted at policymakers and financiers, it helps identify countries or sectors needing adaptation support. *Strengths:* Comprehensive national coverage and integration of adaptation capacity into risk scores, directly supporting country-level risk management and priority setting. *Limitations:* Very high-level – scores are at national scale, so they **lack subnational or sector-specific detail**. They inform broad investment strategies but **don’t drill down into particular industries like tourism** or individual infrastructure projects.
* **World Bank Climate & Disaster Risk Screening Tools** – The World Bank offers interactive screening modules to **flag climate and disaster risks for development projects**. Users input a project’s location and sector (e.g. coastal infrastructure, agriculture), and the tool overlays climate hazard data (flood zones, drought trends, etc.) alongside socioeconomic context to yield qualitative risk ratings. It guides **project planners** through identifying potential impacts and adaptation options early in the project cycle. *Strengths:* Broadly applicable across sectors and countries, ensures *systematic consideration* of climate risks in investment planning, and leverages GIS data on hazards. *Limitations:* The output is a coarse **qualitative assessment** (“High/Medium/Low” risk) rather than a quantitative score; it relies on user-provided information and judgment. It’s a **process tool** rather than an automated scoring engine, and it’s not specialized for the tourism sector (though one can screen a tourism project, the framework remains generic).
* **ADAPTUR’s Rapid Climate Risk Self-Assessment (Mexico)** – As part of a GIZ-led project with UNWTO, this tool provides a **checklist-based assessment** to help tourism developers integrate climate risk in project design. Aimed at private investors and consultants in tourism real estate, it evaluates site-specific risk factors (location hazards, regulatory context, community vulnerability, etc.) through guided questions. The outcome is a profile of risks across categories (infrastructure, operations, environment, finance, market) and recommended adaptation measures. *Strengths:* **Sector-specific focus** (tourism) – it raises awareness of how climate change (e.g. hurricanes, water scarcity) threatens tourism assets, and it’s **integrated into early planning stages**, influencing site selection, master planning and design. It’s also relatively simple and low-cost to apply (a self-assessment that any project team can use). *Limitations:* The approach is qualitative and **location-specific**; results depend on the user’s inputs and understanding of local climate information. It does not use AI or predictive modeling – it’s essentially a guided questionnaire – and thus may **miss complex risk interactions** or economic impact quantification. Its use so far has been regionally focused (piloted in Mexico), and wider adoption would require localization to different regulatory and environmental contexts.
* **National Climate Risk Indices (Government examples)** – Some national governments provide public mapping tools. For instance, **FEMA’s National Risk Index (USA)** is an interactive map scoring all U.S. counties for combined risk from 18 natural hazards, factoring in population exposure, property value, and community vulnerability and resilience metrics. This yields a relative risk score per community to inform local planning. *Strengths:* Granular spatial coverage (subnational maps), multi-hazard scope, and inclusion of social-economic factors to highlight communities at greatest risk. *Limitations:* These indices are **domestic and generalized** – e.g. FEMA’s tool is U.S.-only and not tailored to any specific industry. They provide a starting point for prioritizing resilience funding, but **do not directly address sectoral impacts** (tourism, etc.) or forward-looking climate changes (often based on historical data and current vulnerabilities). Similar limitations apply to other public indices like the INFORM Risk Index (used by UN/EU for humanitarian crises) which incorporates climate hazards but remains high-level.

*(Other public initiatives include the EU’s Climate-ADAPT platform and the new European Climate Risk Assessment reports, which identify broad climate risk hotspots in Europe. These provide valuable data and maps but are not interactive scoring tools for investments.)*

**Private/Commercial Climate Risk Platforms**

In the private sector, a burgeoning climate risk analytics industry is catering to investors, insurers, and corporations under pressure to disclose and manage climate-related risks. These platforms often leverage big data, AI, and advanced modeling to quantify risk in financial terms. Key examples:

* **ICE Climate Risk (Intercontinental Exchange)** – Launched in 2025, ICE’s Global Climate Risk solution offers **building-level climate risk scores worldwide**. It leverages a geospatial dataset of 1.6 billion building footprints and overlays forward-looking hazard models (flood, wildfire, hurricane, etc.) to compute location-specific risk under climate scenarios. The tool aggregates these into portfolio risk metrics for **investors** to evaluate their exposure across corporate assets, properties, and even sovereign bonds. *Strengths:* **High granularity and scale** – ICE can map risks for millions of individual assets, providing transparency on *which* locations in a portfolio are most exposed. It’s forward-looking (scenario-aligned to mid-century and beyond), and integrates both physical risk and transition/emissions data for a comprehensive view. As a financial data giant, ICE makes it easy to plug these scores into investment decisions (e.g. adjusting valuations or insurance needs). *Limitations:* The tool is **finance-centric**. It excels at *asset-level hazard exposure*, but doesn’t explicitly model macroeconomic knock-on effects or sector-specific sensitivities (tourism demand loss, etc.). It’s a proprietary service likely accessible at significant cost, and its complexity may require expert users. Also, being global, it might not capture local adaptation measures or the nuance of specific industries – a hotel and a hospital in the same flood zone get similar hazard scores, even though the **economic consequences** for tourism might differ.
* **Moody’s Climate Solutions (incl. Four Twenty Seven)** – Moody’s (a credit rating and analytics firm) offers an integrated suite of climate risk analytics for both physical and transition risks. After acquiring climate data firm Four Twenty Seven and catastrophe modeler RMS, Moody’s provides tools to **score climate risk for corporate facilities, municipalities, and sovereigns**, and to incorporate those risks into credit ratings and investment analysis. For example, Four Twenty Seven’s methodology uses downscaled climate model outputs to score locations on projected heat stress, flood risk, water scarcity, cyclone exposure, etc., producing risk scores for each asset or region. Moody’s also produces **Country Climate Risk Scores** for sovereign analysis, similar to the EIB model, and climate-adjusted default risk for companies. *Strengths:* **Deep financial integration** – these tools translate climate data into metrics that matter for investors (e.g. default probabilities, Value-at-Risk, credit rating adjustments). They cover both **acute physical hazards and transition risks** (policy, market shifts) in a unified framework. Moody’s long-standing reputation means their climate scores carry weight in the market, and they are aligned with disclosure frameworks (TCFD, etc.). *Limitations:* The focus is on financial materiality, not on **policy planning or sectoral development**. The models are largely proprietary “black boxes” from the user perspective, and while they handle infrastructure risk, they *don’t specifically address tourism* considerations (e.g. tourist arrival declines or cultural asset loss isn’t a separate factor – a beach resort might be treated like any commercial real estate in the hazard model). Additionally, these tools often require considerable data (precise asset locations, characteristics) and are **geared toward expert risk analysts** rather than general policy users.
* **XDI (Cross Dependency Initiative)** – XDI is a specialist firm focusing on **physical climate risk to infrastructure assets**. Its platform quantifies potential damage and downtime costs from extreme weather and climate change on a wide range of assets (buildings, roads, utilities, etc.) by using detailed engineering-based catastrophe models. For example, XDI’s analyses (such as their 2023 report on global critical infrastructure) calculate risk of damage from hazards like flooding, wind, and wildfire for thousands of facilities (e.g. 200,000 hospitals worldwide) under future climate scenarios. XDI provides an **Asset Risk Rating** that condenses these findings into a score or index for each asset or region, allowing comparison of risk across sites or jurisdictions. *Strengths:* **Infrastructure-oriented rigor** – XDI uses scientifically robust models (over 200 peril models across 100+ countries, inherited from insurance industry standards) to estimate **probabilistic losses and damage**. This results in concrete metrics (e.g. projected annual damage cost) that asset owners and insurers can act on. The tool can highlight hidden vulnerabilities in networks by analyzing cross-dependencies (hence the name). It’s useful for **governments and large investors** to understand which assets or regions are most at risk in monetary terms. *Limitations:* XDI’s granular approach means it often requires detailed data on assets (construction, location, protection measures). It is **not designed for macroeconomic or sector-wide analysis** in one go – rather it’s asset-by-asset, which then can be aggregated. So, while a tourism agency could use XDI to assess, say, key airports, hotels, and roads in a destination, the output is a collection of engineering risk metrics that still need economic and policy interpretation. Also, its focus is squarely on physical hazards; factors like tourism market shifts or community resilience are beyond its scope.
* **riskthinking.AI** – A newer entrant, riskthinking.AI takes an AI-driven approach to climate financial risk. It builds a **“Climate-Earth Digital Twin”**, integrating multiple data layers (physical asset locations, hazard projections, socioeconomic data, etc.) to model uncertain futures. Their platform produces **stochastic risk forecasts** and multi-factor scores using ensemble machine learning: for each company or portfolio, it can combine exposures to various hazards into an overall climate risk score (with distributions). Target users include banks, institutional investors, and insurers who want on-demand analysis of how climate extremes and transitions might impact their holdings. *Strengths:* **Advanced AI methodology** – by using a stochastic and data-rich approach, it explicitly accounts for uncertainty and tail risks (extreme but plausible scenarios) in a way deterministic models do not. It covers **99% of publicly listed companies’ physical assets globally** through its data, and can provide metrics like Climate Value-at-Risk and “materiality scores” for each asset or firm. The platform is also designed to be user-friendly (with a research app interface) and transparent about scenarios. *Limitations:* As an AI-heavy solution, it can be a “black box” in terms of how exactly the algorithms weigh different factors – users may need trust in the model. It is **finance-focused**, similar to Moody’s, with less emphasis on specific sector adaptation actions. There is no explicit module for tourism or infrastructure policy; it treats climate risk as a financial risk management problem. Additionally, being relatively new, its real-world track record is short, and it might require substantial user training to interpret probabilistic outputs (e.g. understanding what a 95th percentile loss scenario implies for policy).
* **dClimate Aegis** – An example of a boutique tech startup tool, *Aegis* (by dClimate) is an AI-enabled physical climate risk assessment platform that has been demonstrated for *tourism* companies specifically. In 2023, dClimate showcased Aegis through a case study with a major hotel chain, assessing climate risks (heatwaves, wildfires, floods, etc.) across **1,500 hotel locations**. The tool provided the hotel operator with a **dashboard of risk scores** and maps, helping them proactively identify which properties face the highest climate threats and plan adaptive measures. They performed a similar analysis for a large retail chain (2,500 stores) to prove versatility. *Strengths:* **User-centric design** – aimed at corporate end-users (not just risk analysts), Aegis emphasizes clear visualization of risks for each site and practical insights. Its focus on specific sectors (tourism, retail) means it can incorporate relevant data (e.g. visitor patterns for hotels) and speak the language of business continuity. It’s delivered as a modern SaaS platform, with easy updates and the ability to drill down into each site’s risk drivers. *Limitations:* As an emerging tool, it likely covers mainly **physical climate hazards** and may not fully capture macroeconomic dimensions (like how a disaster at one destination reverberates through tourism revenue nationally). It’s currently in early access, so features and geographic coverage are still expanding. The model’s sophistication is somewhat lower than giants like ICE or riskthinking – it leverages existing climate data networks (dClimate’s marketplace) but doesn’t necessarily produce original climate simulations. In short, it’s *promising for corporate climate preparedness*, especially in tourism, but it is not yet a comprehensive policy tool.

*(There are many other private tools: e.g.* ***Jupiter Intelligence*** *provides high-resolution climate risk modeling as a service, often using cutting-edge data assimilation and AI for continuous updates;* ***The Climate Service (Climanomics)*** *– now part of S&P Global – offers TCFD-aligned physical & transition risk analytics with financial impact outputs;* ***Willis Towers Watson’s Climate Diagnostic*** *helps corporations quantify risks under different warming scenarios, etc. These all indicate a competitive landscape of sophisticated tools primarily serving financial and corporate risk management needs.)*

**Academic and Research-Based Prototypes**

Academic institutions, nonprofits, and research collaborations have also developed climate risk assessment frameworks, often as prototypes or policy advisories. These tend to prioritize methodological innovation or holistic metrics:

* **CORVI – Climate and Ocean Risk Vulnerability Index (Stimson Center)** – CORVI is a tool designed to assess climate and ocean-related risks for **coastal cities**, with a special focus on how climate impacts intersect with economic and social vulnerabilities. It uses a **multi-criteria index** approach: researchers gather ~90 indicators across 10 risk categories (ranging from ecological health of fisheries and reefs, to financial system stability, to infrastructure and community resilience). These indicators are a mix of quantitative data and qualitative inputs from local experts; through a **Delphi-style process**, experts weight and score the indicators to produce an overall vulnerability score for the city. CORVI has been applied to cities like Castries (St. Lucia) and Kingston (Jamaica) to help identify priority areas for investment in resilience. *Strengths:* **Holistic and context-specific** – CORVI doesn’t just look at climate hazards; it explicitly links them to economic and societal factors (for example, how a decline in fisheries or a tourism downturn from coral bleaching would impact the local economy). This provides **actionable insights for policymakers and donors**, highlighting which sectors or neighborhoods are most at risk and why. It’s especially useful for developing coastal cities where data may be sparse – the expert elicitation fills gaps. *Limitations:* The methodology is **labor- and data-intensive**. Each city assessment is essentially a mini research project taking months, so it’s not a scalable “tool” one can run for any location on demand. The results, while rich, are somewhat subjective due to expert scoring. Because of its breadth, CORVI’s output (a vulnerability score and profile) may not pinpoint specific projects or provide the predictive precision that investors might want – it is aimed at strategic prioritization. It also currently focuses on coastal contexts (where tourism is often one key sector, but not the sole focus).
* **AI for Multi-Risk Assessment (Myriad-EU project)** – A cutting-edge research prototype from an EU Horizon project (**Myriad**), this approach uses AI to model **compound climate risks** on a regional scale. In a 2025 case study for the Veneto region of Italy, researchers developed a **stepwise machine-learning framework**: first, they created individual hazard susceptibility maps for events like heatwaves, droughts, storm surges, floods, landslides, and wildfires (using statistical methods and an ML algorithm XGBoost for complex hazards). Next, they trained a Random Forest model on historical data of multi-hazard events to produce an integrated *multi-hazard risk map* capturing where hazards coincide or compound. Finally, they introduced socio-economic **vulnerability and exposure indicators** – including population, built environment value, *tourism*, and agriculture – to transition from hazard risk to **overall risk**. The model was run for current climate and future scenarios (RCP 4.5 and 8.5), revealing that under warming scenarios, *hotspots of multi-risk especially threaten the tourism and agriculture sectors in Veneto*. *Strengths:* This prototype illustrates the power of **AI in unraveling complex risk interactions**. By using data-driven models, it can detect non-linear relationships and clustering of events (e.g. a drought followed by wildfire) that traditional single-hazard assessments miss. It also explicitly ties in sectoral exposure (like tourism beds or revenue in an area) to highlight economic impacts. The approach is forward-looking, showing how risk patterns could shift with climate change – critical for long-term investment decisions. *Limitations:* As a research tool, it’s **not yet a user-friendly application** – it exists as a framework implemented by a team of experts. It requires extensive data and computational resources, and the outcomes (risk maps) still need interpretation for policy (e.g. deciding what adaptation measures to fund in the identified hotspots). Also, machine learning models can be hard to interpret causally (the “why” behind a certain area’s high risk score might not be immediately clear without digging into the model), which can be a hurdle for decision-maker trust. Nonetheless, this project hints at what next-generation AI-driven tools like CRISI might do: dynamically integrate multi-hazard physics with socio-economic impacts in specific sectors.
* **ND-GAIN Index (Notre Dame Global Adaptation Initiative)** – An academic index widely referenced by public and private sectors alike, ND-GAIN provides a **global ranking of countries’ climate vulnerability and readiness**. It compiles 20+ years of data across 45 vulnerability indicators (covering sectors like water, food, health, infrastructure, ecosystems) and 30 readiness indicators (economic, governance, social readiness) to score each country on a scale of 0 (worst) to 100 (best) for both **vulnerability** and **adaptation readiness**. These scores help pinpoint how well a country might handle climate hazards and how prepared it is to implement adaptation investments. *Strengths:* ND-GAIN is **comprehensive and comparable** – it’s free and publicly available for 180+ countries, updated annually, enabling benchmarking and tracking over time. It has a strong conceptual foundation (drawing from IPCC definitions of vulnerability) and is often used to justify investments (e.g. identifying least-developed countries that need more resilience funding). It also indirectly highlights issues relevant to tourism – for instance, countries that depend heavily on climate-sensitive tourism may show high vulnerability in their economy indicator. *Limitations:* Similar to other country indices, ND-GAIN is **macro-scale** and not sector-specific. A country’s score won’t tell you which regions or industries (such as tourism) within the country are most at risk. It is also largely based on *current/historical data* and capacity, so it may not fully account for future drastic changes or extremes. In practice, it’s used as a starting point for risk awareness, but decision-makers must do further detailed analysis for projects or local contexts.

*(Academia has also introduced various* ***Tourism Climate Vulnerability indices****. For example, researchers have proposed composite indicators for tourism at national and destination levels, integrating factors like destination exposure to extreme weather, tourism dependency, and adaptive capacity. These studies reinforce that tourism has unique sensitivities (e.g. seasonality, visitor perceptions) but most remain theoretical exercises rather than operational tools. Likewise, organizations like OECD have issued guidelines for building resilient tourism destinations, but concrete tools tailored to tourism investment are still nascent.)*

**Comparative Analysis and CRISI’s Unique Value**

The landscape above shows a **spectrum of tools** – from high-level vulnerability indices to granular asset risk engines – none of which perfectly fills the niche that CRISI aims to occupy. Table 1 summarizes key competitors and analogs vis-à-vis their scope, methods, and relevance to tourism or infrastructure. This provides context to **compare them with CRISI**:

| **Tool / Provider** | **Methodology & Data** | **Scope / Users (Tourism/Infra Application)** | **Key Strengths** | **Key Limitations** |
| --- | --- | --- | --- | --- |
| **EIB Climate Risk Country Scores** *(Public)* | Index combining multi-hazard exposure & adaptive capacity data; produces separate physical and transition risk scores. | Country-level assessment for 180+ nations; used by development banks and policymakers (not sector-specific). | Comprehensive national coverage; integrates socio-economic resilience into risk score (helps prioritize adaptation finance). | Very coarse scale (national averages); lacks detail for specific regions or industries (e.g. tourism sector within a country). |
| **World Bank Climate Risk Screening** *(Public)* | Qualitative screening using GIS hazard maps + expert judgment; scenario data on future climate provided to users. | Project planners in various sectors (infrastructure, agriculture, etc.); can be applied to tourism projects in planning phase. | Standardized process ensures climate is considered early; uses best-available climate data for the location. | Not an automated score – outcome depends on user inputs; broad-brush results (“high/low risk”) and no direct economic loss quantification. |
| **ADAPTUR Tourism Climate Self-Assessment** *(Public/NGO)* | Questionnaire/checklist tool covering risk factors in tourism project design (site, design, financial, social). | Tourism investors & developers (piloted in Mexico, applicable globally for tourism infrastructure). | Sector-specific guidance; easy to use at project level; links identified risks to adaptation solution ideas. | Qualitative and subjective; limited to *current* risks (no explicit modeling of future climate shifts); requires tailoring to local context. |
| **ICE Climate Risk (ICE)** *(Private)* | AI-geospatial platform mapping physical hazards for 1.6B building locations worldwide; scenario-aligned risk scores for each asset. | Institutional investors, insurers, asset managers; covers corporate real estate, infrastructure assets globally (indirectly includes tourism facilities). | Ultra-granular (building-level); covers multiple hazards; forward-looking analytics directly integrated into financial workflows. | Proprietary and complex; focused on asset exposure, not broader economic impacts; not tailored to tourism demand or policy needs (treats tourism assets like any other property). |
| **Moody’s / Four Twenty Seven** *(Private)* | Climate risk scoring for assets, companies, and sovereigns using climate model outputs & proprietary analytics; integrates with credit risk models. | Banks, investors, credit rating analysts; applies to corporate facilities, supply chains, city and country risk (no specific tourism module). | Financial relevance – translates risk to credit metrics; comprehensive (physical & transition risks) and trusted by markets. | Finance-centric (resilience measured in terms of financial loss/default); limited direct guidance for sectoral adaptation; black-box methodology. |
| **XDI Climate Risk** *(Private)* | Detailed catastrophe risk models (200+ peril models) estimate damage probability and costs for individual assets; produces asset risk ratings. | Asset owners (infrastructure, utilities, large enterprises) and governments; used to assess critical infrastructure risk (energy, health, transport, etc. – could include major tourism infrastructure). | Engineering rigor; quantifies risk in economic terms (e.g. expected damage $$); highlights infrastructure vulnerabilities that require climate-proofing. | Data-heavy and asset-specific; doesn’t inherently aggregate to macro or sector level insights; covers physical hazards only, ignoring market/tourism visitation impacts. |
| **riskthinking.AI** *(Private)* | AI-driven “digital twin” with multiple data layers; stochastic modeling of risk under many scenarios; produces overall climate risk scores and financial risk metrics (VaR, etc.). | Financial institutions (banks, funds) and corporations; portfolio-level climate risk assessment across all sectors (no specific tourism focus, but could analyze a travel company’s assets). | Cutting-edge AI captures uncertainty and compound risks; global coverage of assets; outputs are decision-useful for risk management (probabilistic loss estimates). | Aimed at risk disclosure/compliance rather than strategic planning; results may be hard for non-specialists to interpret; not customized to tourism economics or local planning contexts. |
| **CORVI (Stimson Center)** *(NGO/Research)* | Multi-criteria vulnerability index using ~90 indicators and expert surveys (Delphi method) to score coastal city climate-ocean risk. | City governments, international donors focusing on coastal cities (tourism is often one component in economies like Caribbean islands). | Holistic (climate, environment, economic and social risks combined); pinpoints cross-cutting vulnerabilities in coastal *urban* systems, guiding resilience investment. | Time- and resource-intensive per city; subjective weighting; not easily scalable or updateable without new expert input; outputs are relative vulnerability scores, not predictive damage estimates. |
| **AI Multi-Risk (Myriad-EU)** *(Research prototype)* | Machine Learning integration of multiple hazard maps (heat, flood, etc.) and socio-economic exposure (population, tourism, etc.) to produce composite regional risk maps; trained on historical compound events. | Researchers and future policy tools; demonstrated for a region (Veneto, IT) highlighting sectoral risks (tourism, agriculture) under future climate scenarios. | Innovative handling of hazard interactions and future scenarios; identifies sector-specific risk hotspots; exemplifies how AI can enhance regional risk assessment. | Currently an academic exercise – not operational for end-users; requires extensive data and ML expertise; model complexity can reduce transparency for decision-makers. |

**Table 1:** Selection of climate risk assessment tools and their characteristics, as relevant to CRISI’s context. (Sources: as cited inline)

**How CRISI Differs and Adds Value**

CRISI’s vision is to provide **AI-powered climate risk scoring with both spatial and economic dimensions, specifically to inform macroeconomic tourism investment policy**. Based on the competitive landscape, CRISI can distinguish itself in several realistic ways:

* **Tourism-Centric Focus:** Unlike most tools which are general-purpose or finance-focused, CRISI is conceived for the **tourism sector and related infrastructure**. This means its risk models and scoring criteria can be tailored to factors that truly matter for tourism – e.g. **destination attractiveness, seasonal demand, tourism revenue sensitivity**, and the vulnerability of natural and cultural assets that draw visitors. None of the surveyed competitors explicitly models how climate extremes translate into lost tourist arrivals or GDP impacts in tourism-dependent regions. CRISI can fill this gap by linking climate hazards (say, a Category 5 cyclone or prolonged heatwave) *to economic outcomes in tourism* (such as decline in tourist nights, damage to hotels/beaches, or increased operating costs) in its scoring algorithm. This focus provides **more relevant intelligence to tourism ministries and investors** than a one-size-fits-all risk score. For example, a coastal flood risk at a beach resort in CRISI’s model would account for beach erosion and its effect on visitor numbers – something ICE’s or XDI’s generic models would not do.
* **Integrated Spatial-Economic Analysis:** CRISI promises to combine **GIS-based hazard assessment with macroeconomic analysis**. In practice, this could mean CRISI’s AI takes in geospatial data (climate projections, topography, land use, location of tourism assets) and socio-economic data (tourism revenue, employment, adaptive capacity of communities) to produce a composite resilience score. This dual integration is a *step beyond* what we see in current tools. Public indices like ND-GAIN or EIB scores combine country economic data with climate risk, but only at a broad scale. Private tools like riskthinking.AI integrate many data layers but remain focused on financial risk metrics for assets. CRISI can be **rigorously multi-dimensional**: for each region or project, scoring how climate hazards in that location intersect with the local economy’s reliance on tourism and its preparedness. Essentially, CRISI would function somewhat like the Myriad-EU prototype but tailored to tourism: e.g. identifying that *Region X* has high exposure to drought and wildfires, plus a high percentage of GDP from wine tourism, plus low infrastructure resilience – culminating in a *Climate Resilience Score* that reflects potential economic loss in tourism and the urgency of adaptive investment. This kind of insight – *“Where are the climate tipping points for our tourism industry?”* – is unique to CRISI’s integrated design.
* **Policy and Investment Decision Support:** Many existing tools serve either **micro-level risk management** (e.g. asset risk for insurance) or **disclosure** (reporting risks in financial filings) or broad **awareness** (global indices). CRISI, by contrast, is positioned as a **strategic planning tool for governments and investors in the tourism sector**. That means its outputs can be tuned to inform decisions like: *Which tourism regions should receive priority climate adaptation funds? Where should new tourism infrastructure be (or not be) built given future climate projections? What is the expected economic return on investing in resilience for a certain destination?* CRISI could provide scoring and scenario analysis to support such questions, translating climate risk into **policy-friendly metrics** (for instance, “climate risk-adjusted ROI” for a proposed resort, or a ranking of destinations by resilience score to guide national tourism strategies). In comparison, a tool like ICE’s might tell you property A has flood risk score 8/10, but it won’t tell a tourism board how that risk translates into lost jobs or whether investing in a seawall is worth it. CRISI’s unique value is in filling that *last mile* between climate data and actionable economic policy for tourism development.
* **AI-Driven, Dynamic Insights:** By leveraging AI, CRISI can remain **cutting-edge and adaptive**. It might utilize machine learning to assimilate new data (e.g. real-time climate data, emerging tourist behavior trends, damage reports from recent events) and update risk scores dynamically – providing a more *realistic and up-to-date picture* than static indices. For example, CRISI could employ techniques similar to riskthinking or Myriad: ingesting satellite data and sensor feeds to refine hazard frequencies, or mining unstructured data (news, social media) for early signals of climate-related disruptions to tourism (such as tourist perception of wildfires). This AI capability could set CRISI apart by offering **early warning of climate-economic risks** in tourism that other tools, which update infrequently or rely on user-pulled analysis, might miss. It’s important, however, that CRISI’s AI models be transparent and validated – a lesson from the competitors is that users (especially government users) need clarity and trust in the methodology. CRISI should thus combine advanced techniques with clear documentation and possibly a user interface that allows exploring *why* a certain location scored poorly (e.g. showing which factors – hazard X, exposure Y, readiness Z – drove the score).
* **Filling the Gap in Scale and Specificity:** CRISI is positioned between the broad country indices and the ultra-detailed asset models – *a space that currently has few occupants*. It aims at a **meso-scale**: likely providing scores at subnational or destination level (e.g. a province, island, or tourist circuit), which is highly relevant for tourism planning. Most public tools either stay national (EIB, ND-GAIN) or local project (screening tools), and most private ones either aggregate globally or zoom into single facilities. CRISI can operate at the scale of tourism destinations or regional economies, which is exactly where policy is often made (e.g. a national tourism master plan might target development in specific regions). By being **purpose-built for this scale and purpose**, CRISI adds unique value. It could, for instance, compare the climate resilience of different resort areas or UNESCO heritage sites, guiding a tourism ministry on where to bolster infrastructure or diversify offerings. In comparison, trying to use existing tools for that purpose either gives too high-level a picture (country index) or requires piecing together many local analyses.
* **Realistic Perspective on Strengths vs. Competitors:** It’s important to be **rigorous and realistic**: CRISI will not replace detailed engineering risk models or broad global indices, and it should leverage – not ignore – data from those sources. In fact, CRISI would likely *consume inputs* from some competitors (for example, using climate hazard data from public sources like Copernicus or FEMA, economic indicators from World Bank or ND-GAIN, etc.) and then apply its AI and sector-specific expertise to produce new insights. CRISI’s unique contribution is the *intelligence layer* on top of existing data – scoring and interpreting climate risk through the lens of tourism investment. Where others provide raw risk metrics or generic scores, CRISI provides context: **“what does this mean for our tourism sector’s resilience and growth?”**. Also, CRISI can differentiate itself by communicating results in a way that resonates with both **economists and planners** (e.g. using indices, maps, and narratives that link climate impacts to tourism outcomes), effectively bridging the gap between climate science and tourism policy.
* **Addressing Limitations:** A frank comparison shows each competitor has limitations (be it lack of sector focus, scale mismatch, or complexity). CRISI must be **realistic about its own challenges**. For example, acquiring quality data on tourism assets and economic flows can be tough – CRISI will need robust data partnerships or modeling to estimate things like tourist revenues at risk. It also needs to ensure that its AI models don’t obscure causality; users will want to know, say, if a low resilience score for a destination is mainly due to projected water shortages affecting hospitality, or perhaps due to weak adaptive capacity in local governance. By learning from the shortcomings of others, CRISI can build in features like *explainable AI outputs* and scenario stress-testing (similar to what banks expect from climate tools) so that policy-makers can explore “what if” questions (e.g. what if warming is limited to 1.5°C vs 3°C, or what if we invest $X in adaptation – how does the score improve?).

In summary, **CRISI occupies a novel position in the current landscape**: it is *sector-specific* (tourism-focused) where most tools are generic, *integrative* (spatial + economic) where others often tackle one or the other, and aimed at *strategic decision-making* rather than compliance or reactive risk management. Its value-add comes from translating the complexity of climate risk into intelligible, actionable intelligence for the tourism industry – a translation that existing tools only partially achieve. By doing so, CRISI would empower governments and investors to make informed, forward-looking choices to build climate-resilient tourism economies, complementing rather than duplicating what current public, private, and academic tools provide.