

WOAH ASEAN ASF Workshop,
2 to 4 May 2023
Manila, The Philippines



Jockey Club College of Veterinary
Medicine and Life Sciences

香港城市大學
City University of Hong Kong
in collaboration with Cornell University

Developments in ASF Epidemiology and its Prevention and Control

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#54

[QS] World University
Rankings 2023



#1

[QS] World University
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Veterinary Science



Context

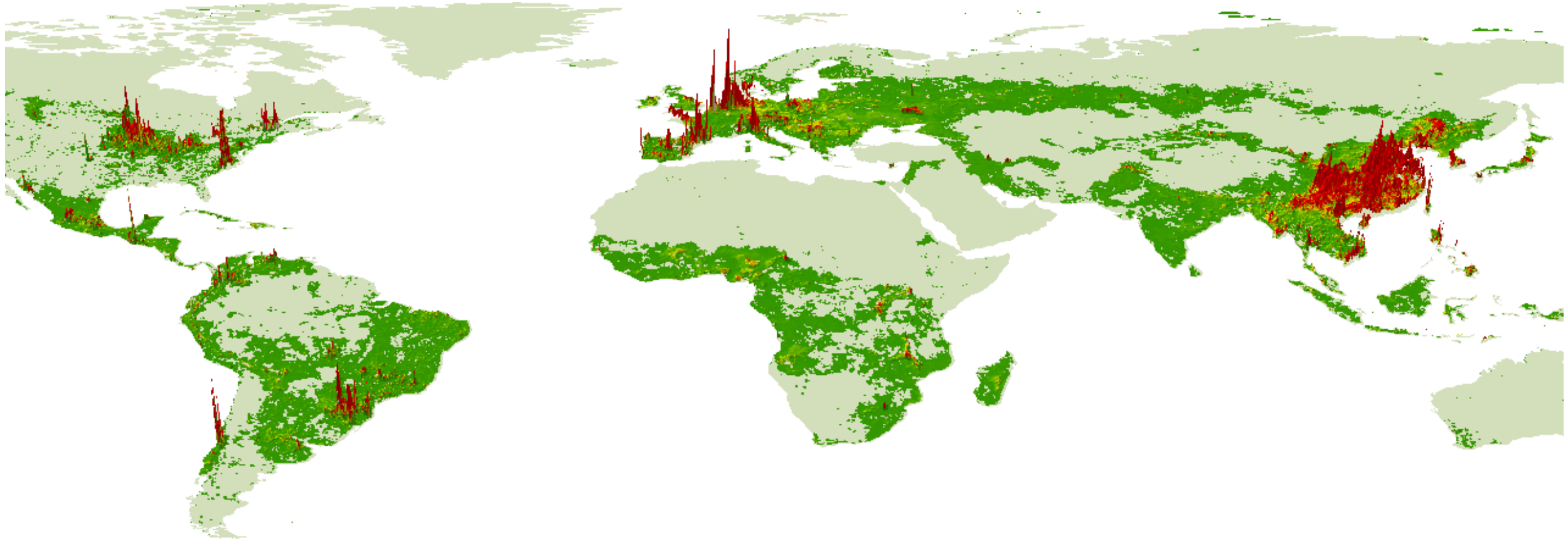


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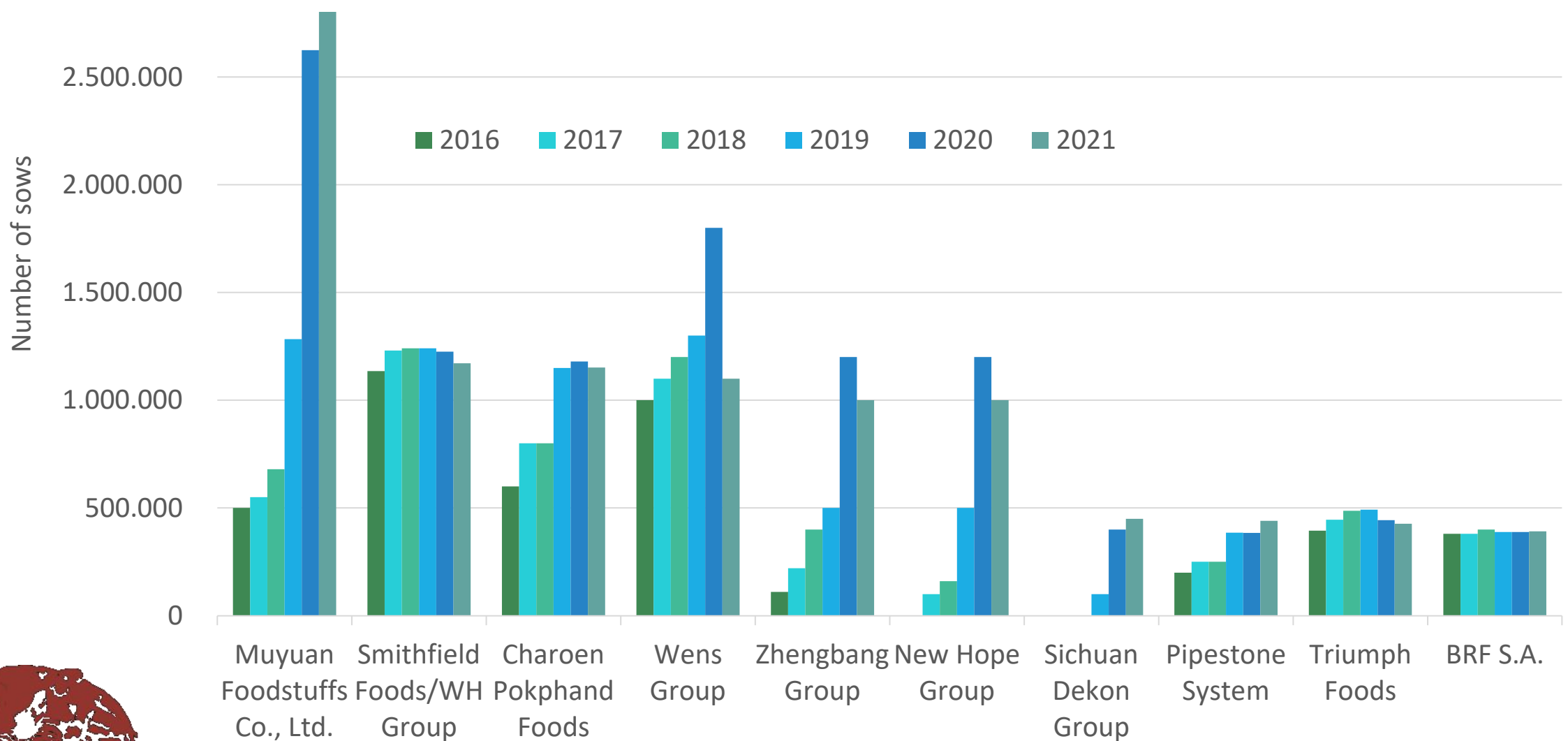
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Pig Density in 2015



Top 10 Global Pig Mega Producers (no of sows) between 2016 and 2021



BUSINESS NEWS DECEMBER 7, 2020 / 1:27 PM / UPDATED A MONTH AGO

Flush with cash, Chinese hog producer builds world's largest pig farm

from Dominique Patton (Reuters): Muyuan's new mega farm near Nanyang, which will eventually house 84,000 sows and their offspring, is by far the largest in the world, roughly 10 times the size of a typical breeding facility in the United States. It aims to produce around 2.1 million pigs a year.



A drone image shows Muyuan Foods newly built multi-storey pig farm in Neixiang county, Henan province, China November 6, 2020. Muyuan Foods/Handout via REUTERS

China's Bid to Improve Food Production? Giant Towers of Pigs.

High-rise hog farms have sprung up nationwide as part of Beijing's drive to enhance its agricultural competitiveness and reduce its dependence on imports.

Smuggling of Meat

South China Morning Post



‘Guerilla tactics’ at sea: smugglers in daring comeback after crackdown on speedboat trade of frozen meat from Hong Kong to mainland China

South China Morning Post



Frozen meat worth more than HK\$2 billion seized in anti-smuggling operation in Hong Kong

- Haul found in container yard in Lok Ma Chau near mainland Chinese border and one suspected triad member arrested
- More than 200 containers packed with beef, pork, lamb and offal, shipped from various countries, including Germany, Chile and Australia

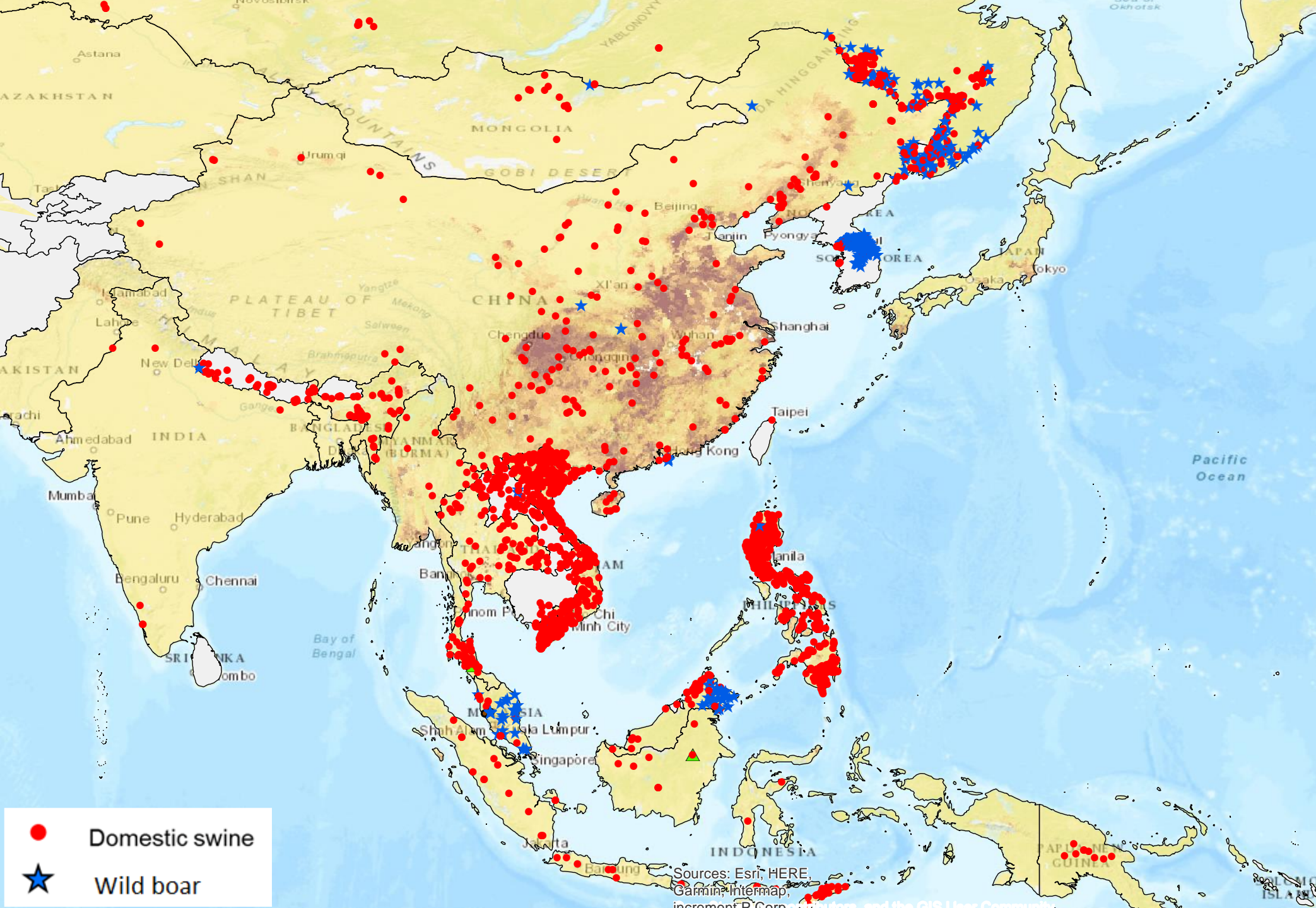
Epidemiology of ASF in Asia



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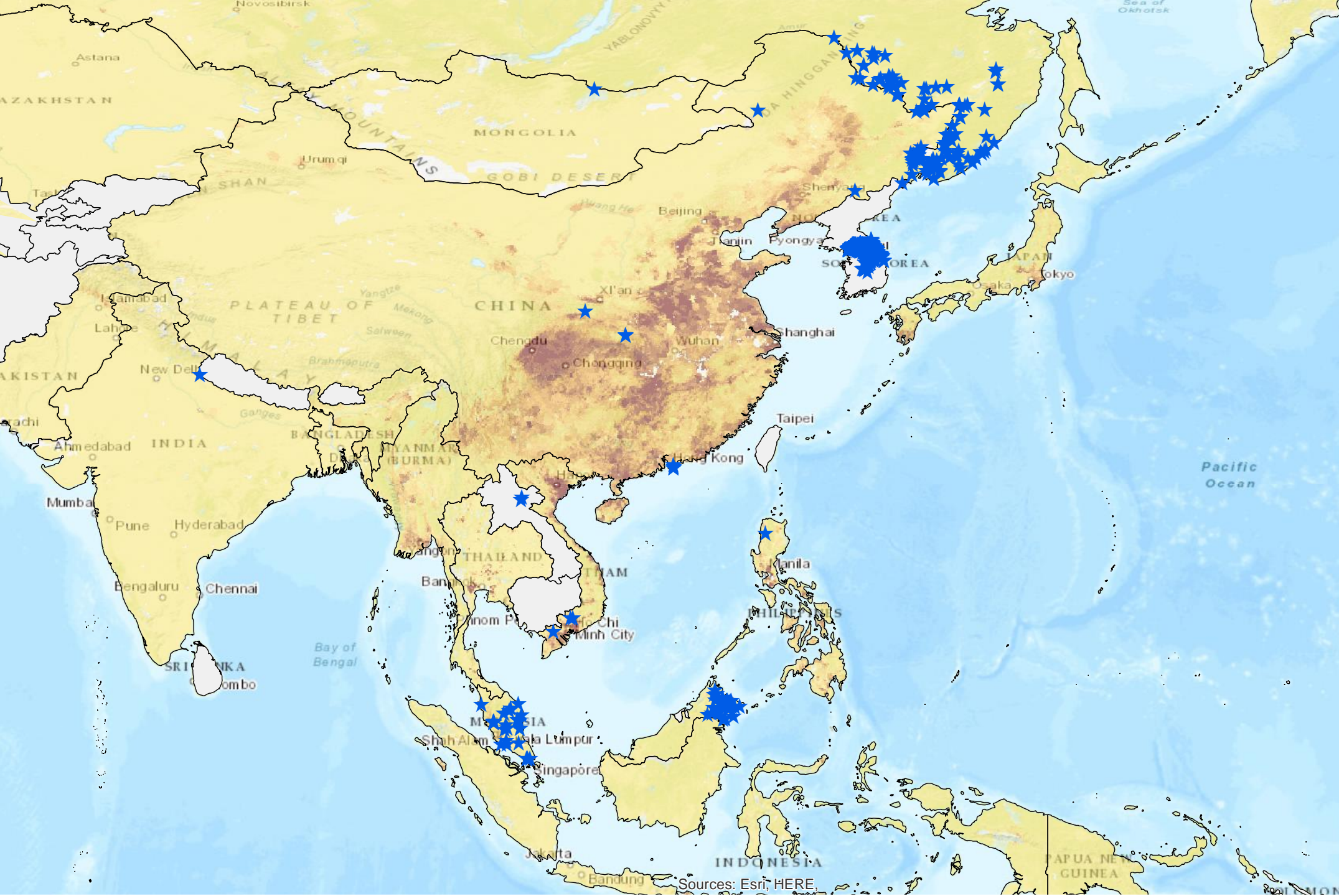
Reported ASF Outbreaks since 2018

(ASF data from FAO EMPRES-i)

Pig density data from: Gilbert, M., Cinardi, G., Zhao, Q., Tago, D., Robinson, T. 2019: New global pig density data in support of the African Swine Fever epidemics. <https://doi.org/10.7910/DVN/JEV3WA>, Harvard Dataverse, V1

- Domestic swine
- ★ Wild boar

Sources: Esri, HERE, Garmin, Intermap, increment P, Corp., Swisstopo, and the GIS User Community

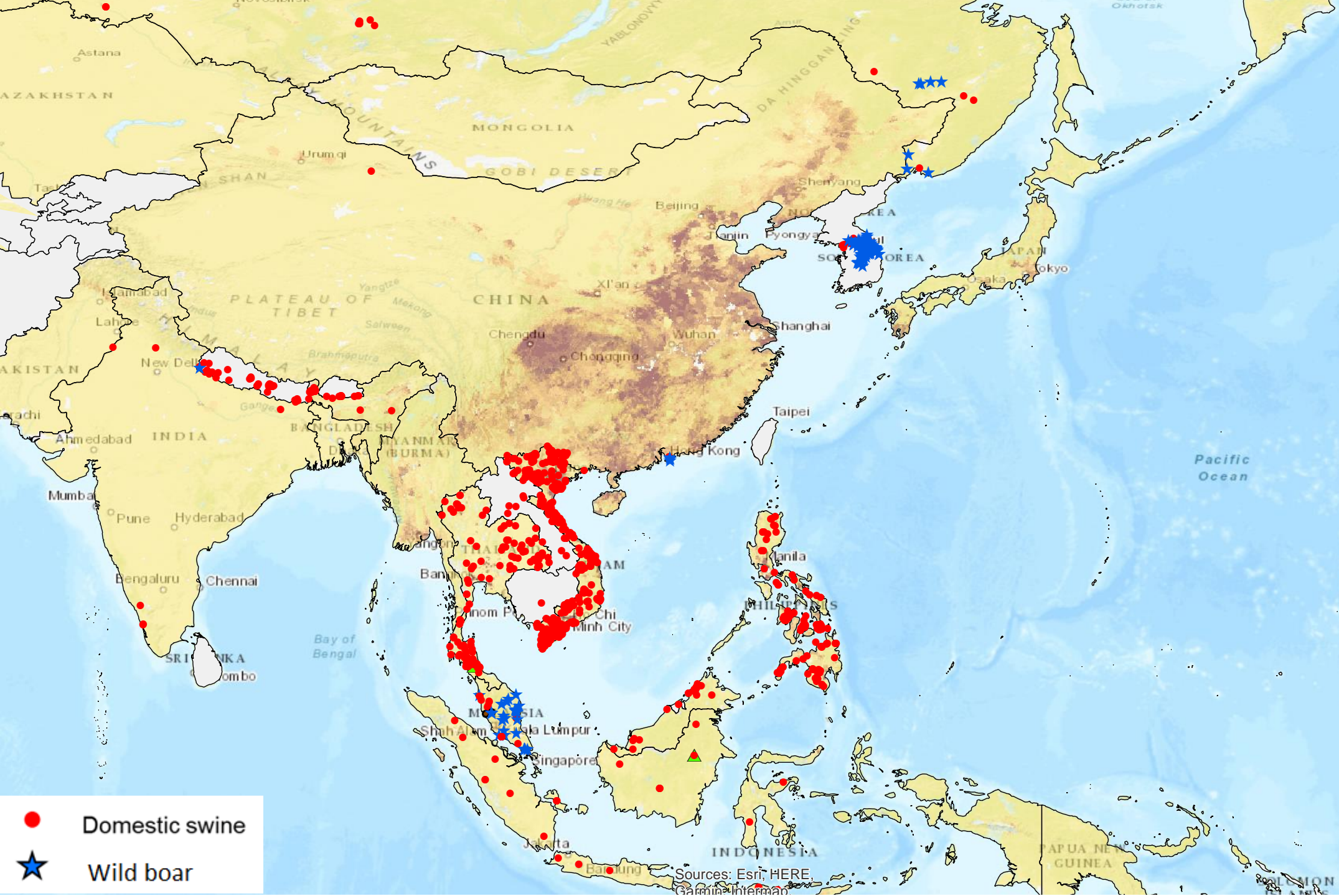


Reported ASF Outbreaks in Wild Pigs from since 2018

(ASF data from FAO EMPRES-i)

Pig density data from:
Gilbert, M., Cinardi, G., Zhao, Q., Tago, D., Robinson, T. 2019: New global pig data in support of the African Swine Fever epidemics. <https://doi.org/10.7910/DVN/JEV3WA>, Harvard Dataverse, V1

Sources: Esri, HERE



Reported ASF Outbreaks from Jan 2022 until April 2023

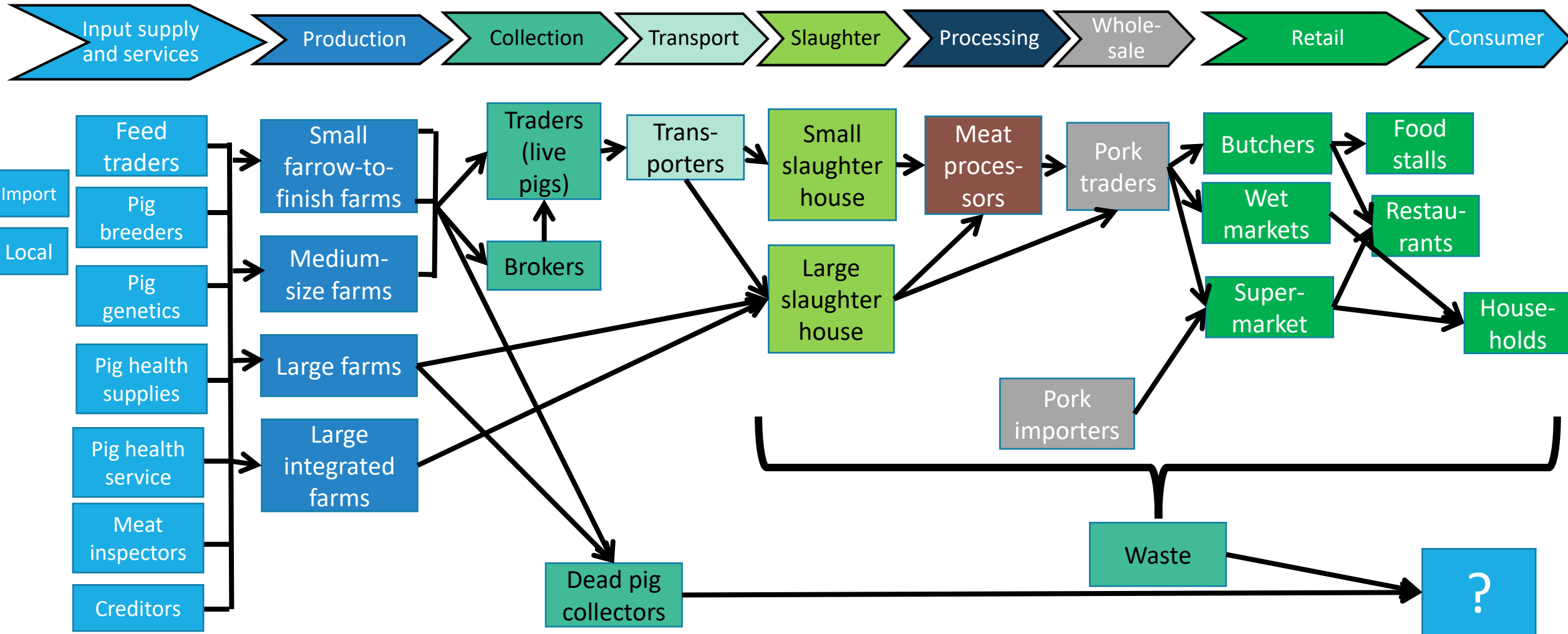
(ASF data from FAO EMPRES-i)

Pig density data from:
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- Domestic swine
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Sources: Esri, HERE, Garmin, Intermap

Value Chain for Pork Food System



Conclusions



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Conclusions

- ASFV introduced to Asia in 2018, and slowly became endemic in many countries in region
 - wherever there is pig production, ASFV will be introduced sooner or later
 - whether it becomes endemic depends on
 - local pork food system characteristics
 - ability of industry and government veterinary service to contain/eradicate
- pig industry rapidly intensifying in some countries
 - what are the risks, what are the benefits?



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Conclusions *cont.*

- important issues
 - culling policies
 - effectiveness of within-herd selective culling?
 - role of wild boar in different contexts
 - changing clinical presentation, if so, why?
 - emergence of low virulence strains and/or spread of vaccine strains
 - current and potential role of vaccines (legal/illegal)
 - define aim of officially approved ASFV vaccine use (eradication *versus* containment)
- need to develop strategies for 'living' with ASFV
 - given current absence of evidence of feasibility to conduct epidemiologically effective large-scale vaccination campaigns
 - focus on
 - enhanced biosecurity across pork value chain
 - early detection of infection followed by epidemiologically and socio-economically sensible response
 - minimising time from virus introduction to detection, suspicion, reporting, confirmation and action
 - normal background mortality
 - differential diagnoses
 - optimisation of processes

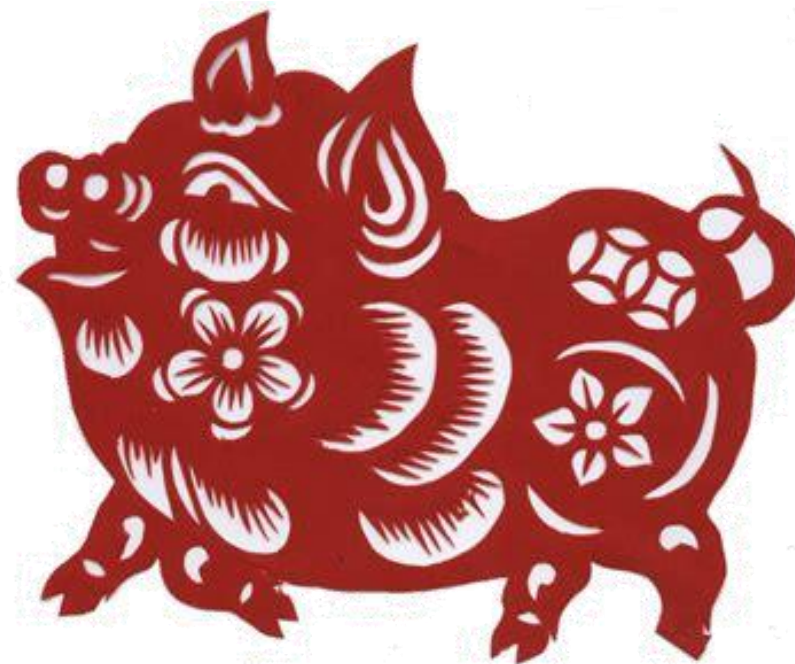


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Thank You for Your Attention!



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