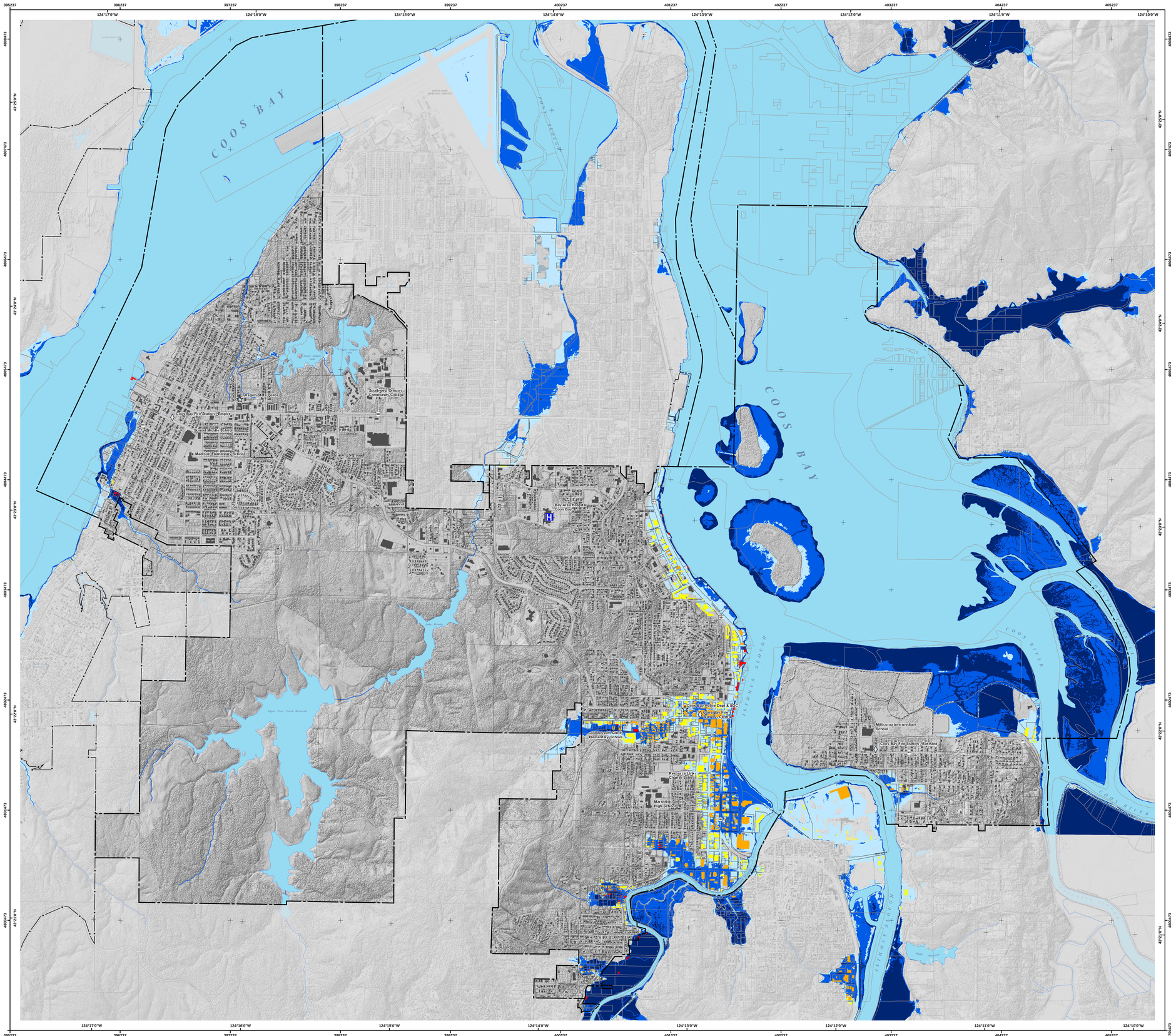
STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
VICKI S. McCONNELL, STATE GEOLOGIST

One-Percent Annual Flood Hazard and Exposure Risk Map, City of Coos Bay, Coos County, Oregon

2010



Projection: UTM Zone 10N, unit: Meter
Datum: NAD 1983

Map series and analysis created and performed by the Oregon Department of Geology and Mineral Industries.
Lidar data acquired (flown) in 2008.

Other data sources: Coos County Assessor's Office (2009 parcel data), U.S. Army Corps of Engineers (USACE), U.S. Geological Survey, National Oceanic and Atmospheric Administration's Geophysical Data Center, and the Federal Emergency Management Agency.

APPROXIMATE MEAN DECLINATION, 2010
CHANGING 8°-0" E W / YEAR

SCALE 1:12,000

1 0.5 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
0.5 0.25 0 0.5 1 KILOMETER

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By Mathew A. Tilman

Funding provided by Federal Emergency Management Agency as part of the Flood Map Modernization Program under Cooperating Technical Partner award EMS-2008-GR-0013.

NOTICE

This map cannot serve as a substitute for site-specific investigations by qualified practitioners. Site-specific data may give results that differ from those shown on the maps. The views and conclusions contained in this document are those of the author and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Federal Emergency Management Agency.

KEY

Buildings Affected (Building Count)
- Greater than 6 feet (32)
- From 3 to 6 feet (246)
- From 0 to 3 feet (243)
- Not affected (6419)

Flood Depth Ranges
- Greater than 6 feet deep
- From 3 to 6 feet deep
- From 0 to 3 feet deep

Political Boundary Lines
- County
- Corporate
- Urban Growth Boundary
- Forest, Park, Reservation, or Miscellaneous Public Land Boundary

- Bays, Rivers and lakes
- USACE Navigation Range Lines
- Levees

PURPOSE

FEMA (Federal Emergency Management Agency) produces flood maps that show areas that have a 1 in 100 chance of being flooded in any year (the 100-year flood). Those maps are made by using the historical record of flood height and frequency, a hydrologic computer model, and the best available topographic data. The resulting maps, called DFIRMs (Digital Flood Insurance Rate Maps), are used to determine which properties need flood insurance.

The Oregon Department of Geology and Mineral Industries (DOGAMI) has updated the DFIRMs for Coos County, Oregon, by using new extremely accurate topographic data collected with a laser scanning system called lidar (light detection and ranging). The new DFIRMs much more accurately show flood zone boundaries and also allow us to measure flood depth at any point. At the same time, lidar data allow us to locate every building in a community and make a GIS (geographic information systems) map that shows the exact location, elevation, zoning class, and assessed value of each building collected from tax assessor records. Together, these new types of information can provide a very detailed map that shows the general level of flood risk exposure for each building in a community.

This information can be used by city officials, emergency managers, property owners, lenders, and insurers to better understand flood risk and reduce risk from future floods.

UNDERSTANDING THE MAP

This map shows areas expected to be flooded during a 100-year flood. The expected depth of flooding is shown by one of three colors:

- light blue: 0- to 3-foot flood depth
- medium blue: 3- to 6-foot flood depth
- dark blue: 6-foot or more flood depth

Buildings are color coded to show exposure to flood risk. Note that this color scheme is based on the assumption that all buildings are constructed with slab-on-grade foundations; that is, the color codes are for the worst case scenario (see Figure 1).

- black: outside the 100-year flood zone
- yellow: partly or completely in the 0 to 3 foot flood depth zone
- orange: partly or completely in the 3 to 6 foot flood depth zone
- red: partly or completely in the 6 foot or more flood depth zone

Figure 2 shows zoning (commercial, residential, industrial, etc.) types within the city along with the area predicted to be flooded in a 100-year flood. This map is intended to provide an overview of exposure to flood risk for the city from an urban planning perspective.

Table 1 provides a risk exposure summary for the city. The table shows total land value, total improvement value, total real market value, total parcel acreage, and total parcel acreage flooded on the basis of four categories:

- parcels with one or more structures with at least one structure flooded
- parcels with one or more structures where some ground is flooded but no structures are flooded
- parcels that are are either completely or partially flooded but have no structures
- parcels that are not flooded

The summation line gives totals for the land value, improvement values, real market values, full tax lot acreage, and acres flooded per tax lot. The table also shows the percentage of land within the city boundary that is flooded.

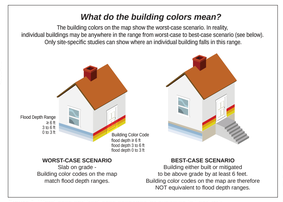

Figure 1. Worst-case and best-case scenarios for exposure to flood risk.

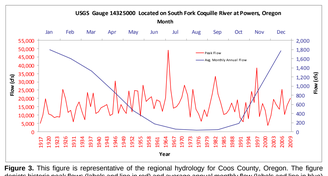

Figure 3. This figure is representative of the regional hydrology for Coos County, Oregon. The figure depicts historic peak flows (labels and line in red) and average annual monthly flow (labels and line in blue) in cubic feet per second (cfs). This figure describes both the years in which major flows occurred (i.e., 1964, 1996) and the seasonal variation in flow typical of an Oregon coastal stream. Although these values describe flows only at a specific gauge, the shape and peaks do describe the common hydrologic regime.

Table 1. 100-Year Flood Exposure Summary Table: Cumulative Assessor Parcel Exposure Analysis

Parcels	Parcels and Buildings	Land Value ($)	Improvements ($)	RMV	Acres	Acres Flooded
486	**Parcels with buildings where BOTH are flood affected**	**75,213,534**	**129,017,167**	**204,230,701**	**236.61**	**200.38**
145	**Parcels with flooding AND buildings that are not affected**	**16,765,901**	**57,391,245**	**74,157,146**	**410.25**	**59.71**
457	Parcels with **NO** buildings affected but some flooding	32,564,254	4,024,848	36,589,102	2,901.40	2,359.13
6,083	Parcels with **NO** flooding	468,275,774	779,198,875	1,248,294,392	4,307.86	--
7,171	Sum all	$ 592,819,463	$ 969,632,135	$ 1,563,271,341	7,856.12	2,619.22
					Acreage affected by flood	**33.3%**
		%	%	%	%	%
	Parcels with buildings where **BOTH** are flood affected	12.7%	13.3%	13.1%	3.0%	7.7%
	Parcels with flooding **AND** buildings that are not affected	2.8%	5.9%	4.7%	5.2%	2.3%
	Parcels with **NO** buildings affected but some flooding	5.5%	0.4%	2.3%	36.9%	90.1%
	Parcels with **NO** flooding	79.0%	80.4%	79.9%	54.8%	0.0%
					100.0%	

NOTE: Values shown above are for parcels that lie within the City of Coos Bay city limits and the City of Coos Bay Urban Growth Boundary and include Coquille Indian Tribe Trust lands, and a small section of Coos County unincorporated land sandwiched between the cities of North Bend and Coos Bay. RMV is Real Market Value.

KEY

- Area Affected by 1% Annual Flood

Taxlot Zoning Affected by Flooding (Parcel Count)
- Commercial (338)
- Industrial (237)
- Residential (345)
- Public Facility (8)
- Waterfront Heritage (38)
- Coos Bay Estuary Management Plan (77)
- Forest (1)
- Airport Operations (1)
- Zone not specified (43)

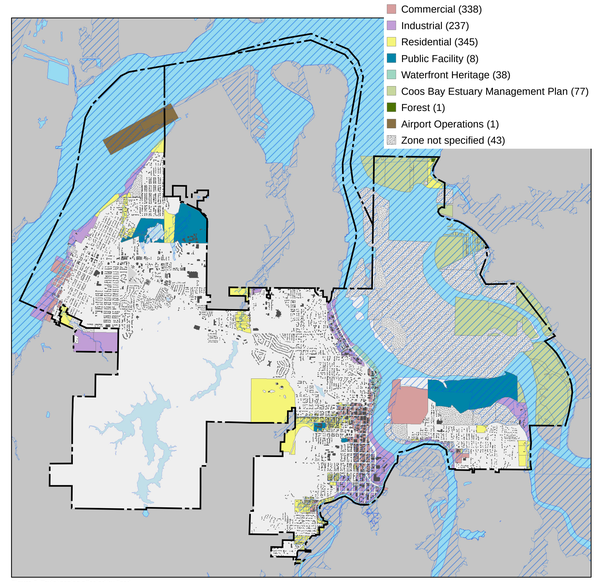

Figure 2. Taxlot zoning affected by flood.

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Nature of the Northwest Information Center
800 NE Oregon Street, #28, Suite 965
Portland, Oregon 97232
telephone (971) 673-2331
http://www.NatureNW.org