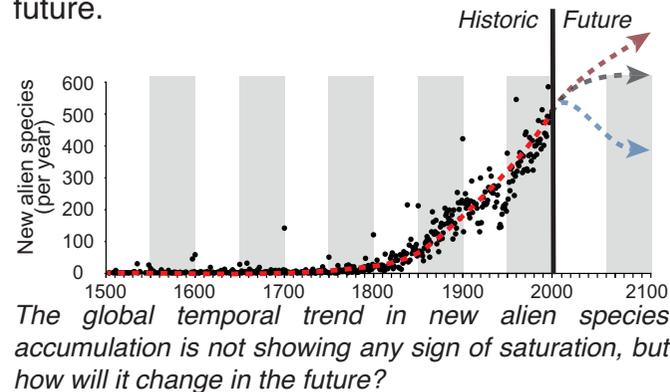


## Alien species are accumulating and having huge impacts

Biological invasions substantially affect biodiversity, ecosystem services, and human livelihoods. They are among the top 5 threats to global biodiversity, and the 2<sup>nd</sup> largest threat to island biota.

The associated mitigation and adaptation costs are extremely high, with an estimated environmental damage reaching US\$120 billion per year in the US and between €12.5 - 20 billion per year in Europe.

The numbers and impacts of invasions will further rise in the future as the rate of establishment of alien species has increased strongly during the last decades with no sign of saturation. Up to 16% of all species on Earth qualify as potential new alien species in the future.

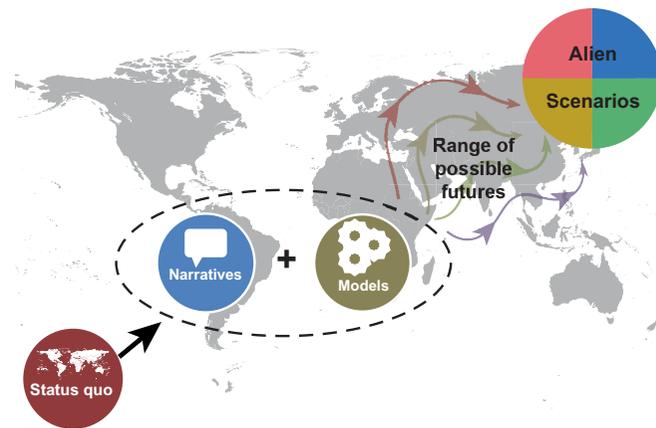


Wikimedia: Entomolo

Franz Essl

## Global scenarios of spread and impact of alien species

In **AlienScenarios**, we will, for the first time, evaluate the range of plausible futures of biological invasions for the 21<sup>st</sup> century at different spatial scales and for a range of taxonomic groups. We will combine the strategic forward-looking methodology of scenario planning with advanced modelling approaches to construct plausible global mid-term (2050) and long-term (2100) futures of biological invasions and their impacts.



Based on the current situation, qualitative narratives are developed, from which quantitative models are derived. The combination of narratives and models define possible future scenarios of biological invasions.

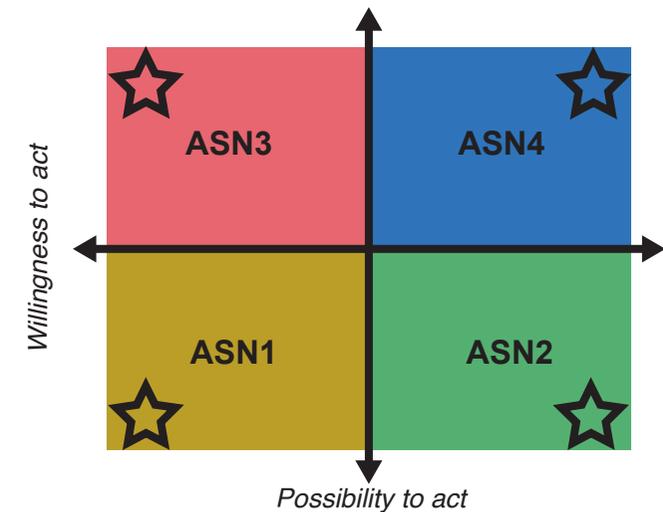


Bernhard Schütz

Pablo García-Díaz

## AlienScenarios objectives

- 1) Develop the first global, continental and regional **scenarios** and **models** for biological invasions for the 21<sup>st</sup> century.
- 2) Assess the effectiveness of **regulations** of invasive alien species.
- 3) Evaluate the future **impacts** of biological invasions on the environment and human livelihoods.



Four broad Alien Scenario Narratives (ASN) can be defined according to two axes: willingness to act and possibility to act. From these four narratives, four extreme global scenarios (☆) can be explored.



Wikimedia: Thirdwavephoto

Martina Stockinger

In summary, in **AlienScenarios**, we will quantitatively elucidate the range of plausible future invasion trajectories, provide crucially needed data for pro-active alien species management and policy, and explore options for arriving at preferred futures through the adaptation of existing policies.

**AlienScenarios is particularly relevant for the following bodies**

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services - IPBES  
[www.ipbes.net](http://www.ipbes.net)

Convention on Biological Diversity - CBD  
[www.cbd.int](http://www.cbd.int)

IUCN Invasive Species Specialist Group - ISSG  
<http://www.issg.org>

Intergovernmental Panel on Climate Change - IPCC  
[www.ipcc.ch](http://www.ipcc.ch)

EU Regulation 1143/2014 on IAS  
[http://ec.europa.eu/environment/nature/invasivealien/index\\_en.htm](http://ec.europa.eu/environment/nature/invasivealien/index_en.htm)

Sustainable Development Goals - SDG  
[sustainabledevelopment.un.org](http://sustainabledevelopment.un.org)

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<https://alien-scenarios.org/>

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## Developing and applying scenarios of biological invasions for the 21<sup>st</sup> century

