

AVRIL 15 2015 QUÉBEC CANADA

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Fukushima's Impact at Four Years



501(c)3 Non-profit Organization

Arnie and Maggie Gundersen

www.fairewinds.org



- **COST**
- **TIME**
- **LEAKS**
- **EXPOSURE**

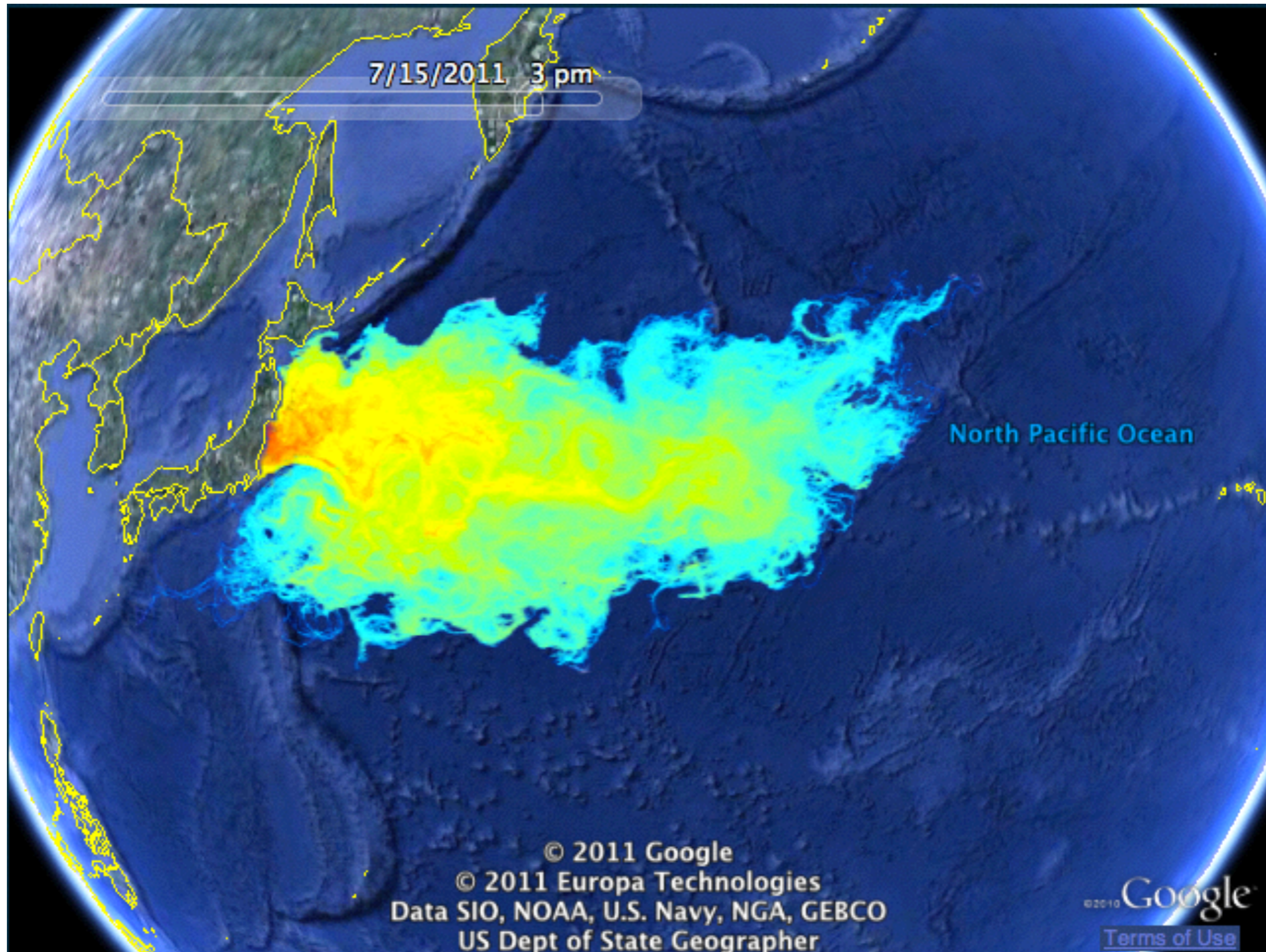
Costs are Skyrocketing!



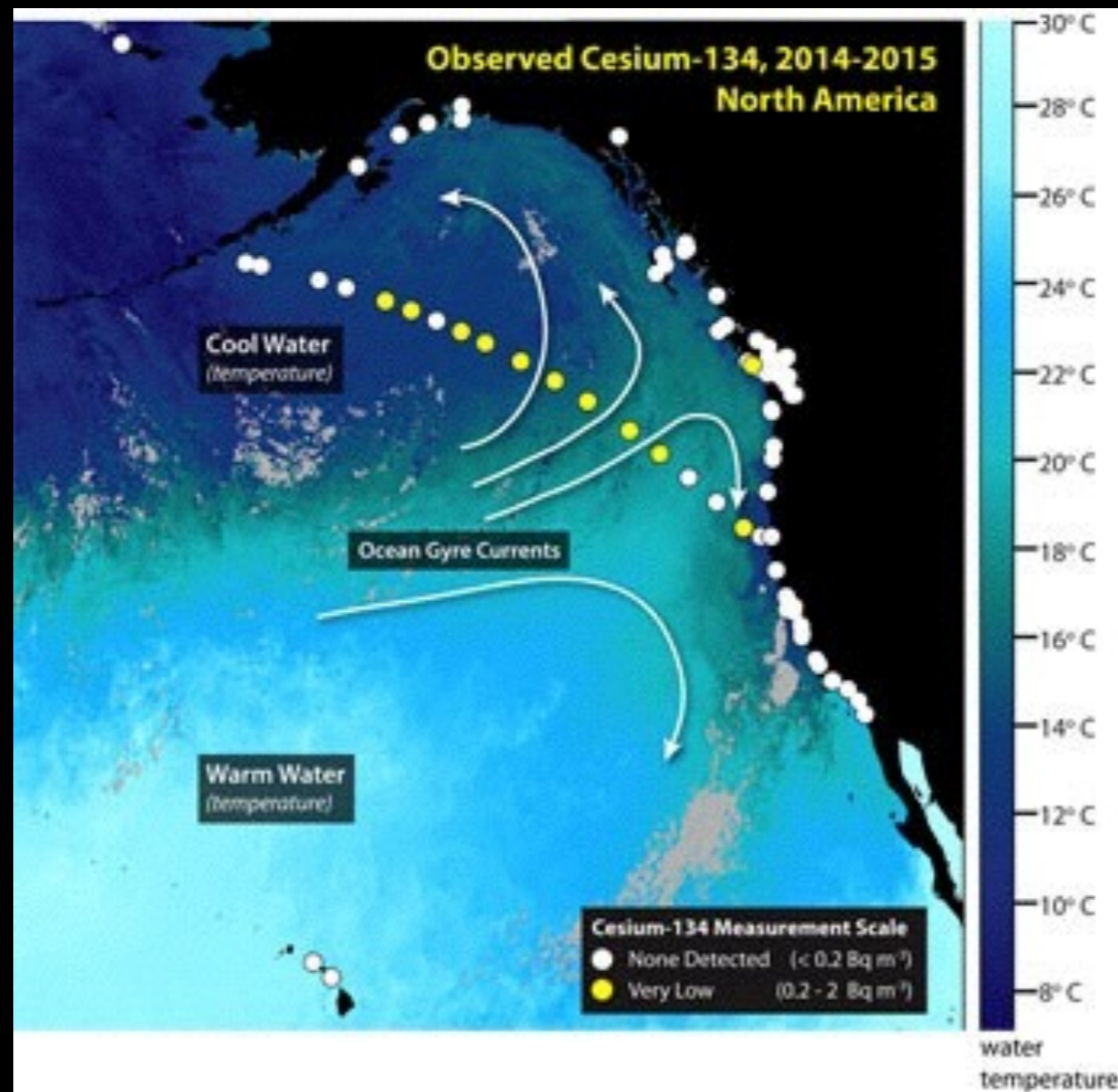
Cleanup Time Unknown



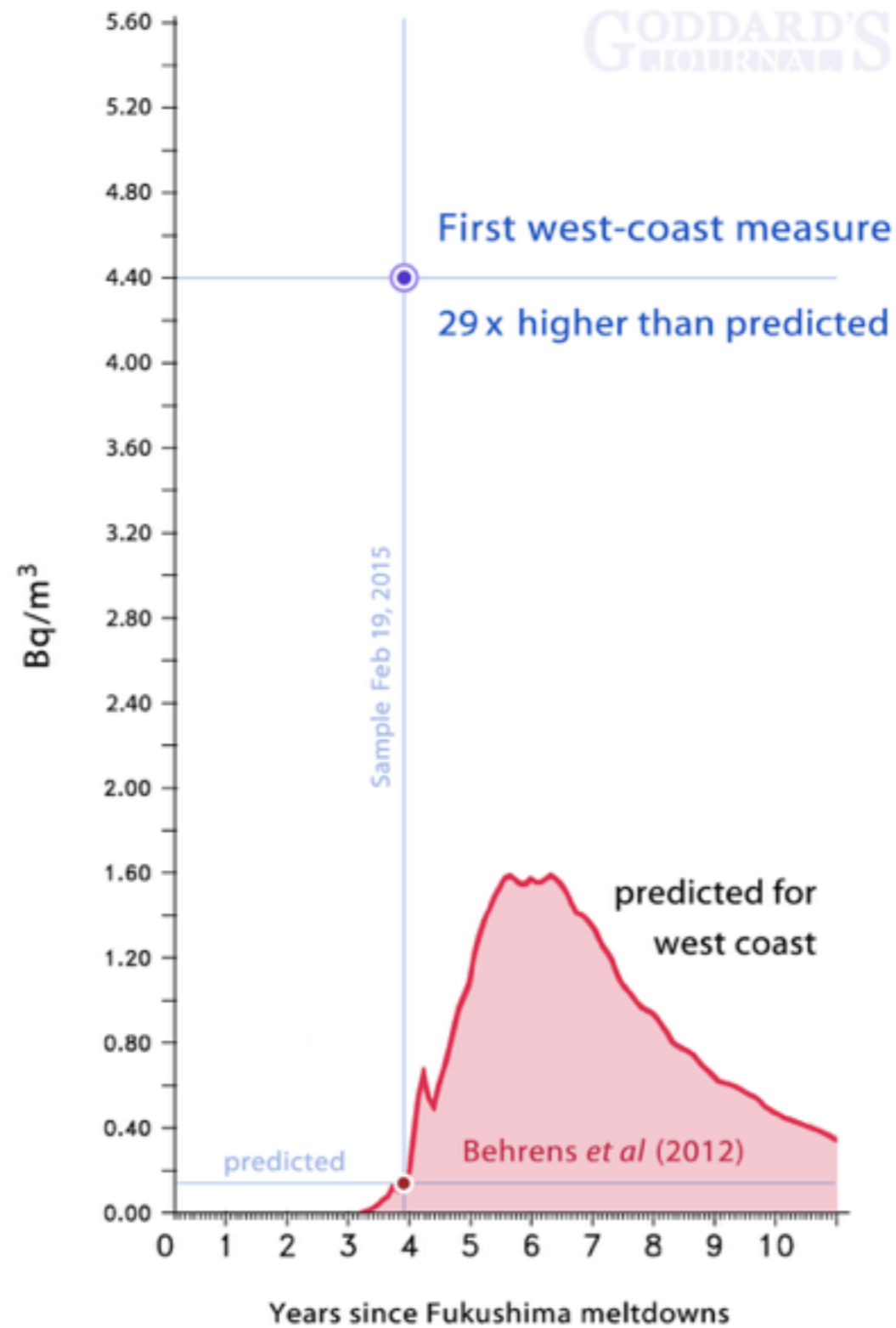
Pacific Leaks Continue



Trace Amounts of Fukushima Radioactivity Detected Along Shoreline of British Columbia



cesium-137 from Fukushima in seawater



Japanese Exposure Underestimated



Assessing Human Exposure to Contaminants in House Dust

by Marco Kaltofen

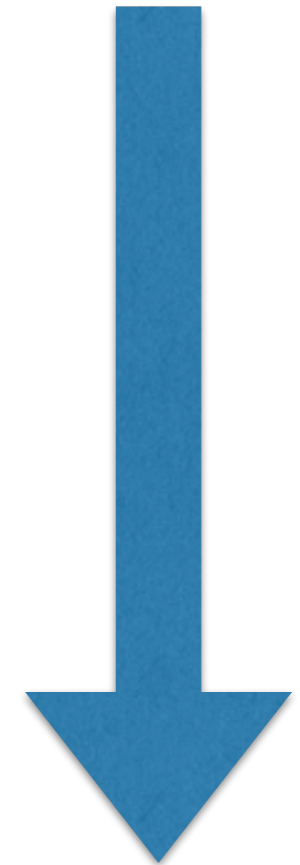
A Dissertation Submitted to the Faculty of the
WORCESTER POLYTECHNIC INSTITUTE

April 2015

<http://www.wpi.edu/Pubs/ETD/Available/etd-040515-165932/>

Japanese Dust Sample Activities by Range

Specific Activity	Number of Samples	Percent of Samples
>1 Bq g ⁻¹	23	27%
1 to 10 Bq g ⁻¹	35	41%
>10 to 100 Bq g ⁻¹	21	25%
>100 to 1000 Bq g ⁻¹	3	4%
>1000 to 10000 Bq g ⁻¹	2	2%
>10000 to 100000 Bq g ⁻¹	0	0%
>100000 Bq g ⁻¹	1	1%

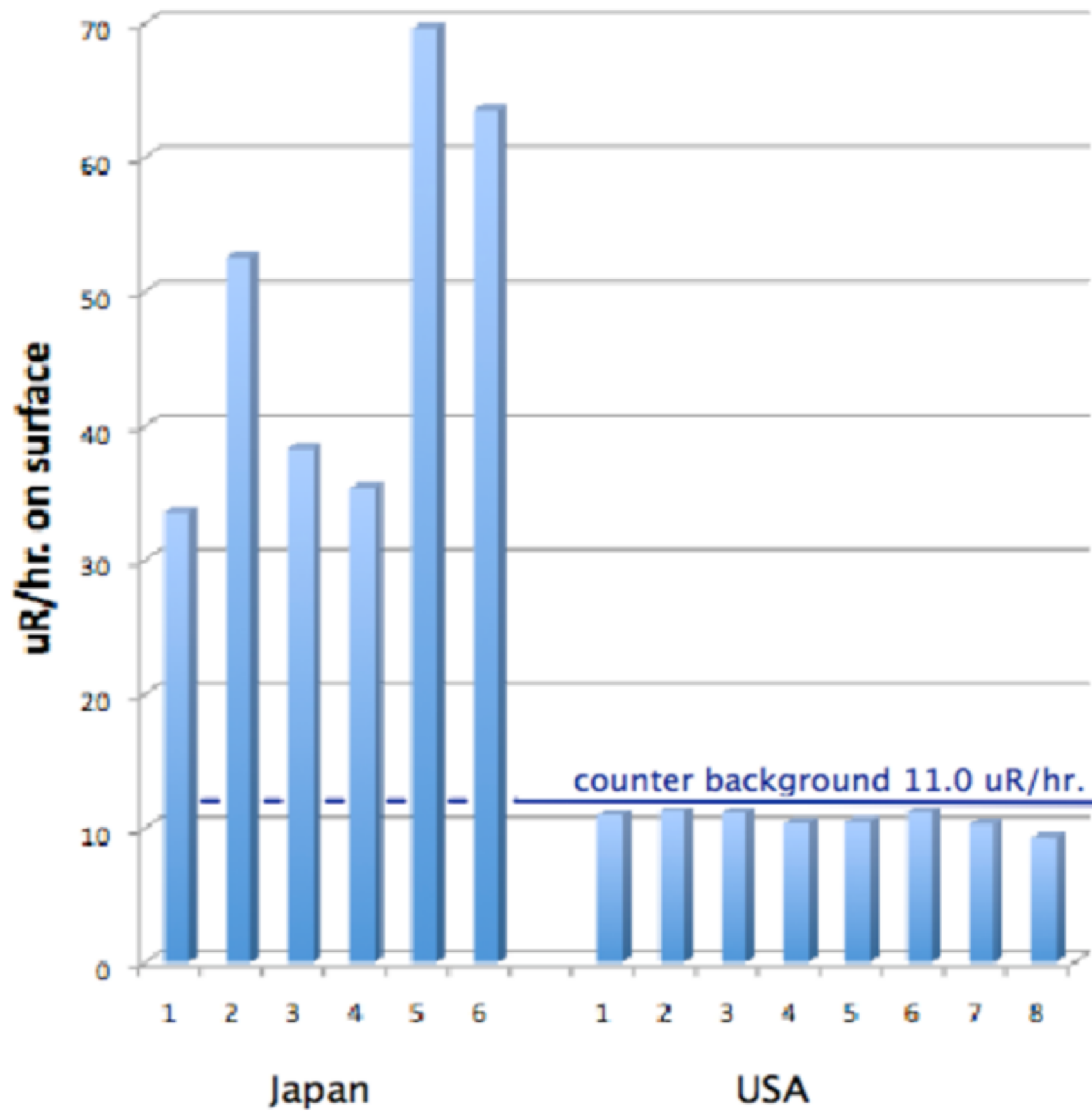


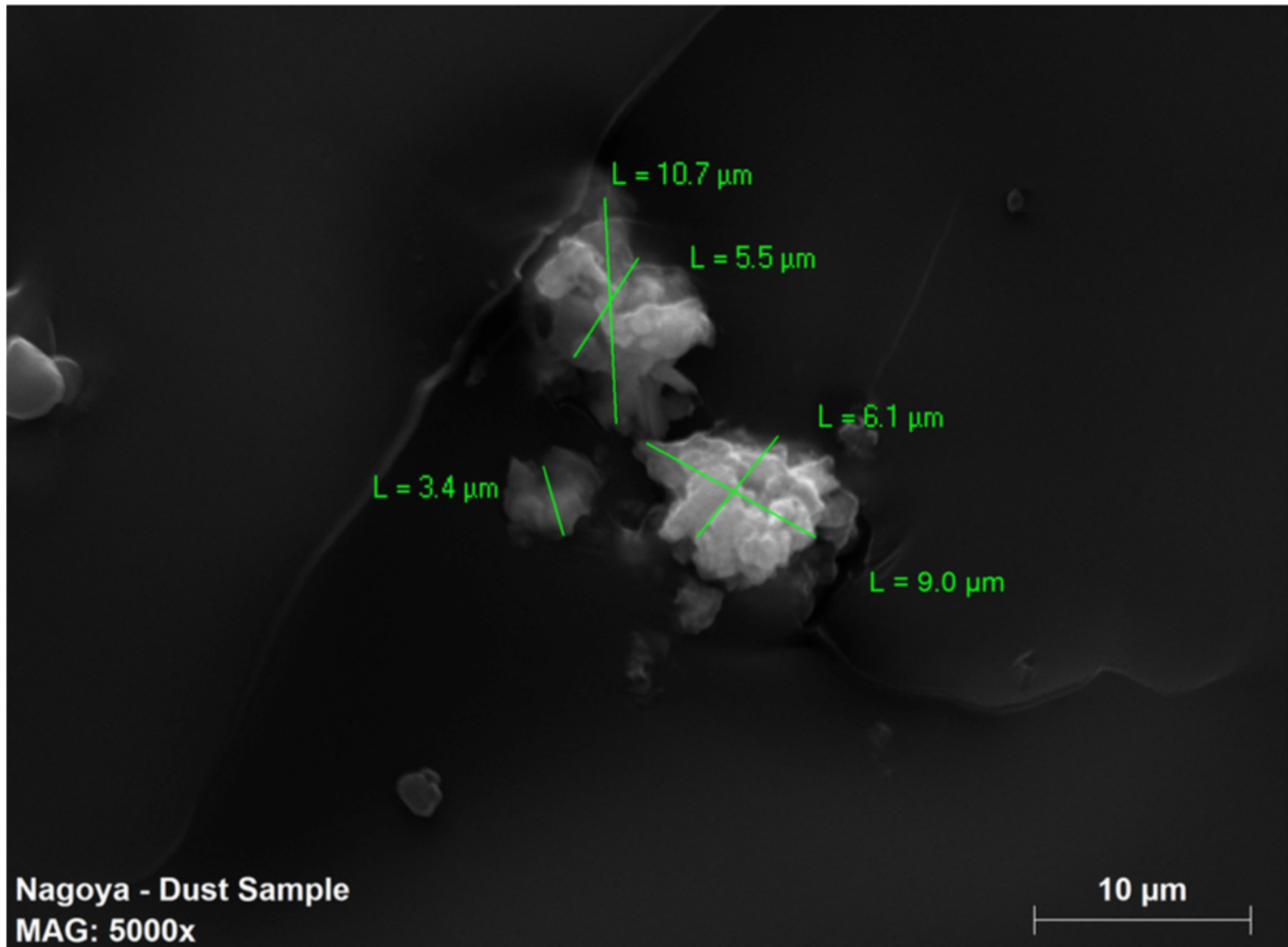
73% of Dust Samples found to be **Radioactive**

Japanese dust samples with highest specific activities

Nagoya single dust particle	Specific activity 5.2 PBq kg ⁻¹
Namie “Black Sand” street dust	Specific activity 1.50 MBq kg ⁻¹
Iitate street dust/sediment	Specific activity 1.34 MBq kg ⁻¹
Fukushima City car filter dust	Specific activity 0.169 MBq kg ⁻¹
Tokyo apartment dust	Specific activity 0.167 MBq kg ⁻¹
Minamisoma street dust	Specific activity 0.089 MBq kg ⁻¹
Tokyo apartment dust	Specific activity 0.085 MBq kg ⁻¹
Tokyo hotel balcony dust	Specific activity 0.081 MBq kg ⁻¹
Tokyo car filter dust	Specific activity 0.059 MBq kg ⁻¹
Tokyo street soil	Specific activity 0.044 MBq kg ⁻¹
Tokyo apartment dust	Specific activity 0.037 MBq kg ⁻¹

Surface activity: Fukushima Pref. vs. US Shoes





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Rensselaer Polytechnic Institute, 1972
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