Los Angeles Regional Water Board Climate Change Strategy

Water Quality Coordinating Committee

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Los Angeles Region

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Expected Impacts in Southern California

Temperatures
• by 2050, annual average temperatures rise by 4-5 °F
• by 2050, 2-6 times more “extreme heat days”
• drought periods increasingly harmful
• by 2050, annual acreage burned increase by 20-30 %

Precipitation
• small changes to mean precipitation
• more extreme precipitations events

Snowpack
• 30% less snowfall in Los Angeles area mountains
• seasonal melting 16 days earlier

Sea Level Rise
• by 2050 : 0.7 – 1.2 ft ;
• by 2100 : 1.3 – 1.1 – 3.6 ft; possibly up to 10ft
• More extreme high-sea-level events

Ocean Acidification
• By 2100, acidity rise by 150% vs preindustrial times
• Effect on fisheries, food supply, and general ocean ecology
## Regional Water Board Climate Change Strategy

### Evolution of Regional Implementation

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>July 2015</td>
<td>Framework for Climate Change Adaptation and Mitigation</td>
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<td>July 2015</td>
<td>Creation of a web page</td>
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<td>Nov 2015</td>
<td>2014/2016 Triennial review priority</td>
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<td>2016-2017</td>
<td>Internal consultation with programs</td>
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<tr>
<td>Feb 2016</td>
<td>Board information item</td>
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<td>2016</td>
<td>Permit language developed and implemented</td>
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<tr>
<td>2017</td>
<td>2 research contracts</td>
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<td>Aug 2017</td>
<td>Stakeholder workshop</td>
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- Considerations of potential impacts to water quality and standards
- Outline of further programmatic considerations

Part 2: Potential Regulatory Adaptation Measures - in development

- Considerations for each program:
  - Potential impacts
  - Potential adaptation/mitigation measures
  - Research and monitoring needs
  - Areas of potential collaboration
  - Nexus with Environmental Justice
Dischargers shall operate and maintain facilities, treatment operations, associated collection systems and outfalls in ways to preclude adverse impacts to surface or groundwater from impacts predicted to occur due to climate change.

2. The Discharger shall submit a Climate Change Effects Vulnerability Assessment and Management Plan (Climate Change Plan) no later than 12 months after adoption of this permit. Submittal of the Climate Change Plan is required pursuant to Water Code section 13267. As required by this provision, a regional board may require a person to submit technical or monitoring program reports which the regional board requires. The Climate Change Plan is needed in order to assess and manage climate change related-effects associated with Discharger operations that may affect water quality.

The Climate Change Plan shall include an assessment of short and long term vulnerabilities of the facility(ies) and operations as well as plans to mitigate vulnerabilities of collection systems, facilities, treatment systems, and outfalls for predicted impacts in order to ensure that facility operations are not disrupted, compliance with permit conditions is achieved, and receiving waters are not adversely impacted by discharges. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigations to ameliorate climate-induced impacts including, but not limited to, changing influent and receiving water quality and conditions, as well as the impact of rising sea level (where applicable) storm surges and back-to-back severe storms that are expected to become more frequent.
Regional Water Board Climate Change Strategy

Work Underway
Permits

- Permit Provisions in WDRs:
  
  *Climate Change Effects Vulnerability Assessment and Mitigation Plan:*
  - Assessment of short and long-term vulnerabilities
  - Plans to mitigate vulnerabilities

Contracts

- Future precipitation and stream temperatures in Los Angeles and Ventura Counties (UCLA)
- Potential hydrologic changes to streams and associated ecological vulnerability in the Regional Water Board region associated with drought and long-term climate changes (SCCWRP)
Next Steps

Draft Climate Change Resolution

Regional Board Hearing

Feb 2018
Next Steps

Challenges Moving Forward

- Research needs and timing
- Assessment of vulnerabilities
- Adaptive management
- Coordination with stakeholders and regional efforts
- Need to prioritize
Next Steps

Approaches to Prioritize Regional Board Actions

Map permitted facilities (NPDES & WDR) at risk from sea level rise and flooding

Map remediation and UST sites at risk from sea level rise and flooding

Map ecological vulnerability

Assess relative vulnerability of beneficial uses and water quality objectives