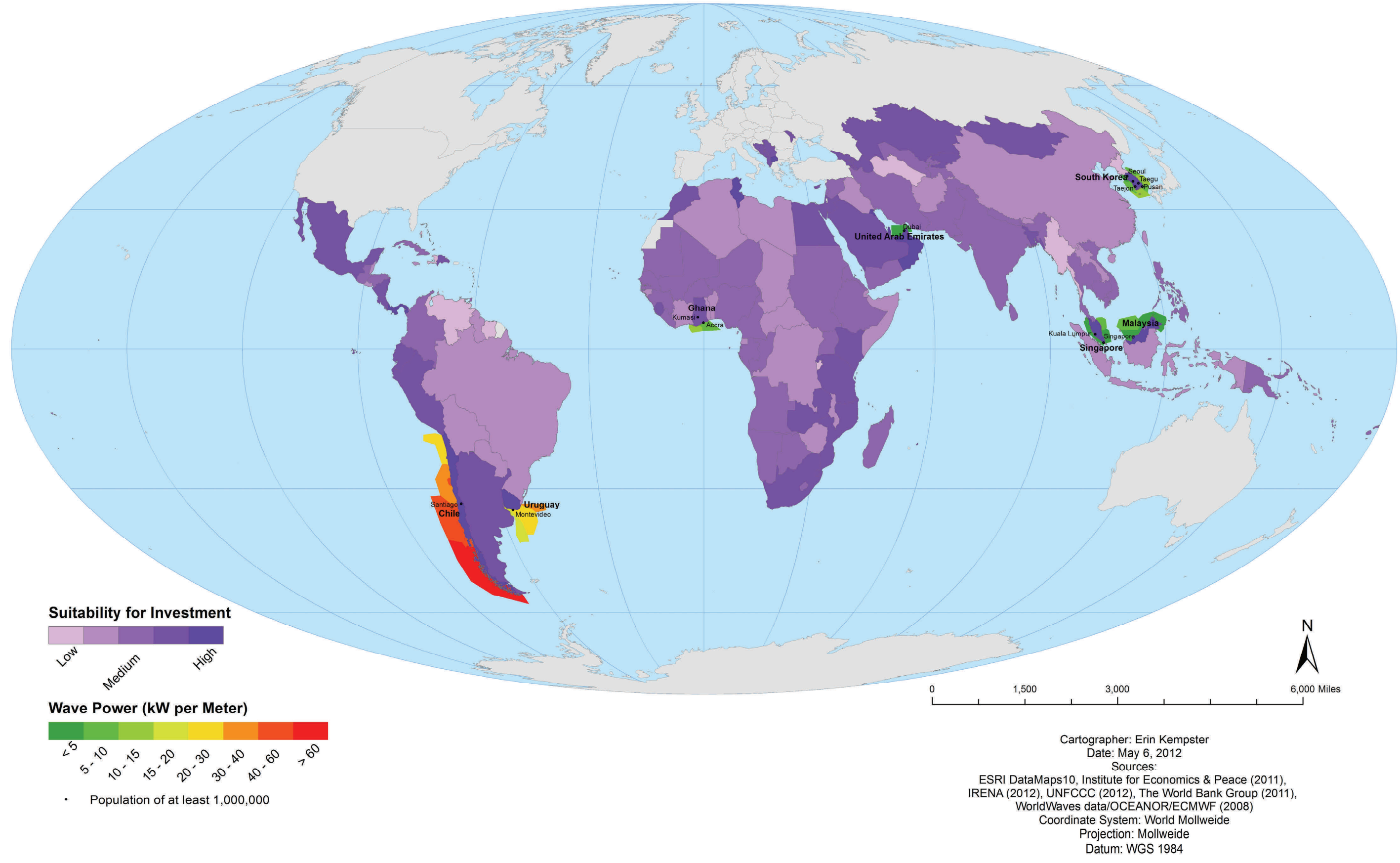


SITING SUITABILITY FOR WAVE POWER INVESTMENT IN UNFCCC NON-ANNEX I COUNTRIES



Introduction

Ocean power technologies, including wave power, utilize a renewable, predictable, and free source of energy but many barriers and complications to full implementation remain, and production in the developing world will surely lag. Yet the power generation decisions made now by many rapidly industrializing UNFCCC non-annex I countries carry long repercussions and may influence global climate change outcomes. This assessment is intended to add to the conversation about siting high-capital forms of renewable energy in the developing world by examining the case of wave power.

Methodology

A preliminary analysis of ocean power investment suitability requires the incorporation of two very different kinds of data and two stages of analysis. On one hand, the ability to choose enabling environments for this kind of development requires knowledge of

the economic, political, and social characteristics of different countries. On the other hand, any discussion of optimal siting for ocean-specific renewable energy investment would be impossible without at least a rough idea of the oceanographic characteristics of the areas in question. In this case, physical analysis followed the process of ranking countries according to the qualitative socio-economic parameters. While only a preliminary effort, this two-stage processing of available data has generated results in the form of country rankings that allow for an accompanying report to more deeply analyze country contexts.

Assumptions and Limitations

Wave power energy generation is still a nascent technology, and therefore, it is not entirely clear what socio-economic and policy pre-conditions may help facilitate such development. Additionally, since wide-scale adoption of wave power is so far off, current indicators may have little to do with future reality. The presumption here was that institutional strength and rule of law would be well represented by two bundled indicators from the Doing Business rankings and a Global Peace Index.

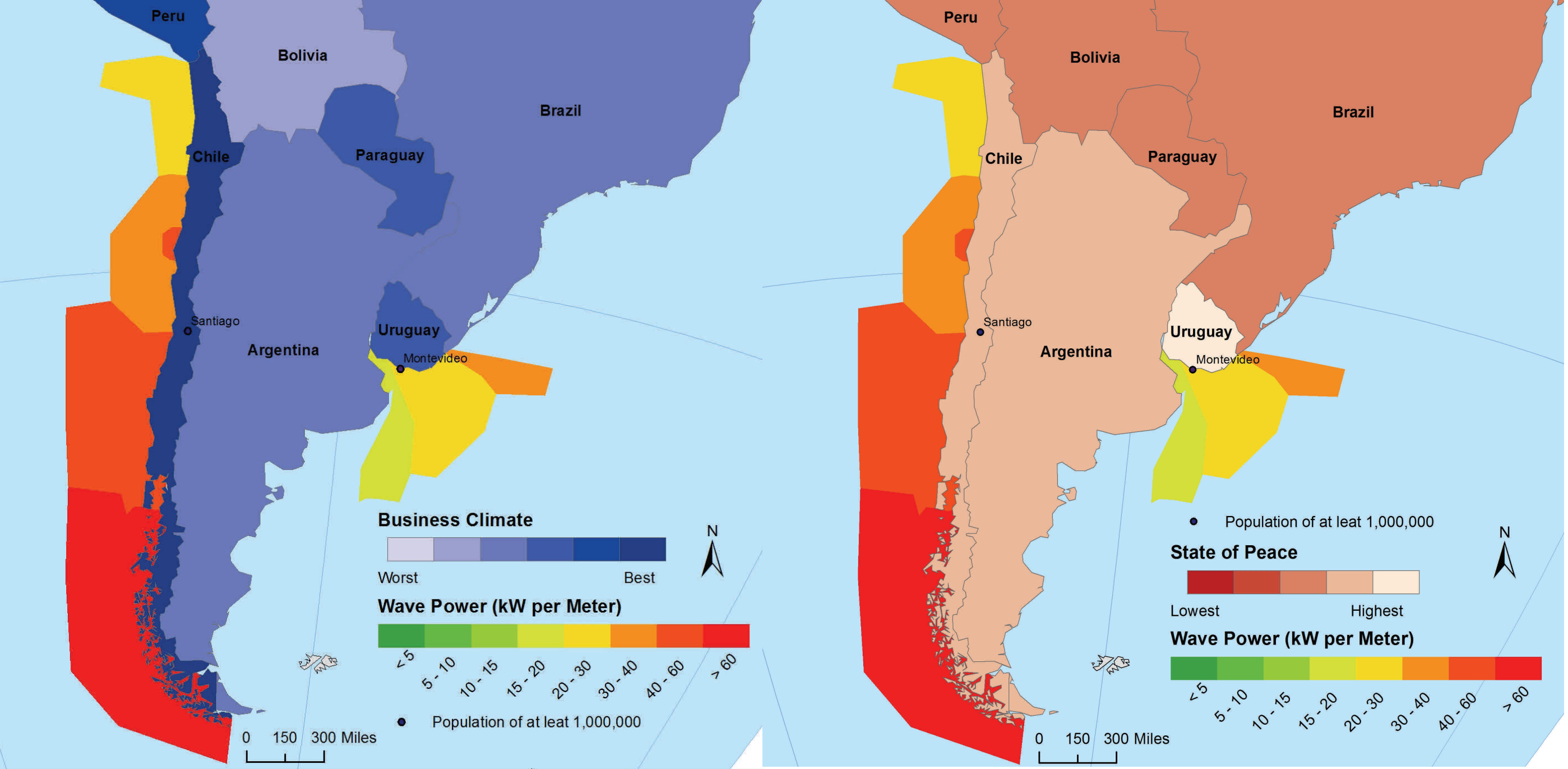
The main limitation within this analysis was the imprecision of the available wave data. It should be noted that this data reflects global ten year averages for off-shore power levels. Near-coast conditions likely produce different results, including lower power levels.

Ranking System

UNFCCC Non-Annex I Country?	Doing Business	Global Peace Index	International Renewable Energy Agency
(Yes or No)	(Ranks from 1-183)	(From 1-153)	(Member, Signatory, or Applicant)
5 = Yes	5 = 1-37	5 = 1 - 31	5 = Member
0 = No	4 = 38 - 74	4 = 32 - 61	4 = Signatory
	3 = 75 - 110	3 = 62 - 92	3 = Applicant
	2 = 111 - 147	2 = 93 - 122	0 = Neither
	1 = 148 - 183	1 = 123 - 153	

NOTE: Several UNFCCC non-Annex I Countries not represented within subsequent ranking parameters

Most Suitable — Examination of Rankings

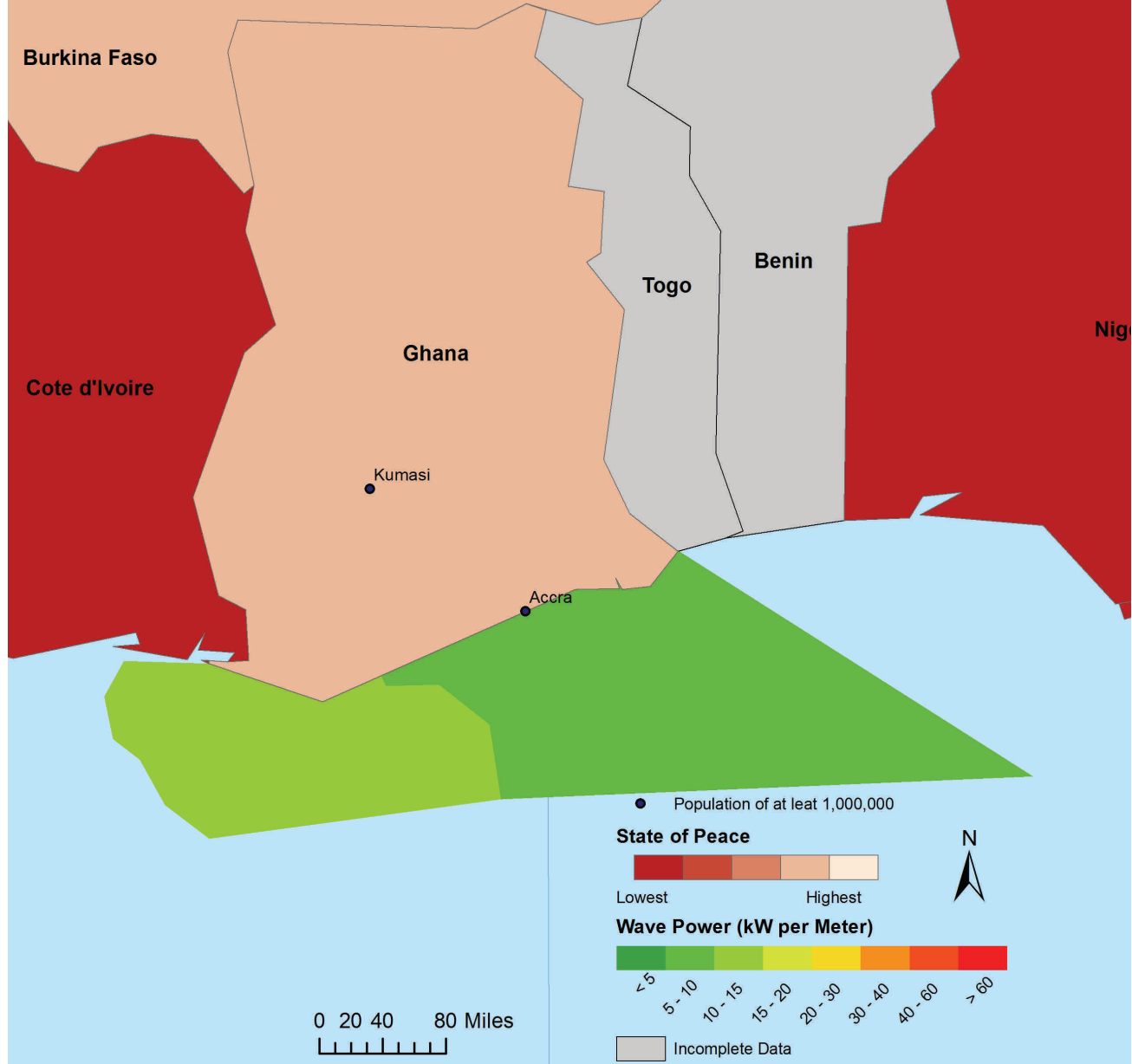


Results

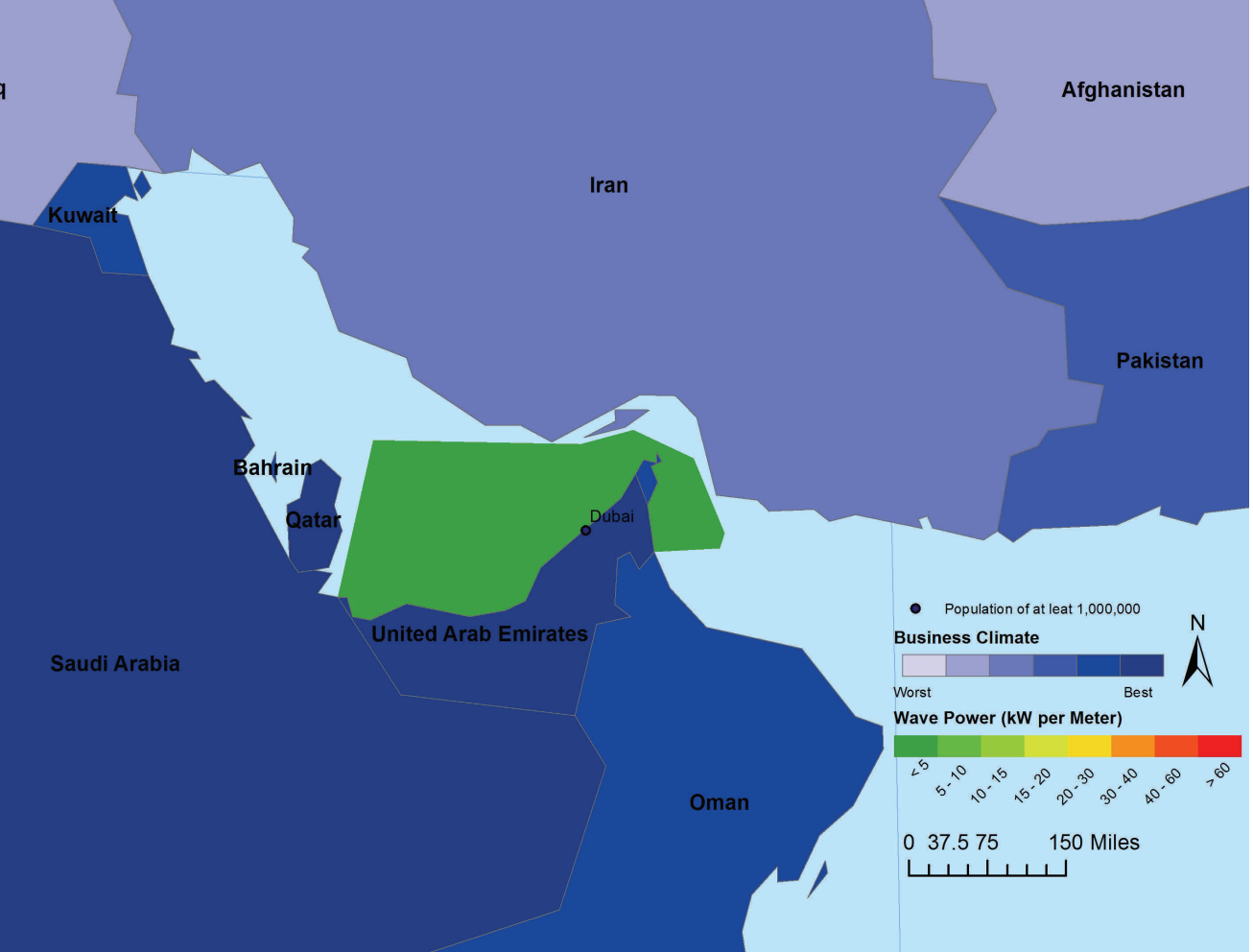
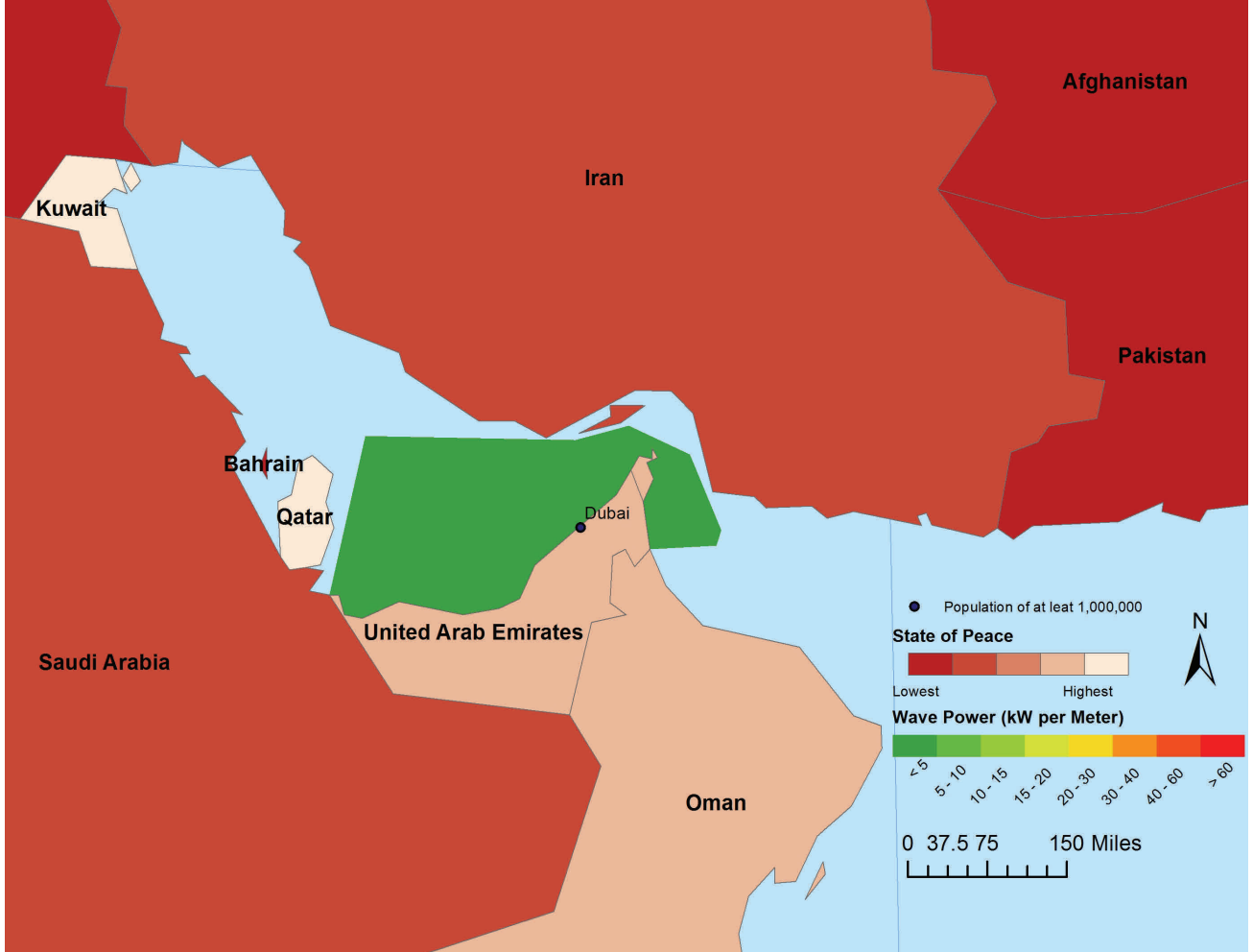
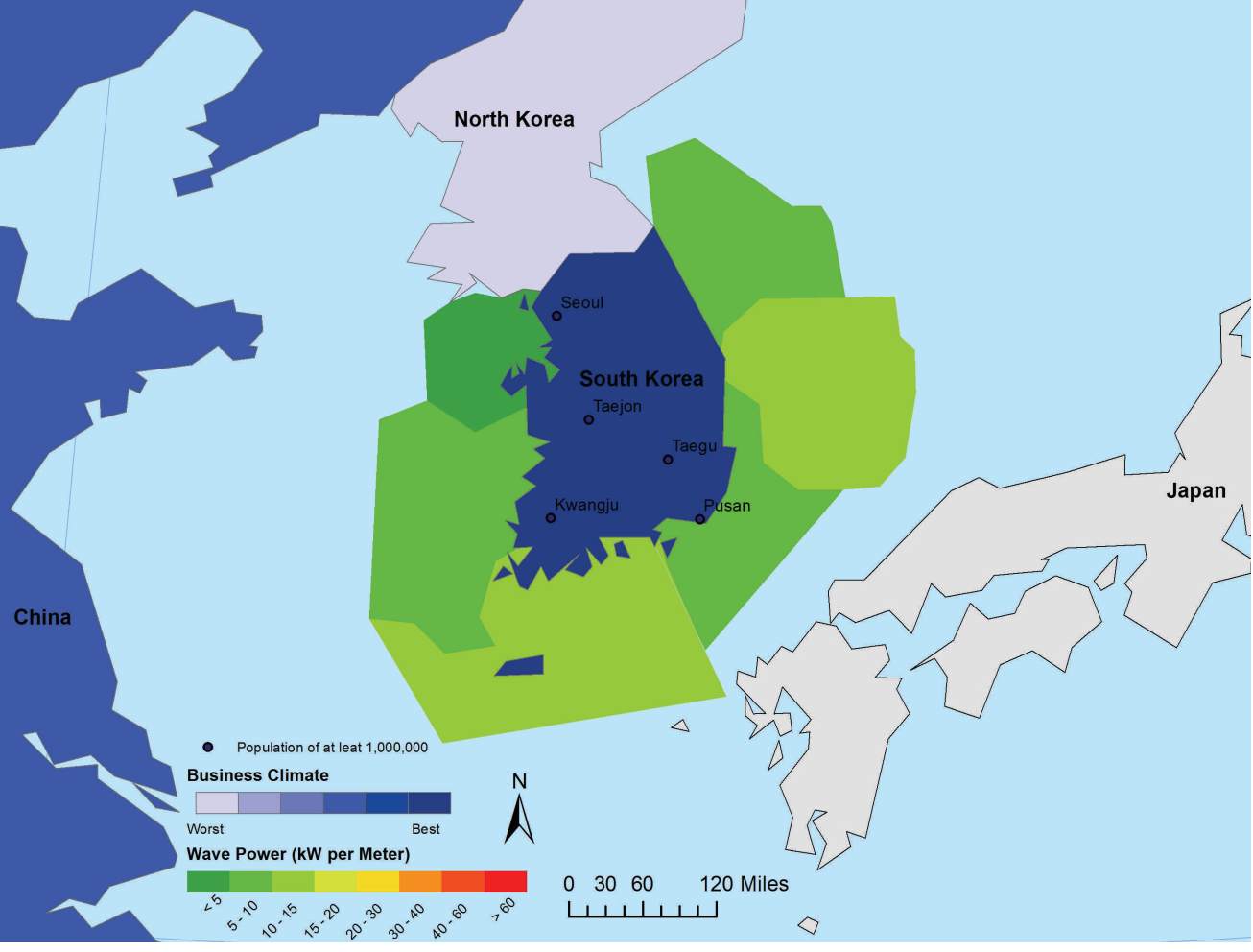
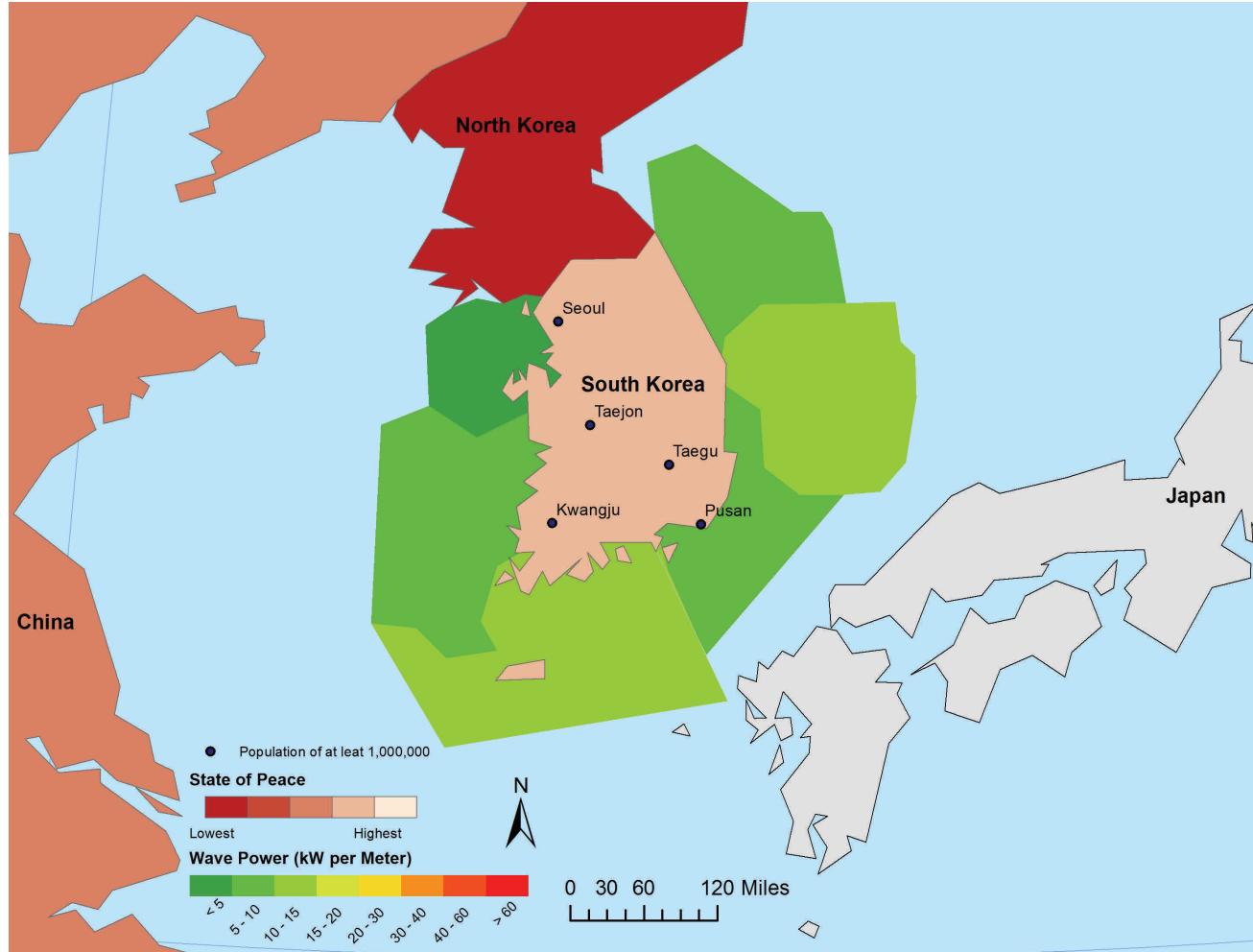
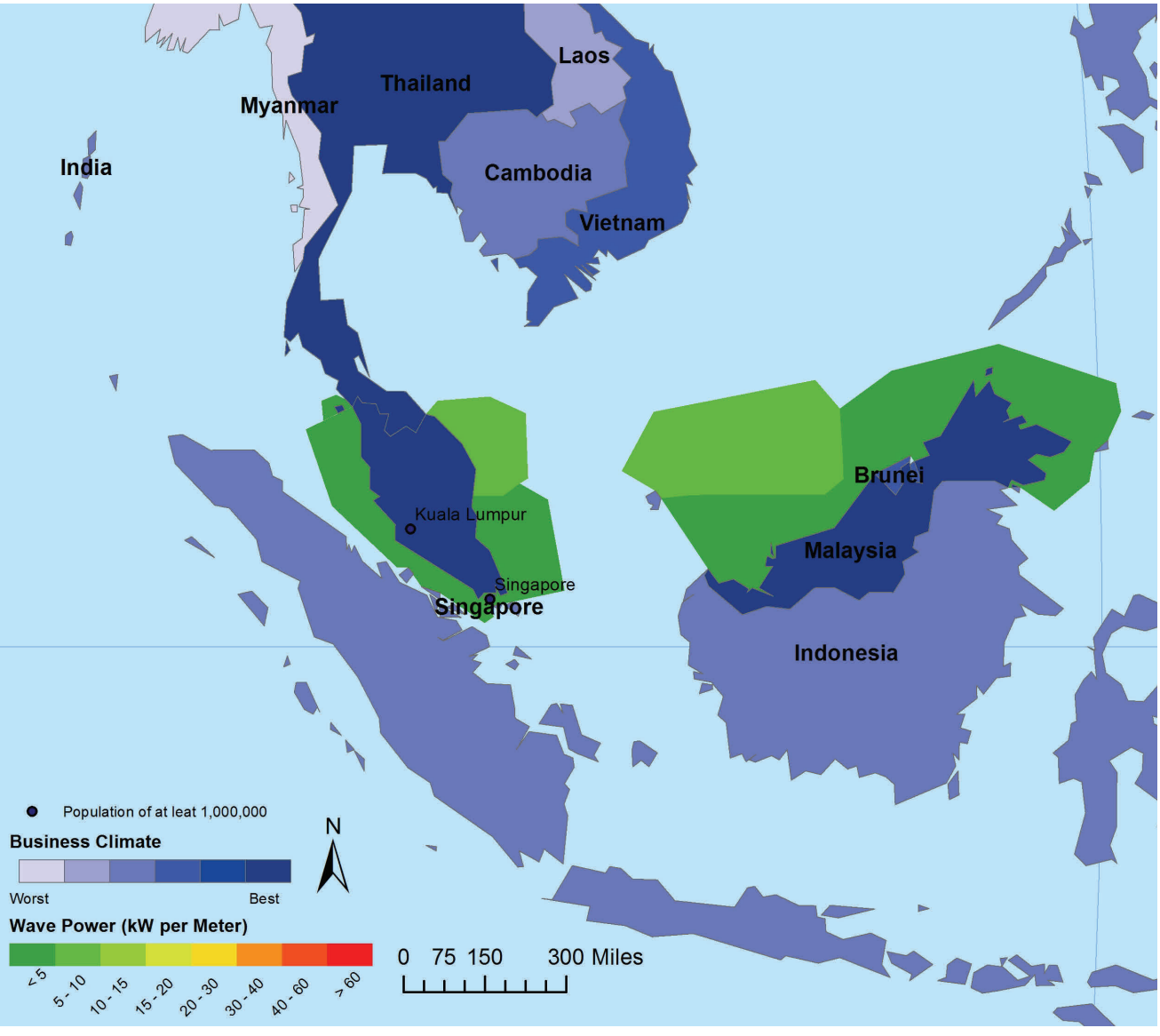
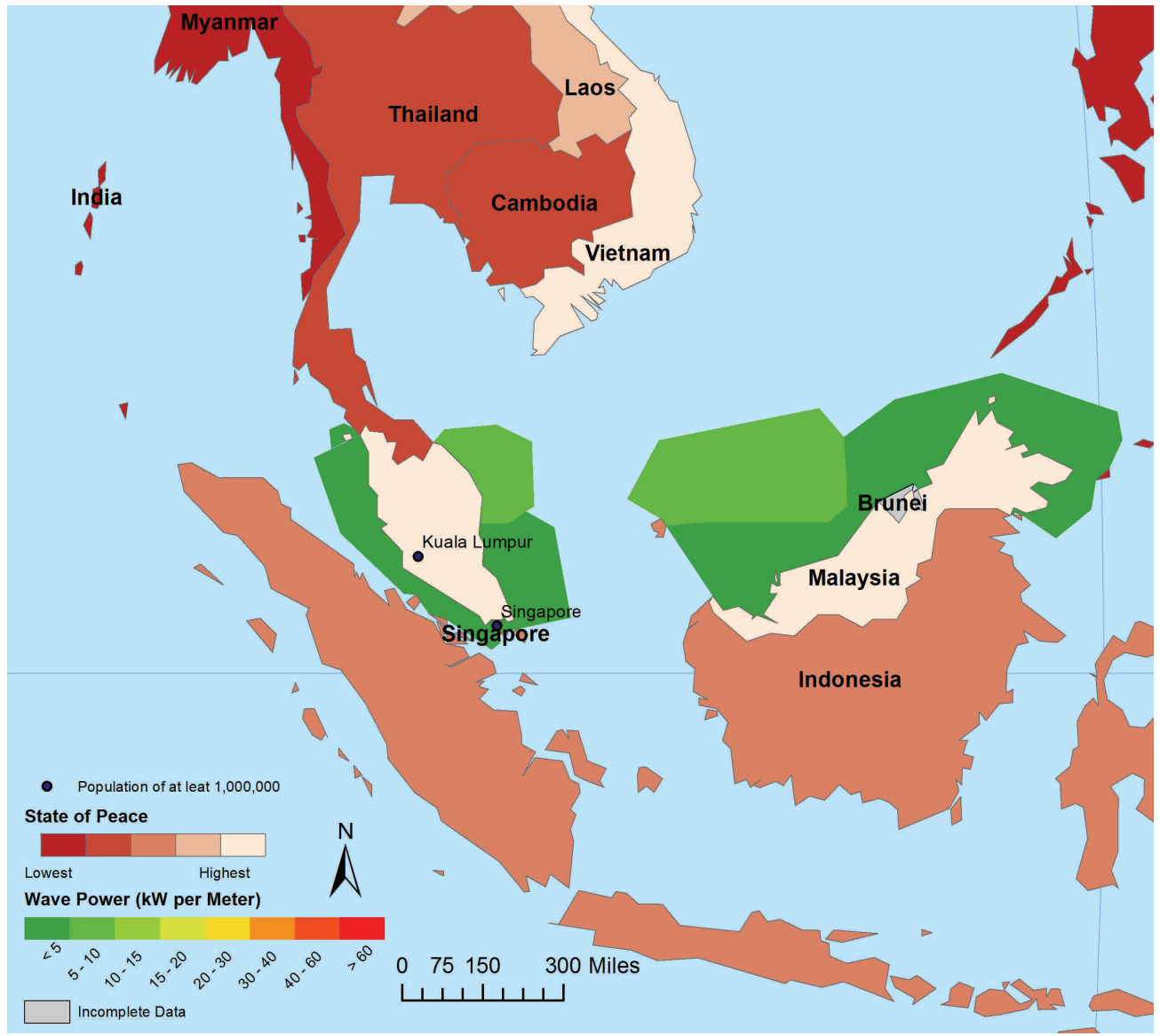
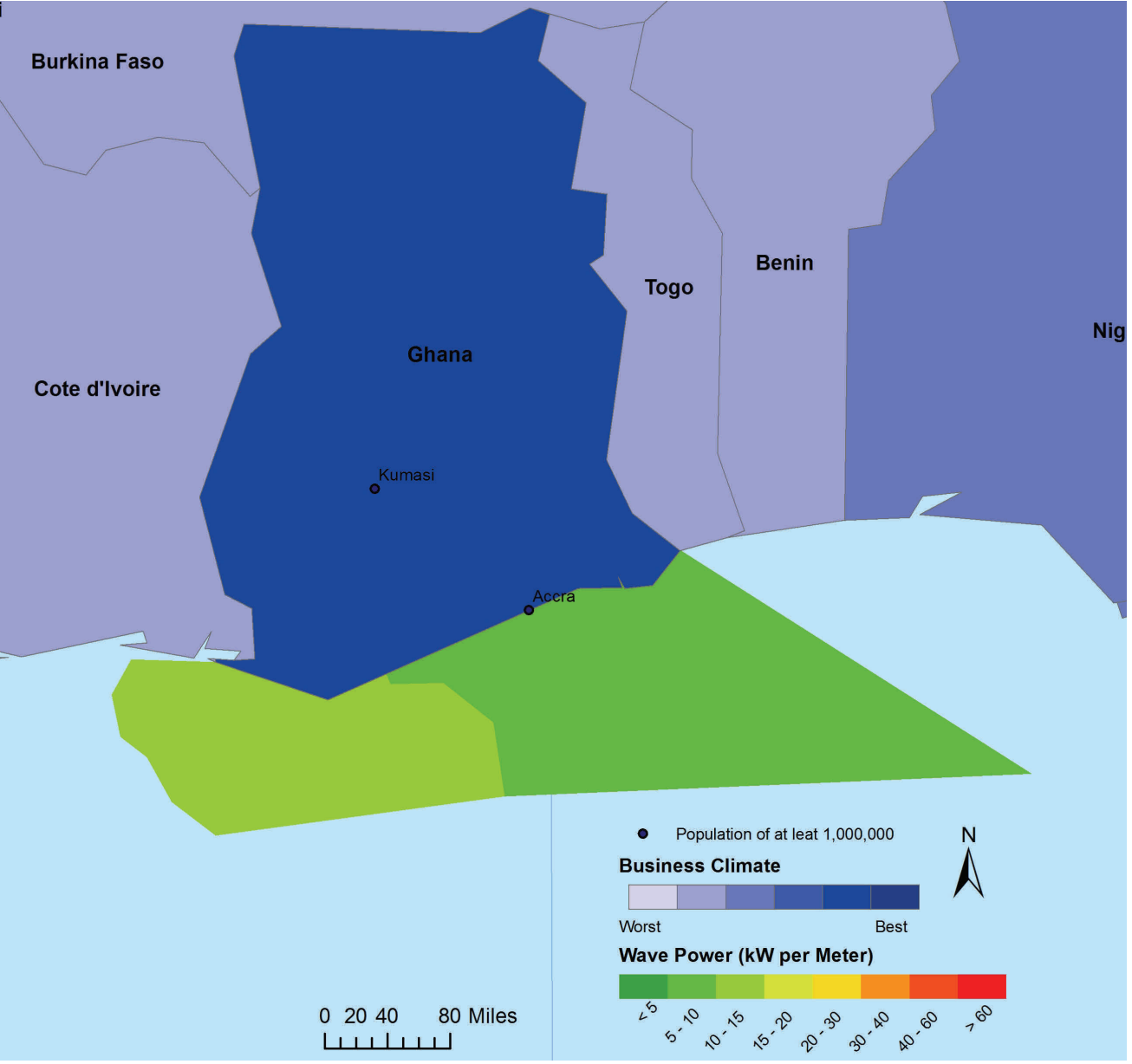
Seven countries proved a best fit for wave power investment based upon a combined ranking of qualitative parameters and due to the existence of large cities on or near their respective coastlines. Upon applying a layer of wave power data, where higher power is more suitable for wave energy generation, Chile became the clear best choice, followed by Uruguay. These findings, while very preliminary, provide a helpful jumping-off point for more granular investigation.

NOTE: Data error in the original analysis inadvertently omitted South Africa, which would likely have ranked among the top countries deemed most suitable for wave power investment based on methodology employed in this preliminary study. Therefore, a visual representation of South Africa is absent in this presentation.

Degree of Peace



Business Climate



Projections: Chile—WGS 1984 UTM Zone 19N; Ghana—WGS 1984 Complex UTM Zone 30N; Malaysia and Singapore—WGS 1984 UTM Zone 48N; South Korea—WGS 1984 UTM Zone 52N; United Arab Emirates — WGS 1984 UTM Zone 40N
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