Ad hoc Working Group on further Commitments for Annex I Parties under the Kyoto Protocol

Emissions from international aviation - Challenges

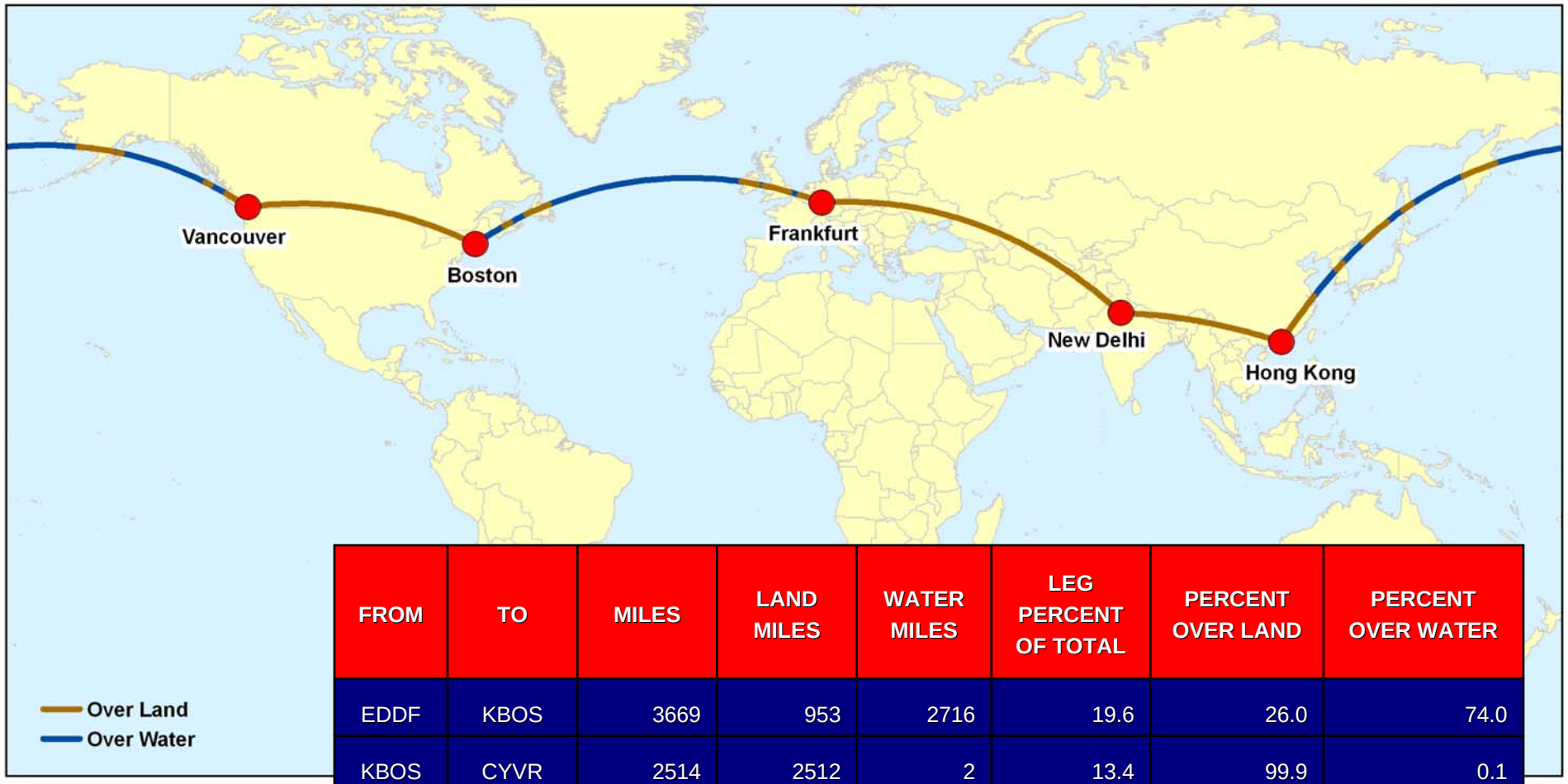
ICAO - International Civil Aviation Organization

Jane Hupe, Chief Environmental Unit

Challenges

- **Data:**
  - Sources
  - Access
  - Quality
  - Comparability
- **Methodological issues:**
  - Tiers: top-down X bottom-up approaches
  - International X domestic
  - Models
- **Legal issues:**
  - Coverage
  - Legal boundaries
  - Responsibilities: collection, reporting, monitoring/verification

Illustrative example



FROM	TO	MILES	LAND MILES	WATER MILES	LEG PERCENT OF TOTAL	PERCENT OVER LAND	PERCENT OVER WATER
EDDF	KBOS	3669	953	2716	19.6	26.0	74.0
KBOS	CYVR	2514	2512	2	13.4	99.9	0.1
CYVR	VHHH	6392	2341	4051	34.2	36.6	63.4
VHHH	VIDP	2331	2303	28	12.5	98.8	1.2
VIDP	EDDF	3811	3811	0	20.4	100.0	0.0
TOTAL		**18717**	**11921**	**6796**	**100.0**	**63.7**	**36.3**

Illustrative example

FUEL BURN

The fuel burn for flight segment for the nominal case is as follows:

Flight Segment	Total Fuel Burn (kg)
Frankfurt to Boston	43,350
Boston to Vancouver	28,756
Vancouver to Hong Kong	83,953
Hong Kong to New Delhi	27,263
New Delhi to Frankfurt	44,729

WIND SCENARIOS

Scenario	Total Fuel Burn (kg)
Strong Headwind	253,390
Nominal	228,051
Strong Tailwind	207,319