

Shoreline & Coastal Planners Group

Winter 2004 Meeting

Thursday, January 22, 2004

Topic: Shoreline Flood Hazards: Integrating Science, Planning, and Emergency Response

Who should attend this meeting?

Local shoreline and growth management planners with responsibilities for updating Shoreline Master Programs and Critical Areas Ordinances (CAO) will learn: the current state of scientific understanding about the causes of flooding; means for integrating science and planning; the tools available to local government for developing the required *Flood Hazard Reduction* element in an updated master program, and for updating their Frequently Flooded Area CAO. *State resource and environmental management agencies staff* with oversight, technical assistance, or review responsibilities will also benefit from the material to be presented.

Background

Under the Growth Management Act, local governments must now update their Critical Areas Ordinance, including the Frequently Flooded Area element. Additionally, the newly adopted Shoreline Guidelines rule now requires a Flood Hazard Reduction element in shoreline master programs.

Flooding in Western Washington threatens life, property, infrastructure and natural resources. Floods have several causes that operate at different spatial and temporal scales: meteorological (coastal storms, sustained precipitation, or rain-on-snow events); climatological (Pacific Decadal Oscillation, El Niños/La Niñas, sea level rise); tectonic (tsunamis, volcanic lahars); and astronomical (tidal cycles). The frequency with which these events recur ranges from seasonal (tides and winter storm events), to decades (ocean level changes, severe storms), and from centuries to millennia (distant and local tsunamis).

Three primary hazards – higher-than-normal water levels, strong currents, and waves – create secondary hazards: shoreline erosion and bluff slumping; hazardous material releases; waterborne debris; overtopping of seawalls and dikes leading to their failure; river channel migration or avulsion; sediment erosion and deposition that smothers anadromous fish spawning grounds, and shellfish and sea-grass beds.

Location: Skagit PUD Aqua Room, 1415 Freeway Drive, Mount Vernon

Driving directions are at the bottom of this announcement.

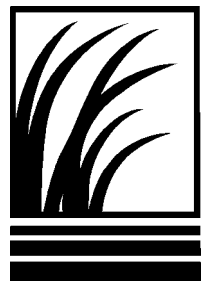
Draft Agenda

- 9:00 — 9:20 Coffee and Conversation
- 9:20 — 9:30 Welcome and Announcements — Bob Goodwin (Washington Sea Grant Program), Daniel Downs (Skagit County Planning), and Doug Canning (Wash. Dep't of Ecology).
- 9:30 — 10:10 *Integrating Science, Planning, and Emergency Response* — Bob Goodwin, Washington Sea Grant.

Meeting
Sponsors:



This workshop is funded in part by a grant from the National Oceanic and Atmospheric Administration (NOAA) to the Padilla Bay National Estuarine Research Reserve.



- 10:10 — 10:50 *Land Cover and Climate Effects on Flood Prediction and Forecasting* — Alan Hamlet, Dept of Civil & Environmental Engineering and Climate Impacts Group, University of Washington. (<http://www.tao.atmos.washington.edu/PNWimpacts/>)
- 10:50 — 11:00 Break
- 11:00 — 11:40 *Threats from the Sound* — Frank I. Gonzalez (Co-Director, Center for Tsunami Inundation Mapping Efforts) and Hal Mofjeld (Physical Oceanographer), Pacific Marine Environmental Laboratory, National Oceanic and Atmospheric Administration. (<http://www.pmel.noaa.gov/tsunami/time/index.shtml>)
- 11:40 — 12:00 *Climate Variability, Climate Change, and Sea Level Rise in Puget Sound: Practical Applications* — Douglas Canning, Shorelands Program, Wash. Dep't of Ecology and Climate Impacts Group, University of Washington.
- 12:00 — 1:00 Lunch on your own.
- 1:00 — 1:40 *Integrating Emergency Management and Planning at the Local Level* — Jane Preuss, AICP, GeoEngineers. (<http://www.geoengineers.com>)
- 1:40 — 2:20 *A Watershed-scale Flood Management Decision-assistance Tool: Leavenworth's Ski Hill Watershed Case Example* — Susan Grigsby and Stephen Stanley, Shorelands Program, Wash Dep't of Ecology. (<http://www.ecy.wa.gov/programs/sea/shorelan.html/>)
- 2:20 — 2:30 Break
- 2:30 — 3:15 Panel Discussion and Round-table

References and Recommended Reading:

Dunne, Thomas, and Luna B. Leopold. 1978. *Water in Environmental Planning*. W.H. Freeman & Co., San Francisco.

Still in print after all these years, Dunne & Leopold has it all: hydrology (precipitation, soil water, ground water, water supply, flood hazard, and snow hydrology); geomorphology (hillslope processes and landsliding, river channels, and more); river quality (physical, chemical, and biological); and even a presentient mention of the potential effects of global climate change on precipitation. Tom Dunne was at the University of Washington when he co-authored the book, so there are numerous case examples drawn from the Puget Sound region. I'm just grateful that I bought my copy in 1978 – the current cost new is \$104.70, even from Amazon.com. (Doug Canning)

Groundwater Flooding in South-Central Thurston County
www.co.thurston.wa.us/wwm/divisions/stormwater.htm

National Tsunami Hazard Mitigation Program
www.pmel.noaa.gov/tsunami-hazard/

Designing for Tsunamis: Seven Principles for Planning and Designing for Tsunami Hazards. www.pmel.noaa.gov/tsunami-hazard/Designing_for_Tsunamis.pdf

Wash. Dep't of Natural Resources *Tsunami Page*
www.dnr.wa.gov/geology/hazards/tsunami.htm

Climate Variability, Climate Change, and Sea Level Rise in Puget Sound: Possibilities for the Future — Puget Sound Research Conference 2001.
www.psat.wa.gov/Publications/01_proceedings/sessions/oral/2c_canni.pdf

Proceedings of a Workshop on Construction Guidance for Areas of High Seismic and Tsunami Loading. Washington Emergency Management Division.
http://staff.washington.edu/goodrf/cpg/cpg_home.html

Critical Areas Assistance Handbook: Protecting Critical Areas Within the Framework of the Growth Management Act. Wash. Dep't of Community, Trade, and Economic Development.
www.cted.wa.gov/uploads/CA_Handbook.pdf

Note: CTED has gone through yet another reorganization and the Growth Management Services web home page is now at www.cted.wa.gov/DesktopDefault.aspx?tabid=438

Driving Directions:

From Interstate 5 north bound: take College Way exit 227 and turn left (west) on College Way. Pass under the freeway. At the second light turn left (south) on Freeway Drive.

From Interstate 5 south bound: take College Way exit 227 and turn right (west) on College Way. At the second light turn left (south on) Freeway Drive.

The Skagit PUD building will be on your right just past Karls Paint and Artists Supplies, less than 0.1 mile south of College Way. The main entrance to the PUD is in the back from the parking lot.

For additional information...

...about the Shoreline and Coastal Planners Group, please visit our web site at http://staff.washington.edu/goodrf/cpg/cpg_home.html

...about this meeting, or about getting on our e-mail meeting announcement list, please contact one of the Shoreline and Coastal Planners Group facilitators:

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