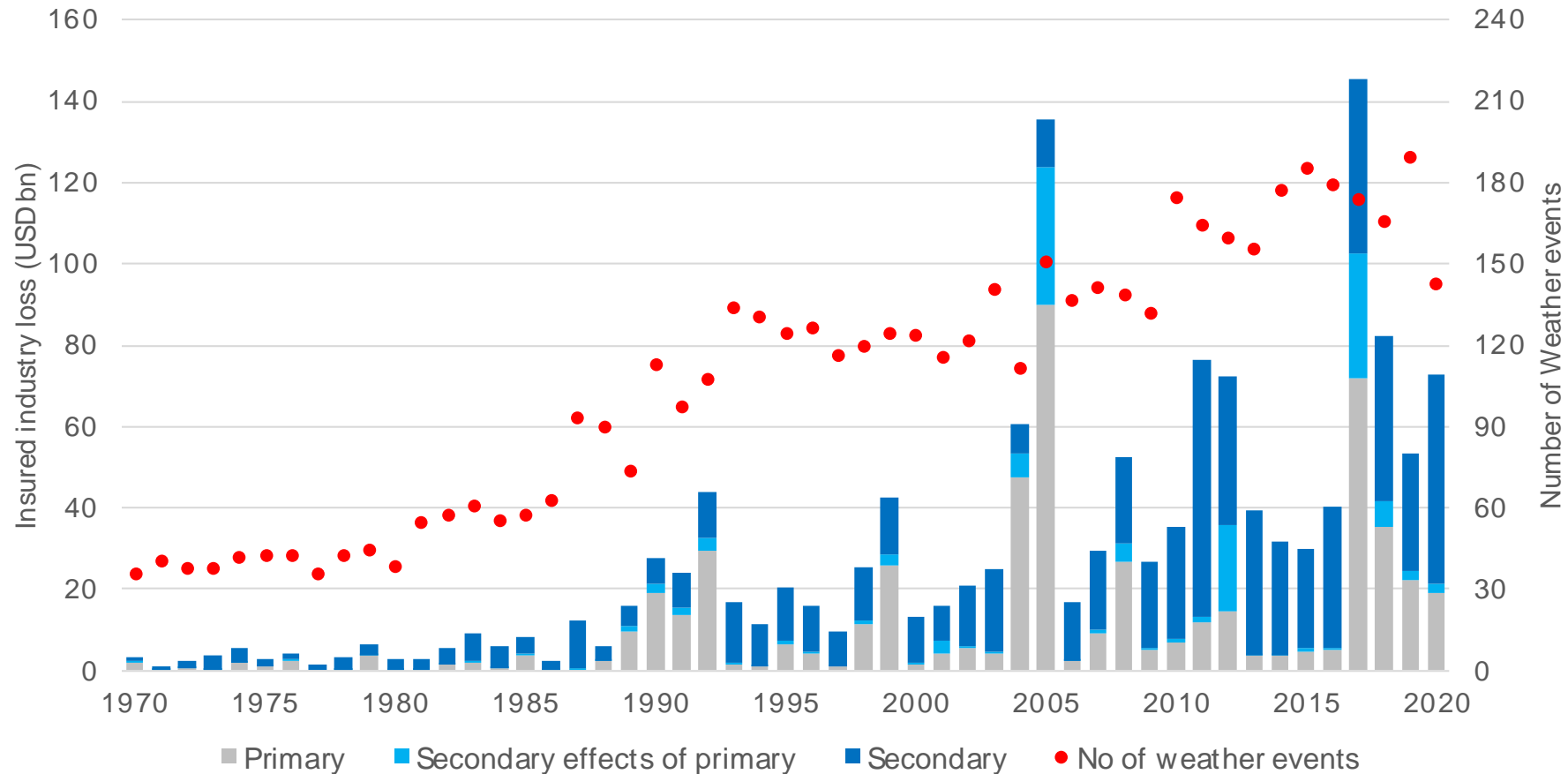


Climate change: Why it matters for a global re/insurer?

Yordanka Velichkova, Cat Perils Portfolio Lead, Swiss Re Institute

Session: “Metrics: can we really quantify climate risk”

Insured Nat Cat risk potential and loss experience is growing at a rapid pace



Source: Swiss Re Institute, 2020 preliminary

Climate change is neither the only, nor the main risk driver behind rising losses



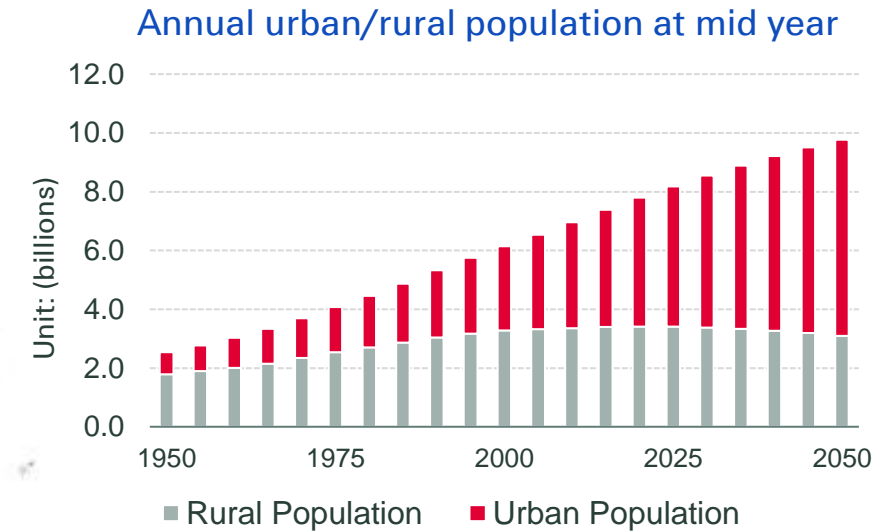
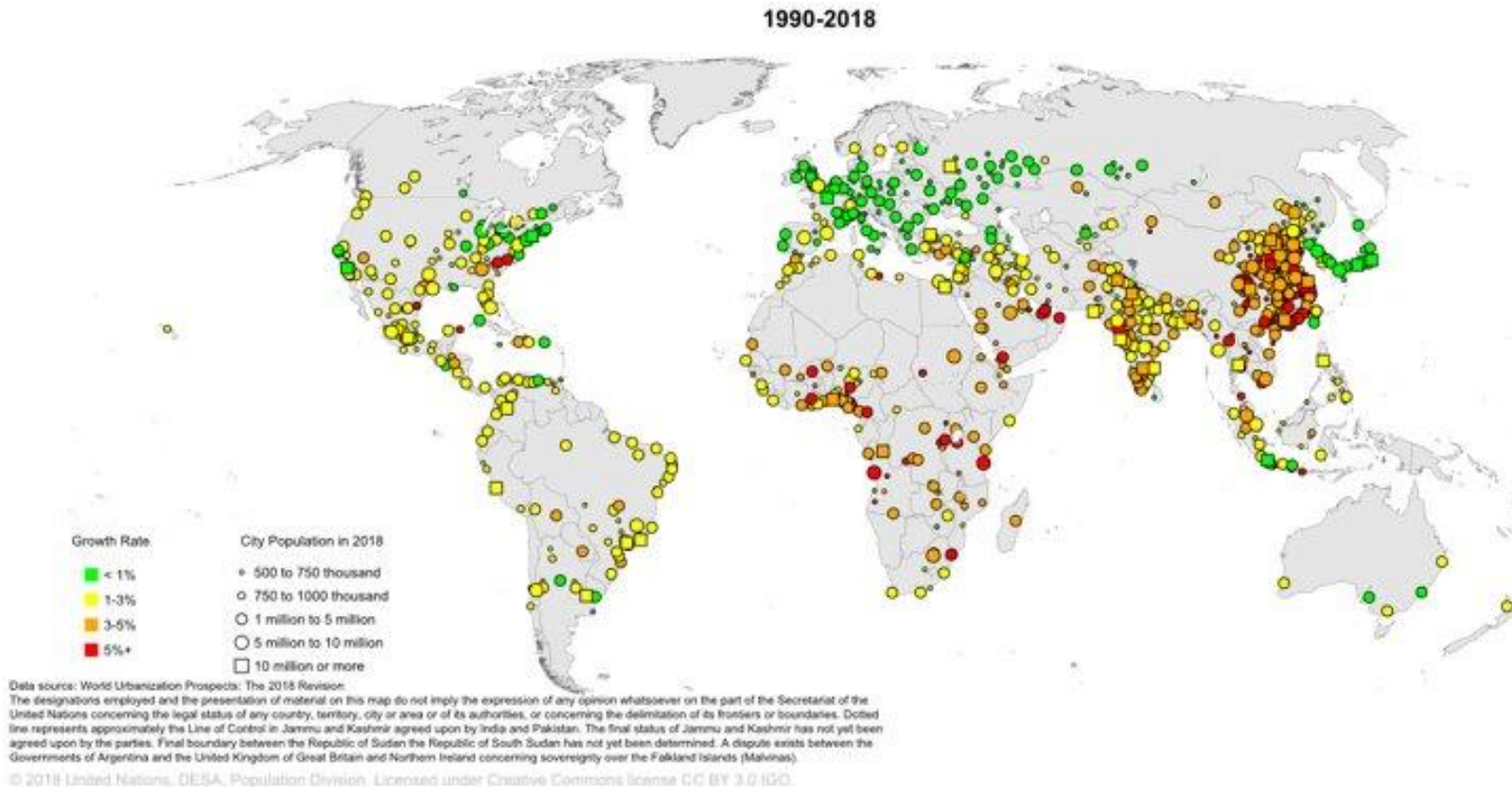
Shanghai, 1990



Shanghai, 2010

Economic development	<ul style="list-style-type: none">• Increasing values in line with GDP growth
Concentration in exposed areas	<ul style="list-style-type: none">• Urbanisation• Population growth
Insurance penetration	<ul style="list-style-type: none">• Take up rates• Broader coverage• Social inflation• Regulatory changes
Changing vulnerability	<ul style="list-style-type: none">• E.g. Sealing of surfaces, overbuilding in flood prone areas• Flood protection measures
Changing hazard	<ul style="list-style-type: none">• Natural climate variability• (Anthropogenic) Climate change

Zoom in: Population growth and urbanisation act as amplifiers



Source: United Nations, DESA, Population Division (2018)

Today climate and macro trends matter the most for secondary perils

Primary Perils

(i.e., Peak Perils)

Hurricane Maria



- Tropical cyclones, earthquakes, and EU winter storms
- High loss potential and well modelled

Secondary Perils

Secondary effects of Primary Perils

Hurricane Harvey-induced flooding



- Tropical cyclone-induced precipitation, storm surge, liquefaction, tsunami, fire following earthquake
- Not always well captured in Primary Perils modelling

“Independent” high-frequency perils

California wildfires



- Low to medium severity perils e.g., severe thunderstorms, river/flash floods, wildfires, droughts, snow/ice storms
- Lack of robust and efficient tools, gap in model coverage worldwide

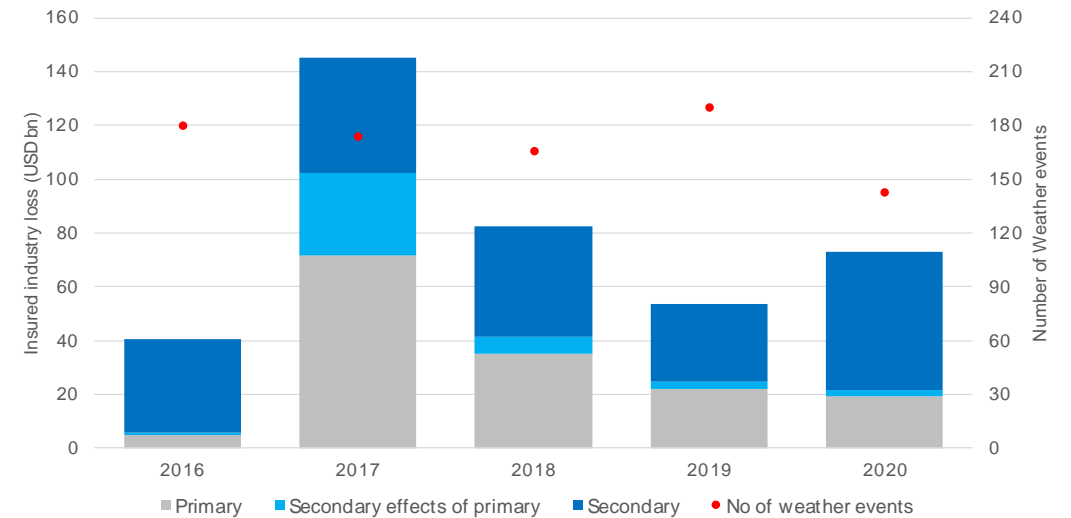
... and secondary perils are gaining visibility

~ 60%
of insured losses
over the last 50
years

**Severe
Convective
Storms** are
most relevant in
terms of insured
losses

Wildfire is the
peril causing
fastest growing
insured losses

Weather-related losses 2016-2020



Source: Swiss Re Institute, 2020 preliminary

