

# The PVT Landfill:

## A Case Study in the Successful Integration of Climate Information for Decision Making

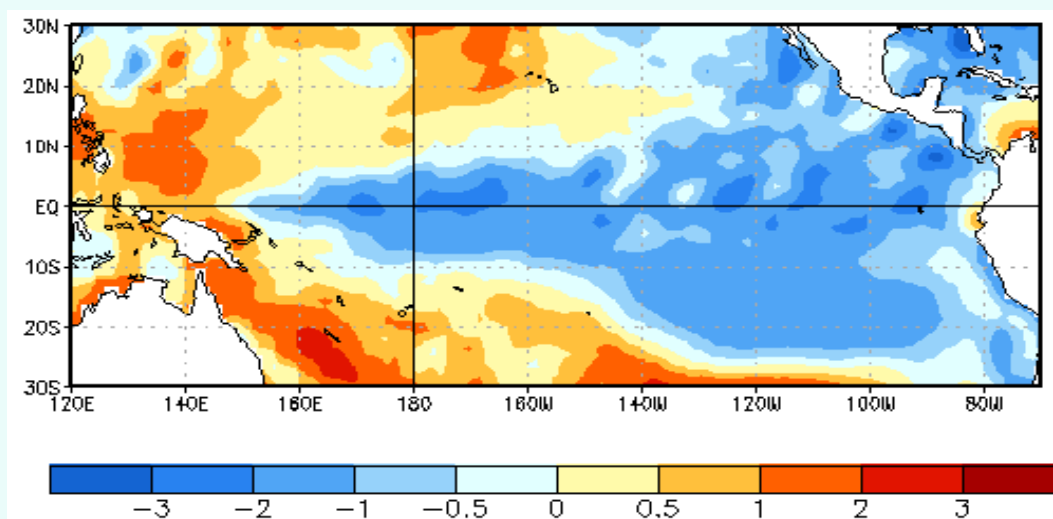
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July 7, 2011

# What's the Big Deal?

- Concrete example of a private entity using a **climate** forecast to successfully implement loss mitigation measures in Hawai`i
- First documented and significant Hawai`i example of flood loss mitigation based on a climate forecast
- Consequences of inaction easy to observe, qualitatively and quantitatively

# Seasonal Climate Forecast

- October 2010: WFO Honolulu conducts wet season briefing
  - October-April is the traditional wet season in Hawai`i
  - Moderate to strong La Niña predicted in the Pacific
    - Above normal winter rainfall projected



**CPC: Pacific Ocean Sea Surface Temperatures at the end of December, 2011**

# Reception of the Forecast

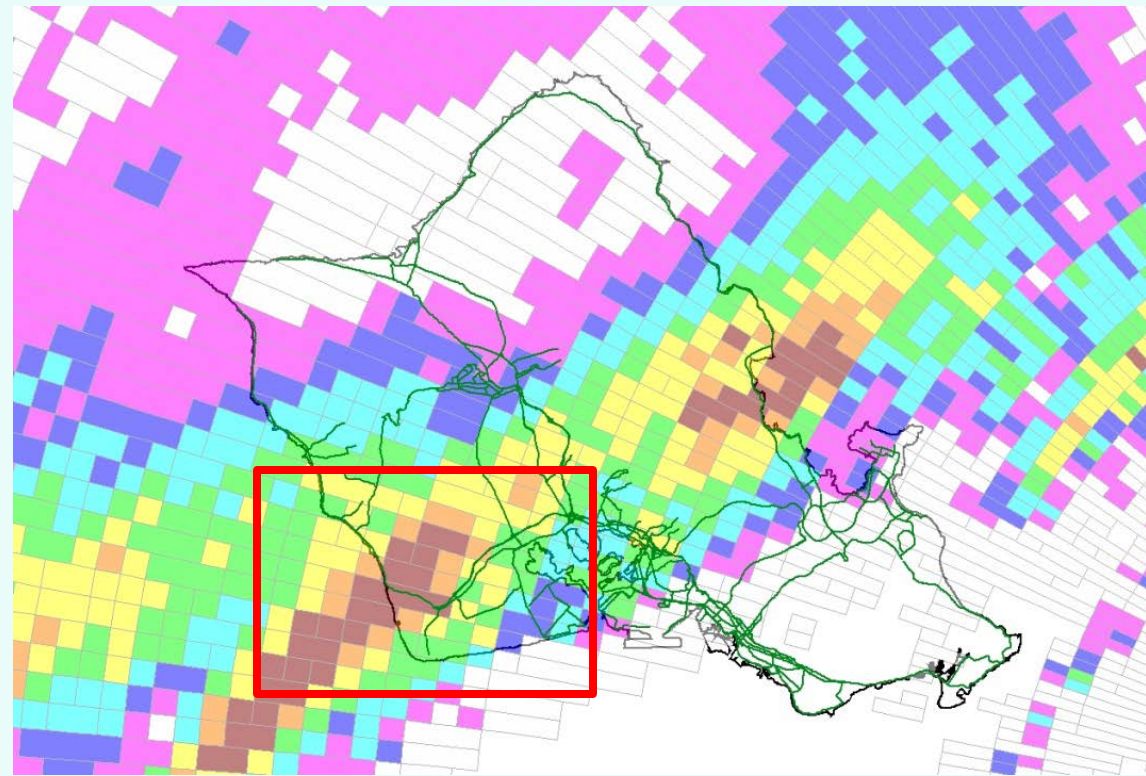
- Vice President of PVT Land Company sees outlook in the media
- PVT Land Company has two pressing needs
  - Resurface roads on facility
  - Upgrade storm water capacity on site
- Sufficient funds to do only one
- Storm water upgrades completed by end of November at a cost of \$300,000





# The Storm Event

- January 13, 2011
  - Slow-moving cold front
  - Band of heavy rainfall
  - 2 to 4 inches/hr rates over portions of Oahu
  - 9-11 inches in 24-hours
  - Usually 10-14 inches annually



Radar estimated one-hr rainfall ending at 2156 HST, January 13





- Nearest gage totals from Palehua RAWS gage
  - 3.65 inches: max 1-hr
  - 6.23 inches: max 3-hr
  - 7.63 inches: max 6-hr
  - Values exceed 1% annual probability level (a.k.a. 100-yr return pd)

Imagery Date: Jan 1, 2008

21°23'44.02" N 158°06'50.82" W elev 1269 ft

Eye alt 13.23 mi



# After the Storm

- Waimanalo Gulch landfill received excessive amounts of rain which overwhelmed the drainage system
  - Untreated water and medical waste turns up along beaches, including Ko`olina Resort
  - Landfill closed for 2 weeks, no bulk trash pick-up on Oahu
  - Public relations disaster, beaches closed, bruised tourism image



Photos From: Jerry Lampen/ Reuters, Honolulu Civil Beat

# After the Storm



- PVT Land Company landfill
  - Open for business the next day
  - Continues to check climate forecasts





# Quantified Savings from Climate Forecast

- PVT remains in operation
- PVT direct savings (losses avoided)
  - \$600,000 in gross sales
  - \$100,000 in lost salaries
  - \$300,000 to \$600,000 in damage to roads and landfill
- Additional unknown \$ saved in avoided litigation
- Additional millions saved by construction industry on Oahu
  - PVT is the only construction landfill on Oahu
  - 200+ truck loads per day
  - Projects would halt or slow down
- Savings to PVT business image
  - PRICELE\$\$

# Questions?

